



## 2 ALTERNATIVES

### 2.1 Introduction

Chapter 2 outlines issues raised during scoping and the development of the action alternative to the proposed action, and describes and compares the alternatives considered by the Forest Service for the Salmon River Recreation Sites Renovation project. It includes a description of each alternative considered, and a discussion of how the action alternative was developed. This section also presents the alternatives in comparative form, sharply defining the differences between each alternative and providing a clear basis for choice among options by the decision maker and the public.

The information used to compare alternatives in Section 2.4 of this Chapter is summarized from Chapter 3, "Affected Environment and Environmental Consequences". For a full understanding of the effects of the alternatives, readers will need to consult Chapter 3.

#### ***In Chapter 2 you will find:***

- *Issues and how they were developed and addressed*
- *A description of each alternative*
- *Activities proposed under the action alternatives*
- *Project Design and Mitigation Measures*
- *A comparison of the alternatives by purpose and need objectives, and also for each issue.*
- *Identification of the preferred alternative*

### 2.2 Issue Development

An issue is a point of debate, dispute, or disagreement regarding anticipated effects of implementing the proposed action. Preliminary issues were identified through consultation with Forest Service resource specialists and from issues identified from similar past projects. A final issues list was developed after the specialists and the Responsible Official reviewed comments received from the public, interested groups, other agencies, and the Nez Perce Tribe during initial and subsequent scoping and collaboration.

Issues were summarized into the following categories:

**ISSUES ANALYZED IN DETAIL:** These issues drove alternative development, or prompted inclusion of design criteria or mitigation measures, and are described in detail below, and addressed in Chapter 3.

**ISSUES NOT ANALYZED IN DETAIL:** These non-significant issues are briefly discussed below but were not analyzed in detail.



- **ISSUES CONSIDERED OUTSIDE THE SCOPE OF THE SALMON RIVER RECREATIONAL SITES RENOVATION PROJECT:** For example, fee demo and recreational fee programs, Manning Bridge replacement, installation of a river gauge, and installation of a telephone at Spring Bar.
- **ISSUES ALREADY DECIDED BY OR ADDRESSED THROUGH LAW, REGULATION, OR FOREST PLAN DESIRED CONDITIONS:** For example, jet boat use regulation, and river use decisions.
- **ISSUES CONSIDERED UNRELATED TO THE SPECIFIC DECISION BEING MADE:** For example, sale of Mackay Bar, and jet boat use regulation.

General comments, opinions, positions, and conjecture were not considered issues and are documented in the Salmon River Recreation Sites Renovation project file.

## 2.2.1 Issues Analyzed in Detail

The Salmon River Recreation Sites Renovation project ID team identified issues requiring detailed environmental analysis associated with the following resources: visual resources, fisheries, watershed, wildlife, rare plants, weeds and non-native vegetation, and heritage resources. These issues typically require a project-specific alternative, or design criteria or mitigation measures to address the effects that proposed activities might have. A comparison of issue indicators for each alternative is provided in Tables 2-4 and 2-5.

### 2.2.1.1 VISUAL RESOURCES

 **ISSUE 1:** The proposed activities have the potential to change the outstandingly remarkable values (ORVs) for the Wild and Scenic River “Recreational” eligible status of the Salmon River. The ORVs for the Salmon River “Wild” and “Recreational” stretches are scenery, recreation, fish, water quality, wildlife, vegetation/botany, pre-history, history, and traditional use/cultural.

*Indicator:* Change to current ORVs inventory status.

### 2.2.1.2 FISHERIES

#### Fish Species and Habitat

 **ISSUE 1:** The proposed activities have the potential to affect threatened, endangered, and sensitive fish species.

*Indicator:* Effects on fish species and habitat.



**ISSUE 2:** The proposed activities may adversely impact fisheries resources by directly impacting redds, or individuals.

*Indicator:* The potential for fish species, at which life stage, to be present during and after construction activities.



**ISSUE 3:** The proposed activities may adversely impact fisheries habitat (i.e. spawning, migration, juvenile rearing).

*Indicator:* Acres of habitat (spawning, migration, juvenile rearing) disturbed.



**ISSUE 4:** The proposed activities may temporarily impact water quality or fisheries resources by displacing cobble and eroding sands thus creating short term pulses of turbidity.

*Indicator:* Linear feet of bank/channel disturbance below Q2 elevation [60,000 cubic feet per second (cfs) flow].



**ISSUE 5:** The proposed activities may adversely impact water quality or fisheries resources by increasing sedimentation to the river during and immediately following a precipitation event during and post construction activities.

