

MOUNT SPOKANE STATE PARK FACILITIES MASTER PLAN

MEAD, WASHINGTON

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WASHINGTON STATE PARKS AND RECREATION COMMISSION

FACT SHEET

Proposal/Title:	Mount Spokane State Park Master Facilities Plan, Draft Environmental Impact Statement
Description of Proposal:	A long-term (20+ years) Master Plan for the operation and improvement of Mount Spokane State Park
Description of Alternatives:	Three park-wide master plan alternatives are analyzed in detail: a No Action alternative, a Facilities Renovation alternative and the Proposed Action.
Location:	Mount Spokane State Park is located approximately 22 miles northeast of the City of Spokane in Spokane County. Access to the park is almost exclusively by State Highway SR 206. The highway at the park entrance is Mount Spokane State Park Drive.
Tentative Date of Implementation:	August 2010
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Required Approvals:	Master Facilities Plan, Long-term Boundary, and Land Classification by the Washington State Parks and Recreation Commission
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I. BACKGROUND, PURPOSE AND NEED

A. BACKGROUND

Mount Spokane State Park lies in Spokane County approximately 22 miles northeast of the City of Spokane. Access to the park is almost exclusively by State Highway SR 206. The highway at the park entrance is Mount Spokane State Park Drive. The Drive extends through the Park approximately 4.7 miles to the ski area and is operated and maintained for year round traffic by State Parks. In addition State Parks operates and maintains another 4.1 miles of mountain top access road from Linder's Ridge to the Mount Spokane lookout during the summer months. The proposed project is located within sections T28N, R 45E, Sections 4, 5, 7-10, 15-22, 26-30 and 32-36; in T27N, R45E sections 1, 2 and 12; T28N, R44E section 25 and T28N, R46E sections 31 and T27N, R46E sections 6 and 7 in Washington. The park also extends into Idaho, in T52N, R6W sections 13 and 24.

People typically access the park via SR 206.

Though the park is the largest in the state park system at nearly 14,000 acres, it has relatively little flat land. Unlike most parks, it is not oriented around a large water feature such as a lake, stream, river or ocean. It ranges in elevation from about 3,100 feet to 5,800 feet.

The predominant land use of adjoining property is commercial forestry. Some nearby property has been recently logged via clearcutting, including property adjoining the park. Some residential development occurs near the park, typically in a forest setting. No residential intensive development abuts the park.

The Mount Spokane Ski and Snowboard Park operates as a concessionaire to state parks. Within the concession area it operates several ski lifts, two lodges, grooms runs and manages vegetation to retain open runs. On the west side of Mount Spokane skiers can ski in ungroomed terrain.

Mount Spokane State Park History

Old Baldy (also known as Mount Carleton and in 1912 renamed Mount Spokane) was a dark, foreboding forested wilderness when Spokane pioneer industrialist and community pillar Francis H. Cook had the notion to encourage people to scale its summit and charge them money for the privilege. Having purchased over 100 acres at the top of the mountain some years earlier, in 1909 he began construction of an auto road most of the way up the mountain's flank. He then built a cabin, campground, day use spa and picnic area, and invited the Spokane townsfolk to come and take a look.

Cook, along with others in the Community, saw the value of the mountain for recreation and as a natural respite from the intensity of urban life. A community campaign was launched to have the mountain designated a national park. Failing that, several hundred acres were donated and purchased for and by the county to serve as a county park in 1920. The county, however, never allocated sufficient funds to manage the land, and in 1927 Mount Spokane ownership was transferred to Washington State Parks. By this time the park was 1,400 acres in size. During the next few years, a donation of 640 acres occurred, but statewide impacts from the veto of the State

Parks budget left little in the way of developed facilities or management presence. Complaints arose about litter and refuse. The Department of Health was even called in to clean up the unsafe situation.

With the coming of the Civilian Conservation Corps (CCC) in 1933, the fortunes of the mountain changed dramatically. A series of large donations and small purchases from private and public parties resulted in a much larger park. The CCC constructed many facilities in the park during the 1930s, including a number of park roads, administrative facilities and most prominently the “Vista House”, a naturalistic-style rubble stone scenic lookout on the summit.

Much change in the size and use of the park has occurred in the last 60 years. At one point, many isolated parcels of land in the northwest portion of Spokane County were titularly part of Mount Spokane State Park, bringing the entire park land base to around 25,000 acres. As part of the development of the Centennial Trail and after several efforts at park consolidation, many of these isolated parcels were traded to the Inland Empire Paper Company in exchange for company holdings along the Spokane River and in the park core.

Park Resources and Facilities

Both winter and summer trail uses are dominant forms of recreation within the park. In addition to over 60 miles of hiking, equestrian and bicycle trails, there are almost 49 miles of backroads, 15 miles of groomed Nordic ski trails, 50 miles of groomed snowmobile trails in and adjacent to the park, and vast areas available for backcountry cross-country skiing and snowshoeing.

Other major recreational activities are downhill alpine skiing and snowboarding. Mount Spokane, site of the first double-chairlift in North America, hosts a concession-operated ski area containing 32 ski runs, 5 chair lifts, 2 lodges (including restaurant, lounge, ski school, equipment rentals), a ski patrol building, and various administrative support structures.

For summer-time use, a small, 12-unit campground lies adjacent to a developed day use picnic area in the Bald Knob area. Other facilities include the Selkirk Lodge and Nova Hut, serving principally the Linder’s Ridge Nordic area, the cabin at the CCC camp, and various facilities at and associated with mountain top communication facilities, including a Department of Natural Resources fire tower, and interpretive viewpoint facilities.

The park contains 85 picnic sites, including Big Springs and Bald Knob picnic areas, and various picnic sites on loop roads and on the summit.

Most of the park - approximately 10,000 acres - is dominated by diverse forests and sub-alpine meadows. No fewer than eight terrestrial ecosystem elements, and several sub-elements, occur within the park. All are relatively intact. In addition, the Ragged Ridge area contains one of only five Natural Area Preserves currently established in the State Parks system.

The biggest draw of the park is for day use by its visitors. Although attendance has fluctuated over the years, the average attendance is approximately 550,000 visits per year. That attendance is largely driven by conditions in the alpine ski area.

Table 1.

Annual attendance figures for Mount Spokane State Park			
<u>Year</u>	<u>Overnight</u>	<u>Day Use</u>	<u>Total</u>
2000	-0-	717,530	717,530
2001	-0-	626,249	626,249
2002	-0-	717,371	717,371
2003	275	470,569	470,844
2004	460	415,042	415,502
2005	676	409,489	410,165
2006	1,318	522,784	524,102
2007	638	489,568	490,206
2008	closed	334,360	334,360

WSPRC reviewed resource constraints and existing uses within the park through the agency’s Classification and Management Planning (CAMP) process in October 1999. The CAMP applied land classifications to the park, and defined management needs to address issues identified during the CAMP process. A management plan for the park was adopted in 2003.

B. PURPOSE AND NEED

This Draft Environmental Impact Statement (DEIS) has been prepared by the WSPRC for the Mount Spokane State Park Master Facilities Plan in accordance with the Washington State Environmental Policy Act (SEPA, REC 43.21C) This DEIS is not a decision document; its primary purpose is to disclose the potential environmental consequences of implementing any of the alternatives under consideration.

Pursuant to WAC 197-11-360, a Determination of Significance (DS) was issued by State Parks on March 17, 2008. In that DS, State Parks, as lead agency, determined that implementation of the proposed action (the Master Facilities Plan) may have a probable significant adverse impact on the environment. Under RCW 43.21.C an environmental impact statement is required when a DS is issued.

State Parks is preparing a Master Facilities Plan for Mount Spokane State Park. The proposed “Mount Spokane State Park Master Facilities Plan” will provide long-term (20+ years) management direction for the operation and improvement of the park in a manner that optimizes recreational opportunities for park visitors and long-term stewardship of park natural and cultural resources. Specific Master Facilities Plan objectives include:

- ❑ Enhance recreation opportunities and experiences within the park;
- ❑ Minimize impacts of existing and new facility developments and improvements on areas of high natural and/or cultural resource value;
- ❑ Develop a long-term program for facilities, including potential expansion, renovation and development;
- ❑ Enhance visitor experience through an improved entrance experience, a comprehensive trail system considering year-round and/or season-specific uses, new parking and trail head facilities, expansion of overnight facilities and day use area projects, new design guidelines

for the park that reflect the rich history of the area, establishing an interpretive plan for the park, and other measures;

- ❑ Identify desired changes in park boundaries and land ownerships;
- ❑ Establish land classifications for the park; and
- ❑ Address park administrative facility needs to improve management capabilities.

Approval of the Proposed Action by WSPRC would provide programmatic or conceptual direction for management, operation and improvements to the park. Additional site-specific SEPA analysis would be required to implement proposed improvements. As detailed later, a variety of federal, state and local government permits may also be required.

In accordance with WAC 197-11-55(6), a 30-day public review period will be provided upon release of this DEIS. Public meetings to discuss the EIS will be held at the Center Place in Spokane Valley: 2426 North Discovery Place 6:30 pm on September 30, 2009. After the DEIS public review period, a Final Environmental Impact Statement (FEIS) will be prepared. Responses to comments received on the DEIS will be included in the FEIS. A Notice of Action (WAC 197-11-965) will be issued by WSPRC and the adopted Master Facilities Plan will be made readily available to agencies and the public. The WSPRC could approve all, part of, or none of the proposed Master Facilities Plan elements. Staff expects to take the Plan and environmental documents to the WSPRC for consideration at its December 3rd meeting in Centralia.

Purpose and Need

A mission statement was defined in the 1999 Commission-adopted CAMP for the park. The mission reads: As Washington's largest state park at the footstep of a major urban area, Mount Spokane State Park offers easy access to a wide spectrum of outdoor recreational pursuits while preserving vast and varied natural forests, gentle alpine meadows, wildlife habitat areas, and dozens of clear running streams that feed the greater Spokane County and Northern Idaho region's many lakes, rivers and aquifers. Winter and summer, active and tranquil, recreational aspirations can be pursued in dramatic, beautiful and diverse environments, surrounded by native flora and fauna, and supplied with recreational facilities that are both true to the cultural heritage of the park and up to modern standards of comfort and quality. Through a combination of user education, volunteer support, appropriate use controls and other integrated management techniques, these recreational pursuits compliment each other, enhancing the options and experience for all while protecting the park's environment.

In keeping with this mission, the Mount Spokane State Park Master Facilities Plan is designed to accomplish the following objectives for the future of the Park:

- ❑ Enhance recreation opportunities and experiences within the park;
- ❑ Minimize impacts of existing and new facility developments and improvements on areas of high natural and/or cultural resource value;
- ❑ Develop a long-term program for facilities, including potential expansion, renovation and development;
- ❑ Enhance visitor experience through an improved entrance experience, a comprehensive trail system considering year-round and/or season-specific uses, new parking and trail head

- ❑ Identify desired changes in park boundaries and land ownerships;
- ❑ Establish land classifications for the park; and
- ❑ Address park administrative facility needs to improve management capabilities.

The Mount Spokane State Park Master Facilities Plan will provide long-term (20+ years) management direction for the operation and improvement of Mount Spokane State Park in a manner that enhances high quality recreational opportunities for Park visitors while protecting critical natural and cultural resources. The Master Facilities Plan will advance the mission of the State Park system to foster outdoor recreation and education statewide that provides enjoyment and enrichment for all and a valued legacy to future generations.

Specific objectives (or purpose and need elements) include the following:

- ❑ *Preserve areas of high natural or cultural resource values while providing for public recreation.*
Balanced against the need to accommodate increasing visitation is the need to protect and preserve the park's significant natural and cultural resources
- ❑ *Respond to increasing visitation and demand for recreational opportunities.*
Spokane County is experiencing continued population growth; the state Office of Financial Management forecasts the population will increase from the 2000 census level of 417,939 to 529,451 in 2020 and to 489,623 by 2030 – increase of 26.7% and 41.0% respectively. Continued improvement in the park facilities will ensure on-going access to quality recreation opportunities.
- ❑ *Provide a long-term program for facilities development.*
Currently, the park provides a collection of visitor facilities that may or may not be consistent with the types of recreation opportunities the park could or should provide. New and improved facilities are needed to replace outmoded and deteriorating facilities, protect sensitive resources, improve the quality of visitor experiences, improve park manageability, and respond to projected recreation demand. Over the past several years, a wide variety of trail projects have been proposed for funding from various sources without a coordinated program for facilities development. Without a Master Facilities Plan, WSPRC is handicapped in assessing whether proposals for new facilities are consistent with the Park's long-range management objectives.
- ❑ *Enhance the visitor experience through an improved and full spectrum of interpretative facilities.*
A variety of new and improved interpretive facilities and services are needed to provide a high-quality visitor experience. There is a need for an improved sense of arrival and entry, as the current entrance is ill-defined. A comprehensive program of interpretive opportunities is needed to enhance visitor appreciation of the area's history and natural and cultural resources. With increasing day use visitation, both improvements to existing day use areas and the creation of new day use areas need to be assessed.
- ❑ *Enhance the visitor experience through improved trail facilities.*
The park's trail system needs to be improved and expanded to provide safe and enjoyable access to park resources for a range of users, including equestrian, pedestrian, Nordic, snowmobile, dog sledding, skijoring and snowshoeing.

- ❑ *Assess the need for changes in park boundaries and land ownerships.*
Land purchase, land disposal, management agreements or trades with landowners represent opportunities to protect viewsheds, natural ecosystems, increase trail routes and improve manageability of the park. The desirability/feasibility of and location of boundary expansions need to be coordinated with other park management considerations. Strategies are also needed on long-term acquisition of private land in-holdings within the existing park boundary. The Master Facilities Plan will provide a basis for setting a long-term park boundary, as well as identifying which lands the agency would eventually intend to include under its management and the land uses designated for those properties.
- ❑ *Preserve areas of high natural or cultural resource values.*
Balanced against the need to accommodate increasing visitation is the need to protect and preserve the park's significant natural and cultural resources. .
- ❑ *Designate land classifications for the entire Park.*
With the potential change in park boundaries, new visitor facilities, and changes in recreation uses, a comprehensive land classification program needs to be part of the Master Plan.
- ❑ *Assess operations and maintenance needs to improve management capabilities.*
An underlying objective of the Master Facilities Plan is to make it easier to manage the park. This is especially critical with increasing visitation and declining state revenues.

C. PUBLIC PROCESS

Mount Spokane was the twelfth park area to reach the Commission for action in the Classification and Management Plan (CAMP) Project in 1999. It was the first park in the project that has worked with a Director-appointed park advisory committee. The agency's CAMP staff and the Mount Spokane Advisory Committee (AC) served as equal partners in making recommendations to the Director on the CAMP. Efforts were made to reach AC/staff planning team consensus on all recommendations to the Director. It was also agreed that the chair of the AC would attend all staff planning team deliberations and staff would do likewise in AC deliberations.

On November 12, 1998, an issues identification public meeting was held in Spokane. Over 100 people attended. The AC and staff compiled the list of issues, added some of their own, and developed four alternative approaches to respond to the issues. A public meeting to review and comment on those approaches was held on August 24, 1999, at which over 170 people attended and provided comments on their preferred park management direction for each issue.

On October 6, 1999, a third public meeting was held to review preliminary staff and AC recommendations for the park. Over 130 people attended. Revisions to the preliminary staff recommendations based on public testimony and continued agency review have been incorporated into the staff recommendations found in this report.

As part of its October 1999 Classification and Management Planning action for Mount Spokane State Park, the Washington State Parks and Recreation Commission (Commission) left unclassified a portion of the park covered by the current ski area concession agreement known as the Potential Alpine Ski Expansion Area (PASEA). In the Spring of 2006, Mount Spokane

2000 (MS 2000), the non-profit alpine ski area concessionaire at Mount Spokane State Park, came to the Commission with a proposal to expand skiing into about 400 acres of the 850-acre PASEA. The expansion proposal also came with preliminary support from the Mount Spokane State Park Advisory Committee, in conjunction with that committee's work towards developing a comprehensive trails plan for the park.

In response, the agency engaged in a master facilities planning process with MS 2000 and the community, starting in autumn, 2006. Staff held three public meetings on the proposed expansion, attracting more than 100 people at each meeting. The agency web site contains all materials provided to the public at those meetings, along with comments and questions raised at the meetings and by email to staff. In addition, staff participated in numerous sessions and discussions with the Mount Spokane State Park Advisory Committee, MS 2000, natural resources agencies, community groups and other interested parties. The Commission received briefings at four work sessions providing background information and planning updates.

In April 2007 the Commission affirmed that a decision to include analysis of the Mount Spokane 2000 proposal to expand alpine skiing into the Potential Alpine Ski Expansion Area does not prejudice a future Commission decision on development in the Potential Alpine Ski Expansion Area. It further directed staff to:

1. include the area known as the Potential Alpine Ski Expansion Area within the scope of work for the Mount Spokane Master Facilities Plan and in the proposed action for environmental review;
2. work with Mount Spokane 2000 to develop a mutually agreeable plan and development schedule for the redevelopment of the existing Mount Spokane Ski Area and possible expansion into the Potential Alpine Ski Expansion Area for future Commission consideration, based upon the approach described in Appendix 6 (not included here);
3. identify for Mount Spokane 2000, at the earliest opportunity, the structure, process, funding requirements, and timelines for completing a facilities master plan and environmental review regarding the redevelopment of the existing Mount Spokane Ski Area and proposed expansion of alpine skiing into the Potential Alpine Ski Expansion Area;
4. work on a facilities master plan and environmental review only after: a) a detailed scope of work and budget has been developed that precisely identifies financial responsibilities of State Parks and Mount Spokane 2000; and b) an agreement between both parties identifies expected long-term responsibilities for operations and capital improvement costs; and
5. bring a progress report to the Commission at least every six months during the facilities master plan and environmental review work effort.

In 2007 and 2008 State Parks staff and Mount Spokane 2000, the operator of the Mount Spokane Ski and Snowboard Park, worked to prepare a combination Master Facilities Plan of state park operations and planned development and a Master Concession Plan to describe planned operations and facility development of the Mount Spokane Ski and Snowboard Park..

The time to prepare the Master Concession Plan took longer to complete than anticipated and required a larger budget than anticipated. As a result, state parks staff elected to complete the

Master Facilities Plan on the original schedule. The Master Concession Plan is expected to be completed in 2010. It will require supplemental environmental information to compliment the Master Facilities Plan EIS, and will address any potential adverse environmental impacts associated with ski area development and expansion into the Potential Alpine Ski Expansion Area.

Scoping

Although scoping has been underway since the project was initiated in the summer of 2006, upon issuance of a DS in February of 2008, WSPRC solicited additional comments on the scope of the EIS. A variety of comments was received during the pre-scoping period on issues to be addressed, a preliminary range of alternatives, and an initial proposed action. Approximately 20 additional comments were received during the formal SEPA scoping period.

Because State Parks had initially planned to discuss the Master Concession Plan concurrent with the Master Facilities Plan, comments on both development plans were received during scoping. Most of the comments received during scoping were directed at impacts associated with downhill ski area expansion. Comments relevant to both included the project's impact on geology, hydrology, vegetation and wildlife, and the cumulative effects of facilities planned within the park.

II. ALTERNATIVES INCLUDING THE PROPOSED ACTIONS

Description of proposal:

State Parks is preparing a Master Facilities Plan for Mount Spokane State Park. The proposed “Mount Spokane State Park Master Facilities Plan” will provide long-term (20+ years) management direction for the operation and improvement of the park in a manner that optimizes recreational opportunities for park visitors and long-term stewardship of park natural and cultural resources.

A. MASTER FACILITY PLAN ELEMENTS

Key Facility Plan Elements include the following.

Table 2 describes in detail the Proposed Action. The following text describes selected important attributes of the Master Facilities Plan.

Administrative Facilities

The Master Facilities Plan identifies the location of the existing administrative complex as deficient in terms of space and location. It lies over a stream and provides inadequate space for needed offices, shop space, and storage of equipment and sand. The proposed location for the new administrative complex is near the intersection of Mount Spokane Drive and the road leading to the summit and Vista House. It currently houses the KXLY storage facility. The use of space in the currently cleared footprint will be re-arranged and possibly enlarged to accommodate a shop building, sand and salt storage, large equipment such as snow removal machinery, road grader, dump truck and park vehicles. The park office will be located at the site of the current park entrance in an existing building.

Winter Recreation

Selkirk Lodge Area: Increase the parking capacity near the Selkirk Lodge by building a parking area south of the current snowmobile loading area and west of the existing parking adjacent to the lodge. This will allow for an additional 50-100 vehicles parking depending on whether people park haphazardly or are organized by an individual. Build a new building adjacent to the Selkirk Lodge to provide additional eating space, a larger first aid treatment site and a site to serve administrative needs, such as equipment storage.

Relocate snowmobile access trail bypassing Linder’s Ridge Road that provides access into existing and future IEP snowmobile groomed routes. Evaluate replacing the bridge crossing Brickel Creek to create an around the mountains snowmobile corridor.

Build additional Nordic routes and expand into IEP area to the north and east with new groomed trails, while retaining separation from snowmobile routes and a new snowshoe route from Bald Knob to the summit.

Summer Recreation

A number of trails in Mount Spokane date back to an era when trail standards and public expectations were different. Since their inception some trails have begun to be used for recreation in ways not originally intended. Over time State Parks recognized that some trails need relocation, repair, re-establishment or closure in order to protect natural resources or provide better recreational experiences. Fifteen trails or trail segments fall into the category of needing re-routing or other improvements or closures.

Equestrian users sought a facility for overnight stays. The proposal provides for water, a highline to tether horses to and authorization for camping by equestrian visitors at the Linder's Ridge parking lot.

A group camp is proposed at the site of the current CCC-era cabin facility. This will provide space for camping groups to gather; it will require clearing, provisions for providing water and sanitary facilities and vehicular access.

Provide overnight campsite near the meadows at Mount Kit Carson, including either a pit toilet or a vault toilet.

Long Term Boundary

The Potential Alpine Ski Expansion Area will remain unclassified, pending receipt of information from MS2000 on any proposed expansion of its facilities onto the western portion of Mount Spokane, and decision by the Commission on that proposal. Existing uses of area and trail corridors shall continue.

Retain the 1999 long term park boundary except:

- 1) Sell or exchange the isolated State Parks parcel in section 5 of NW portion of park;
- 2) Do not acquire any additional land in section 5;
- 3) Acquire all of the 160 acres south of the Blanchard Creek Road in the SW $\frac{1}{4}$ of section 8 in T28N, R45E, classifying it as Natural Forest Area using the State Park Land Classification System (see Appendix B);
- 4) Do not acquire property in section 25 and 36 in the SE portion of the park; enter into management agreement with landowner(s); and
- 5) Include all IEP property in Washington and east of the park in long term boundary, indicating a desire to work on shared management objectives. Classify these properties Resource Recreation using the State Parks Land Classification System except for item 3 noted above.

B. MOUNT SPOKANE STATE PARK MASTER FACILITIES PLAN ALTERNATIVES

Master Plan Component	Proposed Action	No Action Alternative	Facilities Renovation Alternative
a. New Park Entrance	1) New park trailhead with vault toilet opened up at Day-Mt. Spokane Road with 20 car parking lot 2) Widen area in front of main gate for turn around.	1) No new park entrance	1) Widen area in front of gate for turn around.
b. Snowmobiling	1) Reconnect Brickel Creek Trail System 2) Construct a snowmobile trail (Trail 260C) to bypass Linder's the Ridge Road to provide access into existing and future groomed snowmobile routes on IEP property.	No change in existing snowmobile facilities or routes.	Build alternative snowmobile access to IEP trails using Proposed Trail 260C with crossing of Mountaineers property.
c. Nordic Skiing	1) Additional routes, though parallel to snowmobile in stretches, with connections to existing trails. 2) Ski Patrol aid station expansion 3) Two story building adjacent to Selkirk Lodge for first aid station, eating area and park equipment storage 4) look for further opportunities to expand Nordic skiing on IEP land	No change in existing Nordic Ski opportunities or facilities within the park.	1) Continue to look for further opportunities to expand Nordic skiing on IEP property.

d. Snowshoeing	1) Mark additional routes through sparsely treed areas.	Retain existing Snowshoeing opportunities	Retain existing snowshoe routes
e. Operational	No change	No change	No change
f. Summer Trails	1) Develop, design, and manage current and proposed trails consistent with the Advisory Committee recommendations.	No change in existing Summer Trail system and recreational opportunities	1) Accept Advisory Committee recommendations only on trails needing improvements to avoid adverse environmental impacts 2) No new summer trails.

g. Accommodations	1) 6 Horse camp/primitive campsites at Linder's Ridge parking area. 2) Group Camp at CCC camp 3) Construct three cabins: one at Junction 5, one at Junction 7 and the other at Lower Kit Carson Loop 2) Establish backcountry campsites near Mount Kit Carson 3) Construct cabin at intersection of Trail 110 and the Kit Carson Loop Rd for winter non-motorized day use.	No change in existing accommodations	Turn Bald Knob into group camp (group preferred, individual permitted) - renovate comfort station adding showers
h. Administrative	1) Locate shop facilities and equipment and sand/salt storage to KXLY storage site and south of Linder Ridge snowmobile parking area	No change in existing Administrative Facilities aside from standard maintenance and upkeep	Remove maintenance facilities to site outside of park boundaries and rehabilitate stream channel; construct a small park office in a part of the existing

	2) Rehabilitate stream channel; construct a small park office in a part of the existing administrative area.		administrative area.
i. Utilities	Water, sanitary, stormwater, electrical (three phase power) would need to be provided as appropriate for all facilities.	Water, sanitary, stormwater, electrical (three phase power) would need to be provided as appropriate for all facilities.	Water, sanitary, stormwater, electrical (three phase power) would need to be provided as appropriate for all facilities.
j. Parking	1) Nordic - 175 (350 with attendants and site expansion) 2) Snowmobile - 45, including leveling out parking area.	No change in existing parking area footprints.	1) Nordic - capacity is 150 without attendants, 300 with. 2) Snowmobile -30

k. Land Classification & Long-Term Park Boundary	1) Defer classification of the currently unclassified portion of Mount Spokane State Park known as the Potential Alpine Ski Expansion Area (PASEA) until the Commission takes action on the Master Concession Plan 2) Determine that the 40 acres surrounded by private property in the middle of T28N R45E section 5 cannot be advantageously used for park purposes and seek to dispose of it via sale or exchange. 3) Affirm that all state park property in T28N R45E section 7 and 8	1) Defer classification of the currently unclassified portion of Mount Spokane State Park known as the Potential Alpine Ski Expansion Area (PASEA) until the Commission takes action on the Master Concession Plan Delete Bear Creek Lodge from Long-Term Boundary.	1) Defer classification of the currently unclassified portion of Mount Spokane State Park known as the Potential Alpine Ski Expansion Area (PASEA) until the Commission takes action on the Master Concession Plan Delete Bear Creek Lodge from Long-Term Boundary.
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	<p>should be retained and that all private property in the same sections should be acquired.</p> <p>4) Include all IEP land east of the park boundary used for winter recreation in the long term boundary to indicate a desire to work with IEP to retain the land in long term forestry and available for recreational uses.</p> <p>5) Classify all lands proposed for inclusion that are currently outside the park long term boundary as Resource Recreation.</p>		
I. Geographic Scope of Concession	Evaluate when preparing Master Concession Plan	Exclude PASEA downhill from Chair 4 Road	Exclude PASEA

Phasing

Phasing of facility development and resource protection measures embodied in the Master Facilities Plan would be dependent upon funding. As such, there are certain elements that would be developed simultaneously, and other elements that would not be developed until other actions have been completed.

Permits/Approvals Required

In addition to the consultation requirements, a variety of federal, state and local permits, licenses and other entitlements would be required in order to implement the Proposed Action. Key permitting requirements are identified in Table 3.

Permit Type	Issuing Agency	Area Addressed by Permit/Plan
Critical Areas Permit/ and/or Land Alteration and Drainage Ordinance Application	Spokane County	Activities within Critical Areas
Joint Aquatic Resources Permit (JARPA) <ul style="list-style-type: none">▪ Hydrologic Project Approval▪ Section 401 Certification▪ Aquatic Resource Use Authority▪ Section 404 Permit	WDFW Ecology DNR ACOE	Activities in or near shorelines, wetlands and other waters.
Biological Opinion/ Section 7 Incidental Take Permit	USFWS	Effects of ACOE permitting action on federally-listed species
Building Permits	Spokane County	All construction activities

(1) Includes key permits; additional permits may be required.

Additional approvals that would be required include:

- Final Environmental Impact Statement and Notice of Action - WSPRC
- Project-specific SEPA documentation - WSPRC
- Consideration of Master Facilities Plan by the Washington State Parks and Recreation Commission.

C. PROPOSED ACTION - PARK MASTER FACILITIES PLAN

Day-Mount Spokane Road Trailhead

Create new park entrance trailhead at the end of the Day-Mount Spokane Road. The park entrance trailhead will include paved parking for 20 cars and trailers, paved parking and a vault toilet. The trailhead will serve as access to the proposed Trail 180.

Snowmobiling

Re-create the around the mountain snowmobile loop by exploring connecting it at the washed-out section near Brickel creek within existing site constraints. This trail crosses property owned by Inland Empire Paper Company (IEP). IEP indicated that re-creating the trail will require state park ownership of the IEP land, likely via land exchange.

Re-align the existing snowmobile route from the Linder's Ridge Road to a trail roughly parallel corridor north and below the exiting location. This route will continue to provide access to the extensive snowmobile trail system that exists on IEP property in Washington and Idaho.

Construct a new trailhead Sno-Park parking area south of the current snowmobile Sno-Park lot for use by snowmobilers and other winter recreation enthusiasts.

Snowmobile trail map signs will be placed at key intersections and trailheads. Each map will indicate "you are here."

A snowmobiling brochure, produced in cooperation with the Winter Knights Snowmobile Club, will be available at the parking areas. The brochure will contain a snowmobiling trail map for the park and surrounding area, a map or photo of the summit corridor, and it will indicate the groomed trail, ungroomed snowmobile trails and play areas. It will also contain the rules and other relevant information for safe snowmobiling in the park and on IEP lands.

Snowmobile Trail Signs: Signs consisting of plastic orange diamonds tacked to trees will mark the groomed snowmobile trail throughout the park. Larger orange diamond signs will contain a picture of a snowmobile with the words "Stay on trail." These will be posted in areas where snowmobilers commonly ride out of bounds.

Monitoring of Trail Use and Resource Impacts: Staff will coordinate with alpine ski area staff, both Nordic and alpine volunteer ski patrols, the Winter Knights Snowmobile Club, the Spokane Nordic Ski Education Foundation, and other designated volunteers to use the LAC adaptive management system to manage potential snowmobile impacts on natural and cultural resources, as well as risks to visitor safety and the quality of the non-motorized, winter trail experience.

Nordic Skiing

Add an additional building adjacent to the existing Selkirk Lodge for snowmobile and Nordic users. This 2,000 square foot, two-story, daylight basement building will be used to store agency snowmobiles, and small grooming equipment, and a small Nordic ski patrol medical center (moved from the Selkirk Lodge) and search and rescue center. The upper portion will house a public eating area, restrooms and possibly a small concession area.

Construct a new groomed Nordic trail connection from the back of the Selkirk Lodge (or off the Mount View Trail) to the bottom of the drainfield area and the Linder's Ridge Road. The Linder's Ridge Road/M-17 Road would then be groomed for Nordic skiing from about 100' east of the Trail 260C junction to the 9.5 junction on IEP property. Additional connecting trails on IEP property will also be opened for groomed Nordic skiing. Existing groomed snowmobile trails will be accessed via the Condo Road, a new connector between Road M8A and M8, Road

M8B, and a new connector between M8B and the existing snowmobile trail that loops into Idaho. The expanded Nordic trail system will connect with park property at: 1) the Linder's Ridge Road at the Section 27 boundary, 2) the Wild Moose Trail (possibly in two places), and 3) the Twin Lakes trail near the switchback with the Quartz Loop trail.