*Indicator:* Acres of surface disturbance.

### Riparian Function



**ISSUE 1:** The proposed activities may be inconsistent with Riparian Management Objectives (RMOs) and Standards and Guidelines described in the Nez Perce and Payette Forest Plans, including those described in the Nez Perce Forest Plan's Amendment 20 (USDA Forest Service 1995).

*Indicator:* Consistency of proposed activities with the Nez Perce and Payette Forest Plans [including RMOs and Standards and Guidelines described in the Nez Perce Forest Plan's Amendment 20 (USDA Forest Service 1995)].



**ISSUE 2:** The existing riparian vegetation below Q2 (60,000 cfs) and 100,000 cfs river flow, deposition of fines, and the establishment of future riparian vegetation at the sites may be altered.

*Indicator:* Area of riparian disturbance below 100,000 cfs (square feet).

### Hazardous Materials and Wastes



**ISSUE:** The proposed activities may adversely impact water quality or fisheries by the accidental or incidental introduction of hazardous materials (petroleum products; gas, oil, grease, anti-freeze and pesticides) to the aquatic system which could have adverse effects on the environment, listed fish species or habitat.



*Indicator:* Total area of parking [surfaced (paved, graveled) versus unsurfaced (native surface)] and ramp square footage.

### **2.2.1.3 WATERSHED**

#### **Soil Erosion and Upland Stability**



**ISSUE 1:** The proposed activities have the potential to increase surface erosion.

*Indicator:* Change in surface erosion.



**ISSUE 2:** The proposed activities have the potential to decrease slope stability.

*Indicator:* Mass wasting risk.

#### **Water Quality**



**ISSUE 1:** The proposed activities have the potential to increase sediment.

*Indicators:*

- In-channel disturbance;
- Riparian Habitat Conservation Area (RHCA) area disturbed;
- Upland area disturbed.



**ISSUE 2:** The proposed activities have the potential to introduce pollutants and toxins to RHCAs.

*Indicator:* Mobilization of pollutants to affect water quality.

### **2.2.1.4 WILDLIFE**



**ISSUE:** The proposed activities have the potential to affect threatened, endangered, sensitive, and wildlife management indicator species.

*Indicator:* The effect on potentially suitable habitat and occurrence of wildlife species.

### **2.2.1.5 RARE PLANTS**



**ISSUE:** The proposed activities have the potential to affect threatened, endangered, and sensitive plant species.

*Indicator:* The effect on potentially suitable habitat and occurrences of rare plant species.



### **2.2.1.6 WEEDS AND NON-NATIVE VEGETATION**



**ISSUE:** The proposed activities may increase susceptibility to weed spread and infestation.

*Indicator:* Change in weed expansion risk.

### **2.2.1.7 HERITAGE RESOURCES**



**ISSUE:** The proposed activities have the potential to affect heritage resources and historic properties located within the proposed activity areas.

*Indicator:* Known heritage or historic sites adversely affected (number).

## **2.3 Description of Alternatives**

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### **2.3.1 Alternative Development**

The Salmon River Ranger District initiated the Salmon River Recreation Sites Renovation project in 2006, and solicited comments from the public, interested groups, and representatives of federal, state, and local agencies, and Tribal representatives on August 15, 2006 (see Section 1.8 Public Involvement in Chapter 1 for more information).

The proposed action and alternatives in the analysis evolved from the issues, concerns, and recommendations identified through this public involvement process to best meet the purpose and need while reducing potential environmental impacts. The complete record of the public involvement process is available for review in the Project File. The ID team developed three alternatives which were considered, but not analyzed in detail (Alternatives A, B, and C), and three alternatives which were analyzed in detail (Alternatives 1, 2, and 3). The ID team developed the alternatives for this project consistent with the Payette and Nez Perce Forest Plans.

### **2.3.2 Alternatives Considered but Eliminated from Detailed Study**

The Salmon River Recreation Sites Renovation project Interdisciplinary Team (ID team) considered a range of alternatives, but determined through further analysis and discussion that the following alternatives are not feasible or are outside the scope of this project.

#### **2.3.2.1 ALTERNATIVE A: SPRING BAR HIGH WATER BOAT RAMP**

This alternative would have constructed a boat ramp for high water flow launches. The ID team dropped this alternative from further consideration because the period when this ramp would be needed is so brief (only during extreme high water) and because the potential impacts to fish habitat and species in riparian willows would be considerable.