Nordic trail map signs will be produced in cooperation with the Selkirk Nordic Ski Education Foundation and will be placed and maintained at each intersection with "You Are Here" indicated appropriately. Printed trail maps will also be stocked and available in the Selkirk Lodge.

The daily snow line update will continue to be recorded by park staff. Snow, weather, grooming, and trail conditions for both Nordic skiing and snowmobiling will be included. Any closures will also be noted.

Nordic ski trails will be labeled with their respective names and difficulty ratings on a sign at each junction. Colored arrows and old trail numbers will be removed.

Rules for Nordic skiing at MSSP will be posted inside the Selkirk Lodge.

Snowshoeing

Create a short, marked winter route connector between Trail 131 and Bald Knob so that snowshoers and backcountry skiers can cross the creek and climb directly to the campground area without traversing the B-29 alpine ski run.

Designate the straight fall line route between the Bald Knob restrooms and the KXLY TV towers as a snowshoeing and backcountry skiing route to the Mount Spokane summit.

Backcountry Skiing and Snowshoeing Trail Signs: Plastic blue diamond markers will be tacked to trees to mark snowshoeing and backcountry skiing trails and routes.

Summer Trails (see maps in Appendices)

A general park brochure including a detailed trail map, trail descriptions, and park rules will continue to be readily available to all park visitors. This brochure will continue to be produced in cooperation with the Friends of Mount Spokane State Park. Park staff will retain the original electronic copy.

A brochure describing the unique ecology of the Ragged Ridge Natural Area will also be produced in cooperation with the Friends of Mount Spokane State Park. This brochure will contain a map and other information about the area.

All trails will be clearly marked at junctions and trailheads with the trail number and map section number.

Each major trailhead will have a bulletin board with relevant, updated park and trail information.

The winter snow line will be expanded and used year round to provide regular updates on trail conditions, park activities, wildfire risk, temporary closures/restrictions, etc.

Selected trails will have signs indicating the mileage from the trailhead and the elevation above sea level.

Eliminate ORV Access to Ragged Ridge – Park staff will continue to work with representatives of Inland Empire Paper Company (IEP) to implement additional measures to close Ragged Ridge to ORV and equestrian access.

Eliminate ORV Access to Other Areas – Park staff will work with adjacent landowners to close Hay Ridge and the Kit Carson Loop Road in Section 8 to ORV access.

Improve numerous stream crossings to meet current standards on Trail 100 East, Trail 100 West. Provide safe sources of drinking water for stock near stream crossings.

Restore and maintain the upper portion of Trail 103 and connect to Trail 100 East. Close the lower, unnecessary portion of this trail to prevent further erosion from the side stream.

Reroute Trail 100 East near its junction with the east fork of Burping Brook and the Lower Kit Carson Loop Road.

Reroute existing Trail 140 (old 115) between Smith Gap and the Mount Kit Carson meadows, and close the existing trail to summer use.

Reroute Trail 160 (old 170) from its junction with Trail 140 (old 115) to the Kit Carson Summit to eliminate the erosion problem.

Eliminate the fall line trail off Mount Kit Carson through meadow.

Reroute portions of Lower Trail 140 (old 115) and improve drainage and water crossings to meet current standards for multiple use.

Improve the switchbacks on Trail 130 West from the summit of Day Mountain to the Upper Kit Carson Loop Road.

Repair and reroute sections of upper Trail 140 (old 135) to eliminate erosion problems and meet current standards.

Reroute the upper portion of Trail 101 (old power line) to provide an alternative connector between Trail 100 East and Trail 130 at Bald Knob, and eliminate current erosion problems.

Designate and mark a summer route, as Trail 193, down the Northwest Passage alpine ski run to the Roulon and B-29 runs and to Lodge 2.

Re-establish existing system of trails on the upper elevations of Quartz Mountain with an emphasis on loop trails, and reroute Trail 251.

Improve and maintain Horse Mountain Trail 255 to meet current standards. Close and revegetate the existing Horse Mountain 255A trail.

Improve and maintain Ragged Ridge Trail from the Quartz Mountain Loop Trail to the 4805' summit to meet current standards. Close and revegetate existing trail south of 4805' summit once ORV and equestrian use has been eliminated.

Close and revegetate Trail 100B (from Bald Knob to the old power line) and 100F (overgrown short single track).

New Trail Development:

Trail 141: Connect lower Trail 110 with lower Trail 140 (old 115) just north of the park office and at the southern boundary of the Deadman Creek Natural Forest Area.

Trail 140 Extension: Create a new trailhead for the bottom of Trail 140 (old 115) by continuing the trail south along the ridge to the park gate.

Trail 180: Create a single track, multi-use trail through the sparse trees atop or adjacent to the ridge just north of the Day Road to create a loop with the Day Road.

Trail 153: Create a new single track, multi-use trail to connect the Lodge 2 parking area with Trail 150.

Administrative Facilities

Remove the current administrative facility and rehabilitate the stream channel.

Construct administrative facilities primarily at the KXLY equipment storage area site ("the KXLY shop") and secondarily near the additional parking proposed by the Selkirk Lodge.

The KXLY equipment storage consists of an acre size clearing just northwest of the Selkirk Lodge in the Linder Ridge area (see Figure 1 below).

To create a maintenance and park office facility the existing KXLY shop site will not need to be changed radically, however the existing structures may need to be replaced and additional buildings may be added. From the Mount Spokane Summit Road, the KXLY shop is accessed by a wide gravel road that climbs about 15 to 20 feet to the flat parking area and existing storage structure.

Figure 1. Proposed Administrative Facility



Some clearing of native and non-native vegetation may be required to fit all new maintenance and park office structures and park vehicles onto the new site, however most of the proposed development should fit easily within the existing disturbed ground footprint.

Figure 2. Close up of the proposed administrative facility



A close up view of the proposed development footprint overlaid an aerial photograph. The red lines represent the approximate locations of an old road (currently an active trail) through and near the proposed development footprint. The blue polygon in the upper right corner represents the location of ephemeral stream drainage near the proposed development site.

Utilities

All new facilities will require power, septic and water. The new facility proposed at the KXLY tower has power, water and septic facilities; the septic system will require expansion. Power and water are available at the Selkirk Lodge site.

Backcountry camping facilities will need water and a vault toilet.

Parking

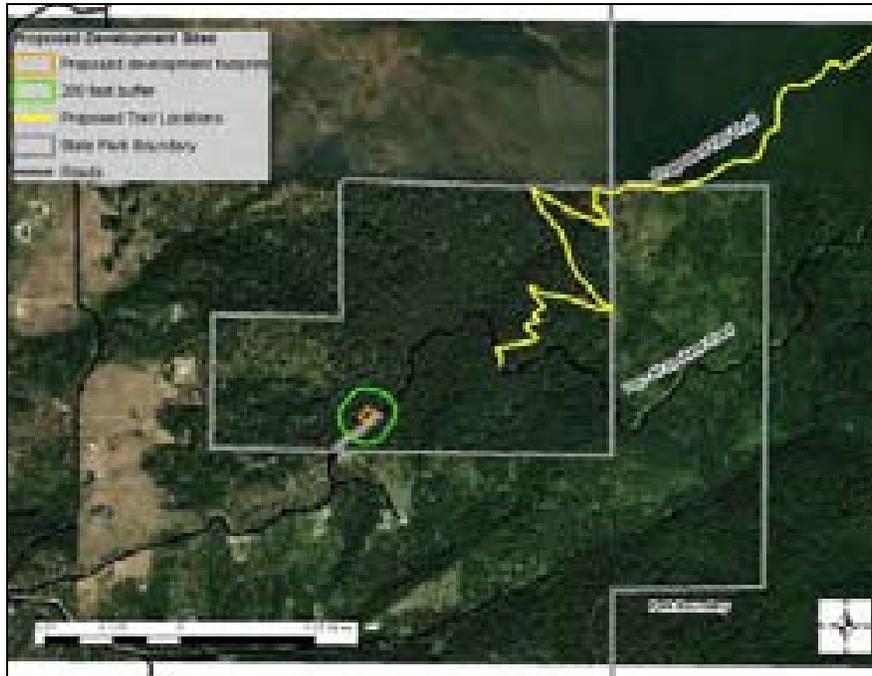
Day-Mount Spokane Trailhead

The Day-Mount Spokane Trailhead parking lot will be constructed along the western boundary of MSSP, just west and uphill of the existing park boundary gate along the Day - Mount Spokane Road (Figures 2 and 3). This site is nearly .4 miles from where the proposed Trail 180 departs the Day - Mount Spokane Road, and trailhead users will have to utilize the portion of the Day - Mount Spokane Road not open motorized vehicles (behind the gate) to access the beginning of the 180 trail from the proposed trailhead parking area.

The developed area footprint of the Day-Mount Spokane Trailhead parking lot is slightly less than 0.25 acres. The trailhead parking lot is to be cleared of all vegetation and surfaced with packed earth or gravel. The site currently has approximately 20% slope from its highest point down to the Day - Mount Spokane Road. Excavation and grading is expected to occur to make

the parking site adequate in size for use by pickup trucks pulling horse trailers. The parking area will be large enough to accommodate around 20 normal size vehicles at maximum capacity. Horse trailers will be able to safely access and maneuver within the parking area. Access to the proposed parking area will require that a short access road be constructed through the existing road bank. A pit toilet will be constructed within the parking area to accommodate users and control unwanted littering in the surrounding landscape.

Figure 3. Day-Mount Spokane Trailhead Location



Location of the proposed Day-Mount Spokane trailhead parking lot footprint

Figure 4. Close up of the Day-Mount Spokane Proposed Trailhead



A close up view of the proposed development footprint overlaid an aerial photograph. The red lines represent the approximate locations of old skid roads through and near the proposed development footprint.

New Linder's Ridge Parking Area

The Linder's Ridge parking expansion site consists of a proposed development footprint three quarters of an acre in size just northwest of the Selkirk Lodge in the Linder's Ridge area (see map below).

Development of the site will require the complete removal of all vegetation within the proposed development footprint, as well as removal of some top soil, and creating a parking lot surface of either compacted earth or gravel. The new parking area shall be constructed within an existing clearing created by previous human activities. The clearing is adjacent to (and south of) the Linder's Ridge snowmobile parking area, and is accessible by existing roads that are currently closed. A public toilet is already located next to the proposed development footprint, and the proposed development site is very near and just west of the existing Selkirk Lodge parking area.

Figure 5. The proposed Linder's Ridge parking area



Photos of the currently closed roads that will be used to access the Lindner Ridge parking area

Figure 6. Close up view of the Linder's Ridge Parking Area



A close up view of the proposed development footprint overlaid an aerial photograph. The red lines represent the approximate locations of currently closed roads that cut through and near the proposed development footprint.

Land Classification/Long-Term Park Boundary

Determine that the 40 acres surrounded by private property in the middle of T28N R45E section 5 cannot be advantageously used for park purposes and seek to dispose of it via sale or exchange.

Affirm that all state park property in T28N R45E section 7 and 8 should be retained and that all private property in the same sections should be acquired.

Include all IEP land east of the park boundary used for winter recreation in the long term boundary to indicate a desire to work with IEP to retain the land in long term forestry and available for recreational uses.

Classify all lands proposed for inclusion that are currently outside the park long term boundary as Resource Recreation.

Geographic Scope of Concession

Make no changes in concession area boundary unless mutually agreed to by the concessionaire and state parks under this action, or determine appropriateness of concession boundary realignment under separate action as part of Master Concession Plan review.

Cultural Resources

Take measures to protect the existing historic features at the CCC-era structures adjoining the Kit Carson Loop Road. These include signage and making a walking only zone in the area - cycling and horseback riding would continue on the Kit Carson Loop Road.

Add interpretive signs in heritage areas to explain the history of prior uses in the park.

Overnight Facilities

Create a walk-in campsite at near Mount Kit Carson meadows to provide an alternative to the current unauthorized uses.

Install a cabin at trail junction 7 in the Nordic trail system and a cabin located near the southeast corner of the intersection of Trail 110 and the Kit Carson Loop Road

Interpretive Facilities

Create a system of directional and way-finding signs; uniform information board designs; park and interpretive network mapping; a summit corridor sign plan and a trail network sign plan.

Provide focused orientation to story points and broad interpretation of resources within the hub vicinity. Interpretive hubs are organized in a simple hierarchy comprised of primary and, where appropriate, secondary hubs. Primary hubs are interpretive destinations within primary circulation routes of the park. Secondary hubs are often located outside primary circulation routes or lack accessible facilities, such as sufficient parking and restrooms.

Primary hubs sites include: Park Gateway; Summit Corridor; Trail Network; and Lodge Corridor. Secondary hubs include: Vista House; South Overlook; Paradise Camp Wayside; CCC Camp Francis Cook; Bald Knob Day Use Area; Nordic (NOVA) Warming Hut; Quartz

Mountain Fire Lookout; and Day Road Entrance - Cook's Auto Road. See interpretive plan for further detail.

Cultural Landscapes

The primary cultural landscape identified includes the area of Cook's Paradise Camp, also known as Cook's Camp with its associated building sites, extant buildings and building remains, the spring with its developed reservoir, the trail to the summit area, and CCC-constructed features along the Summit Road. The area extends to the west to include the site of CCC Camp Francis Cook around the summit of Beauty Mountain and to the north to include the summit area of Mount Spokane and its historic features.

The Ski Club landscape contains the remains of the lodge, but does not continue to convey its historic appearance due to the continued growth of vegetation. Today, this area is covered with dense stands of trees, and does not retain sufficient integrity to be considered a significant landscape.

Circulation routes, especially roads, are reminders of the early work done by Cook and improvements constructed by the CCC. The current road alignment of the Day - Mount Spokane Road, the Kit Carson Road, and the Summit Road all reflect the condition that existed during the historic period as indicated in a 1922 log of a trip to the summit as well as the 1940 Master Plan for the park.

Key trails for both hiking and skiing are noted on the 1940 Master Plan for the park, portions of which are still designated as hiking, skiing, or snowmobiling trails. This includes portions of the 1940 "Teakettle Trail" now designated as Trail 101; portions of the 1940 "Tumble Trail" now designated as Trail 124; the 1940 "Trail #1" now designated as portions of Trails 100, 102, and 103; the 1940 "Trail #2" now designated as Trail 160; and portions of the 1940 "Trail #3" now designated as Trail 110.

Vegetation Management

Maintain the existing vegetation by periodically removing young native trees and any non-native plants growing into the meadow.

D. NO ACTION ALTERNATIVE - PARK MASTER FACILITIES PLAN

Day-Mount Spokane Road Trailhead

None

Snowmobiling

Only changes noted below; no new facilities.

Snowmobile trail map signs will be placed at key intersections and trailheads. Each map will indicate "you are here."

A snowmobiling brochure, produced in cooperation with the Winter Knights Snowmobile Club, will be available at the parking areas. The brochure will contain a snowmobiling trail map for the park and surrounding area, a map or photo of the summit corridor, and it will indicate the groomed trail, ungroomed snowmobile trails and play areas. It will also contain the rules and other relevant information for safe snowmobiling in the park and on IEP lands.

Snowmobile Trail Signs: Signs consisting of plastic orange diamonds tacked to trees will mark the groomed snowmobile trail throughout the park. Larger orange diamond signs will contain a picture of a snowmobile with the words "Stay on trail." These will be posted in areas where snowmobilers commonly ride out of bounds.

Monitoring of Trail Use and Resource Impacts: Staff will coordinate with alpine ski area staff, both Nordic and alpine volunteer ski patrols, the Winter Knights Snowmobile Club, the Spokane Nordic Ski Education Foundation, and other designated volunteers to use the LAC adaptive management system to manage potential snowmobile impacts on natural and cultural resources, as well as risks to visitor safety and the quality of the non-motorized, winter trail experience.

Nordic Skiing

Only changes noted below; no new facilities.

Nordic trail map signs will be produced in cooperation with the Selkirk Nordic Ski Education Foundation and will be placed and maintained at each intersection with "You Are Here" indicated appropriately. Printed trail maps will also be stocked and available in the Selkirk Lodge.

The daily snow line update will continue to be recorded by park staff. Snow, weather, grooming, and trail conditions for both Nordic skiing and snowmobiling will be included. Any closures will also be noted.

Nordic ski trails will be labeled with their respective names and difficulty ratings on a sign at each junction. Colored arrows and old trail numbers will be removed.

Rules for Nordic skiing at MSSP will be posted inside the Selkirk Lodge.

Snowshoeing

Only changes noted below; no new facilities.

Backcountry Skiing and Snowshoeing Trail Signs: Plastic blue diamond markers will be tacked to trees to mark snowshoeing and backcountry skiing trails and routes.

Summer Trails (see maps in Appendices)

Only changes noted below; no new facilities.

A general park brochure including a detailed trail map, trail descriptions, and park rules will continue to be readily available to all park visitors. This brochure will continue to be produced in cooperation with the Friends of Mount Spokane State Park. Park staff will retain the original electronic copy.

A brochure describing the unique ecology of the Ragged Ridge Natural Area will also be produced in cooperation with the Friends of Mount Spokane State Park. This brochure will contain a map and other information about the area.

All trails will be clearly marked at junctions and trailheads with the trail number and map section number.

Each major trailhead will have a bulletin board with relevant, updated park and trail information.

The winter snow line will be expanded and used year round to provide regular updates on trail conditions, park activities, wildfire risk, temporary closures/restrictions, etc.

Selected trails will have signs indicating the mileage from the trailhead and the elevation above sea level.

ORV Access to Ragged Ridge - Park staff will continue to work with representatives of Inland Empire Paper Company (IEP) to implement additional measures to close Ragged Ridge to ORV and equestrian access.

ORV Access to Other Areas - Park staff will work with adjacent landowners to close Hay Ridge and the Kit Carson Loop Road in Section 8 to ORV access.

Administrative Facilities

No new facilities.

Utilities

No new facilities or utilities

Parking

Only changes noted below; no new facilities.

Land Classification/Long-Term Park Boundary

Classify the PASEA as Natural Forest Area, which will preclude development for downhill skiing.

Delete the Bear Creek Lodge from the park long term boundary.

Geographic Scope of Concession

Make no changes in concession area boundary unless mutually agreed to by the concessionaire and state parks under this action, or determine appropriateness of concession boundary

realignment under separate action as part of Master Concession Plan review. No expansion of facilities into the PASEA.

Cultural Resources

Take measures to protect the existing historic features at the CCC-era structures adjoining the Kit Carson Loop Road. These include signage and making a walking only zone in the area – cycling and horseback riding would continue on the Kit Carson Loop Road.

Add interpretive signs in heritage areas to explain the history of prior uses in the park.

Overnight Facilities

No new facilities.

Interpretive Facilities

Create a system of directional and way-finding signs; uniform information board designs; park and interpretive network mapping; a summit corridor sign plan and a trail network sign plan.

Provide focused orientation to story points and broad interpretation of resources within the hub vicinity. Interpretive hubs are organized in a simple hierarchy comprised of primary and, where appropriate, secondary hubs. Primary hubs are interpretive destinations within primary circulation routes of the park. Secondary hubs are often located outside primary circulation routes or lack accessible facilities, such as sufficient parking and restrooms.

Primary hubs sites include: Park Gateway; Summit Corridor; Trail Network; and Lodge Corridor. Secondary hubs include: Vista House; South Overlook; Paradise Camp Wayside; CCC Camp Francis Cook; Bald Knob Day Use Area; Nordic (NOVA) Warming Hut; Quartz Mountain Fire Lookout; and Day Road Entrance – Cook’s Auto Road. See interpretive plan for further detail.

Cultural Landscapes

The primary cultural landscape identified includes the area of Cook’s Paradise Camp, also known as Cook’s Camp with its associated building sites, extant buildings and building remains, the spring with its developed reservoir, the trail to the summit area, and CCC-constructed features along the Summit Road. The area extends to the west to include the site of CCC Camp Francis Cook around the summit of Beauty Mountain and to the north to include the summit area of Mount Spokane and its historic features.

The Ski Club landscape contains the remains of the lodge, but does not continue to convey its historic appearance due to the continued growth of vegetation. Today, this area is covered with dense stands of trees, and does not retain sufficient integrity to be considered a significant landscape.

Circulation routes, especially roads, are reminders of the early work done by Cook and improvements constructed by the CCC. The current road alignment of the Day – Mount Spokane Road, the Kit Carson Road, and the Summit Road all reflect the condition that existed during the historic period as indicated in a 1922 log of a trip to the summit as well as the 1940 Master Plan for the park.

Key trails for both hiking and skiing are noted on the 1940 Master Plan for the park, portions of which are still designated as hiking, skiing, or snowmobiling trails. This includes portions of the 1940 "Teakettle Trail" now designated as Trail 101; portions of the 1940 "Tumble Trail" now designated as Trail 124; the 1940 "Trail #1" now designated as portions of Trails 100, 102, and 103; the 1940 "Trail #2" now designated as Trail 160; and portions of the 1940 "Trail #3" now designated as Trail 110.

Vegetation Management

No vegetative management to retain native balds.

E. FACILITIES RENOVATION ALTERNATIVE - PARK MASTER FACILITIES PLAN

Main Park Entrance

Create a turn-around space so that when the park is closed visitors can avoid needing to back their vehicle or vehicle & trailer down the road to turn around.

Snowmobiling

Re-align the existing snowmobile route on Linder's Ridge Road to a roughly parallel corridor north and below the exiting location. This route will continue to provide access to the extensive snowmobile trail system that exists on IEP property in Washington and Idaho.

Snowmobile Trail Signs: Signs consisting of plastic orange diamonds tacked to trees will mark the groomed snowmobile trail throughout the park. Larger orange diamond signs will contain a picture of a snowmobile with the words "Stay on trail." These will be posted in areas where snowmobilers commonly ride out of bounds.

Monitoring of Trail Use and Resource Impacts: Staff will coordinate with alpine ski area staff, both Nordic and alpine volunteer ski patrols, the Winter Knights Snowmobile Club, the Spokane Nordic Ski Education Foundation, and other designated volunteers to use the LAC adaptive management system to manage potential snowmobile impacts on natural and cultural resources, as well as risks to visitor safety and the quality of the non-motorized, winter trail experience.

Nordic Skiing

Construct a new groomed Nordic trail connection from the back of the Selkirk Lodge (or off the Mount View Trail) to the bottom of the drainfield area and the Linder's Ridge Road. The Linder's Ridge Road/M-17 Road would then be groomed for Nordic skiing from about 100' east of the Trail 260C junction to the 9.5 junction on IEP property. Additional connecting trails on IEP property will also be opened for groomed Nordic skiing. Existing groomed snowmobile trails will be accessed via the Condo Road, a new connector between Road M8A and M8, Road M8B, and a new connector between M8B and the existing snowmobile trail that loops into Idaho. The expanded Nordic trail system will connect with park property at: 1) the Linder's Ridge Road at the Section 27 boundary, 2) the Wild Moose Trail (possibly in two places), and 3) the Twin Lakes trail near the switchback with the Quartz Loop trail.

Nordic trail map signs will be produced in cooperation with the Selkirk Nordic Ski Education Foundation and will be placed and maintained at each intersection with "You Are Here"

indicated appropriately. Printed trail maps will also be stocked and available in the Selkirk Lodge.

The daily snow line update will continue to be recorded by park staff. Snow, weather, grooming, and trail conditions for both Nordic skiing and snowmobiling will be included. Any closures will also be noted.

Nordic ski trails will be labeled with their respective names and difficulty ratings on a sign at each junction. Colored arrows and old trail numbers will be removed.

Rules for Nordic skiing at MSSP will be posted inside the Selkirk Lodge.

Snowshoeing

Designate the straight fall line route between the Bald Knob restrooms and the KXLY TV towers as a snowshoeing and backcountry skiing route to the Mount Spokane summit.

Backcountry Skiing and Snowshoeing Trail Signs: Plastic blue diamond markers will be tacked to trees to mark snowshoeing and backcountry skiing trails and routes.

Summer Trails (see maps in Appendices)

A general park brochure including a detailed trail map, trail descriptions, and park rules will continue to be readily available to all park visitors. This brochure will continue to be produced in cooperation with the Friends of Mount Spokane State Park. Park staff will retain the original electronic copy.

A brochure describing the unique ecology of the Ragged Ridge Natural Area will also be produced in cooperation with the Friends of Mount Spokane State Park. This brochure will contain a map and other information about the area.

All trails will be clearly marked at junctions and trailheads with the trail number and map section number.

Each major trailhead will have a bulletin board with relevant, updated park and trail information.

The winter snow line will be expanded and used year round to provide regular updates on trail conditions, park activities, wildfire risk, temporary closures/restrictions, etc.

Selected trails will have signs indicating the mileage from the trailhead and the elevation above sea level.

ORV Access to Ragged Ridge – Park staff will continue to work with representatives of Inland Empire Paper Company (IEP) to implement additional measures to close Ragged Ridge to ORV and equestrian access.

ORV Access to Other Areas – Park staff will work with adjacent landowners to close Hay Ridge and the Kit Carson Loop Road in Section 8 to ORV access.

Improve numerous stream crossings to meet current standards on Trail 100 East, Trail 100 West. Provide safe sources of drinking water for stock near stream crossings.

Restore and maintain the upper portion of Trail 103 and connect to Trail 100 East. Close the lower, unnecessary portion of this trail to prevent further erosion from the side stream.

Reroute Trail 100 East near its junction with the east fork of Burping Brook and the Lower Kit Carson Loop Road.

Reroute existing Trail 140 (old 115) between Smith Gap and the Mount Kit Carson meadows, and close the existing trail to summer use.

Reroute Trail 160 (old 170) from its junction with Trail 140 (old 115) to the Kit Carson Summit to eliminate the erosion problem.

Eliminate the fall line trail off Mount Kit Carson through meadow.

Reroute portions of Lower Trail 140 (old 115) and improve drainage and water crossings to meet current standards for multiple use.

Improve the switchbacks on Trail 130 West from the summit of Day Mountain to the Upper Kit Carson Loop Road.

Repair and reroute sections of upper Trail 140 (old 135) to eliminate erosion problems and meet current standards.

Reroute the upper portion of Trail 101 (old power line) to provide an alternative connector between Trail 100 East and Trail 130 at Bald Knob, and eliminate current erosion problems.

Designate and mark a summer route, as Trail 193, down the Northwest Passage alpine ski run to the Roulon and B-29 runs and to Lodge 2.

Re-establish existing system of trails on the upper elevations of Quartz Mountain with an emphasis on loop trails, and reroute Trail 251.

Improve and maintain Horse Mountain Trail 255 to meet current standards. Close and revegetate the existing Horse Mountain 255A trail.

Improve and maintain Ragged Ridge Trail from the Quartz Mountain Loop Trail to the 4805' summit to meet current standards. Close and revegetate existing trail south of 4805' summit once ORV and equestrian use has been eliminated.

Close and revegetate Trail 100B (from Bald Knob to the old power line) and 100F (overgrown short single track).

New Trail Development

No new facilities

Administrative Facilities

Remove the current administrative facility outside of the park boundary and rehabilitate the stream channel.

Utilities

All new facilities will require power, septic and water. The new facility proposed

Parking

New Linder's Ridge Parking Area

The Linder's Ridge parking expansion site consists of a proposed development footprint three quarters of an acre in size just northwest of the Selkirk Lodge in the Linder's Ridge area (see map below).

Development of the site will require the complete removal of all vegetation within the proposed development footprint, as well as removal of some top soil, and creating a parking lot surface of either compacted earth or gravel. The new parking area shall be constructed within an existing clearing created by previous human activities. The clearing is adjacent to (and south of) the Linder's Ridge snowmobile parking area, and is accessible by existing roads that are currently closed. A public toilet is already located next to the proposed development footprint, and the proposed development site is very near and just west of the existing Selkirk Lodge parking area.

See Figures 5 and 6 on previous pages.

Land Classification/Long-Term Park Boundary

Delete the Bear Creek Lodge from the park long term boundary.

Classify all lands proposed for inclusion that are currently outside the park long term boundary as Resource Recreation.

Geographic Scope of Concession

Make no changes in concession area boundary unless mutually agreed to by the concessionaire and state parks under this action, or determine appropriateness of concession boundary realignment under separate action as part of Master Concession Plan review.

Cultural Resources

Take measures to protect the existing historic features at the CCC-era structures adjoining the Kit Carson Loop Road. These include signage and making a walking only zone in the area - cycling and horseback riding would continue on the Kit Carson Loop Road.

Add interpretive signs in heritage areas to explain the history of prior uses in the park.

Overnight Facilities

Create a walk-in campsite at near Mount Kit Carson meadows to provide an alternative to the current unauthorized uses.

Install cabin at trail junction 7 in the Nordic trail system and a cabin near the southeast corner of the intersection of Trail 110 and the Kit Carson Loop Road

Interpretive Facilities

Create a system of directional and way-finding signs; uniform information board designs; park and interpretive network mapping; a summit corridor sign plan and a trail network sign plan.

Provide focused orientation to story points and broad interpretation of resources within the hub vicinity. Interpretive hubs are organized in a simple hierarchy comprised of primary and, where appropriate, secondary hubs. Primary hubs are interpretive destinations within primary circulation routes of the park. Secondary hubs are often located outside primary circulation routes or lack accessible facilities, such as sufficient parking and restrooms.

Primary hubs sites include: Park Gateway; Summit Corridor; Trail Network; and Lodge Corridor. Secondary hubs include: Vista House; South Overlook; Paradise Camp Wayside; CCC Camp Francis Cook; Bald Knob Day Use Area; Nordic (NOVA) Warming Hut; Quartz Mountain Fire Lookout; and Day Road Entrance – Cook’s Auto Road. See interpretive plan for further detail.

Cultural Landscapes

The primary cultural landscape identified includes the area of Cook’s Paradise Camp, also known as Cook’s Camp with its associated building sites, extant buildings and building remains, the spring with its developed reservoir, the trail to the summit area, and CCC-constructed features along the Summit Road. The area extends to the west to include the site of CCC Camp Francis Cook around the summit of Beauty Mountain and to the north to include the summit area of Mount Spokane and its historic features.

The Ski Club landscape contains the remains of the lodge, but does not continue to convey its historic appearance due to the continued growth of vegetation. Today, this area is covered with dense stands of trees, and does not retain sufficient integrity to be considered a significant landscape.

Circulation routes, especially roads, are reminders of the early work done by Cook and improvements constructed by the CCC. The current road alignment of the Day – Mount Spokane Road, the Kit Carson Road, and the Summit Road all reflect the condition that existed during the historic period as indicated in a 1922 log of a trip to the summit as well as the 1940 Master Plan for the park.

Key trails for both hiking and skiing are noted on the 1940 Master Plan for the park, portions of which are still designated as hiking, skiing, or snowmobiling trails. This includes portions of the 1940 “Teakettle Trail” now designated as Trail 101; portions of the 1940 “Tumble Trail” now designated as Trail 124; the 1940 “Trail #1” now designated as portions of Trails 100, 102, and 103; the 1940 “Trail #2” now designated as Trail 160; and portions of the 1940 “Trail #3” now designated as Trail 110.

Vegetation Management

Maintain the existing vegetation by periodically removing young native trees and any non-native plants growing into the meadow.

III. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

A. NATURAL RESOURCES

SOILS AND GEOLOGY

1. AFFECTED ENVIRONMENT

Mount Spokane State Park is situated in the southwestern most extent of the Selkirk Mountain Range. The geology of the Selkirks is quite different from the Rockies. Before the Rockies were thrust up by continental drift, the Selkirks stood alone as an island of mountains bordering the Pacific Coast with an inland sea separating them from the Shield (<http://www.bivouac.com/ArxPg.asp?ArxId=1359>).

The current geological condition of the mountain range started about 250 million years ago as the North American Plate collided with the plate under the Pacific Ocean. The collision between the two plates pushed up a broad welt of sheared rocks on the surface during mid-Jurassic time and continued into the late Cretaceous until about 100 million years ago. About 65 million years ago enormous volumes of the molten granite formed huge batholiths under the Coast Mountains and Idaho. This molten material rose into the early mountains making the early mountains mechanically weak.

An area of granite or metamorphic rock that rises to the surface from deep in the crust to displace the rocks that covered them is called a Core Complex. Mount Spokane State Park is situated within the Priest River Core Complex. The 4-kilometer thick Mount Spokane dome displaced the granite and gneiss on the mountain (Rhodes, et al. 1989).

During the Ice Age, the Cordilleran ice sheet descended from Canada covering much of the northern United States. During maximum glaciation, the ice was thick enough to pass over all but the highest peaks of the Selkirk Mountains. The ice in the vicinity of Sandpoint near the southern end of the range was more than 4,500 feet thick. The mountains of the region were encased in ice and would have been fully involved in glacial processes. Every valley and mountain slope contributed to the massive ice tongue that filled the broad Purcell Trench to the east. About 20,000 years ago the last great ice sheet retreated from the U. S., but lingered nearby in Canada until about 6,000 years ago when it finally melted. During the later stages it went through a succession of retreats and minor advances (<http://www.summitpost.org/area/range/171132/selkirk-range.html>).

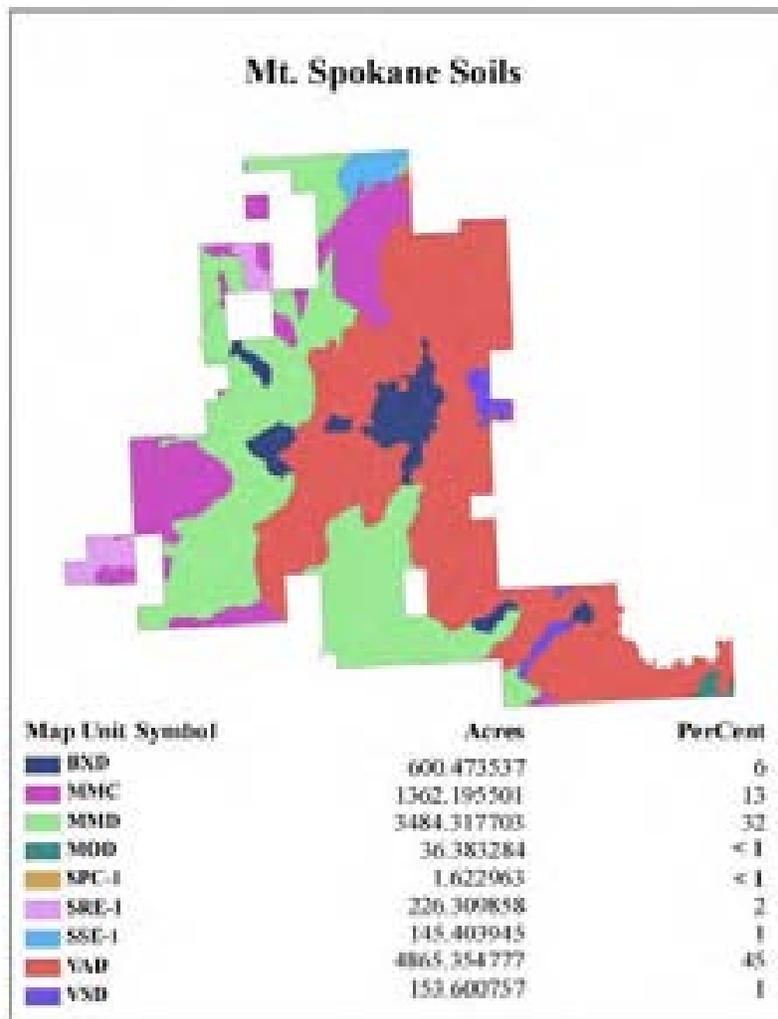
Soils

The Vassar silt loam, 30 to 55 percent slopes, series comprises nearly 50% of the park's soil. The series includes the NE and SE corners of the park and the majority of the center of the park from 3,000 to 5,800 feet in elevation. The soil is deep and well drained on steep to very steep mountain slopes. It formed in volcanic ash and loess overlying material weathered from gneiss bedrock. Typically the surface layer is silt loam 6 inches thick. The subsoil is silt loam 9 inches thick over loam 7 inches thick. The substratum is gravelly loam 33 inches thick over gneiss bedrock. Depth to bedrock ranges from 36 to more than 60 inches.

The Moscow silt loam, 30 to 55 percent slopes, series comprises another 33% of the park's soil. The soil is located between 2,800 and 4,000 feet elevation, and runs the western edge of the park and the center of the southern boundary. The soil is moderately deep, well drained, and is located on steep to very steep mountain slopes. It formed in material weathered from granite, gneiss, or schist with a mantle of volcanic ash and loess. Typically the surface layer is silt loam 13 inches thick. The subsoil is loam 14 inches thick over highly weathered bedrock. Depth to weathered bedrock ranges from 20 to 40 inches.

Other map units within the park include: the Brickel stony loam, 20 to 55 percent slopes, series located at the summit of Mount Spokane and Mount Kit Carson; the Moscow silt loam, 0 to 30 percent slopes, series on the northern and western lower slopes of Mount Spokane and Mount Kit Carson; very small inclusions of the Spokane stony loam, 30 to 70 percent slopes, series and the Spokane complex, 30 to 70 percent slope, series; and the Vassar very rocky silt loam, 20 to 55 percent slopes, series located within the concession area boundary at lodge 2 and in a few other small pockets within the park (see map below).

Figure 7. Soil mapped units, and relative percentage of Mount Spokane State Park (NRCS 2009).



Erosion

When one considers the geological history of Mount Spokane, it is easy to understand that the mountain is comprised of very old, weathered rock. The summit of Mount Spokane rises to 5,280 feet. The park's soils formed from crystalline "granitic" bedrock, are highly erosive, and can be difficult to revegetate due to low fertility, high reflectivity, and chronic erosion. Throughout the park, there is high propensity for slope movement in areas of steep, convergent topography and springs. Occurrence of rotational mass failures in some areas of the park is evident.

According to the NRCS Soil Resources Report (2009) most soils in the park are at risk of extreme erosion hazard with the development of roads and trails. In fact, most trail reroutes proposed in the Master Facilities Plan – Trail Element, are proposed to minimize and/or correct erosion problems with existing trails.

2. ENVIRONMENTAL CONSEQUENCES

a. No Action

There are no new facilities planned under the No Action alternative. As such, grading and clearing impacts will be avoided. Also, there will be no new erosion caused by runoff created by such facilities. Although the No Action alternative will not generate erosion from new facilities existing runoff issues would not be addressed. Existing parking facilities, road systems, and trails with known erosion issues will continue to cause impacts. As capital projects are implemented, current standards and best management practices will be implemented. For example, State Parks has implemented stormwater runoff improvements with the development of road system capital improvements. Otherwise impacts will be addressed on a case by case basis.

Inappropriate trail design and lack of maintenance on certain trails has resulted in significant erosion problems on those trails. Severe erosion transports soils, changes hydrologic patterns, and can even render trails impassable. The Mount Spokane State Park CAMP identified the need for a park trails program and trail development planning where all trail and primitive roadway stream crossings and trails showing signs of significant erosion were to be inventoried and capital/planned maintenance projects proposed as necessary to reduce impacts to water quality.

Although the proposed action attempts to correct these issues, under a "No Action Alternative" no additional work would occur and erosion would be expected to get worse on trails where erosion is identified as a problem. Erosion issues would impact water quality, where trails are situated by streams, and could potentially impact recreational access and use along those trails.

The trails with identified soil erosion issues include:

- Trail 100 East near its junction with east fork of Burping Brook and the Lower Kit Carson Loop Road trailhead is experiencing erosion because there are steps in the trail which are not conducive to equestrian and/or mountain bike use.

- ❑ Trail 100 East has a number of stream crossings including 3 major streams, 2 smaller streams, 1 seasonal stream, and 1 spring. Trail 100 West crosses 3 small streams. Current use of these trails is causing erosion on streambanks and adjacent to the spring, and sedimentation in park streams. The trails are designated for multiple uses during the winter and summer seasons.
- ❑ Access along the lower portion of Trail 103 is currently causing impacts to Burping Brook.
- ❑ The power line trail, connector between Trail 100 East and Trail 130 at Bald Knob, is experiencing erosion problems.
- ❑ Upper Trail 140 – Trail is closed to mountain bikes to eliminate severe erosion problems.
- ❑ Lower Trail 140 – Portions of Trail are currently impacted by drainage and water crossing issues. The trail does not meet current standards for multiple use, especially for downhill mountain biking. Continued use would cause extensive erosion and sedimentation.
- ❑ Trail 160 is experiencing erosion at Saddle Junction (i.e., the saddle half way between the summits of Mount Kit Carson and Beauty Mountain where several trails meet). The trail is also a slight impediment to snowmobile access to the summit and meadow.
- ❑ Trail 160 North drainage issues are impacting trail access and left unattended could cause significant erosion.
- ❑ Horse Mountain Trail 255 does not meet current standards and is impacted by erosion.
- ❑ Ragged Ridge Trail from the Quartz Mountain Loop Trail to the 4805' summit does not meet current standards and is impacted by erosion from ATV and equestrian use. The trail is intended to be used as a pedestrian trail, but without modifying the current use and rerouting the trail and applying the current standards pedestrian access will be impacted by unauthorized ATV and equestrian use and become limited.

b. Proposed Action

Under the proposed action, State Parks proposes to construct two new parking areas, one new trail route, and a number of trail reroutes where erosion and water impacts exist. In implementing the preferred alternative, State Parks will comply with existing rules and regulations and Best Management Practices.

c. Facilities Renovation Alternative

The Facilities Renovation Alternative differs from the No Action Alternative by constructing an alternative snowmobile route to IEP property, additional parking by the Selkirk Lodge, a 2 story building adjacent to the Selkirk Lodge, not developing any new summer use trails, turn Bald Know campground into a group camp area – including renovation of the restroom to include showers, moving the administrative facility to a site outside of the park boundary then rehabilitating the stream channel currently confined to a pipe, expansion of the parking capacity, excluding the Bear Creek Lodge from the park long term boundary and excluding the PASEA from the concession agreement.

3. MITIGATION MEASURES

Potential direct and indirect effects of the Proposed Action would be minimized through implementation of BMPs and the following mitigation measures:

- ❑ Comply with the Spokane County Critical Areas Ordinance
- ❑ Apply Best Management Practices
- ❑ Establish temporary erosion sediment control measures prior to any site work (i.e., silt fence, sediment traps). Install surface water controls to intercept all surface water from disturbed areas.
- ❑ Use preventive measures to minimize wind transport of soil when sediment transported by wind is likely to be deposited in water resources.
- ❑ Schedule earthwork during drier periods if possible.
- ❑ Re-establish vegetation as soon as construction is completed.
- ❑ Stabilize the entrance to construction areas with quarry spalls.
- ❑ Cover trucks transporting soil materials.
- ❑ Avoid concentrating runoff in ways that impact the surrounding area or streams
- ❑ Cover stockpiled soil materials.

VEGETATION

All terrestrial vegetation, from the smallest annual grasses to towering old-growth conifer trees, is dependent upon soil for root support, fertility, and water. Soil must be conserved to assure optimum sustained yields of high quality water, timber and other vegetation, wildlife, fisheries and recreation opportunities. Development of the ski area facilities and Park recreation facilities would expose mineral soil and create compaction, thereby leading to surface soil erosion. Percent of area in detrimental condition (loss of productivity either exhibited by change in soil structure, loss of topsoil, or change in vegetation composition) is a quantitative measure for soil quality maintenance over the study area. U.S. Forest Service uses the threshold of 15 percent of the area, i.e., over 15 percent of the area is considered a significantly adverse effect.

Mount Spokane State Park occupies a unique position on the landscape in Spokane County. It is the highest point in the county and has high elevation habitat that is found nowhere else in the local area. Many of the proposed actions are found in the upper elevations of the park. However, the western-most part of Trail 180 and the Day-Mount Spokane Trailhead facility are located in lower elevation areas (below 3,200 feet).

Largely due to its isolation and high elevation in relation to the surrounding landscape, MSSP receives a much greater amount of precipitation than the surrounding landscape. The Proposed Actions occur within an elevation range of 31 to 45 inches of annual precipitation. Most of this precipitation falls as snow, particularly at the higher elevations.

Due to the fairly deep soils of the area and the relatively high precipitation, most of MSSP is covered by coniferous forests, with a few scattered meadows, talus fields, shrub fields and riparian deciduous forests. The higher elevations are dominated by subalpine forests while the mid and lower elevations are dominated by montane forests. Nearly all of the Proposed

Actions occur in the forested parts of the park. The Proposed Actions were designed in part to avoid unique habitats in the park such as the dry meadow areas.

The proposed actions were also designed in part to avoid stream crossings and riparian areas. Only Trail 260C crosses the upper portion of an intermittent stream. This trail is aligned so the impacts to the stream and associated riparian area are minimized.

1. AFFECTED ENVIRONMENT

The project area has a range of elevation, slopes, aspects and soil types. Soils in the project area vary from rocky talus to deeper loams with volcanic ash-derived deposits. Some steep areas with slopes over 55% occur in areas proposed for trail construction.

Forest communities dominate most of the project area. However, sections of the proposed trails go into or close to shrublands, meadows, balds and talus. Snowmelt varies by topography and forest cover, providing a range of seasonal habitats across the landscape.

MSSP has a variety of unique vegetation communities and ecosystem types that are considered rare or imperiled on a state and global level, and that provide potential habitat for rare plant species (Smith and Morrison 2009, Wooten and Smith 2009, NatureServe 2009, Morrison et al. 2007, Williams et al. 1995, Crawford 1993, Cooper et al. 1991). The table below lists the plant associations the proposed trails along with their state and global conservation status.

Table 4. Plant associations in trail impact zones.

The following plant communities occur along sections of trail proposed for construction (Rank codes: S = State, G = Global, 2=imperiled; 3=rare and local, 4 & 5=widespread, Q = under review; NA = not assessed; NR = not ranked).

Code	Scientific Name	Common Name	Status
ABGR/ACGL	<i>Abies grandis</i> / <i>Acer glabrum</i>	grand fir / Rocky Mountain maple	S2 G3
ABGR/PHMA5	<i>Abies grandis</i> / <i>Physocarpus malvaceus</i>	grand fir / mallow ninebark	S2 G3
ABGR/VAME	<i>Abies grandis</i> / <i>Vaccinium membranaceum</i>	grand fir / thinleaf huckleberry	S3 G3 G4
ABLA/CAGE2	<i>Abies lasiocarpa</i> / <i>Carex geyeri</i>	subalpine fir / Geyer's sedge	SNA G4
ABLA-(PSME)/CAGE2	<i>Abies lasiocarpa</i> - (<i>Pseudotsuga menziesii</i>) / <i>Carex geyeri</i>	subalpine fir - (Douglas-fir) / Geyer's sedge	SNA G4
ABLA/LUGLH	<i>Abies lasiocarpa</i> / <i>Luzula glabrata</i> var. <i>hitchcockii</i>	subalpine fir / Hitchcock's smooth woodrush	S2 G5
ABLA/VAME	<i>Abies lasiocarpa</i> / <i>Vaccinium membranaceum</i>	subalpine fir / thinleaf huckleberry	S4 G4
ABLA/XETE	<i>Abies lasiocarpa</i> / <i>Xerophyllum tenax</i>	subalpine fir / common beargrass	S3 G5

Code	Scientific Name	Common Name	Status
ABLA-PIEN/MEFE/CLUN2	<i>Abies lasiocarpa</i> - <i>Picea engelmannii</i> / <i>Menziesia ferruginea</i> / <i>Clintonia uniflora</i>	subalpine fir - Engelmann spruce / rusty menziesia / bride's bonnet	SNA G4 G5
ABLA-PIEN/VAME/XETE	<i>Abies lasiocarpa</i> - <i>Picea engelmannii</i> / <i>Vaccinium membranaceum</i> / <i>Xerophyllum tenax</i>	subalpine fir - Engelmann spruce / thinleaf huckleberry / common beargrass	S3 GNR
ALVIS/forbs	<i>Alnus viridis</i> ssp. <i>sinuata</i> / Mesic Forbs	Sitka alder / mesic forbs	S3 S4 G3 G4
FEVI-FEID	<i>Festuca viridula</i> - <i>Festuca idahoensis</i>	green fescue - Idaho fescue	S2Q G2Q
PIPO-PSME/CARU	<i>Pinus ponderosa</i> - <i>Pseudotsuga menziesii</i> / <i>Calamagrostis rubescens</i>	ponderosa pine - Douglas-fir / pinegrass	S2 G2Q
PIPO-PSME/PHMA5	<i>Pinus ponderosa</i> - <i>Pseudotsuga menziesii</i> / <i>Physocarpus malvaceus</i>	ponderosa pine - Douglas-fir / mallow ninebark	S2 GNRQ
TSHE/CLUN2	<i>Tsuga heterophylla</i> / <i>Clintonia uniflora</i>	western hemlock / bride's bonnet	S4 G4
TSHE/GYDR	<i>Tsuga heterophylla</i> / <i>Gymnocarpium dryopteris</i>	western hemlock / western oakfern	S3 G3 G4
TSHE/VAME/XETE	<i>Tsuga heterophylla</i> / <i>Vaccinium membranaceum</i> / <i>Xerophyllum tenax</i>	western hemlock / thinleaf huckleberry / common beargrass	S2 G3

The botany survey report documented approximately 160 different vascular plant species along the proposed trail routes (Wooten and Smith 2009). No Endangered, Threatened or Sensitive plants tracked by the Washington Natural Heritage Program of the Department of Natural Resources occur along the proposed trail systems.

Most of these species are native, however three noxious species tracked by the Washington State Noxious Weed Control Board were found along some proposed trail routes. These species were orange hawkweed (*Agoseris aurantiaca*; class B), Dalmatian toadflax (*Linaria dalmatica*; class B) and common St. John's wort (*Hypericum perforatum*; Class C).

Several rare or imperiled plant communities were identified in the proposed project area. Potential impacts to imperiled plant communities (ranked S2 or G2) are discussed. Plant communities ranked rare (S3 or G3) are noted.

Day-Mount Spokane Trailhead

The proposed development occurs within a state imperiled vegetation community (ponderosa pine - Douglas-fir / mallow ninebark). This forest community is not common within the park given that it occurs at elevations below which most of the park encompasses. Within this area of the park the forests are in fair to good ecological condition, however the forest stands in this area are simplified second or third growth forests that have re-established from industrial

logging activities in the 1940s, 50s, or 60s. These mid-successional forest stands are not known to provide high quality habitat to special status plant species in this area, and no special status plants have been identified in the impact region. The proposed development footprint is not placed near any sensitive or unique environmental features such as riparian areas or steep unstable slopes. It is very near to other highly to moderately disturbed sites such as private residences and recently logged industrial forest lands outside the nearby park boundary. The proposed development site is very near to the edge of a large contiguous forest patch which is artificially interrupted by human development and logging disturbances. The site occurs directly along a wide road corridor devoid of vegetation. The site represents more of a forest edge system that has been and continues to be significantly influenced by human disturbance. Forests within the park in this area have missed one to two low intensity wildfire intervals, contributing to a build-up of small fuels and thick undergrowth of woody shrubs and small trees.

Inventory Results

No special status vascular plants were found within the survey area.

The proposed parking area will occur on a site that is currently forested, although the site is very near the edge of the park where industrial forest activities and home site development have greatly altered the forest canopy and understory conditions. The site is located along the edge of a large, contiguous, and mostly even-aged secondary forest patch that exists within the park parcel that is detached from the rest of the park along the park's western boundary. This forest patch runs from an elevation of 2800 feet in the southwest corner of the parcel, to nearly 3800 feet in the northeast corner. The proposed development footprint occurs at roughly 3100 feet in elevation on a gentle south facing slope. Along the slopes with more southern exposure in this area, 60 - 70 year old Douglas-fir and ponderosa pine dominate the forest canopy, with some areas containing young grand fir regeneration in the forest sub-canopy. The dominant vegetation community on these more southern facing slopes is the ponderosa pine - Douglas-fir / mallow ninebark forested plant association (*Pinus ponderosa* - *Pseudotsuga menziesii* / *Physocarpus malvaceus*, State imperiled (S2)). The grand fir / mallow ninebark forested plant association (*Abies grandis* / *Physocarpus malvaceus*, State imperiled - Globally rare (S2G3)) is also common in this area.

The footprint of the proposed parking area will occur within the ponderosa pine - Douglas-fir / mallow ninebark community, although the forest on the opposite side of the Day - Mount Spokane Road is more representative of the grand fir / mallow ninebark community. The proposed forest clearing will occur on a site that is adjunct to the existing non-forested corridor that is the Day - Mount Spokane Road. The width of the forest canopy separation due to the road in this area is nearly 20 to 30 feet. Removal of the trees for parking lot development would create a new rectangular forest canopy opening roughly 100 feet by 80 feet wide. Including the canopy opening caused by the existing road, the forest canopy opening in this area could reach up to 150 feet in width. Dimensions of understory vegetation loss would be nearly equivalent to forest canopy loss.

The forest where the proposed parking lot will occur consists mostly of native plants that have re-established themselves after the area was industrially logged 60 to 80 years ago. Old skid roads criss-cross the proposed development site, illustrating the history of human disturbance

in the area. The map provides a close-up view of the proposed development footprint, and the red lines in the figure illustrate the location of these skid roads relative to the development footprint.

New Maintenance/Administrative Facility

The proposed development occurs on a previously developed and highly disturbed site which is surrounded by some secondary natural forest communities, many of which themselves are surrounded by developed areas including heavily used roads and large parking areas. The proposed development footprint is just over one acre in size. The forests surrounding the development site are mid-successional conifer forests with a high amount of artificial edge influence in the western hemlock / thinleaf huckleberry / beargrass forested plant association, which is a state and globally imperiled plant community (S2G2). Similar condition forest patches of this plant association occur at this elevation band within other areas of the park. The site is currently poor habitat for potential special status plant species given the intensive logging history and presence of human development on the site. No special status plants have been identified in the impact region.

Approximately 200 feet to the north-northeast from the current development footprint, a small ephemeral stream drainage occurs. This drainage does not have perennial surface water or an obvious stream channel, but it is likely that water flows here during the early spring snow melt. The ephemeral stream drainage is located downhill of the proposed development site, and thus could be influenced by activities conducted on the development site.

New Linder Ridge Parking Area

The proposed development occurs on a previously developed and highly disturbed site which is surrounded by some secondary natural forest communities, many of which themselves are surrounded by developed areas including heavily used roads and large parking areas. The proposed development footprint is nearly one third of an acre in size. The forests surrounding the development site are mid to early successional conifer forests with a high amount of artificial edge influence in the western hemlock / thinleaf huckleberry / beargrass forested plant association, which is a state and globally imperiled plant community (S2G2). Similar condition forest patches of this plant association occur at this elevation band within other areas of the park. The site is currently poor habitat for potential special status plant species given the intensive logging history and presence of human development on the site. No special status plants have been identified in the impact region.

The proposed development site exists within saddle/ridgeline landform between the southeast flank of Mount Spokane and Linder Ridge. The site is approximately 4550 feet in elevation, and has a north-northwest facing aspect at approximately 10% slope. The proposed development footprint is surrounded from the east, south, and west by secondary or third growth conifer forests. The forest conditions within the 200 foot perimeter around the development site vary from one side of the proposed development footprint to the next, but all forests within this area are in a transition zone between western hemlock series forests to subalpine fir series forests.

To the west to southwest of the proposed development site the forests are composed mostly of grand fir, with some western hemlock and subalpine fir present. There is a vegetated understory of beargrass and thinleaf huckleberry. This is a mid-successional, single age class,

closed canopy forest with trees between 8 to 20 inches diameter at breast height, and a forest canopy ranging around 60 feet tall. Remnant stumps of the previously logged stand indicate that this site contains a second or third growth forest that has regenerated after clearcut logging. This forest's natural successional trajectory is towards the western hemlock / thinleaf huckleberry / beargrass plant association, which is a state and globally imperiled plant community (S2G2). Hand thinning and piling of smaller trees is taking place within this forest patch.

To the south and east of the proposed development site there is a forest patch that is confined to a narrow section of undisturbed soils between the Selkirk Lodge parking area, the Linder Ridge snowmobile parking area, and the old clearing where the proposed parking expansion is sighted. This forest patch is highly influenced by edge effects and has a more mixed tree species composition that includes grand fir, western hemlock, subalpine fir, western white pine (*Pinus monticola*), lodgepole pine, and Engelmann spruce. There are more forest canopy openings in this area, and there is a multi-age class canopy structure with many young trees filling in the upper forest canopy gaps. Shrub cover is also more prevalent and there are more shrub species in this area, including Greene's mountain ash, rusty menziesia (*Menziesia ferruginea*), and Sitka alder.

The active and closed roads, as well as the existing parking areas and the clearing where the proposed development is to occur all contain a mix of early pioneering species, some native and some exotic. Some noxious weeds occur on these sites, including Class B species spotted knapweed, as well as Class C weeds common St. Johnswort, bull thistle (*Cirsium vulgare*), and Canada thistle (*Cirsium arvense*).

The existing clearing where the proposed development is to occur contains a high amount of cover of pioneering plant species, including common St. Johnswort, bracken fern (*Pteridium aquilinum*), western pearly everlasting (*Anaphalis margaritacea*), yarrow (*Achillea millefolium*), selfheal (*Prunella vulgaris*), woodland strawberry (*Fragaria vesca*), Canada thistle, and spotted knapweed. Within the center of the clearing there is a 40 - 50 foot tall grand fir. At the entrance (northern edge) of the clearing from Mount Spokane Park Drive there are three tall subalpine firs. Around the eastern perimeter of the clearing the vegetation is composed of young conifers growing together in a thick patch. Along the south and western perimeter of the clearing tall deciduous shrub cover is present, mixed with young conifer trees.

2. ENVIRONMENTAL CONSEQUENCES

a. No Action

The No Action alternative would not directly affect vegetation along existing roadways, trails and facilities other than ongoing maintenance activities. There would be limited or no ground-disturbing activities along the proposed routes. There are no state- or federally-listed plant species known to occur within the Park, therefore the No Action alternative would not affect those species. The No Action alternative would not directly affect vegetation communities of conservation significance because no new ground-disturbing actions would occur.

Noxious weeds could spread unobserved into areas lacking trails, however this is unlikely at present since most noxious weeds known in this area are associated with soil and canopy disturbance.

Erosion would continue to occur on some existing trails planned for improved erosion controls and constructed switchbacks. This would have a negligible effect on plant species composition and on plant communities.

Indirect effects of unregulated access and off-trail use could occur due to lack of trail facilities in some areas.

Areas of MSSP that are currently relatively free of human visitor impacts would continue to be seldom visited.

Day-Mount Spokane Trailhead

The no action alternative would not remove any existing vegetation within the proposed development site, therefore there would be no effects associated with vegetation removal. The impacts to a vegetation community of statewide conservation significance would be neutral, as a quarter acre of the ponderosa pine – Douglas-fir / mallow ninebark forest community would not be physically removed and prevented from re-establishing. Human caused wildfire risk will remain similar to current risk levels, which are moderately high given the proximity of the location to a publicly accessible road, a housing development, industrial forest lands, and given that a build-up of fine fuels is occurring that would more readily carry a wildfire through the landscape.

New Maintenance/ Administrative facility

The primary issues associated with vegetation resources include: (1) effects of vegetation removal; (2) potential impacts on vegetation communities of statewide conservation significance; and (3) potential impacts on the vegetation and ecological integrity of ephemeral stream drainage. Based on the lack of occurrence of designated critical habitat within the project area, no adverse effects to special status plant species would occur as a result of implementing either of the alternatives.

The no action alternative would not remove any existing vegetation within the proposed development site, therefore there would be no effects associated with vegetation removal. The impacts to a vegetation community of statewide conservation significance would be neutral, as none of the surrounding forest communities would be physically altered from existing conditions. No clear evidence exists to suggest that the current development site is directly impacting the vegetation and ecological integrity of the nearby ephemeral stream drainage, thus a no action alternative would not seem to impose additional impacts onto this environmental feature.

New Linder Ridge Parking Area

The primary issues associated with vegetation resources include: (1) effects of vegetation removal; and (2) potential impacts on vegetation communities of statewide conservation significance. Based on the lack of occurrence of designated critical habitat within the project

area, no adverse effects to special status plant species would occur as a result of implementing either of the alternatives.

The no action alternative would not remove any existing vegetation within the proposed development site, therefore there would be no effects associated with vegetation removal. The impacts to a vegetation community of statewide conservation significance would be neutral, as none of the surrounding forest communities would be physically altered from existing conditions.

b. Proposed Action

Effects considered

Trail impacts in MSSP were assessed based on the proposed types of use and required construction methods for each use. Proposed trail multi-use recreation activities common to all trails include hiking, horseback riding, mountain biking, snowshoeing and back country skiing. In addition, snowmobiling is proposed on Trail 260C.

The types of use for each trail dictate the width and type of clearing associated with each trail. Mountain bike, hike, ski and snowshoe trails require a 1-2 foot trail width, with a 1 -2 foot off-trail maintenance area alongside the trail. Equestrian trails require similar trail size and maintenance widths; however this may be larger due to the size of the animals using the trails, especially in forested areas. Snowmobile trails require a 10 to 12 foot wide trail, with an additional 2 feet for off-trail maintenance. Trail 260C is the only new snowmobile-use designated trail in the Proposed Action. This trail will not be maintained for summer motorized recreation; however non-motorized use can occur on the trail during this season.

Impacts from trail construction, trail use or ongoing maintenance that were considered here include the following (Snetsinger and White 2009; Duryea and Hermansen 2003; Potito 2000; Cole and Landres 1995; Harper et al. 1965):

- impacts to rare plants and their habitats;
- direct harm to plants providing ecosystem services;
- loss or alteration of plant habitats;
- altered ecosystem function;
- increased spread of invasive species;
- displacement of native plants by non-natives;
- increased soil disturbance favoring invasive species establishment;
- soil compaction and associated changes in hydrology and plant growth;
- human, pet and wildlife travel leading to the spread of invasive species;
- changed vegetation community composition or function;
- changes in animal browsing patterns or trampling of vegetation; and
- increased risk of wildfire.

Impacts to non-listed plants and plant communities can occur as a result of trail construction, maintenance and use. Vegetation removal affects plant communities by changing the availability of water, nutrients and sunlight, while selectively removing existing individuals and the habitat they provide.

In addition to direct effects to live vegetation, trail construction activities involve indirect effects such as cutting trees and roots out of the path of the trail, digging soil to provide a hard and level surface, and allowing for drainage of rain and meltwater. Trail construction and maintenance may also involve planting, seeding and weed control activities that can impact the community composition.

Trail-based recreation and trail construction and maintenance can alter soil characteristics that affect the germination, establishment, growth, and reproduction of plants. Altered soil characteristics include compaction that can reduce successful germination (Harper et al. 1965). Loss or disturbance of organic soil horizons can disrupt ecosystems through impaired decomposition, nutrient cycling, oxygen exchange and water availability (Cole and Landres 1995).

Effects on rare plants

There will be no direct impacts to state or federally listed plant species, since no listed species occur within areas proposed for trail construction. No state or federally listed vascular plant species are known to occur within Mount Spokane State Park.

Effects specific to proposed trails

Trail 130/170

The proposed trail makes a switchback through a forest composed mostly of subalpine fir-Engelmann spruce/rusty menziesia/bride's bonnet. A small amount of subalpine fir / thinleaf huckleberry occurs at the west end of the trail. The forest communities are not expected to be extensively altered by a new trail, as the trail does not require significant removal of understory vegetation or snag or tree removal. There are no rare vegetation communities along this trail segment.

Trail 140 Summit Upper

The proposed trail switchbacks through a steep forest of closed-canopy subalpine fir/Hitchcock's woodrush (S2 G5) at the top and then it transitions into a subalpine fir/beargrass community (S3 G5) as it passes near the highway switchback. Small patches of subalpine fir/thinleaf huckleberry become more prominent at the bottom of the trail without becoming dominant. Small patches of subalpine fir / Geyer's sedge and of green fescue - Idaho fescue meadow (S2Q G2Q) occur along the lower parts of the trail. The lowest part of the trail is adjacent to a large forest opening where laminated root-rot (*Phellinus weirii*) has killed most of the canopy and left behind a woodland/shrubland.

The green fescue - Idaho fescue meadow is ranked globally imperiled. This community is gradually losing area to tree invasion on Mount Spokane. The proposed trail would have an insignificant impact on this plant community. Indirectly, a trail could contribute to soil erosion into the meadows that could then alter the habitat to be more favorable to tree or invasive species establishment. Mitigation measures were made that would help protect the integrity of meadows from tree encroachment.

The subalpine fir/Hitchcock's woodrush plant association is state imperiled (S2 G5). This plant association is normally found at high elevations. The proposed trail would have an insignificant

impact on this plant community because it does not involve significant disturbance of trees, understory species or soils.

In a few places the route of proposed Trail 140 Summit Upper crosses through dense and diverse deciduous shrub patches, with a high cover of Greene's mountain ash (*Sorbus scopulina*). These shrubland patches are not abundant within the closed canopy subalpine fir forests in this area; however they are not a published plant association in the literature.

The forested plant associations will not be impacted by the proposed trail other than insignificant clearing of snags and woody debris. The lowest part of the trail is very brushy and may require more frequent maintenance clearing.

Trail 140 Summit Lower

The proposed trail switchbacks through a steep north-facing forest composed of closed canopy subalpine fir-Engelmann spruce/thinleaf huckleberry/beargrass (S3 GNR) and subalpine fir - Engelmann spruce/rusty menziesia/bride's bonnet plant communities. The trail rejoins the existing 140 trail within a stand of subalpine fir - Engelmann spruce / thinleaf huckleberry / beargrass. The forest communities are not expected to be extensively altered by a new trail, as the trail does not require significant removal of trees, understory vegetation, woody debris or soils.

Trail 140 Kit Carson-B

The proposed trail begins in a forest of subalpine fir/Geyer's sedge adjacent to an open green fescue-Idaho fescue meadow. The trail does not go directly through the meadow to avoid potential impacts to that community. Further from the meadow, the plant community changes to subalpine fir-Engelmann spruce/thinleaf huckleberry (S3 GNR). These communities are not expected to be extensively altered by a new trail, as the trail does not require significant removal of understory vegetation or snag or tree removal.

As the slope steepens, the trail then goes across a steep, rocky slope of mid-seral forest composed of grand fir/mallow ninebark (S2 G3), grand fir/thinleaf huckleberry (S3 G3G4) and grand fir/Rocky mountain maple (S2 G3). Shrub cover is very high. Northwest of the trail the forest grades into a draw dominated by grand fir/thinleaf huckleberry/bride's bonnet, however the trail avoids entering this community because of its high wildlife value.

Both grand fir/Rocky mountain maple and grand fir/mallow ninebark are ranked S2 G3, state imperiled and globally rare. The proposed trail would have an insignificant impact on these plant communities because it does not involve significant disturbance of trees, understory species or soils. There would be a slight increase in the risk of wildfire. The last switchback from the bottom is on a steep slope that will require a wider clearing to make the turn. Construction of the switchback will require additional time and attention to protect the soil from erosion.

Trail 160 Kit Carson-A

The proposed trail goes through a forest of subalpine fir/beargrass (S3 G5) with small patches of subalpine fir/thinleaf huckleberry. This forest was formerly dominated by lodgepole pine that is now approximately 70% dead. These forest communities are not expected to be

significantly impacted by a new trail, as the trail does not require significant removal of understory vegetation or snag or tree removal.

Trail 180

The proposed trail begins on an old road that is overgrown with tall shrubs. The plant community is grand fir/mallow ninebark (S2 G3). The middle section of trail follows a ridgeline through a forest of large Douglas-fir, grand fir and western larch (*Larix occidentalis*) growing in a mid- to late-seral forest. This part of the trail crosses a small stand of ponderosa pine-Douglas fir/pinegrass (S2 G2Q). The trail then follows the ridge westward through two clearcuts. North of the trail, forests are dominated by western hemlock/bride's bonnet, which barely intersects the trail. The last part of the trail drops off the ridge and goes through a mixture of grand fir/mallow ninebark (S2G3) and ponderosa pine-Douglas fir/mallow ninebark (S2 GNRQ).

The grand fir / mallow ninebark community and the ponderosa pine-Douglas fir/pinegrass plant community are both ranked state imperiled, and the latter is also ranked state imperiled. The ponderosa pine-Douglas fir/pinegrass occurs in a small stand on a well-drained, rocky, narrow ridgeline near the middle of the trail. The ridgeline community is dominated by Douglas-fir, and contains high value functional forest structures that are lacking in adjacent forests. Features include multiple canopies of gallery trees and large logs and snags. Understory species in this stand are exceptionally diverse and contain a large number of late-seral mycorrhizal species. For instance, all four species of Washington's coral root orchids (*Corallorhiza* spp.) were found here, along with large numbers of mountain lady's slipper orchids (*Cypripedium montanum*), Indianpipe (*Monotropa uniflora*) and pinesap (*Hypopitys monotropa*). Both plant communities are undergoing transition to dominance by late-seral species.

Soil disturbance and loss of organic soil matter could result in loss of habitat for mycorrhizal species that currently grow along this ridgeline corridor. These species typically prefer higher soil moisture and prefer partial or deep shade. Specific mitigation measures for this trail were designed to protect these stand attributes.

An existing wildlife trail along the ridgeline currently receives a high amount of wildlife use. Increased human presence will have complex effects on the habitat, possibly modifying existing wildlife behavior, which in turn may affect the nature of grazing impacts to plants or invasive species along the trail.

The grand fir/mallow ninebark and ponderosa pine-Douglas fir/mallow ninebark plant associations on the lower part of the trail are both state imperiled. The proposed trail would have an insignificant impact on these plant communities because it does not involve significant disturbance of trees, understory species or soils.

Noxious weeds may increase along disturbed areas such as roads and trails, using humans and animals as vectors for their spread. Several species of noxious weeds were found including Class B orange hawkweed (*Hieracium aurantiacum*) growing in at in several spots between the beginning and the clearcut areas along the proposed trail. The clearcut areas also supported Dalmatian toadflax and common St. John's wort.

Trail 260C

Proposed trail 260C leaves the Linder Ridge Road near the Selkirk Lodge, heading east and north through a forest of western hemlock/thinleaf huckleberry/beargrass (S2 G3) with patches of Sitka alder/mesic forbs (S3S4 G3G4). Along the way the proposed trail crosses an intermittent stream. At the end of the trail where the trail enters a recent clearcut on private land, the plant association is western hemlock/western oakfern (S3 G3G4).

The western hemlock/thinleaf huckleberry/beargrass community is ranked globally rare and state imperiled. The proposed trail would have an insignificant impact on this plant community because it does not involve significant disturbance of trees, understory species or soils..

The habitats in the vicinity of the intermittent spring will require a culvert to prevent sedimentation and erosion. This trail would create habitat for tansy (*Tanacetum vulgare*), a noxious weed which is spreading rapidly in the road above. It is extremely important to monitor for tansy and control it manually before it establishes, because aquatic herbicides are limited and aquatic herbicide control is ineffective unless used so heavily that it kills an unacceptable level of non-target species.

Day-Mount Spokane Trailhead

General effects

To convert the existing forest cover to a non-paved parking area, nearly a quarter acre of natural forest cover would be removed along the edge of a large contiguous forest patch that is 200 to 250 acres in size. The new canopy opening would only slightly increase the already significant edge effects caused by the nearby developed and industrial logging areas and the canopy clearing associated with the Day - Mount Spokane Road.

Specific Effects

All vegetation and a large amount of topsoil will need to be removed from the proposed development site via mechanical equipment. The small access road and part of the parking area will need to be adequately graded and compacted to allow safe access of trucks towing horse trailers. Heavy equipment used in the vegetation clearing, soil excavation, and earth compaction processes can be kept within the disturbed corridor of the adjacent Day - Mount Spokane Road while idle to minimize soil disturbances to adjacent natural vegetation communities during the construction process. If done correctly, all impacts to vegetation will occur solely within the proposed parking area footprint.

Within the footprint area, all native plant species will be removed. This includes the removal of cover will be bulldozed and loaded onto trucks for disposal off-site. Grading the parking lot and access road slope, and preparation of the site for constructing a pit toilet may require digging up to 10 feet down from the current soil surface in some areas.

Most native vegetation will likely not re-establish within the development footprint once the topsoil is removed and soil compaction is completed. Weedy annual species, including some noxious weeds will likely colonize portions of the parking area surface, but even this pioneering vegetation will likely be limited and controlled by parking lot maintenance and constantly being driven over.

A quarter acre of the state imperiled ponderosa pine - Douglas-fir / mallow ninebark forested plant association will be completely removed from the development footprint. Edge effects, including increased lighting of the forest understory and potential introduction of more disturbance dependent noxious species into the immediately adjacent ponderosa pine - Douglas-fir / mallow ninebark forest may occur, but will likely be minimal due to the already present edge effects of the existing roadway and nearby developments.

The probability of human caused wildfire affecting the site's surrounding vegetation would be increased. Currently the site has few visitors, thus the probability of point source ignition occurring at that specific location is low. The parking area would invite more users into the area, and concentrate vehicles and people onto the site, vastly increasing the probability of point source ignition there. If the parking area draws more park users into the area, the likelihood of human caused fire ignition throughout the recreational features accessed by the trailhead parking lot will increase as well.

Along the disturbed soils footprint of the Day - Mount Spokane road within the survey area, some noxious weeds occur in very small populations. These include Class B weeds such as Dalmatian toadflax (*Linaria dalmatica*) and spotted knapweed (*Centaurea stoebe*), and Class C weeds such as common St. Johnswort (*Hypericum perforatum*). Some small patches of common St. Johnswort were found within the proposed development footprint as well. These noxious weeds are effectively absent in the surrounding closed canopy forest landscape.

Trees within the proposed development footprint were typically 40 to 60 feet tall and ranged from 10 to 20 inches in diameter. Species composition was evenly split between ponderosa pine and Douglas-fir. Forest canopy closure was estimated at 60 to 70%. No large snags and very little coarse woody debris of significant size were located within or near the proposed development site. The amount and height of shrub cover varied throughout the survey area, but ranged around 15 to 20% ground cover and 1 to 8 feet tall. Mallow ninebark, oceanspray (*Holodiscus discolor*), and white spirea (*Spiraea betulifolia*) were the dominant shrubs. Pinegrass (*Calamagrostis rubescens*) was a significant understory grass. Infestations of dwarf mistletoe were apparent in some upper canopy trees to the south and west of the proposed development footprint. During construction of the new parking area it is likely that 15 to 20 trees will have to be removed to create the parking area.

New Maintenance/ Administrative Facility

General effects

The general effects of the proposed action should not have any negative impact on the vegetation resources present because the development would occur within the existing disturbed and developed footprint of the KXLY shop.

No special status vascular plants were found within the survey area.

The proposed development footprint occurs within a site that is already highly impacted by development, including the existing KXLY shop access road, parking area, and storage building. The site also has electrical hookups through an underground wire. The site is bordered by large developments such as the Mount Spokane Summit Road, the alpine skiing access road, and the Linder Ridge snowmobile parking area. An old road that is currently used as a trail crosses through the east to northern boundary of the development site. Figure 13

illustrates the location of the old road/trail in the development area. Also apparent in Figure 13 is the ephemeral stream drainage located to the north west of the proposed development site. The drainage occurs at approximately 200 feet from the existing disturbed area footprint. No surface water or obvious stream channel occurs at the base of the drainage, at least on the west side of the alpine ski area access road.

The KXLY shop is almost completely surrounded by patches of forest cover. The site occurs at 4550 feet, along the ridgeline landform connects the southeast flank of Mount Spokane to the Linder Ridge area. The forest conditions within the 200 foot perimeter around the development site vary from one side of the facility to the next, but all forests within this area are in a transition zone between western hemlock (*Tsuga heterophylla*) series forests to subalpine fir (*Abies lasiocarpa*) series forests.

To the west to due north of the existing facility, north of the Mount Spokane Summit Road, the forest is mostly composed of grand fir and subalpine fir with some western hemlock present. There is a sparse understory of beargrass (*Xerophyllum tenax*) and some thinleaf huckleberry (*Vaccinium membranaceum*). This is a mid-successional, single age class, closed canopy forest with trees between 10 to 20 inches diameter at breast height, and a forest canopy ranging around 60 to 80 feet tall. Remnant stumps of the previously logged stand indicate that this site contains a second or third growth forest that has regenerated after clearcut logging. This forest's natural successional trajectory is towards the western hemlock / thinleaf huckleberry / beargrass plant association, which is a state and globally imperiled plant community (S2G2).

From the northeast to the eastern direction from the development site there is a forest patch that is confined to a narrow section of undisturbed soils between the KXLY shop development and the alpine skiing access road. This forest patch is highly influenced by edge effects and contains more western hemlock, as well as some Engelmann spruce (*Picea engelmannii*). The forest canopy is more open in this area, and there is a multi-age class canopy structure with many young trees filling in the open upper forest canopy gaps. Shrub cover is also more prevalent and there are more shrub species in this area, including Greene's mountain ash (*Sorbus scopulina*), Rocky Mountain maple (*Acer glabrum*), and Sitka alder (*Alnus viridis ssp. sinuata*).

The roads around and leading into the KXLY site are highly used and maintained. Plowing, road clearing, exotic weed control, and other management activities prevent the establishment of most native plant species within the road disturbance corridor. The edges of the roads contain a mix of species, some native, some exotic - mostly all early successional. Some noxious weeds occur along the road edges, including Class B species Dalmatian toadflax and spotted knapweed, as well as Class C weeds common St. Johnswort, bull thistle (*Cirsium vulgare*), and Canada thistle (*Cirsium arvense*). These species also occur with the existing parking area of the KXLY shop.

Specific Effects

Installation of water delivery and sewage disposal lines (potentially a septic tank) will be necessary (electric lines already exist) for the establishment of a maintenance and park office facility. Installation of such infrastructure will require soil disturbing development activities. Given the suitability of existing road and electrical power corridors to incorporate these infrastructure installations, these development activities should be able to be sited and

conducted within existing disturbed areas and not cause impact to the surrounding natural forest communities. The new septic system should drain to the eastern or southern direction of the existing development site to prohibit groundwater contamination impacts to the nearby ephemeral stream drainage.

Development of new buildings, piping infrastructure, and other structures on the site may require removal of some of the small vegetation patches re-colonizing the disturbed edges of the existing KXLY shop parking lot and access road. These vegetation patches contain a mix of pioneering native and exotic plant species, including some noxious weeds. The removal of such vegetation should not have a significant impact to the surrounding natural forest communities and native vegetation resources, as long as removed vegetation is not bulldozed or dumped into the surrounding forest communities.

No specific impact to the state and globally imperiled western hemlock / thinleaf huckleberry / beargrass forest community is expected under this development plan.

Safe and conservative handling of toxic or polluting chemicals and materials used in maintenance operations will be taken to prevent runoff of such pollutants into the nearby ephemeral stream drainage. The existing park maintenance site occurs directly over a perennial stream, thus the same pollutant handling protocols used on that site will protect aquatic and riparian resources in the proposed development area.

New Linder Ridge Parking Area

General effects

The general effects of the proposed action would be a slight loss of tree canopy cover in the area, and the loss of a patch of pioneering vegetation that includes native and exotic plant species.

Specific Effects

Inventory Results

No special status vascular plants were found within the survey area.

The proposed development footprint occurs within a site that was highly impacted by past human disturbances, probably related to industrial logging and/or road and parking lot construction. The site is surrounded to the north by the large Linder Ridge snowmobile gravel parking area and the paved Mount Spokane Drive Road. The site is within approximately 200 feet of the western edge of the large Selkirk Lodge parking area. Approximately 400 feet to the northwest of the proposed development exists the KXLY shop. Old roads that are currently closed cross the proposed development site, and would provide access to the new parking area.

Nearly 0.6 acres of exotic and native early successional vegetation would be removed from the development footprint. Approximately four native overstory trees would be cut and removed from the site. All impacts to vegetation will occur solely within the proposed parking area footprint. The surrounding natural forest communities will not be impacted.

Heavy equipment used in the vegetation clearing, soil digging, and earth compaction processes can be kept within the disturbed corridor of the adjacent roads and parking areas while idle to minimize soil disturbances to adjacent natural vegetation communities during the construction process. Grading of the parking lot may require digging up and removing from the site hundreds of cubic yards of topsoil.

Native vegetation will likely not re-establish within the development footprint once the topsoil is removed and soil compaction is completed. Weedy annual species, including some noxious weeds will likely colonize portions of the parking area surface, but even this pioneering vegetation will likely be limited and controlled by parking lot maintenance and constantly being driven over.

c. Facilities Renovation Alternative

Effects specific to proposed trails

See discussion in Proposed Action section. The Facilities Renovation Alternative will repair existing trails; no new construction will occur. Trails needing repair are: Trail 100, 101, 103, 130, 140, 160, 251, and 255.

Day-Mount Spokane Trailhead
Excluded

New Maintenance/Administrative Facility

A site-specific assessment and SEPA checklist will be prepared prior to selection of a site outside the park.

New Linder Ridge Parking Area

Excluded

3. MITIGATION MEASURES

General mitigation measures

The following mitigation measures apply to the Proposed Action and Facilities.

- ❑ Minimize vegetation disturbance and clearly delineate areas to be cleared to avoid unnecessary vegetation disturbance during construction (e.g., construction fencing, flags, stakes, etc.).
- ❑ Harden trailheads with soil protection measures (gravel, culverts, grass plantings, mulch, etc.).
- ❑ On trailheads and heavily disturbed areas where it is necessary to use revegetation, use certified weed-free native or non-invasive vegetation. Certified weed-free seed is not certified until it has been confirmed free of noxious weeds by the Washington State Department of Agriculture.
- ❑ Delineate trails clearly to minimize use of off-trail sensitive areas.

- ❑ Do not allow beargrass harvesting.
- ❑ Retain all woody debris and organic detritus on the site.
- ❑ Take advantage of increased opportunities for education and nature awareness through interpretive signing, particularly along Trails 180 and 260C.

Mitigation measures specific to invasive species

To prevent the introduction of and to minimize the spread of invasive species and noxious weeds, the following measures need to be implemented:

- ❑ Minimize soil disturbance.
- ❑ Minimize canopy removal.
- ❑ Where possible, use mowing and brush trimming to maintain trail widths, and avoid unnecessary digging that disturbs soils and can create new habitats for weeds.
- ❑ Limit vehicles to existing roads, parking lots, and travel routes where they are allowed.
- ❑ Obtain all fill material on-site from weed-free project cuts.
- ❑ Require all equipment to be thoroughly cleaned before being used on the site.
- ❑ Specify certified weed-free native or non-invasive vegetation for reseeding. Certified weed-free seed is not certified until it has been confirmed free of noxious weeds by the Washington State Department of Agriculture.
- ❑ Regularly monitor all trails to identify early invaders before they become established.
- ❑ Control Class-A and Class B weeds before seeds mature. Replant denuded areas with certified noxious-weed free seed after all weeds and seed sources are gone.

Mitigation measures specific to Trail 140 Summit Upper

- ❑ Where the trail goes through a green fescue-Idaho fescue meadow, minimize disturbance of the turf and do not place water bars where they will direct runoff into the meadows.
- ❑ Where the trail goes through a green fescue-Idaho fescue meadow, cut out (no digging) invading young confers adjacent to the trail.

Mitigation measures specific to Trail 180

- ❑ Where trails go through forested areas, retain all large diameter trees and snags, and avoid placing the trail beneath trees that are likely to fall in the near future.
- ❑ Where trails go through forested areas, retain all forest canopy for shading.
- ❑ Retain all coarse woody debris and organic detritus along trails.
- ❑ Take advantage of increased opportunities for education and nature awareness through interpretive signing.

Mitigation measures specific to Trail 260C

- ❑ Avoid wetland habitat and wetland vegetation and span wet areas with bridges or properly sized culverts.

Mitigation measures specific to Day-Mount Spokane Trailhead

- ❑ Prior to any improvements, meet with WDFW on-site to assess exact trail location and determine appropriate location to avoid/minimize potential habitat fragmentation
- ❑ Drive, operate, and store heavy mechanical equipment necessary for parking lot construction only within the proposed development footprint and/or the disturbed

corridor of the Day – Mt Spokane Road, so as to limit soil compaction and vegetation cover loss in the surrounding natural forest communities.

- ❑ Do not push bulldozed debris and excavated material from grading and excavation operations into the surrounding natural forest areas.
- ❑ Do not cut, harvest, bulldoze, or trim any vegetation, especially overstory trees, that occur outside of the quarter acre proposed development footprint. Attempt to leave as much overstory forest canopy intact to reduce the creation of new forest edges.
- ❑ Salvage as much of the live understory native vegetation in the cleared area, keep it watered and then replant it along the edges of the parking lot and in other areas that need revegetation and erosion prevention.
- ❑ Provide ash trays and informative signage informing users that the area is highly susceptible to human caused wildfire.

New Maintenance/ Administrative Facility

- Drive, operate, and store heavy mechanical equipment necessary for any new construction or installation of piping infrastructure only within existing KXLY shop development footprint and/or the disturbed corridors of the surrounding roads, so as to limit soil compaction and vegetation cover loss in the surrounding natural forest communities.
- Do not push bulldozed debris and excavated material from grading and digging operations into the surrounding natural forest areas.
- Do not cut, harvest, bulldoze, or trim any vegetation, especially overstory trees, that occur outside of the existing development footprint. Attempt to leave as much overstory forest canopy intact to reduce the creation of new forest edges, including the forested patch located between the access road and the KXLY shop parking area.
- Salvage as much of the live understory native vegetation in the cleared area, keep it watered and then replant it along the edges of the developed area and in other areas that need revegetation and erosion prevention.
- Prevent septic drainage from flowing in the direction of the nearby ephemeral stream drainage.
- Continue and expand into the edges of the proposed development the roadside erosion control and exotic plant management operations currently taking place on the nearby Mount Spokane Summit Road.

New Linder Ridge Parking Area

- Drive, operate, and store heavy mechanical equipment only within the proposed development footprint and/or the disturbed corridors of the surrounding roads and parking areas, so as to limit soil compaction and vegetation cover loss in the surrounding natural forest communities.
- Do not push bulldozed debris and excavated material from grading and digging operations into the surrounding natural forest areas.
- Do not cut, harvest, bulldoze, or trim any vegetation, especially overstory trees, that occur outside of the existing development footprint. Attempt to leave as much overstory forest canopy intact to reduce the creation of new forest edges.
- Salvage as much of the live understory native vegetation in the cleared area, keep it watered and then replant it along the edges of the parking lot and in other areas that need revegetation and erosion prevention.

WILDLIFE

1. AFFECTED ENVIRONMENT

Mount Spokane State Park (MSSP) is home to a diversity of wildlife species. Cougar, coyote, deer, moose, elk, black bear, western toads, owls, small mammals, bats, butterflies, and a diversity of bird species are all occupants of MSSP and species seen by visitors and park staff. The Washington Dept of Fish and Wildlife (WDFW) identified 21 focal wildlife species, which potentially occur at Mount Spokane State Park (H. Ferguson, WDFW Wildlife Biologist, unpubl. data 2007; Table 1). These include game and non-game species from a wide range of taxa, which use a wide range of environments including mature/old-growth forests, talus slopes, recent burns, meadows, and alpine/subalpine, riparian and aquatic habitats, as well as others. A detailed description of each of the 21 focal species, their potential distribution in MSSP, and important habitat elements and their associated life-stage relationship for each focal species can be reviewed in Habitat Elements and Life Stage Matrix for Wildlife Species of Interest in Mount Spokane State Park (Romain-Bondi et al. 2009).

Table 5. Twenty-one focal wildlife species of Mount Spokane State Park. Developed by H. Ferguson, WDFW Wildlife Biologist (unpublished 2007).

Species	Scientific Name	WDFW Species of Concern	Federal Status
<i>Carnivores</i>			
Gray wolf	<i>Canis lupus</i>	State Endangered	Federal Endangered
Canadian lynx	<i>Lynx canadensis</i>	State Threatened	Federal Threatened
Wolverine	<i>Gulo gulo</i>	State Candidate	Federal Species of Concern
American marten	<i>Martes americana</i>	None	None
<i>Ungulates</i>			
Rocky Mountain elk	<i>Cervus elaphus</i>	None	None
White-tailed deer	<i>Odocoileus virginianus ochrourus</i>	None	None
Moose	<i>Alces alces</i>	None	None
<i>Birds</i>			
Northern goshawk	<i>Accipiter gentilis</i>	State Candidate	Federal Species of Concern
Boreal owl	<i>Aegolius funereus richardoni</i>	State Monitor	None
Pileated woodpecker	<i>Dryocopus pileatus</i>	State Candidate	None
Black-backed woodpecker	<i>Picoides arcticus</i>	State Candidate	None
Dusky grouse	<i>Dendragapus obscurus pallidus</i>	None	None
Brown creeper	<i>Certhia americana</i>	None	None
Winter wren	<i>Troglodytes troglodytes</i>	None	None
Olive-sided flycatcher	<i>Contopus cooperi</i>	None	None

<i>Small mammals</i>			
Pika	<i>Ochotona princeps</i>	None	None
Pygmy shrew	<i>Sorex hoyi</i>	State Monitor	None
Silver-haired bat	<i>Lasionycteris noctivagans</i>	None	None
Hoary bat	<i>Lasiurus cinereus</i>	None	None
<i>Other species</i>			
Western toad	<i>Bufo boreas</i>	State Candidate	Federal Species of Concern
Compton tortoiseshell butterfly	<i>Nymphalis vaualbum</i>	State Monitor	None

Of the 21 focal wildlife species potentially found at MSSP- gray wolf, Canada lynx, wolverine, northern goshawk, and western toad – are federally listed as Endangered, Threatened, or Species of Concern (see Table 1). Additionally, many of the focal species are listed by WDFW as a species of concern. The gray wolf and Canada lynx are listed as State Endangered and Threatened; wolverine, northern goshawk, pileated woodpecker, black-backed woodpecker, and the western toad are listed as State Candidate species; and the boreal owl, pygmy shrew, and Compton’s tortoiseshell butterfly are listed as State Monitor species. Since few wildlife studies or formalized wildlife surveys have been completed within MSSP (H. Ferguson, WDFW Wildlife Biologist, pers. comm.), accounts of these and other species are anecdotal, or documented by local biologists when volunteers or visitors turn in wildlife sighting information. A map in Romain-Bondi (2009) provides an overview of specific life stages of various wildlife species. Below is a more in-depth review of the two listed species that may inhabit MSSP.

Gray wolves are thought to occur as lone individuals in and around MSSP, but currently there is not considered to be a resident pack in the park or the surrounding area (H. Ferguson, WDFW Wildlife Biologist, pers. comm.). Increased dispersal of wolves into northeastern Washington and the eventual reestablishment of breeding populations are expected as a result of the recent re-establishment of wolf populations in Idaho, Montana, and Wyoming (WDFW 2008). MSSP is in close proximity therefore habitat in and around MSSP may be used in the future for any of the gray wolf’s life requisite (Romain-Bondi et al. 2009). The gray wolf was federally delisted in the eastern one-third of Washington on May 4, 2009 (USFWS 2009), which includes the area surrounding MSSP. This means that wolves located east of Highways 97, 17, and 395 no longer receive protection under the Federal Endangered Species Act (ESA). The gray wolf is listed as endangered by the State of Washington (WAC 232.12.014) and receives protection under state law (RCW 77.15.120) from hunting, possession, malicious harassment, and killing. Regulatory compliance is coordinated through US Fish and Wildlife Service (USFWS) and WDFW.

Canada lynx are thought to be using habitat on or adjacent to MSSP for some part of their life requisite. There have been multiple year-round lynx sightings and tracks in MSSP, although there has been no evidence of denning; existing forest conditions in the park provide likely adequate habitat for denning, foraging, and dispersal (Romain-Bondi et al. 2009, pgs. 33-43). Sighting information provided by WDFW Wildlife Biologist H. Ferguson (pers. comm.) is mainly associated with the western and northwestern edge of the Park (map provided in

Romain-Bondi 2009). On March 24, 2000, the contiguous United States population of the Canada lynx was listed as threatened under the ESA (USFWS 2000). The lynx was classified by WDFW as a threatened species in 1993 (Washington Administrative Code 232-12-011). Regulatory compliance is coordinated through USFWS and WDFW.

Birds of Mount Spokane State Park compiled by Ron Dexter in 2003 identified 110 species within the Park (<http://www.mountspokane.org/images/MtSpBirds.jpg>). Seventy eight of these species were confirmed as breeders within the Park, with an additional 17 species listed as possible breeders. None of the avian species are listed federally or at the state level as Threatened or Endangered species. All birds within MSSP are protected under the Migratory Bird Treaty Act of 1918. Regulatory compliance occurs through coordination with WDFW.

Day Mount-Spokane Trailhead

The habitat conditions of the proposed development site and the surrounding forests within this area of the park are currently suitable for use by 16 of the 21 focal wildlife species. Due to the small size and proximity of the impact site to nearby human development, proximity to forest edge caused by the Day - Mount Spokane Road, and the general abundance of very similar habitat conditions throughout the greater area of the park, it is highly unlikely that this site provides critical or sensitive habitat to any of the focal wildlife species.

New Maintenance/Administrative Facility

The existing 1 acre developed footprint of the KXLY shop provides only minimal quality habitat for wildlife. The surrounding natural forests provide adequate habitat conditions for use by many of the 21 focal wildlife species, but these areas are not sensitive or critical habitat areas for most of the life stages of these species, and the habitat they provide is not limited within the park. These forests do provide important cover habitat for wildlife species using the Linder Ridge - Mt Spokane saddle landform to travel between higher quality habitats located on different sides of Mount Spokane and Linder Ridge. Species likely benefiting from the current forest conditions for use as cover include dusky grouse, boreal owl, northern goshawk, Canada lynx, wolverine, American marten, Rocky Mountain elk, white-tailed deer and moose. The cover provided by these remaining forest patches is very important to these wildlife species because human development in this specific area has dramatically fragmented the natural forest and vegetation cover, and created large non-vegetated openings which do not provide suitable cover habitat for these wildlife species. These forest patches also help to reduce wildlife stress in the surrounding higher quality wildlife habitats by dampening the artificial noise created by human activities within the developed sites and obscuring the visibility of human presence at a shorter distance away from the developments.

A large avian stick nest was observed 40 feet up a ~60 year old grand fir tree within the forest to the north of the existing KXLY shop parking area. This nest is not likely a goshawk nest given its proximity to actively used developments, however this nest site should be investigated further and mitigation measures employed if it proves to be occupied by goshawks.

The developed area of the KXLY shop does currently have much wildlife value within the devegetated areas of the access road and parking area themselves. The surrounding forests provide suitable habitat for the focal wildlife species' life stages presented in the table below. The existing habitat is not currently critical, of extreme high quality, nor limited within the area

for these species. The nearness and amplitude of development and human use in the area preclude the nearby forest patches from being high quality wildlife habitat for most of these wildlife species.

Table 6. Potential wildlife habitat at site of proposed maintenance and administrative, by life stages.

Species	Life-Stage	Species	Life-Stage
<i>Carnivores</i>		<i>Birds</i>	
Canada lynx	dispersal	Northern goshawk	foraging
	summer foraging	Boreal owl	foraging, roosting
	winter foraging	Pileated woodpecker	foraging roosting
Wolverine	summer foraging	Dusky grouse	summer foraging
	winter foraging	Brown creeper	breeding/nesting foraging
American marten	non-winter cover, foraging		breeding/nesting, summer foraging
	winter cover/, foraging	Olive-sided flycatcher	breeding/nesting foraging
<i>Ungulates</i>		<i>Small mammals</i>	
Rocky Mountain elk	cover	Pygmy shrew	breeding/parturition, foraging
	summer/fall foraging	Silver-haired bats	Breeding/parturition, roosting foraging
White-tailed deer	early/late winter foraging	Hoary bats	day roosting foraging
Moose	cover		
	summer foraging		
<i>Other species</i>			
Western toad	migration, foraging		

New Linder Ridge Parking Area

The existing clearing onto which the 0.6 acre parking expansion development would be built provides only minimal quality habitat for wildlife due to the proximity and influence of adjacent developments. The surrounding natural forests provide adequate habitat conditions for use by many of the 21 focal wildlife species, but these areas are not sensitive or critical habitat areas for most of the life stages of these species, and the habitat they provide is not limited within the park. These forests do provide important cover habitat for wildlife species using the Linder Ridge - Mt Spokane saddle landform to travel between higher quality habitats located on different sides of Mount Spokane and Linder Ridge. Species likely benefiting from the current forest conditions for use as cover include dusky grouse, boreal owl, northern goshawk, Canada lynx, wolverine, American marten, Rocky Mountain elk, white-tailed deer and moose. The cover provided by these remaining forest patches is very important to these wildlife species because human development in this specific area has dramatically fragmented the natural forest and vegetation cover, and created large non-vegetated openings which do not

provide suitable cover habitat for these wildlife species. These forest patches also help to reduce wildlife stress in the surrounding higher quality wildlife habitats by dampening the artificial noise created by human activities within the developed sites and obscuring the visibility of human presence at a shorter distance away from the developments.

2. ENVIRONMENTAL CONSEQUENCES

a. No Action

There would be no direct impacts on wildlife under this alternative as there would be no trail development, thus no construction or operational disturbance impacts or loss of habitat for wildlife that would be in addition to the currently managed trail systems that currently exist in MSSP. In a recent study in northern California, Reed and Merenlender (2008) found that protected areas with dispersed, non-motorized recreation had “a five-fold decline in the density of native carnivores and a substantial shift in community composition from native to nonnative species” over protected areas without recreation.

No Action on Trail 180 would maintain an existing larger block of wildlife habitat that extends to the north and the south of the proposed trail, intersected currently only by the Spokane - Day Mountain Roads (which are closed roads to the public) located south and east respectively of the proposed Trail 180 (Romain-Bondi 2009). Informal field surveys and expert review with WDFW Wildlife Biologist (H. Ferguson) identified wildlife using this area and the northern part of the Park extensively and there is potential for more sensitive carnivore species to use this area in the future. Currently, Spokane - Day Mountain Road is the only road which bisects a larger contiguous block of habitat that exists from the southwestern boundary of MSSP, through a Natural forest Area (NFA), and to the northwestern portion of MSSP, paralleling Blanchard Creek Road and the NFA in the northern portion of the Park. The Mount Kit Carson Loop Road is an eastern border of this relatively road/trail-less area. Much of the recreation activity within MSSP is concentrated in the central to southern, and central to eastern portion of the Park.

Conversely, by not constructing the proposed Trail 180, the public may instead enter the Park in non-designated areas and from adjacent private land; in some cases this may increase poaching and off-trail use, create informal user trails, and adversely impact habitat and wildlife through vegetation loss and human disturbance. The level of human activity in the area of proposed Trail 180 may become more common if areas adjacent to MSSP are sold from private timber industry to another private development use.

Day-Mount Spokane Trailhead

The primary issues associated with wildlife include; (1) loss of critical or important habitat due to forest and vegetation removal to any of the 21 focal wildlife species, or other species unduly influenced by this site; and (2) increasing the likelihood of wildlife stress and habitat abandonment due to increased human presence.

The no action alternative would preserve the habitat conditions currently found within the impact area. Increased park user presence in the area would be unlikely under the no action alternative, so the likelihood of wildlife stress and habitat abandonment due to human presence would not change from current conditions.

New Maintenance / Administrative Facility

The primary issues associated with wildlife include; (1) loss of critical or important habitat due to forest and vegetation removal to any of the 21 focal wildlife species, or other species unduly influenced by this site; and (2) increasing the likelihood of wildlife stress and habitat abandonment due to increased human presence.

The no action alternative would preserve the habitat conditions currently found within the impact area. Increased park user presence in the area would be unlikely under the no action alternative, so the likelihood of wildlife stress and habitat abandonment due to human presence would not change from current conditions.

New Linder Ridge Parking Area

The primary issues associated with wildlife include; (1) loss of critical or important habitat due to forest and vegetation removal to any of the 21 focal wildlife species, or other species unduly influenced by this site; and (2) increasing the likelihood of wildlife stress and habitat abandonment due to increased human presence.

The no action alternative would preserve the habitat conditions currently found within the impact area. Increased park user presence in the area would be unlikely under the no action alternative, so the likelihood of wildlife stress and habitat abandonment due to human presence would not change from current conditions.

b. Proposed Action

General Effects

While there is now wide recognition of the impacts on wildlife from extractive uses (e.g. hunting and trapping) and high-impact recreation (e.g. ORV use), there is increasing evidence that even the quieter, non-consumptive forms of recreation (e.g. day-hiking, bird watching) may impact species to a greater extent than previously understood (Snetsinger and White 2009). Recreational impacts on sensitive species can be minimized through proactive management – providing visitor education, and planning for spatial and/or temporal separation of human activity from wildlife. For most species addressed in this study, effects of recreation/human disturbance from trail re-routes are considered secondary or minor concerns compared to impacts of habitat loss and/or degradation associated with larger scale development. However, for species or individuals that are already stressed from habitat loss or other risk factors, seemingly minor effects from human disturbance can be magnified. It is important, therefore, that recreational disturbance is considered in the context of cumulative impacts (Snetsinger and White 2009).

There are several benefits to wildlife from the proposed trails on MSSP. “Recreation is an important component of the mission of Washington State Parks, and provides numerous benefits to individuals, communities, and conservation at large. Outdoor recreational experiences contribute to individual health of body and spirit, foster appreciation of and support for environmental protection by the public, and contribute to local economics” (Snetsinger and White, 2009). Construction and maintenance of additional recreation trails on

MSSP can increase exposure of visitors to wildlife, potentially resulting in long-term benefits to wildlife conservation. Increased recreational use in an area may decrease illegal activity (recreational use, trash dumping, poaching, trapping) with increased visitor contact and increased enforcement activity in an area. Additionally, wildlife use trails both created by humans, and by wildlife species themselves. During summer months, trails facilitate travel between foraging and security/cover habitats; during winter months, compacted trails created by recreationalists are often used by wildlife to minimize energy expenditure and facilitate travel into inaccessible foraging areas.

In MSSP, the proposed recreational trails and their use include: hiking, horseback riding, mountain biking, snowshoeing, backcountry skiing, and snowmobiling. The specific proposed trails and their type of trail use were provided by MSSP staff (see table 6).

Table 7. Proposed multi-use recreational trails and type of use, Mount Spokane State Park, 2009 (compiled by PBI with information provided by MSSP Park Ranger S. Christiansen (pers. comm.).

Trail #	Hike	Equestrian	Bike	BC Ski	Snowshoe	Snow-mobile
140 Summit upper (old 135 Summit)	X	X	X	X	X	
140 Summit lower (old 135 Summit, lower portion)	X	X	X	X	X	
160 Kit Carson-A (old 140 Kit Carson-A abandoned)	X	X	X	X	X	
130/ 170 (old 130)	X	X	X	X	X	
140 Kit Carson-B	X	X	X	X	X	
180	X	X	X	X	X	
260C (old 204)	X	X	X	X	X	X

The types of use for trail development dictate the width and type of clearing associated with each trail. MSSP Park Ranger S. Christiansen (pers. comm.) provided the following information regarding trail development and maintenance for the various recreation uses on each proposed trail. Mountain bike, hike, ski and snowshoe trails require a 1-2 foot trail width, with 1 -2 foot off-trail maintenance area alongside the trail. Equestrian trails require similar trail size and maintenance widths. However, in select areas the trail dimensions may be larger due to the size of the animals using the trails, especially in forested areas. Snowmobile trails require a 10 to 12 foot wide trail, with 2 feet off-trail maintenance. Trail 260C is the only snowmobile-use designated trail in the Proposed Action. This trail will not be maintained for multi-use during summer months (trip hazards will not be removed), however non-motorized use can occur on the trail during this season. Categories for analysis of impacts by recreation type are discussed in Snetsinger and White (2009, pgs. 9-15) and summarized as:

1. Hiking/Backpacking -Hikers may affect wildlife through direct disturbance, trampling of habitat, and indirectly through discarded food and other items. Some species are particularly sensitive to the approach of humans on foot. Hikers/backpackers can

inadvertently lead to the spread of noxious weeds, reducing habitat quality for some species. An area of influence and type of recreation is critical for wildlife. Wildlife species were found to withstand and flush at closer distances flush from on-trail recreationalists as they did from off-trail recreationalists (Taylor and Knight 2003).

2. Horseback riding -Horseback riding appears to be on the lower end of the spectrum in causing direct disturbance to wildlife. Indirectly, this activity may contribute to the spread of noxious weeds in wildlife habitats. Concentrations of horses around water can negatively impact habitat quality for aquatic wildlife. Horses can attract brown-headed cowbirds and potential predators of some songbirds, particularly where corrals and stables are present.
3. Mountain Biking - Mountain biking is often assumed to be more disturbing to wildlife than hiking. Speed and sound-levels of bikers vary from those of hikers and skiers, affecting types of wildlife responses. Mountain biking may seem less predictable to wildlife due to generally less talking, quicker actions, and greater disruption during an encounter. However, animals react most to the human form, and mountain bikers, like vehicles, may seem less threatening and predictable since they are limited to trail corridors. Mountain bikers may contribute to the spread of noxious, thus reducing or increasing forage habitat for a variety of wildlife species.
4. Skiing - Skiing is often concentrated on trails but may unpredictably occur away from trails as well. This category includes cross-country skiing as well as telemark/backcountry skiing. Some wildlife appears more sensitive to approach of humans on foot/skis than on motorized vehicles. Groomed trails are used as travel corridors by generalist carnivores, allowing some species to range into formerly snowbound areas (Aubry et al. 2000, Buskirk et. al 2000b).
5. Snowmobiles -Technological advances are increasing the type of terrain that snowmobiles can access, opening up previously undisturbed winter habitats for a variety of wildlife species. Noise, unpredictability, speed, and snow compaction associated with snowmobiles are variables that can impact wildlife. Irresponsible and illegal snowmobile use is associated with harassment of wildlife, increasing susceptibility to physiological effects on wildlife species. Snowmobile use occurs in winter when many species may already be stressed by thermal regulation and food shortages. Packed or groomed roads and trails are used as travel corridors by generalist carnivores, allowing some species to range into formerly snowbound areas (Aubry et al. 2000, Buskirk et. al 2000b). Influences of snowmobile activity on maintained roads and trails are lessened, than on off-road snowmobile routes.

There are a wide variety of impacts from recreation on the 21 species of interest. A summary of potential impact types by mode of recreation for the 21 focal wildlife species is provided Snetsinger and White (2009, pg 7, 11). Potential impacts to wildlife from implementation of the Proposed Action may include:

1. Trapping/poaching - Although trapping is not allowed in Washington State Parks, illegal trapping and hunting are cited as risks associated with trails (particularly snowmobile and ORV trails).
2. Stress/physiological response - Studies of animal heart rates and fecal glucocorticoid levels have shown stress responses to human activity. Chronic stress can make species susceptible to illness and reduce individual fitness.
3. Breeding/rearing disturbance - Species that are considered generally tolerant of human activity may experience higher levels of disturbance at breeding and rearing sites. This may result in reduced attentiveness to young, disruption of feeding patterns, abandonment of nests/dens, and/or cause adults to undertake additional risks to their young by moving them to a new location.
4. Displacement/avoidance - Many species often move away from human activity or intentionally avoid associated sites. Sites may be avoided due to the disruption caused by human presence or habitat changes associated with the site (e.g. soil compaction, dryness of soils and vegetation along roadsides and trails). Animals displaced are less likely to survive and reproduce where habitat is unfamiliar or inferior. Displacement or avoidance is by far the most common response of species found in the literature.
5. Disease - Domestic dogs are allowed in Washington State Parks, and although regulations specify that they should be restrained at all times, there are potentially dog owners who do not abide by this rule. Domestic dogs are carriers for and can transmit diseases such as rabies, distemper, and parasites to a variety of wildlife species.
6. Animal collection - Although relatively uncommon, certain species (e.g. goshawk chicks for falconry) are sometimes illegally collected. Trail access can increase vulnerability.
7. Habitat fragmentation/edge effects - Habitat fragmentation/edge effects are typically associated with timber harvest and/or roads, however recreational trails can have similar, though typically less intense impacts. However fragmenting effects are not limited to wide road corridors and power lines. Narrow corridors associated with smaller roads and nature trails may have similar impacts. Quantified songbird responses to various have been measured from trail width corridors of 4 to 25 feet (Rich et al. 1994, Hickman 1990). Forest fragmentation effects on songbirds mainly include nest parasitism and presence of nest predators (such as brown-headed cowbirds) in the trail corridor and adjacent interior forest. Miller and Hobbs (2000) also note that predation of songbird nests was greater closer to forested hiking trails. Another study found bird composition and abundance of songbirds was altered adjacent to trails in pine forests of Colorado (Miller et al. 1998). Generalist species were more abundant along trails and specialist species were less common.
8. Predator/competitor increased accessibility - Winter trails and snowmobile trails in particular, can greatly ease travel and access for species less adapted for movement in deep snows. This may cause greater rates of predation on some species and increased competition for prey for others species. Domestic animals (which may include livestock,

cats and dogs) may be considered a competitor or predator species, especially near the periphery of MSSP where domestic livestock and pets are commonly found.

9. Snag/coarse woody debris reduction – Snags and coarse woody debris are used for cover, nesting and denning, and are key habitat components for some species. These components may be lost through trail development, wood gathering around campsites, recreational site development and associated removal of “hazard” trees.
10. Incidental mortality – Direct collision with motorized vehicles can result in incidental mortality. During winter months, snowmobiles may indirectly cause mortality of small mammals by compacting snow and collapsing subnivalian tunnels. During summer months, off-trail hiking and equestrian use can cause indirect mortality of small mammal broods by caving in denning sites.
11. Habituation – Many species will become habituated to human presence. Habituation often poses risks to animals, resulting in undesirable behaviors, poor nutrition, incidental destruction of property, and a host of other factors.

Table 8. Impact types potentially negatively affecting focal species. A “1” designates a potential impact and blanks indicate a lack of information or no known impact.

	Trapping/ Poaching	Stress/ physiological response	Breeding/ rearing disturbance	Displacement/ avoidance	Disease	Animal collection	Habitat fragmentation/ edge effects	Predator/ competitor increased accessibility	Snag/ coarse woody debris reduction	Incidental mortality	Habituation
gray wolf	1	1	1	1	1						1
lynx	1		1				1				
wolverine	1	1	1	1	1		1				
marten	1	1		1		1	1	1			
elk		1		1							1
white-tailed deer		1		1							1
moose				1							1
goshawk			1	1		1					
boreal owl											
pileated woodpecker									1		
black-backed woodpecker									1		
dusky grouse											
brown creeper							1	1	1		

	Trapping/ Poaching	Stress/ physiological response	Breeding/ rearing disturbance	Displacement/ avoidance	Disease	Animal collection	Habitat fragmentation/ edge effects	Predator/ competitor increased accessibility	Snag/ coarse woody debris reduction	Incidental mortality	Habituation
winter wren						1	1	1			
olive-sided flycatcher								1			
pika			1								
pygmy shrew									1		
silver-haired bat											
hoary bat											
western toad											
Compton tortoiseshell butterfly											
Total	4	5	4	8	2	1	3	5	6	1	4

Environmental consequences to Threatened and Endangered species due to the Proposed Action appear to be minimal at this time. This is because the two Federal or State listed species, gray wolves and Canada lynx, are thought to currently not be established as resident animals on MSSP. Since either of the two species have potential for resident animals or breeding populations in MSSP in the future, recreational impacts should be evaluated and conservative measures taken to protect their future populations. Potential impacts of recreation on these two species are discussed below.

Wolves vary widely in their response to direct human presence. While some wolves may abandon a site with extremely limited human encounters, others tolerate higher levels of disturbance (Thiel et al. 1998). Wolves will preferentially use trails for travel corridors, especially to reduce energy expenditure and to gain greater hunting access to prey populations that may previously have been more difficult to reach (Claar et al. 1999). However, wolves in some areas use Montana park trails for travel but reduce use with the arrival of visitors in the spring (Claar et al. 1999). Whittington (2004) states that although wolves avoided crossing high-use roads more than low-use trails, trails appeared to affect movement behavior of wolves as much, if not more than roads. Whittington et al. (2005) also states that roads, trails and other human developments can cumulatively affect local distributions of wolves through habitat fragmentation, loss and degradation. These effects are mainly seen as broad scale avoidance patterns based on density of people. Most landscape studies (where wolves avoided roads) occurred in populated areas while finer scale studies found wolves attracted to roads and trails in more remote areas (Whittington et al. 2005). Another form of risk to wolves comes from recreation-related presence of domestic dogs. Many people choose to hike, ski, and camp with domestic dogs. This risk is mainly associated with dogs that encounter and disturb wolves at dens or rendezvous sites, which may result in wolves abandoning those sites (Claar et al. 1999).

Lynx are generally tolerant of humans, but they exhibit a wide variety of behavioral responses to human presence (Ruediger et al. 2000). They are, however, potentially subject to competition from other carnivores associated with snow-compacted routes created by humans. Packed roads and trails are used as travel corridors by generalist carnivores, allowing them to range into formerly snowbound areas (Aubry et al. 2000, Buskirk et. al 2000b). The increased competition from other predators may contribute to lynx starvation and reduced recruitment (Ruediger et al. 2000), and have a particularly strong effect in the southern part of the lynx's range where hare numbers are low (Buskirk 1999). Murray et al. (2008) points out that while snowmobile trails can improve access to remote areas for other carnivore species, it is unlikely that habitat use patterns of these competitors would sufficiently be modified to displace or outcompete lynx. Kolbe et al. (2007) notes that although skiing and snowshoeing also result in compacted snow trails, only snowmobiling is likely to create a trail system dense enough to affect predator communities. (see further discussions by Bunnell 2004).

Specific Effects to Wildlife Resulting from All Proposed Trail Developments

Wildlife and wildlife habitat may be directly and indirectly impacted during construction and operation of the Proposed Action in MSSP. Impacts to wildlife along all proposed trails will likely include: (1) Breeding/rearing disturbance, (2) Displacement/avoidance, and (3) Snag/coarse woody debris reduction.

Noise generated during construction will represent an unavoidable short-term impact on wildlife. The duration and level of construction noise created during ground clearing and excavation activities may disturb breeding and nesting behavior particularly of birds such as songbird species and northern goshawks. Although bird species will vary in their sensitivity to noise disturbance, their nesting life-stage is critical to population viability. Loud and continuous noise events during the egg-laying, incubating, and nestling stages causes adult birds to vacate nests temporarily, if not permanently. Eggs and hatchling birds left unattended in the nest are subject to predation, inclement weather, and abandonment. Nesting season for songbird species such as brown creepers may begin in April but peaks in May, June, and July (NatureServe 2009). Similarly, for raptor species such as the Northern goshawk, first clutches of eggs are produced in the end of April, however this may be later in the season at higher elevations with colder weather patterns (NatureServe 2009). Therefore, after a review of the bird species listed in the 21 species of interest, a critical period for avoiding construction activities that may affect most avian breeding and nesting on MSSP is April 1 to July 15.

Similarly, the noise generated during construction of the Proposed Action will potentially affect rearing sites for occupant mammal species such as marten, moose, coyote, deer, elk, bats, and pika. This may result in reduced attentiveness to young, disruption of feeding patterns, abandonment of nests or dens, and/or cause adults to undertake additional risks to their young by moving them to a new location. Bats begin parturition and raise their young during the late spring, within the months of June and July (NatureServe 2009). Small mammals such as the pika begin parturition in May with a peak in June (NatureServe 2009). Martens and coyotes, medium-sized carnivores of MSSP den and raise their young during the spring months of March to June (WDFW Wildlife Biologist, H. Ferguson, pers. comm., NatureServe 2009). After a review of the mammal species listed in the 21 species of interest, the critical period for avoiding

construction activities that would affect denning and young rearing life-stages for most mammal species on MSSP is March 1 to July 15, although snow may additionally limit access to trails during the early spring.

Increased use of new trails through forests and meadows that do not currently have trail use may result in displacement/avoidance behavior of wildlife. Varieties of species often move away from human activity or they intentionally avoid associated human recreation sites. Animals displaced by recreation are less likely to survive and reproduce where habitat is unfamiliar or inferior. The seasonality of the proposed trail use is critical; during breeding, rearing, and winter and early spring foraging seasons, stress on wildlife is likely to increase susceptibility to weather, illness, predation, and reduce individual fitness. To understand and spatially place trails in areas where displacement/avoidance behavior is minimized, a cumulative effects study should be conducted to understand the levels and densities of impacts from humans, roads and trail densities on wildlife species.

Current density of snags and coarse woody debris throughout MSSP and along the proposed trails is high, due to wildfire, disease and insect outbreaks. A number of the 21 focal species depend on snags and coarse woody debris as critical habitat elements for foraging, reproduction, roosting and dispersal habitat (see summary table in Romain-Bondi et al. 2009, Tables 6-9, pgs 19-25). While most species will not be affected by minimal trail re-routes and development, direct impacts associated with a loss of habitat should be avoided. Specifically, large trees and snags are preferred habitat elements for a host of focal species on MSSP including: silver-haired and hoary bats, olive-sided flycatchers, northern goshawks, brown creepers, pileated woodpeckers, American marten, and lynx. Similarly, coarse woody debris is a preferred habitat element for American marten, lynx, pileated woodpecker, winter wren, American pygmy shrew, and western toad. Large trees, snags, and coarse woody debris are important to these focal species for nesting, denning, roosting, cover and/or foraging habitat. All large trees and snags (over 24 inches DBH) should be left standing and trails should be routed around these preferred wildlife habitat elements.

Specific Effects to Wildlife Resulting From Individual Proposed Trail Developments

The following section discusses the specific trails and any additional wildlife concerns associated with the Proposed Action.

Trail 130 / 170 (old 130)

The Proposed Action - Trail 130/170 - traverses a forest of subalpine fir/beargrass. During trail surveys in June 2009, wildlife biologist K. Romain-Bondi noted potential use by deer, moose, elk, bear, songbirds and cavity nesting species. No critical habitat was encountered or identified for wildlife. Due to the near location of the re-routed proposed Trail 130/170 and no anticipated increase in recreationalists using the proposed trail and vicinity, no adverse impacts are likely to affect wildlife from the Proposed Action.

Trail 140 Summit Upper (old 135 Summit)

The Proposed Action- Trail 135 Upper Summit - traverses through a steep forest of closed-canopy subalpine fir / Hitchcock's smooth woodrush forest, and passes through subalpine fir / common beargrass forest. There are small patches of young successional subalpine fir / Geyer's

sedge forest near the bottom of the trail, and some small green fescue / Idaho fescue meadow patches and some deciduous shrub patches. During trail surveys in June 2009, wildlife biologist K. Romain-Bondi (PBI) and H. Ferguson (WDFW) noted presence or potential habitat for fox sparrows, dusky grouse, American pika, deer, marten, cougar, moose, elk, and bear, as well as songbirds such as other sparrows and thrush species.

The Proposed Action traverses across the mountain, through dense logs jackstrawed above the ground by other logs, and through coarse woody debris on the forest floor. Fox sparrows inhabit scrubby boreal forests and are locally common during the breeding season in MSSP. There is no conservation status associated with fox sparrows. However, their habitat on MSSP is limited to habitats such as the upper elevations of Proposed Trail 140 Upper Summit Trail. Fox sparrows are ground foragers, and ground/shrub/tree nesters. This habitat also represents ideal winter foraging habitat for American marten and cougar, who likely hunt small mammals living in snow-free spaces and runways below jackstrawed logs and coarse woody debris. The Proposed Action should leave dense coarse woody debris and jackstrawed logs on the ground for fox sparrow, small mammal, and marten/ cougar foraging habitat. The proposed trail should be routed around jackstrawed logs and cutting avoided whenever possible through these important wildlife habitat elements.

The Proposed Action traverses across the mountain, and switchbacks several times at the edge of a meadow complex. Dusky grouse are one of the identified focal species that may be affected by the Proposed Action. Dusky grouse are locally common and listed as a potential breeding population in MSSP. Breeding and rearing habitat for dusky grouse is often associated with edge habitat and trees interspersed in more open habitat, such as meadows environments (Romain-Bondi et al. 2009, pgs. 117-124). The Proposed Action should leave a general 30 foot set-back from each switchback of the trail to the meadow complex to avoid disturbance of the shrubby/ meadow interface, and protect breeding and nesting dusky grouse populations. This 30-foot set-back was not flagged in the field during field surveys.

The Proposed Action traverses the mountain and switchbacks at the edge of a talus/ boulder field. American pika is one of the identified focal species that may be affected by the Proposed Action. American pika preferentially feed amongst inter-talus vegetation, and typically venture up to one meter (3.3 ft) from talus cover when harvesting food and haying resources (Romain-Bondi et al. 2009, pgs. 144-147). Pika habitat is limited on MSSP to talus/boulder fields on the upper-elevations of Mount Spokane. Impacts to pika habitat were mitigated in the field by re-locating the trail 30 feet from the talus field, to avoid disturbance to foraging and breeding pika, and to prevent unregulated/ off-trail user disturbance.

The Proposed Action traverses through an open shrubland/ meadow with dense snag, coarse woody debris, and high forbs diversity. The trail switchbacks at the end of this described shrubland/ meadow, adjacent to a riparian stringer and meadow complex. Deer, elk, moose, bears, songbird and cavity nesting birds depend on this combination of critical habitats for foraging and breeding/nesting opportunities. During trail surveys in June 2009, wildlife biologist K. Romain-Bondi noted use by these species was high in this particular meadow. Shrubland/ meadow habitat is not limiting on MSSP, however in combination with the adjacent riparian habitat and meadow complex, minimizing disturbance to wildlife in this habitat would benefit multiple species. The Proposed Action should switchback in the interior forest, prior to

entering the shrubland/ meadow complex. The trail should leave a general 30 foot set-back from the edge of the shrubland/ meadow habitat to avoid disturbance to wildlife species. This 30-foot set-back and avoidance of the shrubland/ meadow was not flagged in the field during field surveys.

Due to the near location of the re-routed proposed Trail 140 Summit Upper and no anticipated increase in numbers of recreationalists using the proposed trail and vicinity, the few suggested mitigation measures should avoid any adverse impacts that are likely to affect wildlife from the Proposed Action.

Trail 140 Summit Lower (old 135 Summit lower portion)

The Proposed Action - Trail 135 Summit Lower - switchbacks down the north-facing slope just above the old trail, mostly through a forest of closed-canopy subalpine fir - Engelmann spruce / rusty menziesia / bride's bonnet, and rejoins the existing Trail 140 within a stand of subalpine fir - Engelmann spruce / thinleaf huckleberry / common beargrass. During trail surveys in June 2009, wildlife biologist K. Romain-Bondi noted use by deer, bear, and moose, and songbird species such as warbler, thrush, sparrow, and corvid species. No critical habitat was encountered or identified for wildlife. Due to the near location of the re-routed proposed Trail 140 Summit Lower and no anticipated increase in numbers of recreationalists using the proposed trail and vicinity, no adverse impacts are likely to affect wildlife from the Proposed Action.

Trail 140 Kit Carson-B

The Proposed Action - Trail 140 Kit Carson-B - begins adjacent to the Mount Kit Carson meadows in a forest of subalpine fir - (Douglas-fir) / Geyer's sedge and continues into excellent condition subalpine fir - Engelmann spruce / thinleaf huckleberry forest. The trail then switches back to a southern heading and the plant communities shift into grand fir / Rocky Mountain maple, grand fir / mallow ninebark, and grand fir / thinleaf huckleberry forests. A large part of the trail section in the grand fir forest series was severely burned nearly a century ago and currently the dominant tree species is lodgepole pine with grand fir the dominant regenerating tree species. Shrub cover along the lower half of the trail is very high, consisting of mostly mallow ninebark and thinleaf huckleberry. During trail surveys in June 2009, wildlife biologist K. Romain-Bondi noted the presence of Columbia ground squirrels, brown creepers, snowshoe hare, deer, moose, elk, bear, and small mammals. Potential habitat was also noted for winter wren, marten, bat species, and other songbirds including cavity nesters, sparrow, warbler, nuthatch, corvid, finch, and thrush species.

The Proposed Action switches back to the south along the upper portion of the trail, at the edge of an intermittent stream corridor / riparian draw. Streams corridors / riparian draws are characterized by forest opening, water, and higher shrub and forbs diversity. Many of the species mentioned above use these areas as critical breeding and foraging habitat, as well as travel corridors. Loss of habitat and disturbance should be minimized by avoiding riparian habitat and streams whenever possible. Impacts to stream corridor and riparian habitat were mitigated in the field by re-locating the trail 30 feet from the riparian draw. The trail is flagged to switchback inside the forest prior to entering the riparian draw, to avoid and protect species which depend on riparian habitats and stream corridors. To avoid disturbance during the

sensitive breeding /nesting (avian) and denning/calving (mammalian) seasons, trail building activities should not take place from March 1 to July 15.

Along the lower portion of the Proposed Action, the trail makes two switchbacks. The uppermost switchback is near high quality habitat for moose calving and spring/ summer foraging. Moose browse and bedding areas were evident in the field. Further documentation can be found Romain-Bondi (2009). Impacts to moose calving habitat were mitigated in the field by re-locating the trail 300 feet from identified moose calving beds and high quality moose foraging habitat. The Proposed Action avoids the most suitable moose habitat, and direct impacts associated with a loss of habitat should be avoided. Adverse impacts are not likely to affect wildlife from the Proposed Action since routing the trail in the field helped protect critical wildlife habitat. Also, due to the near location of the re-routed proposed Trail 140 Kit Carson-B, and since there is no anticipated increase in recreationalists using the proposed trail and vicinity, no adverse impacts are likely to affect wildlife from the Proposed Action.

Trail 160 Kit Carson-A (old 140 Kit Carson-A abandoned)

The Proposed Action - Trail 140 Kit Carson-A - traverses through a forest of subalpine fir / common beargrass, with a small patch of subalpine fir / thinleaf huckleberry encountered on the eastern flank of the mountain. The forest on the eastern flank was formerly dominated by lodgepole pine that is now naturally dying off and being replaced by younger subalpine firs in the forest understory. During trail surveys in June 2009, wildlife biologist K. Romain-Bondi noted use by deer and bear, songbirds and cavity nesters such as sparrow, thrush, warbler, sapsucker and woodpecker species. No critical habitat was encountered or identified for wildlife. Due to the near location of the re-routed proposed Trail 160 Kit Carson-A and since there is no anticipated increase in recreationalists using the proposed trail and vicinity, no adverse impacts are likely to affect wildlife from the Proposed Action.

Trail 180

The Proposed Action - Trail 180 - lies on the far western side of the park, following the major ridge line running parallel above the Spokane - Day Mountain Road for a couple of miles. This trail is being proposed as an expansion of the trail system into currently inaccessible areas of the park. It begins on the eastern end on an old logging road, not likely used since the 1950-60's, characterized by grand fir / mallow ninebark forest. The original forest adjacent to the old road is mostly dominated by lodgepole pine in the forest overstory, and a thick understory of young grand fir regeneration. In the middle section, the trail comes off the old logging road following a ridgeline and a small existing foot trail through a mature stand of grand fir / mallow ninebark, with high tree species diversity and a complex multi-canopy forest structure. The trail passes through a small stand of ponderosa pine before it reaches the clear-cuts on private lands adjacent to the park boundary. The last part of the trail drops off the ridge and goes through a large patch of mid-successional ponderosa pine - Douglas-fir / mallow ninebark forest that mosaics with grand fir / mallow ninebark.

During trail surveys in June 2009, wildlife biologist K. Romain-Bondi identified the surveyed route as a prime travel corridor for wildlife. An abundance of scat and tracks were identified on the ridgeline of the proposed trail for several mammalian species, including bobcat, coyote, deer, elk, moose, snowshoe hare, and bear. An abundance of ungulate browse was identified on the lower section of the proposed trail. Wildlife species and habitats were also identified for

bats, marten, cougar, small mammals like the pygmy shrew, pileated and other woodpeckers, and other songbirds including junco, sparrow, warbler, jay, nuthatch, vireo, corvid, finch, tanager, and thrush species. WDFW biologists in the past sighted 2 wolverines on two different occasions in near proximity to the Proposed Trail 180 (H. Ferguson, WDFW Wildlife Biologist, pers. comm.). Canada lynx have been sighted to the north of the vicinity of the Proposed Action (H. Ferguson, WDFW Wildlife Biologist, pers. comm.).

Since there is potential use of the area surrounding proposed Trail 180 by lynx and gray wolves, we include a brief analysis of these two species to assess impacts of the Proposed Action to these federally and state listed species. Canada lynx use ridgelines, saddles and forested riparian areas when dispersing and traveling among foraging patches and dens (Stinson 2000). These habitat elements were available and abundant along the proposed trail. Lynx use of mosaic of habitats throughout the year, mainly foraging in areas where snowshoe hare abundance is high (Romain-Bondi et al. 2009, pg. 34-43). Habitat and prey species along the upper- and middle- portions of the proposed trail was identified as favorable for lynx habitat by wildlife biologist K. Romain-Bondi during June 2009 informal trail surveys. Snowshoe hare pellets were also abundant along this section of the trail. Recent research suggests that lynx may be able to adapt to regular and concentrated recreational use as long as adequate security habitat is available, especially since most human activity occurs during the day and lynx are most active dusk to dawn (Apps 2000). Sites with tangled woody debris are difficult for humans to access and can provide such security. Although lynx habitat is likely limited on MSSP, due to the species relative tolerance of humans and low impact recreation, no adverse impacts are likely to affect lynx from the Proposed Action.

Wolves are known to use topographic funnels, cover types used by prey, distance from human development centers, and low human presence as elements important to wolf dispersal (reviewed in Carroll et al. 1999). Topographic funnels in MSSP include saddles, ridgelines and valley bottoms, which would be used by dispersing wolves (Romain-Bondi et al. 2009, pgs 26-33). Seasonal foraging habitat for elk, deer and moose in MSSP, such as that encountered along the Proposed Action, could provide habitat for wolves, who may be using the Park for dispersal, and in the future as part of a pack's territory (H. Ferguson, WDFW Wildlife Biologist, pers. comm.). Snetsinger and White (2009, pgs. 15-18) discuss management considerations for potential wolf habitat in MSSP. "New recreation opportunities should be concentrated where displacement of wolves has already occurred and discouraged in areas where displacement has not yet occurred (Purves et al. 1992 in Claar et al. 1999). For example, existing backcountry campgrounds should be enlarged as needed, rather than new ones developed, and additional trails should be established in areas with a current focus on recreational opportunities (Peterson 1977 in Claar et al. 1999)". Human presence along the Proposed Action is anticipated to be low, especially during winter snow conditions; however no statistics are available on the potential recreational use of proposed Trail 180. Because the south-western portion of the Park is not heavily trailed or roaded, recreational use in the vicinity does not currently occur. Therefore impacts of recreation to potential wolf populations in the future may be high.

Additionally, since wolverines are a Federal Species of Concern as well as a State Candidate species and have been sighted in the area, managers should avoid placing new recreational trails and roads through previously unfragmented habitats (Snetsinger and White 2009, pg 22). Wisdom et al. (2000) recommends identifying and managing select areas to create desired

conditions such as large, contiguous blocks of forest cover with abundant snags, large logs, low road densities, and connectively to subalpine cirque habitats required for denning security and summer foraging habitat. People, roads, and development are a much more controversial subject for protecting wolverines and their habitats (Ruggiero et al 1994). Generally speaking, wolverines are a highly mobile animal whose dispersal movements are likely to be more influenced by human disturbance than by forest habitat characteristics (Singleton and Lehmkuhl 1999). Copeland (2007) however questions the sensitivity of wolverines to human presence. He found no relationship between wolverine presence and maintained trail systems, which may have been a result of low frequency of human presence on the trails. Our general analysis of the greater habitat available both within MSSP and on adjacent lands on the western portion of MSSP suggests that increased human presence and decreased continuity within large blocks of habitat associated with the Proposed Action may decrease the probability that wolverines would inhabit this area of MSSP for one or many of their life-stages.

The Proposed Action traverses a late-seral stage ridgeline forest, which has exceptional quality and quantity of vegetation community characteristics that are important habitat elements for wildlife species in MSSP (Romain-Bondi et al. 2009, Table 3, pg 15 and Tables 6-9, pgs 19-25). Features include multiple canopies of gallery trees, large logs and snags, and various decay stages of large logs and snags. Twelve of the 21 focal wildlife species need a combination of these various habitat elements for some stage of their life cycle, including marten, lynx, moose, northern goshawk, boreal owl, pileated woodpecker, black-backed woodpecker, brown creeper, winter wren, pygmy shrew, and hoary and silver-haired bat. While development and maintenance of the Proposed Action may not seem to alter the actual amount of habitat available for these species, studies show that trail and road corridors can create significant breaks in continuous forest habitat, potentially reducing habitat quality and increasing predation on interior forest species (Keller and Anderson 1992).

The western portion of the Park is a relatively intact block of forested habitat. The Proposed Action potentially increases habitat fragmentation for wildlife species in the region. The Proposed Action bisects the southern-most extent of concentrated elk and moose populations in MSSP (H. Ferguson, WDFW Wildlife Biologist, pers. comm.). Currently, the Spokane - Day Mountain Road lies to the south of the Proposed Trail 180, and there are no other roads or trails to the north or south in the near vicinity. Trail development and increased human presence in this larger block of habitat may constrict wildlife movements, and may decrease connectivity for wildlife in the western portion of the Park.

The Proposed Action may increase access from adjacent private land, potentially increasing poaching/ trapping incidents in MSSP. During trail surveys in June 2009, biologists K. Romain-Bondi and G. Wooten identified several areas of illegal trail clearing which had taken place in the recent past. Private land owned by a timber company has increased access to portions of the Proposed Trail 180 corridor, and potential illegal harvest during hunting season may already be occurring in MSSP due to poorly marked MSSP and private land boundaries. Illegal snowmobile activity should be assessed from adjacent private lands, since this type of off-road activity can have detrimental effects on wildlife. On the other hand, increasing summer and winter non-motorized recreation use in the area may decrease illegal activity, with increased visitor contact and enforcement from MSSP Park Rangers, and increased humans in the area to identify illegal activity.

Trail 260C (old 204)

The Proposed Action - Trail 260C - traverses through a forest of western hemlock/thinleaf huckleberry/common beargrass. The trail goes through patches of Sitka alder/mesic forbs. At the end of the trail where it enters a recent clearcut on private land, the plant association is western hemlock/western oakfern. During trail surveys in June 2009, wildlife biologist K. Romain-Bondi noted elk, deer, coyote, snowshoe hare, and bear sign on the proposed trail, as well as documented finch, thrush, warbler, vireo and corvid species presence. Other species such as cavity nesters, marten, small and large mammals, and bats may utilize the area for various life-stages. NOTE: the route of Trail 260C deviates from the route evaluated in 2009 by avoiding all riparian areas to enter the clearcut are at a lower elevation.

The Proposed Action is designated as a snowmobile trail will be managed as a 14 foot wide corridor through the forest (MSSP Staff, pers. comm.). The nearby adjacent property on private land was clear-cut during forestry operations approximately 2-years ago. Any impacts to wildlife habitat due the Proposed Action should be minor when assessed with the adjacent property in mind.

The Proposed Action comes near a stream at the water source (spring bubbling out of the ground and inducing running water for 300 feet downstream). Stream corridors and riparian draws represent forest openings, water, and higher shrub and forbs diversity. Many wildlife species use these areas as critical breeding and foraging habitat, as well as for security/cover and travel corridors. Loss of habitat and disturbance created by recreational trails should be minimized by avoiding riparian habitat and streams whenever possible. The riparian habitat associated with the stream crossing should be protected during spring and summer recreational use (horse, bike, and foot traffic) to control erosion of the streambank and to protect wildlife foraging and security/cover habitat. Protection may include a bridge or covered stream crossing.

Due to the near location of the proposed Trail 260C to other high impact roads, facilities, and adjacent private-lands, the suggested mitigation measure should avoid any adverse impacts that are likely to affect wildlife from the Proposed Action.

Day-Mount Spokane Trailhead

General effects

Increased noise and human presence in the area could cause stress to wildlife and in some cases provoke site abandonment by species especially sensitive to human activity. This effect is less likely within the proposed development footprint, given its proximity to existing human dwellings which would provoke a similar response, be it from vehicle and/or human voice noise, visual encounters, or smells. However, if the new parking area attracts more park users to this relatively unused portion of MSSP, the opportunity for increased wildlife stress and habitat abandonment could increase in areas consistently accessed by park users further within the park boundary. Species such as gray wolf, lynx, wolverine, goshawk, silver-haired bats, and hoary bats may be negatively affected by increased human presence in the area.

Specific Effects

A very small proportion of available habitat for wildlife species would be lost under this action. Important habitat elements that will be lost include live trees, native shrub and herbaceous cover, a closed forest canopy, a small amount of browse and forage, some coarse woody debris, and some small diameter snags. It is highly unlikely that any special status species will be directly impacted by the parking lot development. Species utilizing this area are likely already adapted to human presence given the nearness of residences to the site. If development planning is followed correctly, the impacts to surrounding habitat conditions should be negligible.

New Maintenance / Administrative Facility

General effects

Increased noise and human presence in the area could cause increased stress to wildlife and in some cases prevent species from utilizing the area, especially for species sensitive to increased human activity. This effect is less likely within the proposed development footprint, given its current actively developed status and proximity to nearby high use developments which would provoke a similar response, be it from vehicle and/or human noise, visual encounters, or smells. However, if the new maintenance facility and ranger office creates a large increase in human presence, noise, and smells, the opportunity for complete avoidance of the existing surrounding habitat could increase.

Specific Effects

If the proposed development stays within the existing development footprint, no adverse impact will occur to the compositional and structural elements of the surrounding forest habitat. No special status wildlife species or any critical habitat they are dependent on will be directly impacted by this development plan.

New Linder Ridge Parking Area

General effects

Increased noise and human presence in the area due to this parking area expansion will likely not cause increased stress to wildlife nor prevent species from utilizing the area because of this site's proximity to nearby high use developments which would already provoke a similar response, be it from vehicle and/or human noise, visual encounters, or smells.

Specific Effects

If the proposed development stays within the existing development footprint, no adverse impacts will occur to the compositional and structural elements of the surrounding forest habitat. A slight loss in cover habitat will occur within the parking lot footprint itself, however, no special status wildlife species, or any critical habitat they are dependent on will be directly impacted by this development plan.

The clearing onto which the proposed Linder Ridge expanded parking lot would be constructed does not currently have high wildlife value due to the influence of the nearby parking lots and active roads. The surrounding forests provide suitable habitat for the focal wildlife species' life stages presented in the table below. The existing habitat is not currently critical, of extreme high quality, nor limited within the area for these species. The close proximity and magnitude of existing developments and human use in the area also preclude the nearby forest patches from being high quality wildlife habitat for most of these wildlife species.

Table 9. Linder Ridge parking area potential habitat for wildlife species, by life stages

Species	Life-Stage	Species	Life-Stage
<i>Carnivores</i>		<i>Birds</i>	
Canada lynx	dispersal	Northern goshawk	foraging
	summer foraging	Boreal owl	foraging, roosting
	winter foraging	Pileated woodpecker	foraging roosting
Wolverine	summer foraging	Dusky grouse	summer foraging
	winter foraging	Brown creeper	breeding/nesting
American marten	non-winter cover, foraging		foraging
	winter cover/, foraging	Winter wren	breeding/nesting, summer foraging
<i>Ungulates</i>		Olive-sided flycatcher	breeding/nesting foraging
Rocky Mountain elk	cover	<i>Small mammals</i>	
	summer/fall foraging	Pygmy shrew	breeding/parturition, foraging
White-tailed deer	early/late winter foraging	Silver-haired bats	Breeding/parturition, roosting foraging
Moose	cover		Hoary bats
	summer foraging		
<i>Other species</i>			
Western toad	migration, foraging		

a. Facilities Renovation Alternative

This alternative includes many of the features of the Proposed Alternative. A notable difference is using the existing Bald Know campground as a group camp. In a group camp situation, the park strives to reserve groups of sites for individuals seeking to camp together, such as Boy Scouts, families, etc. When sites are not reserved for groups, individuals may use any unreserved sites.

The existing camp sites would be used; no additional clearing would take place. No wildlife impacts are expected.

3. MITIGATION MEASURES

For most species of the 21 wildlife species of interest addressed in this study, effects of recreation/human disturbance from trail re-routes are considered secondary or minor concerns compared to impacts of habitat loss and/or degradation associated with larger scale development. Mitigation measures are simple in some cases (such as routing trails around

standing large snags), and more for complicated to implement in other situations (such as building a bridge or walkway over stream crossings).

Mitigation Measures for Wildlife to All Proposed Trail Developments

Mitigation measures applicable for all trail developments during construction and post-construction (trail maintenance) periods are summarized below.

Construction Mitigation Measures:

- ❑ Minimize impacts to potential breeding bird populations by restricting construction activities during the breeding-nesting season from April 1 to July 15.
- ❑ Minimize impacts to potential breeding and young-rearing mammal populations by restricting construction activities during the breeding season from March 1- July 15.
- ❑ During construction, enforce measures to ensure that trash or refuse associated with construction is minimized.
- ❑ Install and maintain mufflers and sound attenuation devices on all equipment and vehicles in order to minimize construction noise impacts.
- ❑ Clearly mark construction clearing limits and trail routes (e.g., flagging, stakes, construction fencing, or other method) to ensure that habitat alteration is minimized during construction.
- ❑ Employ trail construction techniques based on Best Management Practices and the best science and technology available and affordable.

Post-Construction Mitigation Measures:

- ❑ Limit seasonality of trail use to reduce stress on wildlife during nesting/denning, young-rearing, and winter and early spring foraging seasons in areas where there are high seasonal wildlife concentrations.
- ❑ Maintain course woody debris (i.e. logs and downed wood) within the forest by routing trails through natural forest openings and non-vegetated areas.
- ❑ Minimize impacts to songbirds and mammal populations by concentrating recreation and associated trails in currently used areas, rather than spreading use to relatively non-impacted areas.

Although the Proposed Action will require the removal of trees, snags, and course woody debris along the trail, prior to taking action to remove these items, efforts should be made to reroute the trail in order to meet the following criteria (Bull et al. 1997):

- 1) Retain important standing wildlife habitat by prohibiting the falling of large or mature snags and trees greater than 24 inches in diameter at breast height, unless such removal has less impact on habitat than all other trail alignment alternatives.
- 2) Retain standing snags and dying trees (of any size class) whenever possible, acknowledging the need to remove hazard trees.
- 3) Retain small diameter snags in clusters, if available
- 4) Retain snags adjacent to live green trees, if available
- 5) Retain important course woody debris in the form of downed logs greater than 6 inches diameter and with length of 8 or more feet
- 6) Retain patches of jackstrawed logs supported greater than 2 feet above ground by other logs

Providing public education and interpretive opportunities could enhance the visitor's experience while helping to limit their impact on wildlife. The goal of education efforts would be to influence positive human/wildlife interactions. Public education opportunities/materials could exist at all MSSP day use and overnight facilities, trailheads, ski resort facilities, campgrounds, and along trails. Mount Kit Carson trails provide additional opportunities to educate visitors on fragile alpine meadows and the wildlife species dependent on these habitats.

The Master Facilities Planning Process and Friends of Mt Spokane have an opportunity to enhance recreation for visitors and set conserve unique and important wildlife habitat in MSSP. Retaining roadless areas and avoiding development in areas currently not used for recreation will help protect wildlife habitat and maintain wildlife populations in the Park. Maintaining connectivity of wildlife populations and habitats adjacent to MSSP is also critical to long-term species survival. Natural Forest Areas (NFA) in MSSP are the first step towards providing this increased protection to wildlife. Increasing connectivity between one NFA to another NFA (such as along the western edge of the Park or south of Smith Gap) would benefit many wildlife species, and would concentrate recreation in areas already developed in and around MSSP.

Mitigation Measures for Wildlife to Individual Proposed Trail Developments

Trail 130 / 170 (old 130)

No mitigation measures identified for Trail 130/170.

Trail 140 Summit Upper (old 135 Summit)

- ❑ Minimize disturbance to meadow, talus, and edge dependent wildlife species by maintaining a 30 foot buffer from meadow, talus, and forest edge habitats whenever possible, and routing trails on the interior of forests instead of within meadow/ talus/ edge habitats.
- ❑ Prohibit the removal of large or mature snags and trees greater than 24 inches in diameter at breast height, unless such removal has less impact on habitat than all other trail alignment alternatives.
- ❑ Maintain course woody debris and jackstrawed log patches within the forest by routing trails through natural forest openings and non-vegetated areas within the forest.
- ❑ Maintain dense shrub habitat within the forest whenever possible, by routing trails through natural forest openings where dense shrub cover does not exist.
- ❑ Prohibit building trails in riparian habitat whenever possible by routing trails around shrubby draws, sub-irrigated vegetation, and stream crossings unless there is less impact on habitat than all other trail alignment alternatives.

Trail 140 Summit Lower (old 135 Summit lower portion)

No mitigation measures identified for Trail 140 Summit Lower.

Trail 140 Kit Carson-B

- ❑ Minimize impacts to concentrations of mammalian and avian breeding and young-rearing populations by restricting construction activities during breeding and nesting/denning seasons, March 1 – July 15.
- ❑ Prohibit building trails in stream corridors whenever possible by routing trails around shrubby draws, sub-irrigated vegetation, and stream crossings unless there is less impact on habitat than all other trail alignment alternatives.
- ❑ Minimize disturbance to wildlife breeding, nesting, foraging, and travel corridors by maintaining a 30 foot buffer from stream corridors, riparian draws, and meadow/edge habitats whenever possible.
- ❑ Re-locate trails at least 300 feet from moose calving beds and high quality moose foraging habitat.

Trail 160 Kit Carson-A (old 140 Kit Carson-A abandoned)

No mitigation measures identified for Trail 160 Kit Carson-A.

Trail 180

- ❑ Minimize impacts to concentrations of mammalian and avian breeding and young-rearing populations by restricting construction activities during breeding and nesting/denning seasons, March 1 – July 15.
- ❑ Limit seasonality of trail use to reduce stress on mammalian wildlife during winter and early spring foraging, breeding, denning, and young-rearing seasons, February 15 – July 15.
- ❑ To protect wildlife corridor and travel routes, re-route the proposed trail off the ridgeline and off the abandoned road, paralleling and in close proximity to Spokane - Day Mountain Road in close proximity to the Day Mountain Spokane Road This action would minimize impacts to mammal populations by avoiding trail development on an open ridgeline and wildlife travel corridor so as not to separate high use travel, foraging and resting / cover areas for wildlife.
- ❑ Minimize habitat fragmentation created by roads and trails between large blocks of unfragmented habitats by re-routing trail 180 to the south, in close proximity to the Spokane - Day Mountain Road where human use already occurs.
- ❑ Prohibit the removal of large or mature snags and trees greater than 24 inches in diameter at breast height, unless such removal has less impact on habitat than all other trail alignment alternatives.
- ❑ Avoid illegal poaching/ trapping and off-road vehicle incidents by clearly marking MSSP boundary and signing appropriately.

Trail 260C (old 204)

- ❑ Minimize disturbance to wildlife breeding, nesting/denning, foraging, and travel corridors by maintaining a 30 foot buffer from stream corridors/ riparian draws / edge habitats whenever possible
- ❑ Increase cover habitat and decrease disturbance from snowmobile activity to wildlife by promoting shrub growth on the edges of the proposed trail.
- ❑ Prevent habitat loss during summer season recreation use to wildlife in stream corridors, riparian draws, and edge habitats by reducing potential for erosion and weed invasion

from equestrian, bike and foot traffic. Protection may include bridge or log stream crossings.

Day-Mount Spokane Trailhead: The following mitigation measures would apply to the Proposed Action.

- Drive, operate, and store heavy mechanical equipment necessary for parking lot construction only within the proposed development footprint and/or the disturbed corridor of the Day - Mount Spokane Road, so as to limit habitat impacts in the surrounding forest environment.
- Do not push bulldozed debris and excavated material from grading and digging operations into the surrounding natural forest areas.
- Do not cut, harvest, bulldoze, or trim any vegetation, especially overstory trees that occur outside of the quarter acre proposed development footprint. Attempt to leave as much overstory forest canopy intact to reduce the creation of new forest edges.

New Maintenance/Administrative Facility

- Drive, operate, and store heavy mechanical equipment necessary for any new construction or installation of piping infrastructure only within existing KXLY shop development footprint and/or the disturbed corridors of the surrounding roads, so as to limit loss of cover habitat elements in the surrounding natural forest communities.
- Do not push bulldozed debris and excavated material from grading and digging operations into the surrounding natural forest areas.
- Do not cut, harvest, bulldoze, or trim any vegetation, especially overstory trees, that occur outside of the existing development footprint, so as to limit loss of cover habitat elements in the surrounding natural forest communities. Attempt to leave as much overstory forest canopy intact to reduce the creation of new forest edges, including the forested patch located between the access road and the KXLY shop parking area.
- Continue and expand into the edges of the proposed development the roadside erosion control and exotic plant management operations currently taking place on the nearby Mount Spokane Summit Road. More aggressively plant and propagate native cover vegetation to dampen the impacts of human caused noise, smells, and visibility into the surrounding wildlife habitat.

New Linder Ridge Parking Area

- Drive, operate, and store heavy mechanical equipment only within the proposed development footprint and/or the disturbed corridors of the surrounding roads and parking areas, so as to limit loss of cover habitat elements in the surrounding natural forest communities.
- Do not push bulldozed debris and excavated material from grading and digging operations into the surrounding natural forest areas.
- Do not cut, harvest, bulldoze, or trim any vegetation, especially overstory trees, which occur outside of the existing development footprint, so as to limit loss of cover habitat elements in the surrounding natural forest communities. Attempt to leave as much overstory forest canopy intact to reduce the creation of new forest edges.

HYDROLOGY

1. AFFECTED ENVIRONMENT

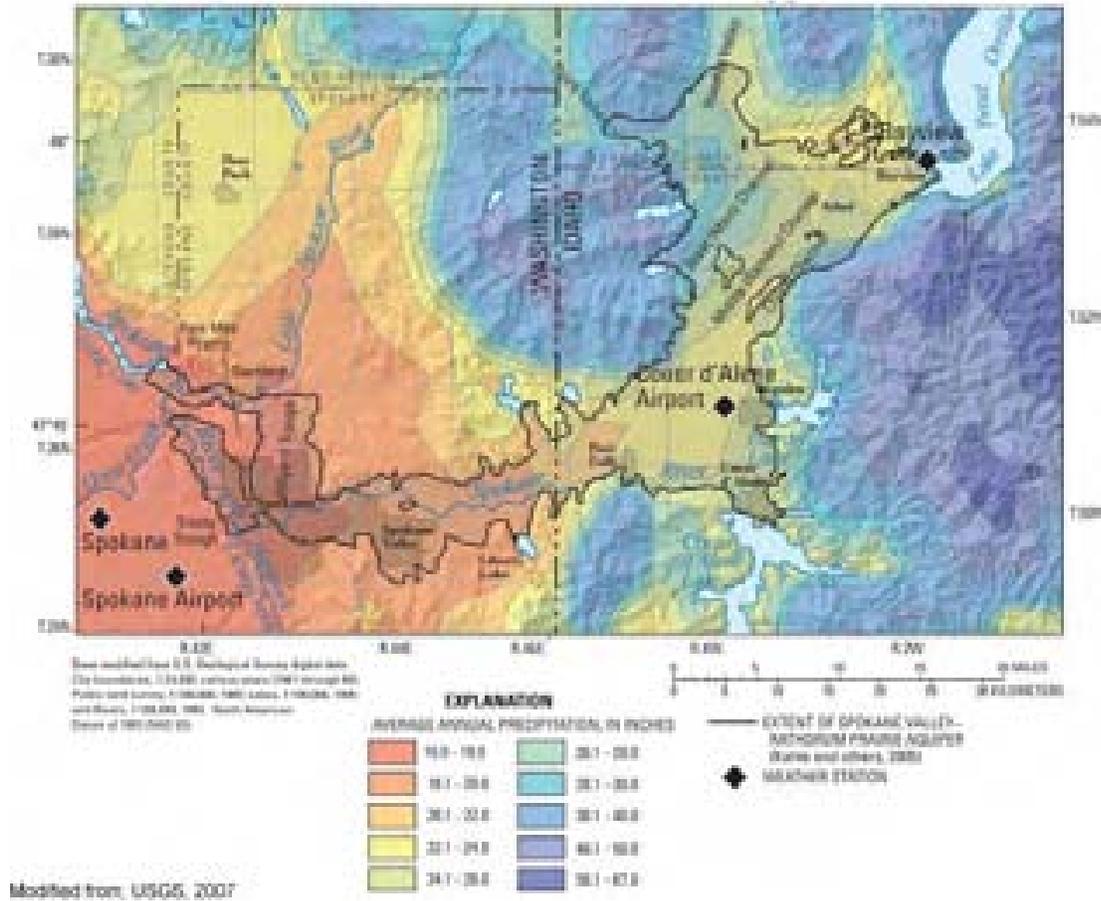
Hydrologic Setting

Mount Spokane State Park is situated within two Water Resource Inventory Areas (WRIA); WRIs 55 and 57. The annual precipitation in WRIs 55 & 57 ranges from about 15 inches per year in the lower elevations of the basins to over 45 inches in the mountainous parts of the basins. About 70% of the precipitation occurs during the months of October through March. Approximately 25-40% of the precipitation falls as snow, depending on elevation. Accumulations of snow range from a few inches to several feet at the Spokane National Weather Service Station.

Mount Spokane is a critical component of the hydrologic cycle in the greater Spokane - Coeur d'Alene area. With an elevation of 5,280 feet the mountain serves an important role of storing water that falls as snow in winter, and recharging groundwater throughout the spring and summer months. The average annual precipitation on Mount Spokane is 46.2 inches. The average annual snowfall is 162.5 inches (Ecology 2006).

Water that flows off the mountain as surface water eventually feeds the Spokane Valley-Rathdrum Prairie Aquifer (SVRPA). The SVRPA is the sole source of water for most of the people in Spokane County, Washington and Kootenai County Idaho, supplying more than 400,000 people drinking water (Idaho DEQ 2000). Water enters the SVRPA from various sources, including precipitation, runoff from the surrounding bedrock areas, seepage from lakes and rivers, and return flows from irrigation (irrigation water not used by plants that works its way back to the aquifer). When precipitation lands on the ground, some evaporates, some is used by plants, and the rest seeps into the aquifer or forms runoff from the surrounding upland areas. Only 20-25% of precipitation is actually available for recharge to the aquifer, since the rest either evaporates or is used by plants.

Figure 8. Regional Precipitation



Some of the water that enters the SVRPA comes from surrounding upland areas called tributary areas. The precipitation that falls in these areas flows down to the aquifer as surface flow in streams and underground as ground water. The water recharges the aquifer by seeping into the ground around the edges of the aquifer.

In the SVRPA, ground water flows from the north, near Spirit and Hoodoo Valleys and Lake Pend Oreille, southwards toward Post Falls. The aquifer is recharged along the way with runoff from the bedrock upland areas and the lateral lakes such as Hayden, Twin, and Spirit Lakes. Additional water flows westward from Coeur d'Alene Lake, eventually flowing toward the Idaho-Washington state line, and through Spokane along the Spokane River.

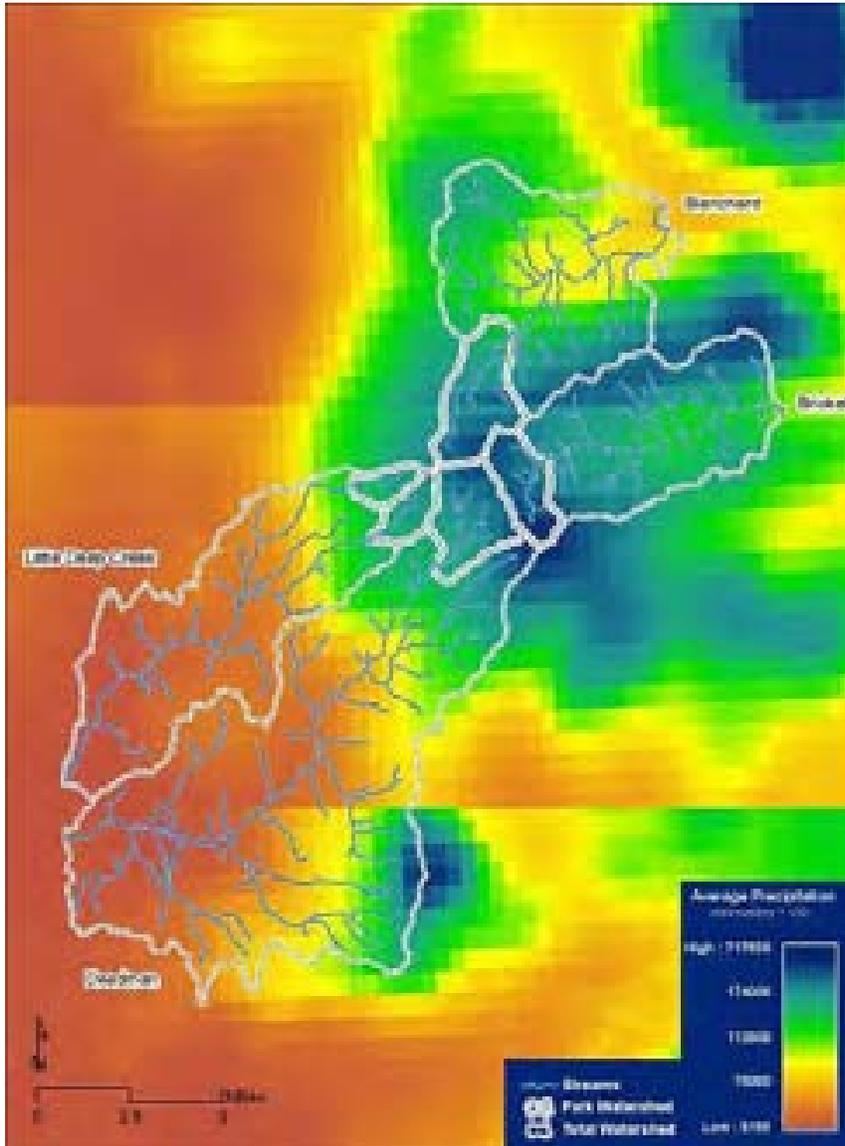
Surface Water

There are three main drainages that convey surface water to the aquifer. Blanchard Creek on the Northeast side of the mountain flows into Blanchard Lake in Idaho. Brickel Creek on the East side of the mountain flows east into Spirit Lake. And Deadman Creek, Little Deep Creek and Deer Creek all flow west into the Little Spokane River.

To calculate the importance of the park to the watersheds, State Parks determined the average rainfall within each drainage basin, within the park and within the entire basin Figure 9. That

average was multiplied by the area of each feature to determine the overall importance of the park to the hydrologic system. The percentage of water flow generated in the system is reported below with each respective drainage basin.

Figure 9. Rainfall Importance to Watershed



The Blanchard Creek drainage flows north and east into Blanchard Lake. Within the Blanchard Drainage Basin, 20% of the water in Blanchard Creek is generated within the park on the north, undeveloped portion of the mountain. Because of the elevation and forest condition, the percentage of the basin's contribution to stream flow is likely reduced in winter and expanded in summer. This drainage feeds the aquifer groundwater at the highest point of the aquifer.

The Brickel Creek Drainage flows east into Spirit Lake as the main feed into the lake. Within the drainage basin the park represents 15% of the precipitation input from the southeast, developed

side of the mountain. Spirit Lake, along with Blanchard Lake and Lake Pend Oreille, together form the upper reaches of the SVRPA. Surprisingly, the water input at this location generally flows south, as groundwater within the aquifer, and then follows the Spokane River west through the Spokane Valley.

There are three main creeks, along with their respective tributaries, that flow to the west off the mountain: Deadman Creek, Little Deep Creek, and Deer Creek. All three creeks feed into the Little Spokane River, which eventually flows into the Spokane River. The water from these three creeks enters the SVRPA very high in the aquifer system. State Parks represents 11% of the precipitation input from the combined drainage basin. Although the overall supply of groundwater to the aquifer from these creeks is low, the importance of these creeks to surface water is high.

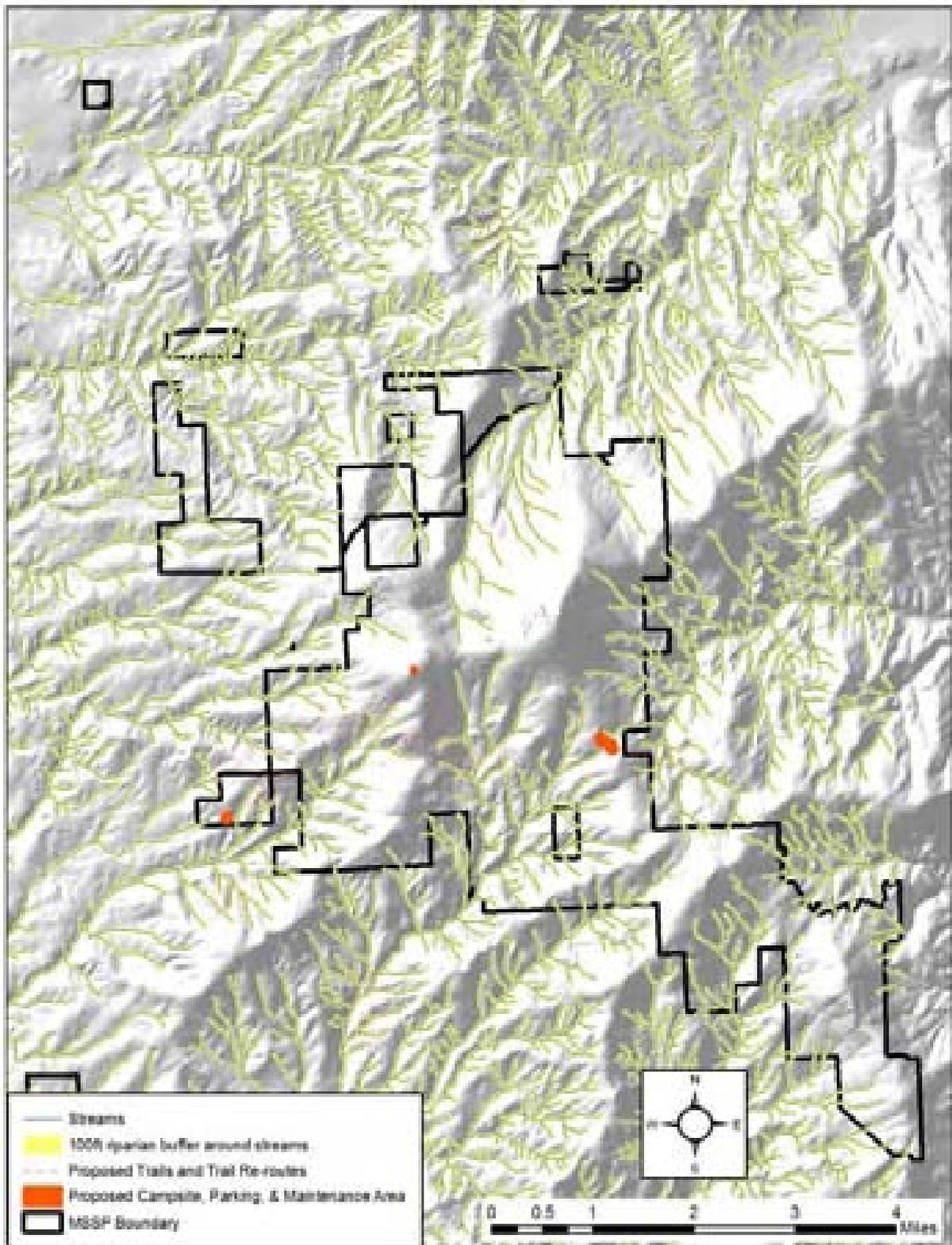
All three creeks generally flow southwesterly off the mountain, relatively equidistant from each other, and two of the creeks merge before dumping into the Little Spokane River. Deadman Creek is the southernmost drainage out of the park. The creek follows SR 206 for almost 15 miles before it merges with Little Deep Creek, that flows just to north of Deadman Creek, just before the creeks enter the Little Spokane River in close proximity to the Mead Airport. Deer Creek is the most northern drainage that flows from mountain to the West. Deer creek enters the Little Spokane River around Chattaroy.

Water enters and leaves the aquifer in a number of different ways and in varying amounts. The figure below shows the total amounts flowing into and out of the aquifer in both Washington and Idaho. Two of the largest contributors to recharge of the aquifer in Idaho are seepage from the Spokane River and lakes along the aquifer boundary. Surprisingly, the amount of seepage from the two largest lakes in North Idaho, Lake Coeur d'Alene and Lake Pend Oreille, is relatively small compared to the amount of seepage from smaller lakes such as Hayden and Spirit Lakes. The largest outflows from the aquifer in both Idaho and Washington are seepage to the Spokane River and ground water pumping for drinking water and irrigation.

2. ENVIRONMENTAL CONSEQUENCES

The park setting provides both summer and winter perennial stream flows regulated by springs recharged from snowmelt. Evidence in channel geomorphology indicates that spring snowmelt can yield high stream flows. Hardened surfaces such as parking lots and roads concentrate and increase peak runoff causing gully erosion. The extent of the ground water resource and the connection with Mount Spokane and the valley floor is unknown. Observations are that much of the groundwater on Mount Spokane moves to surface channels within the Park boundaries and on a continual, not seasonal schedule. Valley floor residents in Blanchard and Little Spokane have expressed concern over depletion of recharge of their groundwater as a result of proposed activities. The valley floors are also undergoing increased groundwater extraction by single family residence development.

A number of small streams originate in the park, predominantly draining into Brickle Creek, Blanchard Creek and Deadman Creek as shown in the figure below.



a. No Action

The No Action alternative avoids potential impacts to small streams associated with water runoff from the land clearing at the administrative site and the two proposed parking lots. The hardened surfaces risk increasing runoff as snow melts and as rainfalls; the runoff can contain contaminants from vehicles using the parking areas.

Retaining the administrative facility in the current location continues the adverse consequence of covering a fish-bearing stream.

A number of the current trails do not meet standards for erosion caused by excessively steep routes. The No Action alternative does not remedy these deficiencies. Continued erosion by these deficiencies will further degrade the hydrologic condition unless and until they are remedied by actions like those proposed in the Master Facilities Plan.

b. Proposed Action

The Proposed Action opens up less than four acres of forest land for two parking areas and an administrative site. It can potentially impact small streams associated with water runoff from the land clearing. The hardened surfaces increase runoff as snow melts and as rainfalls; the runoff can contain contaminants from vehicles using the parking areas.

New trails would be constructed in areas and at gradients that avoid or minimize erosion potential from runoff and do not concentrate water in a way that creates a surge of runoff into a stream, potentially exacerbating peak flows downstream. New trails will avoid putting runoff into stream by good design. Trail re-routes will remedy current situations that can impact runoff.

New camping structures will be set back from streams; thus any runoff would be absorbed into the ground before impacting water quality of increasing runoff.

c. Facilities Renovation Alternative

The Impacts of the Facilities Renovation Alternative are slightly less than the Proposed Action Alternative. This is largely due to a focus on remedying existing facilities in need of repair and not constructing new facilities.

3. MITIGATION MEASURES

- Use best management practices for trail construction
- Follow Spokane County stormwater management regulations

B. HISTORIC, CULTURAL AND ARCHAEOLOGICAL RESOURCES

1. AFFECTED ENVIRONMENT

Mount Spokane is a park that has a long history with Native American, as well as European American peoples in the Spokane area. While the prehistory of the park has not yet been fully established, its more recent past has been marked by many events that indicate its importance to the community as a notable destination. Mount Spokane's initial development as a park was pursued privately, then by county and state park departments in succession.

Despite its long history, very few archaeological surveys have been conducted at Mount Spokane. Although previous surveys have not identified prehistoric resources, the acreage of these surveys is quite low compared to the total landholdings of the park (over 13,000 acres). Charlotte Benson of the University of Washington performed the first work in the park in 1979 to survey two proposed development projects. Survey results at both locations proved negative for prehistoric archaeology, but historic debris in other areas was noted. Benson, commenting on the archaeological potential of the area, believed that the upper portion of Mount Spokane had a low probability for the presence of cultural resources while the lower areas of the park had higher potential. Twenty years later, Archaeological and Historical Services of Eastern Washington University returned to the park for investigations related to three park construction projects. Cultural resources identified by those studies were limited to historic objects, structures, or sites. No cultural resources with clear prehistoric associations have been identified within the park.

When it comes to identifying areas with potential to contain prehistoric cultural resources, some locations are more likely locales than others. A known aboriginal trail historically extended up the western slopes to the top of the mountain and prehistoric campsites could be located along this narrow byway. In addition, seeps and springs, areas proximal to important plant resources, streamside terraces with good solar exposure, and openings in the sub-alpine zone with commending vistas have high potential for associated prehistoric resources.

Caution should be applied in using previous survey results to extrapolate inferences and conclusions for the entire park. Both historic accounts and more recent ethnographic studies undertaken regarding settlement and use patterns indicate that the mountain has been used for the harvest of certain plants as part of the annual subsistence rounds, as a location for vision quest sites as well as other sacred associations, and as a refuge for game animals important to subsistence hunting. Given this information, it is possible that there are areas within the park that could constitute a potential Traditional Cultural Property associated with traditional beliefs or practices of Native American groups.

The development of the park during the historic period was initiated by Francis Cook, a newspaper publisher, delegate to the territorial legislature, real estate developer, street railroad promoter, and general man of vision. Cook owned the very top of Mount Spokane (then called Mount Carleton), and invited all to his mountain top to take in the astounding views and rest in an invigorating atmosphere. In 1909 Cook began construction of a road to a site on the mountain he called Paradise Camp, where he built a cabin and provided camping sites, free

wood, water, and the opportunity to hike to the summit; all for 50 cents. To ensure the connection between the mountain and the city was clear, Cook had the name officially changed to Mount Spokane in 1912. The community value of the mountain was recognized by prominent Spokane citizens, who successfully persuaded the county to purchase Cook's land in 1919. Little remains of this initial development aside from the site of Cook's Cabin (which has potential for historic archaeological resources), the auto road Cook established (still in use as a trail), and an assortment of monuments in the summit area.

By July of 1927 the State Park Committee had accepted deeds to 500 acres that included the summits of both Mount Spokane and Mount Kit Carson. Additional acreage was donated shortly thereafter for a total of 1,500 acres as Mount Spokane joined six other state parks east of the Cascades. Improvements under State Parks' direction were slow until 1933, when the first significant improvements were made. In that year, the Vista House and a new Caretaker's House near Cook's Cabin were constructed. 1934 saw the arrival of the Civilian Conservation Corps (CCC), who made vast improvements to the park. Establishing a camp on Beauty Mountain, the CCC operated a seasonal camp and began work projects that included the new road from Cook's Cabin down the east side of the mountain, the woodshed and latrine adjacent to the new Caretaker's House, as well as trail and fire hazard reduction projects.

What remains today within the park is a collection of historic resources reflecting the development of the park over a long period. While only a few of the resources have been formally determined eligible for the National Register of Historic Places, many contribute to the larger cultural landscape within the park. The Vista House, the stone latrine and woodshed near the sites of Cook's Cabin and the Caretaker's House, and the remnants of the CCC Camp Francis Cook on Beauty Mountain were all determined eligible for the National Register in 2002. The historic resources present and identified within the park are more fully explored in the 2009 Cultural Resources Management Plan (CRMP) completed for Mount Spokane (see Appendix D). Most resources are focused within the cultural landscape identified in the CRMP. A cultural landscape is defined as a geographic area, including both cultural and natural resources, associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values. Individual features within the identified cultural landscape represent both the initial park development era and the development under State Parks' ownership. The cultural landscape and individual features of historic significance are shown on Figures XXX and XXX.

Remaining historic features within the cultural landscape include the Cook's Cabin site, the Boy Scout Monument, the Sun Ball site, the Memorial to Spokane County War Dead, the View Tubes, the Vista House, the Caretaker's House site, the Latrine at Cook's Cabin, the Woodshed at Cook's Cabin, the Mount Spokane Lodge site, the Reservoir above the lodge site, CCC Camp Francis Cook, the Headquarters Building within the CCC Camp, the Beauty Mountain Latrine, and the area identified as Quarry #1. Historic resources outside this landscape include Cook's Auto Road, the Summit Road, portions of certain trails within the park, the remains of the Spokane Ski Club, and the Superintendent's Residence at the park entry. Other resources not likely to be considered historically significant but identified in the CRMP include Camp Fosseen (outside the current park boundary, but considered in the CRMP as it is within the long-term boundary of the park), Lodge #1, the Bald Knob Kitchen Shelter and Comfort Station, and the Quartz Mountain Fire Lookout. Other post-1960 construction within the park was not

considered during the preparation of the CRMP, and includes additional park residences as well as the larger development surrounding Lodge #2.

A review of archaeological data indicates that a Native American trail existed near the route of proposed Trail 180.

2. ENVIRONMENTAL CONSEQUENCES

a. No Action Alternative

Under the No-Action Alternative there would be limited changes in the type and quantity of facilities provided within the park, so impacts to historic and cultural resources would be minimal. Replacement, upgrade, or rehabilitation of existing facilities would be expected over time as part of either operational or capital improvements that could have the potential to impact existing historic and cultural resources. The severity of impact is dependent on the type, nature, and location of these projects. Projects such as the Vista House Preservation Project ensure the continued existence of these resources, and funding should be sought for the preservation or rehabilitation of other significant historic resources such as the Woodshed in the Cook's Cabin area and the remains of the CCC Camp. See the Cultural Resources Management Plan for recommendations. There is a potential for discovery of historic or archaeological resources during the course of normal park operations and maintenance activities. These impacts would be coordinated with the appropriate parties under the applicable cultural resource laws.

b. Proposed Action

Under the proposed action, impacts to historic and cultural resources could be expected. Generally, these activities would be expected to have minor negative and some positive impacts on the cultural resources within the park. Negative impacts could be expected in the areas of greatest development, or in areas with the greatest concentration of identified historic resources. Specific potential impacts are listed under each major category of action listed below.

New Park Entrance

The development of a new entry with a trailhead and parking area on the Day - Mount Spokane Road has the potential to impact the historic Cook's Auto Road, the primary access route to the park from 1909-1934. The historic route retains integrity within the park, and the proposed entry and trailhead could be designed to minimize impacts to this historic transportation corridor. Development of this area would require review to ensure that the impact to existing or newly-discovered historic and archaeological resources is minimal. If designed consistent with State Parks Cultural Resources Management Policy (12-98-01), negative impacts could be avoided.

Trail System Improvements

The proposed action addresses trail system improvements for snowmobiling, Nordic skiing, snowshoeing, and hiking. These improvements, especially those that are focused on winter recreation, have a minimal potential to impact the historic nature of the trail system within the park. Improvements related to hiking have the greatest potential to impact the historic trail

system, but it must be noted that the trail system has continually evolved as the park developed. Trails noted as important in the 1940 Master Plan for the park exist today in different configurations due to the natural evolution of these recreational resources. The improvements proposed will maintain the character of these trails, and the historic function will be retained and the trails will continue to connect key locations within the park. Minor alterations to the routes proposed under this action are not likely to adversely impact these features.

Accommodations

The proposed action includes establishing a Group Camp at the former location of the CCC Camp Francis Cook. This activity does have the potential to negatively impact this historic resource, but through careful and sensitive design the impact can be avoided. Specifically, impacts to existing rockwork (retaining walls and paths) and the former Headquarters Building can be avoided if the development is designed to avoid these features. Recommendations of the proposed action also include making the CCC Camp a pedestrian only zone to further protect these remnant features.

Administrative

The relocation of the current administrative facility and rehabilitation of the stream channel has the potential to minimally impact the existing 1957 residence at the main park entry. Provided the residence is retained and treated according to WSPRC policy and the Secretary of the Interior's Standards for the Treatment of Historic Properties, negative impacts can be avoided. The placement of new administrative facilities in either of the two identified locations has no potential to affect historic resources as none are present in these areas and will require archaeological investigations to determine the presence or absence of resources to determine potential impacts.

Utilities

Providing adequate water, sanitary, stormwater, and electrical utilities is included as part of the proposed action as appropriate for all facilities. The installation of new utilities could impact historic or archaeological resources, but additional investigations will be necessary for these developments depending on the type and nature of their construction.

Parking

The addition of parking adjacent to and below Selkirk Lodge for winter use has no potential to affect historic resources, as none are present in this area. The impact to archaeological resources is unknown, and requires investigations to determine the presence or absence of this type of resource in the area. The area has a low probability for archaeological resources.

Land Classification / Long Term Park Boundary

The adjacent private lands considered for acquisition or management agreements have not had a comprehensive study conducted for the presence of historic or cultural resources. Prior to any facility development on these lands, archaeological and historic resource surveys will need to be conducted to determine the presence or absence of significant resources.

Cultural Resource Treatment

The proposed action makes specific recommendations to protect historic resources in the CCC Camp Francis Cook area. These recommendations will have a positive impact on this site as they will provide additional protection for this resource. The proposed action also includes the addition of interpretive signage for significant historic sites and structures. This signage has the potential to positively impact these resources by increasing public awareness of their historic significance. Negative impacts associated with sign placement can be avoided through careful design and mounting so as to not adversely affect the historic character or fabric of cultural resources. Archaeological investigations may be necessary to ensure the protection of this resource type if excavation is required. Design guidelines, currently under development for the park, will guide new construction to ensure compatibility with the existing historic features of the park.

Cultural Landscape Treatment

The proposed action also includes specific recommendations to enhance the cultural landscape within the park. These recommendations are intended to protect the existing resources, and have no potential to adversely impact the cultural landscape of the park.

c. Facilities Renovation Alternative

Under this alternative any historic, cultural or archaeological resources would be impacted similar to the No Action Alternative. Under that alternative now new facilities will be constructed. This means that under the Facilities Renovation Alternative that no interpretive facilities/signage will be built.

3. MITIGATION

The following recommended mitigation measures would apply to both alternatives:

- ❑ Any changes to historic resources will be guided by the provisions of WSPRC's Cultural Resources Management Policy (12-98-01) and the Secretary of the Interior's Standards for the Treatment of Historic Properties as adopted by the Policy.
- ❑ Areas of new construction or areas of ground disturbance required for park maintenance and operations should be investigated for the presence of archaeological resources. If unanticipated discoveries are made, all work is to stop in the area and an evaluation will be conducted to assess options for impact avoidance, data recovery, or site redesign. A treatment plan will be developed prior to the continuation of the project, with avoidance being the first priority.
- ❑ Provide interpretation of historic features within the park in a manner that does not impact the historic integrity of those resources.
- ❑ If adverse impacts are identified as a result of any particular project or undertaking, mitigation measures will be developed to specifically address those impacts and the resource affected under the applicable cultural resource laws and regulations.
- ❑ Site Trail 180 away from all indications of the former Native American trail in that vicinity.

C. SCENIC RESOURCES

1. AFFECTED ENVIRONMENT

Mount Spokane is prominent from many vantages within Spokane County. The mountain's prominence has increased its importance as a cultural and/or regional landmark. Large land clearing activities, and any activity that would add light to the mountain landscape, have the potential of negatively impacting views of the mountain. Within the park boundary, views from the main access road, the alpine ski runs and the Mount Spokane summit are of the highest priority to protect and enhance.

A primary viewing site in the park is at the summit of Mount Spokane at a site generally referred to as Vista House. Visual impacts from this site are a key measure of visual impacts. Other areas within the park share a scenic resource predominantly defined by the forested environment and normal recreational amenities to access and maintain those areas. Park housing, administrative facilities, and roadways stand in contrast to the forested environment, some of which are better screened than others.

2. ENVIRONMENTAL CONSEQUENCES

a. No Action

The No Action alternative has no additional impacts to the visual landscape beyond the impacts currently occurring. It does continue the presence of the current administrative facility at the current location. Implementing the No Action alternative keeps the long term boundary at its current size, diminishing the role of State Parks in keeping adjacent land in its current land use.

b. Proposed Action

The proposed action contains elements which have the potential to result in visual impacts, notably:

- Creating a group camp at the site of the former CCC camp. This development will remove some trees that have grown up since the use of the site as a CCC-era camp in the 1930's. The expansion will cover less than one acre with minimal visual impact from roads or vista points within the park.
- Adding a less than two acre parking lot near the Selkirk Lodge at Linder's Ridge. This site lies adjacent to two existing parking lots. It will be buffered from the main road by trees, and be below the Selkirk Lodge Parking lot. It will be visible from the Vista House area as an additional clearing within the forested landscape.
- Adding a new building adjacent to the Selkirk Lodge. This building would be closer to the parking lot than the Selkirk Lodge. Its design will adhere to design standards for buildings in Mount Spokane State Park. It will be visible from the current parking lot and from the Vista House area.
- Expanding administrative functions at the current KXLY storage facility. This site is currently not visible as people drive up to the Vista House. Through retaining a buffer of trees the expanded site should remain un-noticed by the public. It will not be visible from Vista House.

- New trailhead at the Day-Mount Spokane Road. This development will be set back from the lightly traveled road in a heavily forested area. It will not be visible except in the immediate vicinity.

The proposed action also contains an element that may diminish visual impacts- moving the current administrative facility to a less visible location.

3. MITIGATION MEASURES

All tree removal will be kept to the minimum possible in order to screen any site. Buildings will complement the site rather than create a visual distraction via color or building design.

Design standards for the park will direct the appropriate color for building exteriors and roof color and materials.

Development at the CCC area group camp will be situated into the forest area to minimize its visual impact and to not distract from the cultural landscape.

D. AIR QUALITY

1. AFFECTED ENVIRONMENT

Air quality and visibility within Mount Spokane State Park and the surrounding area follows patterns strongly influenced by weather and topography. Local air quality in the study area is primarily affected by emissions from the use of fireplaces, summer dust storms, and motorized vehicles and occasional nearby wildfires.

Slash debris controlled by prescribed fire is anticipated as a part of the construction of several of the proposed projects. Air quality will be temporarily reduced during these periods.

The use of snowmobiles and the high density traffic on high use days in Mount Spokane State Park affects air quality intermittently.

No local industrial businesses are contributing emissions that may affect air quality and visibility in the study area.

The air quality in the park is considered good to excellent and is affected primarily by activities in the lower elevation rather than in-park activities.

2. ENVIRONMENTAL CONSEQUENCES

a. No Action

This alternative would have limited impacts on air quality. The level of facilities would remain at the current level. Winter recreational uses and access within the park will continue to be the main contributor to impacts within the park.

b. Proposed Action

Under this alternative the park could accommodate additional vehicles on busy days, primarily weekends for ski events and snowmobiling. The primary impact is emissions from vehicles entering the park and snowmobiles.

As more and more snowmobiles engines are becoming four-cycle, the trend is towards fewer emissions than from two cycle engines.

Air quality impacts from construction of parking lots will be minimized by using dust control measures. However, given the good air quality now, the amount of dust created will not be sufficient to reduce air quality. Also the construction will be a short-term activity.

Because new overnight facilities will not permit fires, there are no air quality impacts expected from camping.

3. MITIGATION MEASURES

No mitigation is proposed for the No Action alternative. For the Proposed Action alternative the following measure would apply:

- Develop a dust control plan to apply during construction of the parking lots and administrative site.

E. NOISE

1. AFFECTED ENVIRONMENT

The noise effects are direct effects experienced on-site or immediately adjacent to the source. To maintain the trail system, intermittent operation of power equipment during the summer and grooming equipment during the winter is a source of noise on existing trails. Snowmobiles are sources of noise along trails and roads during the winter months. While generally not appreciated by other user groups, these noises are typically accepted by winter recreation enthusiasts. However, the current and proposed trail plans attempt to separate uses to minimize conflict wherever possible. Vehicular traffic along the main road is a source of intermittent noise throughout the seasons.

2. ENVIRONMENTAL CONSEQUENCES

a. No Action

This alternative would have limited addition impacts to noise. The level of facilities, and therefore the preponderance of existing noise sources would remain at the current level.

b. Proposed Action

Under this alternative the current noise levels would increase, though minimally.

As with the No Action alternative, ongoing park operations and maintenance work would continue to have localized and intermittent noise impacts. Notable short-term increases in noise levels would be expected in conjunction with new construction. Trail construction will typically be done with hand tools or small scale powered construction equipment.

A number of the proposed elements would introduce new ongoing noise sources into relatively undisturbed portions of the park. While the increase in ambient noise levels could be measurable in some areas, impacts would likely not be considered obtrusive by visitors because the types of uses proposed would generally be considered as typical recreational activities provided at a state park.

The additional trails will add relatively low noise levels into areas of the park where trail uses currently occur; resulting in little increase in sound that might disturb other people or animals. New overnight facilities likewise bring noise into the park but at low levels and for short duration. Specific impacts of noise on wildlife are discussed in more detail in the wildlife section of this document.

3. MITIGATION MEASURES

The following mitigation measures would apply to both alternatives:

- ❑ Comply with state and local noise control regulations and standards, including those relating to times/hours of construction.
- ❑ Consult with federal and state regulatory agencies on seasonal construction activity restrictions to minimize effects on sensitive wildlife species.
- ❑ House all major equipment, e.g., backup generators, inside well-constructed buildings to reduce potential noise impacts.

The following mitigation measure would apply to the Proposed Action:

- ❑ Design and site recreational facilities, most notably new/expanded trails, to avoid noise impacts to sensitive wildlife species and other recreational uses.

F. RECREATION

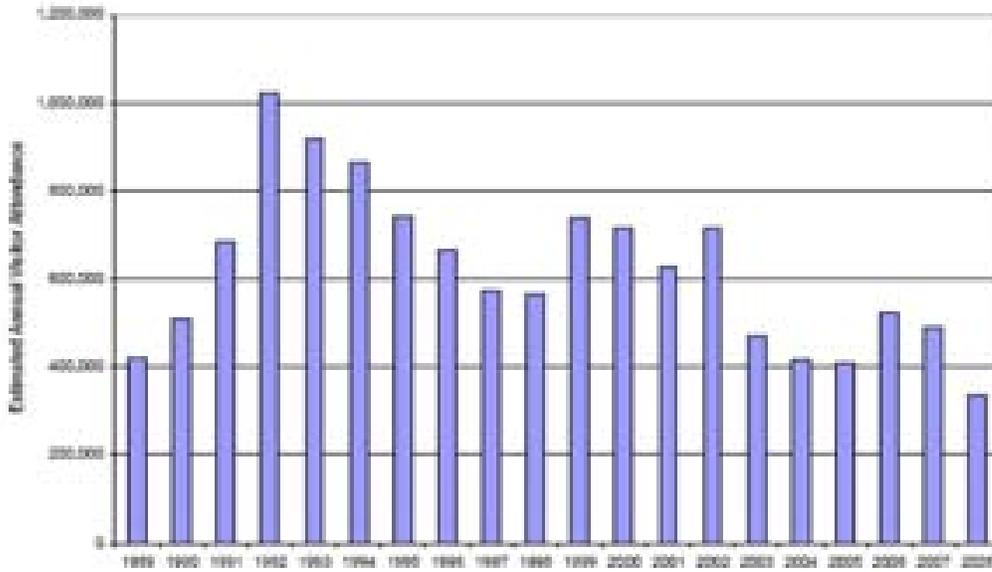
1. AFFECTED ENVIRONMENT

a. Visitation

Mount Spokane State Park provides visitors with an array of recreation opportunities; from a variety of trail uses in all four seasons, to sightseeing from Vista House, appreciation of the park's historical attributes, camping, and wildlife observation.

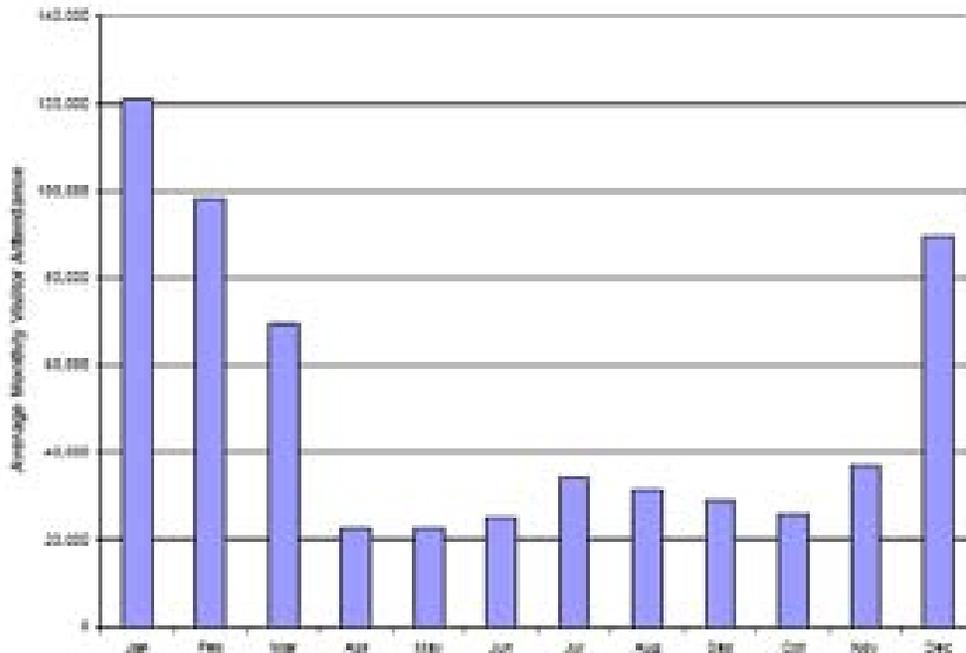
Based on 20 years of attendance information, the average day use visitation at the park is 620,385 – this includes all forms of winter recreation use and the concession operation. The park's peak use season is winter. As shown on the table below, attendance has declined since 1992, in spite of growing population trends in Spokane County.

Figure 10. Annual attendance 1989 to 2008



Annual attendance, 1989 - 2008

Figure 11. Average attendance by month



The State Recreation and Conservation Office recently prepared estimates of future recreation participation growth.

Table 10. Future Outdoor Recreation Participation

Estimated Future Participation in Outdoor Recreation Activities In Washington		
Activity	Projected Change	
	10 Years	20 Years
Nature activities	23%	37%
Walking	23%	34%
Visiting a beach	21%	33%
Picnicking	20%	31%
Canoeing	21%	30%
Downhill skiing	21%	No est.
Bicycle riding	19%	29%
Non-pool swimming	19%	29%
Hiking	10%	20%
Sightseeing	10%	20%
Motor boating	10%	No est.
Team & individual sports	6%	12%

b. Existing Recreation Facilities

The park contains 85 picnic sites, 3 picnic shelters, group camping area for 90 people, 8 standard camp sites, parking for 1,588 vehicles, 2 horse feeding stations, 2 comfort stations, 16 vault toilets, 50 miles of hiking/equestrian trails, 77.6 miles of road, 3 cabins, the original ski lodge foundation, and Vista House. Camping is located at Bald Knob and at Quartz Mount fire lookout.

The Quartz Mountain fire lookout accepts reservations for use – due to its popularity it is fully reserved for the entire season’s use, usually on the first day reservations are accepted. As it has no heat source, the use season starts in mid-June and ends in mid-October.

In addition to over 21 miles of single track trails, there are about 38 miles of primitive roadways, 21 miles of groomed nordic ski trails, and over 50 miles of groomed snowmobile trails in and adjacent to the park. A recent trail inventory prepared by the Mount Spokane Advisory Committee members noted several trails are sited in locations that impair natural resources by causing erosion or impacting streams.

2. ENVIRONMENTAL CONSEQUENCES

a. No Action

General effects

Without improvements to facilities, particularly trails, natural resources would be impaired through continued erosion and impacts to water quality (see soil and hydrology section for further details).

People seeking overnight experiences will not have access to new facilities or sites and already crowded/booked facilities will preclude like-minded visitors from enjoying the park. The Selkirk Lodge will continue to be filled to overflowing during peak events.

Specific Effects

Trails and trailheads

Under this alternative no additional trails would be constructed. Trail relocation to address natural resource damage would not occur, leading to continuation of resource impacts. New trails to create loops experiences would not be built. No new trailhead to serve the west side of the park would-be built, causing visitors to continue to access the park via State Route 26.

Camping

The CCC area would not be turned into a group camp, no backcountry camping would be provided at Mount Kit Carson or at Horse Mountain. This would result in less recreation opportunity. The horse camping opportunity at Linder Ridge parking lot would not be provided.

These would each impact visitor experience by not providing facilities which have been requested.

b. Proposed Action

General effects

Proposed new facilities respond to requests by park users for additional and/or better experiences, and to the MSAC's recommendations on improving the natural resources condition of the trails. Providing interpretation will enhance visitor experiences by explaining the park history and natural and cultural resources. The Master Facilities Plan implements the objectives of the park's CAMP.

Specific Effects

Trails and trailheads

The Proposed Action includes increases in trail miles for all forms of trail users.

Relocated trails would reduce environmental impacts of existing trails and be located in ways that avoid user conflicts and potential consequences to sensitive habitats, whether for plants or wildlife. New trails would increase both trail mileage and add several new loop experiences.

Camping

A horse camping facility at Linder's Ridge will allow equestrian visitors to spend the night conveniently by providing them with water, sanitary facilities and an area to tie their horses, none of which are currently available.

The group camp will provide a site for groups to use a historic CCC facility.

Backcountry camping is found in only a few parks in the state park system (Iron Horse State Park and Beacon Rock). This will be the first park in Eastern Washington to provide such facilities.

The lookout at Horse Mountain will complement the lookout at nearby Quartz Mountain

3. MITIGATION MEASURES

No specific mitigation measures are identified as the proposed recreation improvements are intended to mitigate deficiencies in existing facilities and will be designed and sited to avoid or minimize any environmental consequences.

G. LAND USE

1. AFFECTED ENVIRONMENT

Ownership

Within the existing long-term boundary of the park there are several private land parcels. The Boy Scouts own the 80 acre Camp Fosseen. Currently no facilities on the site are used. The Mountaineers own property within the park on which they maintain a lodge. Riley Creek Timber Company and Capital Forestry own several parcels within the park boundary. Several private parties also own land within the proposed long term boundary. Snowblaze, an adjacent condominium, is accessed via the park roads.

The predominant activities within the park are trail activities. A concessionaire, Mount Spokane 2000, operates the Mount Spokane Ski and Snowboard Park, under an agreement that expires in 2027.

Access

Summer access occurs via Highway 26, a paved route leading to the summit of Mount Spokane. The Day-Mount Spokane Road provides access from the western side, though it is gated, allowing only non-motorized access. Other trails provide access. Some unauthorized vehicular access occurs from roads in the southeast portion of the park.

Winter access occurs via the same routes plus other routes, typically via snowmobile. These routes are shown on maps included in the appendix.

Surrounding land uses

The majority of the park is surrounded by land owned by industrial forest land owners including property on the east, north and west of the park. The other adjoining property use is residential, mostly homes on larger parcels, i.e. 10 acres or more, although the Snowblaze condominiums are on private land adjacent to the park and accessed via the park. Bear Creek Lodge, a private facility abuts the park near the main entrance. Private residential development exists on the Day-Mount Spokane Road.

Authorized activities with the park

An important part of planning for the Park involves the zoning or classification of park lands. WAC 352-16-020 establishes a Land Classification System (LCS) for management of state park lands. The LCS is a system of management zoning for park lands and waters that sets forth, in a general fashion, the basic philosophy, physical features, location, activities, and developments in a park. When assigned to a specific area within a park, each classification sets an appropriate intensity for recreational activities and facilities development. Classifications are aligned along a spectrum ranging from low to high-intensity recreational uses and developments. By classifying park lands, the agency is able to consciously strike a balance between protecting park resources and providing an appropriate variety of recreational opportunities to park visitors.

The LCS includes six classifications: Natural Area Preserve, Natural Areas Natural Forest Area, Resource Recreation Area, Recreation Area, and Heritage Area. Detailed definitions of each land classification are provided in Appendix B. Through critical analysis of natural and cultural resource inventories and evaluation of future recreational facilities needs, a recommendation has been developed for land classification (Figure 9). The establishment or amendment of land classifications requires WSPRC approval.

Mount Spokane State Park contains five of the six of the land classifications. The acreage of property owned by State Parks for each classification is:

Recreation	1,392
Resource Recreation	6,077
Heritage	24
Natural Forest Area	2,832
Natural Area Preserve	677

County Zoning and Approvals

Mount Spokane State Park lies within Spokane County and is subject to local land use regulations. Developments there must also receive approval from other state and federal jurisdictions as noted below for specific projects.

Spokane County zones Mount Spokane State Park as (Rural Conservation (RCV); it defined RCV as:

"Rural Conservation: The Rural Conservation category applies to environmentally sensitive areas, including critical areas and wildlife corridors. Criteria to designate boundaries for this category were developed from Spokane County's Critical Areas program and a study by the University of Washington titled, *Wildlife Corridors and Landscape Linkages, An Approach to Biodiversity Planning for Spokane County, Washington*. The category will encourage low-impact uses and utilize clustering and/or other open space techniques to protect sensitive areas and preserve open space. Density: The density of the Rural Conservation category is 1 dwelling unit per 20 acres, with a bonus density of 1 dwelling unit per 10 acres."

The surrounding property is zoned Forest Land, which is defined as: "Forest Land (FL) "Forest land areas are primarily devoted to wood production. Non-resource related uses are generally prohibited. Residences are allowed but will be located on relatively large parcels to minimize conflicts with forestry operations."

Permits/Approvals Required

In addition to the consultation requirements, a variety of federal, state and local permits, licenses and other entitlements would be required in order to implement the Proposed Action. Key permitting requirements are identified in the table below.

Table 11. Required Permits for Master Facility Plan Implementation (1)		
Permit Type	Issuing Agency	Area Addressed by Permit/Plan
Critical Areas Permit/ and/or Land Alteration and Drainage Ordinance Application	Spokane County	Activities within Critical Areas
Joint Aquatic Resources Permit (JARPA) <ul style="list-style-type: none"> ▪ Hydrologic Project Approval ▪ Section 401 Certification ▪ Aquatic Resource Use Authority ▪ Section 404 Permit 	WDFW Ecology DNR ACOE	Activities in or near shorelines, wetlands and other waters.
Biological Opinion/ Section 7 Incidental Take Permit	USFWS	Effects of ACOE permitting action on federally-listed species
Building Permits	Spokane County	All construction activities

(1) Includes key permits; additional permits may be required.

Additional approvals that would be required include:

- ❑ Final Environmental Impact Statement and Notice of Action -- WSPRC
- ❑ Project-specific SEPA documentation - WSPRC
- ❑ Consideration of Master Facilities Plan by the Washington State Parks and Recreation Commission.

2. ENVIRONMENTAL CONSEQUENCES

a. No Action

Under the No Action alternative there would be no overall changes in land use within the park. Without expansion of the park boundary, some changes in land use could occur. Specifically there is risk that land currently devoted to forestry uses might be used for more intensive uses, such as residential purposes. Such a change could bring with it impacts to hydrology, wildlife, and transportation, and additional recreation pressures in the park.

b. Proposed Action

The Proposed Action alternative expands the Long Term park boundary to include property owned by Inland Empire Paper Company to the east of the park. This indicates a desire to work with the firm to continue use by snowmobilers on groomed trails and retain the property in long-term forestry uses.

Private property in the SW corner of Section 8 is desired for acquisition to avoid a potentially incompatible use and to own it for continued use by snowmobilers.

The 1999 Commission-adopted long term boundary left undecided a recommendation about land in the northwest portion of the park. The Proposed Action recommends disposal of an isolated 40 acre parcel and does not seek to include additional land in Section 5. The Proposed action proposes to add land in the southeast half of the northeast quarter of Section 8. This land will add to the Natural Forest area and use the Blanchard Creek Road as a boundary. The western portion of Section 8 and the western portion of Section 7 are proposed for retention.

Including these properties in the long term boundary indicated a desire to keep the lands available for current recreation uses rather than a change to a different use.

With the exception of the land in Section 8, all acquisition would be classified as Resource Recreation in the State Parks land classification system.

3. MITIGATION MEASURES

- ❑ No specific mitigation measures are proposed.

H. TRANSPORTATION AND PARKING

1. AFFECTED ENVIRONMENT

State Route 26 provides the primary access to [(and within) – see following comment] the park. In 2008 and 2009 the road in the park underwent extensive reconstruction. One segment will require reconstruction in 2010 to complete the reconstruction project. The short season for road work has required the agency to undertake repairs following multi-season, prolonged project duration. This project brings the road into conformance with current standards.

While traffic volume counts are not available, staff believes that based on the number of cars in the parking areas, peak uses occur in the winter months, coinciding with peak operation of the Mount Spokane Ski and Snowboard facility, cross country ski season and snowmobile use. The peak months are December through March. See Section F (Recreation) for use data.

During the ski season, access through the park to the Mt. Spokane Ski and Snowboard Park is the largest pressure on transportation and parking within the park. The Mt. Spokane Ski and Snowboard Park operates a skier shuttle service in attempts to diminish the vehicular traffic and parking impacts within the park and their concession area.

During the winter, parking problems arise near Linder's Ridge, i.e. the amount of parking limits visitation. This is particularly true when large nordic ski events occur. At these times volunteers organize the parking to make most efficient use of the parking lot. The lower Linder's Ridge parking area is largely used by snowmobilers with occasional used as overflow parking for the downhill ski area.

Park staff plows the access road and parking areas throughout the winter months. Sand is used to enhance vehicular traction and salt is applied at key locations to prevent road icing.

2. ENVIRONMENTAL CONSEQUENCES

a. No Action

Under the No Action alternative parking will remain inadequate at certain times at Linder's Ridge. Visitors seeking to access the park along the Day-Mount Spokane Road will be unable to park in a delineated parking area with paved parking and a vault toilet.

b. Proposed Action

Under the Proposed Action alternative additional parking will be provided at two sites: west of the existing parking lot adjacent to the Selkirk Lodge and at the west end of the Day-Mount Spokane road.

An area less than one acre will be cleared to provide additional parking near the existing Linder's Ridge facilities. This can serve both Nordic skiers and snowmobilers. The downhill ski area is expected to meet its parking needs within the concession area, but will further detail its plans in its Master Concession Plan and supplemental environmental documents.

3. MITIGATION MEASURES

State Parks will continue to bring the entry road up to current standards. To maximize parking near the Selkirk Lodge attendants will be used during busy times. Staff will coordinate with the Mount Spokane Ski and Snowboard Park during concession planning to avoid and resolve any conflicts over future uses.

I. PUBLIC SERVICES

1. AFFECTED ENVIRONMENT

Park Recreational Resource Management Program: As contained in the existing park management plan, park staff will utilize an ongoing "risk management" approach, including prompt correction of unsafe conditions (facilities, work environment, etc.), adequate emergency preparedness and training, effective law enforcement coordination, and participation of park users and neighbors to improve the overall safety of the park environment. Park staff will continue to coordinate with regional staff, headquarters' Visitor Services Manager, local emergency service providers, and other interested individuals to formulate and implement additional management policies and prescriptions as necessary to ensure the overall safety of park visitors and park staff.

Maintenance: Park staff will monitor park facilities on a regular basis to identify deficiencies that potentially could impact public or staff health, safety, and welfare, and take appropriate follow up measures. Facility deficiencies will be addressed through routine and planned maintenance, and capital projects.

EMS and fire response: Permanent park staff are required to maintain a current first aid and CPR certification. Park staff will continue improving communications and coordination with DNR, local fire, and EMS districts to ultimately decrease response times and enhance emergency preparedness. Current contracts with Fire Districts in both Spokane County and Kootenai County (Idaho) will be continued and enhanced as appropriate.

Law enforcement: Initially ranger contacts will be geared towards compliance through education and interpretation, however, at times rangers must modify public behavior by use of selected actions which may include issuing notices of infractions, citation, and/or physical arrests if resources or people are at risk. Park Rangers will follow procedures and direction as outlined in the Law Enforcement plan specific to Mount Spokane State Park.

Volunteers: Park staff will work with volunteers, user groups, and neighbors to encourage reporting of hazardous conditions, and unauthorized uses.

Emergency Reporting: Park staff will continue to promote awareness of existing systems for reporting park-related emergencies including fires, crimes, injuries, and unauthorized park uses.

Annual review: Park staff will meet annually with region staff and State Parks' Visitor Services Manager to review the parks' annual law enforcement report, identify trends in undesirable/illegal activities, and determine appropriate management approaches to respond to these trends.

a. Police Services

Park Rangers are the point of first contact for police services at the Park, with backup as needed from the Spokane County Sheriff's Office.

b. Fire Protection

Structural fire protection is provided through contract with the Mead Fire District. The Washington Department of Natural Resources is responsible for wildland fire control.

c. Emergency Medical Services

The Mead Fire District provides emergency services at the Park. Park staff is CPR-trained and first aid and provides first response services in most circumstances.

d. Community Services

Community services, such as medical services, housing, schools, and other public services, are provided by the Mead School District, City of Mead and Spokane County.

2. ENVIRONMENTAL CONSEQUENCES

a. No Action

Under the No Action alternative there would be no increase or decrease in demand for public services. There could be a change in demand for community services concurrent with any increase or decrease in park visitation levels.

b. **Proposed Action**

In general, the combination of increased visitation, the construction of additional recreational and administrative facilities, and access into new portions of the park would be expected to result in some increased demand for public services. The level of this demand has not been quantified, but would be expected to incrementally increase with the phased development of facilities.

A minimal increase in demand could occur for police services. Contributing factors in this demand include: increased visitation, potential expansion of the long-term Park boundary, access into new areas within the existing boundary, and potential conflicts among users of the multi-use trail systems.

The ability to provide emergency services in a timely manner would be positively and negatively impacted by the Proposed Action. New trail segments would be expected to facilitate emergency access. The additional facility at the Selkirk Lodge will allow for improved emergency response.

No significant increases in park staffing are expected; consequently impacts on schools, government services, or other community services would be expected to be minimal.

3. **MITIGATION MEASURES**

The following recommended mitigation measure would apply to both alternatives:

- ❑ Provide adequate water storage for fire suppression purposes near facilities.

The following recommended mitigation measures would apply to the Proposed Action:

- ❑ Coordinate with appropriate service providers to identify changing Park use and development patterns, and to facilitate supply of appropriate levels of police, fire protection and emergency services at each phase of development.
- ❑ Accommodate the need for emergency vehicle access in the design of new/improved transportation facilities, including parking areas.

J. ENERGY/ENVIRONMENTAL HEALTH

1. **AFFECTED ENVIRONMENT**

a. **Energy**

Park demand for energy comes from a number of indoor public and administrative facilities, camping and the supportive utility systems.

b. Environmental Health

The Park has a broad range of facilities normally associated with recreation activities including a campground and picnic area, comfort stations, administrative facility, and maintenance facilities. Vehicle exhaust, noise, and traffic normally associated with recreational activities such as trail uses and car camping are present. The Park is relatively isolated, with primary activities located in the northern portion. Exhaust, noise, and traffic generated by park users is unlikely to affect adjacent property owners or the general public.

2. ENVIRONMENTAL CONSEQUENCES

a. No Action

The existing energy systems are adequate for current uses.

b. Proposed Action

Increased visitation due to improve and expanded facilities will increase energy use over the level expected without expanded facilities.

Increasing the long term boundary should not increase long term energy use as no additional are proposed on these lands. Potential acquisition areas could contain hazardous materials that would pose an environmental risk. However, there are no known hazardous materials in those areas.

Additional parking areas would increase vehicle emissions and incidental leaking of fluids that could pose an environmental risk.

The new snowmobile trail relocates an existing trail - no increase in emissions is expected.

3. MITIGATION MEASURES

- Any new development will comply with applicable local state and federal regulations.

K. UTILITIES

1. AFFECTED ENVIRONMENT

Power

The park receives power through service from Avista. Power arrives and is distributed via underground cable. Service in the park also provides power to the Mount Spokane Ski and Snowboard Park and to radio and TV towers at the summit of Mount Spokane.

Septic

Waste water at the administrative facility and Selkirk Lodge is processed in septic systems. Backcountry and other sites are served by vault toilets that are pumped as needed.

Water

Water is provided to the public at the Bald Knob campground and Selkirk Lodge. The water source for each site is a well approved for public consumption by the state and Spokane County Health Department.

2. ENVIRONMENTAL CONSEQUENCES

a. No Action

In the No Action alternative no utility services would be improved, nor would service diminish.

b. Proposed Action

In the Proposed Action additional the new administrative facility would use existing power and water supplies, a new/expanded septic system would be built. The new CCC area group camp, as well as all other new overnight facilities, would obtain water via a trucked-in water tank, filled as needed, depending on use. One or more vault toilets would serve the sites.

3. MITIGATION MEASURES

- ❑ Provide utilities appropriate for each proposed facility and new uses including:
 - A new vault toilet with the Day-Mount Spokane New Entrance Trailhead
 - New vault toilets and trucked-in water for new overnight facilities proposed at Mount Kit Carson, Horse Mountain and the new CCC area group Camp.
 - Power, water and septic service to the new administrative facility
- ❑ Strive for energy efficiency through use of high levels of insulation and efficient lighting.

L. CUMULATIVE EFFECTS

1. AFFECTED ENVIRONMENT

Mount Spokane State Park is a relatively large block of conservation land preserved from hunting and commercial logging pressures within the immediate vicinity of the third largest city in Washington State. Adjacent land use is mostly forest production, but includes some residential development, 1 house per 10-acre parcel. The park provides high and medium elevation forest habitat that is recognized as critical for plant communities and wildlife. The park includes Mount Spokane, one of the southernmost peaks of the Selkirk Mountain Range, a very old and weathered chain of mountains prone to erosion. The Selkirks maintain the highest precipitation rates in the area, much of which is stored as snow during the winter months, which melts in spring and feeds spring and summer surface water flows and major seeps lower on the mountain. Water that flows off the mountain feeds the immediate groundwater system, and is a major contributor to the Spokane Valley-Rathdrum Prairie Aquifer, the sole source aquifer for more than 500,000 people in Idaho and Washington.

Although the primary visitation on the mountain is to undertake winter recreation activities, summer trail use and the general solitude which the park provides is a major draw of visitors to the state park. As the area continues to grow, and as area around the park becomes more urbanized, the integrity of park resources and the ability of visitors to find solitude, experience the natural history of the area, and re-create and reinvigorate themselves will become

increasingly important. As such, the proposed new developments and expansion of existing recreational resources must be viewed with an eye to the cumulative effects of how such proposals might impact future understanding, use, and value of resources under the stewardship of the Washington State Parks and Recreation Commission.

2. ENVIRONMENTAL CONSEQUENCES

The Proposed Actions at MSSP will add to the cumulative effect of human activity in the Park and increase the “human footprint” and its adverse effect on hydrologic and geologic resources, native plants, wildlife and its habitat, and on the built environment of the park. When one considers future anticipated development in and around the park and how those impacts might affect the surrounding landscape, the cumulative effect of the Mount Spokane Master Facilities Plan can best be understood.

Hydrologic Resources

The Master Facilities Plan calls for the development of new trails, new parking facilities, moving the existing administrative facility, and expanding the existing KXLY storage area to modify it for the new administrative complex. Although new water will be required for the overnight camping areas, the new Selkirk lodge facility and the administrative complex, no new water rights are anticipated, and the level of service is relatively low for these uses. Likewise, because sanitary sewage treatment is largely in the form of vault toilets, and not flushing toilets, water needs for these new developments have been minimized. Although water is extremely abundant for low level uses on the mountain, high yield wells and cumulative withdrawals and/or repositioning of water between watersheds can have dramatic affect on the availability of water down flow in the environment.

All new developments have the potential of increasing impacts to hydrologic resources through runoff and sedimentation of surface flows. While new trail segments are being proposed to remove existing trails from areas in the park sensitive to direct hydrologic impacts (i.e., proximity of trails to surface waters of the park), the fact that trail development will occur beneath existing forest canopies, with limited clearing required to establish new trails and/or trail segments, will further mitigate impacts of clearing to the park’s hydrology.

Areas of larger clearing, including roads, parking facilities, the new Selkirk Lodge facility and the new administrative complex, all have greater potential to cause runoff and sedimentation impacts within the park. To assure the water that falls on new impervious surfaces is incorporated into the park’s natural hydrologic system without causing runoff and sedimentation impacts State Parks has attempted to site the facilities properly, and must apply BMPs to relieve stormwater impacts. Expanding these BMPs, especially in the vicinity of new and existing developed areas around the Selkirk Lodge will greatly improve the existing condition and impacts associated with snowmelt on surface water runoff. Applying vegetated detention ponds, bioswales, and stormwater/snowmelt surge attenuation features will improve the existing condition without adversely impacting how water flows on the mountain. Future development associated with the concession area will likewise need to consider the direct and indirect impact of new development on the hydrologic system of the park.

Improving the existing road system and applying current standards for handling stormwater associated with the roadways has greatly improved impacts from those facilities. Future capital projects for road improvements will aid the mitigation of existing impacts.

Geologic Resources

Similar to impacts associated with hydrologic resources, the propensity of park soils to erosion is an important consideration when siting new developments and proposed alterations of existing developments. The interaction of water and soil is the greatest erosive force in the park. When new development has the potential of causing erosive conditions, modifying design and/or implementing BMPs to slow down that erosion is imperative.

Within the watershed context, the large-scale removal of forest canopies is an action most likely to cause erosive events. Because the majority of lands adjacent to the park are in forest production, the greatest threat to sedimentation in each respective watershed is large-scale forest clearing. Within the park, every action that removes forest canopy creates a greater effect on runoff on down slope areas. However, the smaller clearing for parking, in relatively flat areas away from creeks, is unlikely to contribute significantly to the erosive conditions of down slope areas by itself. The siting of these facilities, and the implementation of BMPs to handle rain and snow events, will alleviate any significant adverse impact associated with the cumulative effect of park development within the watershed. Likewise, ski run development must consider measures on a larger scale, and/or through modification of run design to minimize disturbance to forest stands, thus maintaining the park's ability to mitigate runoff and erosion within the park.

Vegetation and Wildlife

Most of the proposed trail and facility development identified in the Master Facilities plan occurs in areas of existing development. As such, the cumulative impact of these actions is somewhat diminished due to the proximity of existing disturbances, and the habituation of wildlife to existing uses.

The new non-motorized trail and associated parking development (Trail 180 and trailhead parking) is the proposed action within the Master Facilities Plan which is most likely to cause a significant impact to the cumulative effect of human use in the Park, increasing the "human footprint" and its adverse effect on native plants, animals, and ecosystems. These proposed actions pose a larger cumulative effect on wildlife and the landscape, particularly due to increased recreation development (trail), increased access (parking area), and increased human use in an area of the park that currently has minimal use at this time. However these projects will have minor consequences on focal wildlife species due to the limited scope of the projects taking place and their distribution on the landscape relative to existing trails, infrastructure, and roads.

Additional facilities will likely increase visitation, with associated transportation impacts such as potential congestion, vehicle emissions, and increased traffic volumes. Further stressing the potential cumulative impacts of this development is possible future consideration of increased visitation to the Mount Spokane Ski and Snowboard Park as this facility in an expanded footprint of operation in an area west of the existing concession area (see figure of the existing development footprint).

Loss of refugia, connectivity and corridors

Mt. Spokane State Park provides an important refugia for wildlife species in northeastern Washington and northern Idaho. It is the only large protected area in this region that is both closed to hunting and managed to preserve and protect the native ecosystems. This is of particular importance to imperiled carnivores species like the gray wolf and lynx. MSSP can play an important role in the recovery of these two species as a large refuge where habitat is protected and hunting prohibited.

Wildlife movement corridors and connectivity between refugia are important factors to consider in cumulative effects analyses. On a regional scale, wide-ranging carnivores were identified as affected by cumulative effects on movement corridors and connectivity. On a more local scale, animals such as western toads, pileated woodpeckers, marten and elk are likely more sensitive to loss of connectivity between foraging, cover/security and breeding/nesting areas.

At the regional landscape level, animals need to be able to move efficiently within their home ranges to access food, shelter, mates and other basic needs (Stephens and Krebs 1986). Permeable dispersal and travel corridors are necessary to connect large refugia that maintain wildlife populations. Movement corridors are also important for animals colonizing unoccupied habitat and maintaining genetic exchange between groups (Singleton et al 2003). These dispersal corridors likely do not require the same habitat attributes necessary to support self-sustaining carnivore populations, and therefore, atypical or low quality habitats may be important, especially if they connect otherwise isolated wildlife populations and allow for genetic exchange or colonization (Ruggiero et al. 1994). However major highways, rugged topography, human development and changes in land cover types can negatively affect an animal's ability to successfully move through an area (Beier 1995, Brody and Pelton 1989, Gibeau and Heuer 1996).

In the Canadian Rocky Mountains Ecoregional Assessment (CRMEA 2004), habitat value was measured by the output of resource selection function (RSF) models, which are proportional to the number of animals that can be supported in an area (Carroll et al. 2002). These models show moderate to high RSF values for wolves, lynx and wolverines. Similarly, habitat suitability and weighted-distance models for lynx in Washington State show MSSP and areas to the north, northeast and northwest as good dispersal habitat suitability (based on land cover, road density, human population density and slope). Further analysis of weighted-distance models show MSSP as accessible to lynx habitat concentration areas with short and medium distance movements (Singleton et al. 2002). Gray wolf models show similar moderate to good dispersal habitat suitability in MSSP and to the north, northeast and northwest; weighted distance model results predict MSSP to be accessible to habitat concentrations of gray wolves by medium to long distance movements (Singleton et al. 2002).

Transportation and Parking Effects

State Parks has proposed minor increases in parking and road development to accommodate existing and projected winter and summer recreational uses in the park. The greatest potential for cumulative impacts occurs in the Selkirk Lodge area of the park, during winter operation. Park infrastructure is appropriately sized to handle summer parking and transportation loads.

However, when combining existing downhill ski area use with other winter recreational uses, the transportation and parking infrastructure sometimes becomes taxed within the park. With future increases in downhill skiing, parking and transportation may require further improvements and refinement to mitigate the cumulative impacts of parking, especially in the Selkirk Lodge/Linder's Ridge area.

The Proposed Actions at MSSP will add to the cumulative effect of human activity in the Park and increase the "human footprint" and its adverse effect on native plants, animals and ecosystems, particularly in light of future proposed development in the park and the surrounding landscape. However these projects will have minor consequences on focal wildlife species due to the limited scope of the projects taking place and their distribution on the landscape relative to existing trails, infrastructure, and roads.

The new non-motorized trail and associated parking development (Trail 180 and trailhead parking) will add to the cumulative effect of human use in the Park, increasing the "human footprint" and its adverse effect on native plants, animals, and ecosystems. These proposed actions pose a larger cumulative effect on wildlife and the landscape, particularly due to increased recreation development (trail), increased access (parking area), and increased human use in an area of MSSP that currently has minimal use at this time.

3. MITIGATION MEASURES

The Proposed Actions, due to their minor nature and proximity to existing developments, will have little to no effect on the cumulative impacts in the area. Using BMPs and minimizing disruption in non-developed areas of the park will further mitigate carnivore movements at the regional landscape level and will not contribute to a loss of connectivity and corridors from a cumulative effects perspective.

Of the Proposed Actions, only Trail 180 will add to the cumulative effects on wildlife spatial movements. This proposed trail travels on an old-road with significant protective cover and foraging resource habitats for many wildlife species (see Affected Environment and Mitigation discussions earlier in the DEIS document). It is located along a key topographic feature, an approximately 1.5 mile- broad ridgeline currently used as a wildlife travel corridor. And the trail bisects intact wildlife habitat both to the south and to the north-northeast. Snetsinger and White (2009) recommend that managers should avoid placing new recreational trails and roads through previously unfragmented habitats to protect species such as carnivores (both large and small) that naturally occur at low densities.