### **2.3.2.2 ALTERNATIVE B: VINEGAR CREEK RAMP D IMPROVEMENTS**

This alternative would have improved Ramp D, the downriver ramp near the re-fueling station. The ID team dropped this alternative from further consideration because the proximity to the re-fueling station did not allow space for adequate improvements, and because the annual deposits of sand in the ramp proximity reduce use of this ramp.

### **2.3.2.3 ALTERNATIVE C: VINEGAR CREEK PARKING AREA DEVELOPMENT**

This alternative would have created an additional parking area above the existing restrooms. The ID team dropped this alternative from further consideration because the steepness of the slope in this area raised resource concerns with the proposed developments.

## **2.3.3 Alternatives Considered in Detail**

The ID team developed three alternatives considered in detail: the no-action alternative (Alternative 1), the proposed action (Alternative 2), and an additional alternative (Alternative 3), which responds to the issues described earlier.

The following is a summary of the alternatives considered in detail. Section 2.3.3.4 contains elements common to Alternatives 2 and 3. Tables 2-1 and 2-2 in Section 2.3.3.5 show the design criteria and mitigation measures for Alternatives 2 and 3, Section 2.3.3.6 describes the monitoring applicable to Alternatives 2 and 3, and Table 2-3 in Section 2.4 displays a comparison of activities by alternative for each location. Maps located in Appendix B display the project activities for Alternatives 2 and 3 by recreation site.

### **2.3.3.1 ALTERNATIVE 1 – NO-ACTION**

Under the No Action alternative, current management plans would continue to guide management of the project area. General maintenance would continue to occur. No renovation of the recreation sites would occur. Congestion at the boat ramps and in parking lots would continue to occur.

Alternative 1 does not meet the purpose and need for the Salmon River Recreation Sites Renovation project. Alternative 1 does not actively address Nez Perce Forest Plan direction to construct additions to developed sites to meet demand, or to maintain or enhance existing sites (USDA Forest Service 1987b), nor Payette Forest Plan direction to continue to develop, support, and improve private and public recreation and tourism programs (USDA Forest Service 2003c). This alternative would allow congestion to continue, possibly risking the safety of the users of these facilities.

The no-action alternative does not include actions to reduce current soil erosion from the existing sites.

The National Environmental Policy Act (NEPA) requires consideration of the no-action alternative. This alternative represents the existing condition against which the other alternatives are compared.



### **2.3.3.2 ALTERNATIVE 2 – PROPOSED ACTION**

Alternative 2 would increase parking areas, harden or resurface sites, and improve the flow of vehicle and foot traffic at Spring Bar, Carey Creek, Vinegar Creek, and the Wind River trailhead recreation sites, as described below. The ID team designed the proposed improvements to provide for user convenience and safety, and reduce impacts to natural resources. These improvements would satisfy user demand and meet Payette and Nez Perce Forest Plans direction to develop recreation sites to meet demand, and maintain or enhance existing sites. The improvements would also reduce sediment entering the Salmon River from existing sources.

#### **SPRING BAR**

1. CONSTRUCT NEW PARKING AREA
  - Add asphalt paved parking for eight vehicles on west end.
2. CONSTRUCT A NEW PATHWAY TO BOAT RAMP AREA
  - Add 102 square feet of accessible concrete pathway, consistent with the Americans with Disabilities Act (ADA).
3. REPAIR EXISTING RAMP
  - Remove the center sections of the existing concrete ramp and replace with 2,400 square feet of concrete. Replace existing shoulder armor with a stem wall, a concrete wall on the side of the ramp. Place barrier rock along ramp edges to prevent driving on beaches.

#### **CAREY CREEK**

1. WIDEN BOAT RAMP ENTRANCE BY 13,000 SQUARE FEET TO ACCOMMODATE A PASSENGER VEHICLE TOWING A TRAILER
  - Widen boat ramp entrance turning radius to accommodate traffic traveling west/downriver from 5,000 square feet to 18,000 square feet;
  - Widen existing access road from a single to a double lane.
2. IMPROVE VEHICLE TURNAROUND AREA (includes turnaround and new day use only parking for 8 vehicles)
  - Construct 10,238 square feet of new concrete vehicle turnaround area near ramp, increasing the total area to 21,650 square feet.
3. WIDEN EXISTING CONCRETE BOAT RAMP
  - Widen concrete ramp area from 5,200 square feet to 8,360 square feet.
4. CONSTRUCT STAIRCASE
  - Construct staircase, impacting 90 square feet.



5. CONSTRUCT NEW RESTROOM

- Construct a double vault restroom with attached changing wings, occupying 300 square feet, within the 18,000 square feet area impacted for the entrance widening.

6. REALIGN CAREY CREEK RAMP ACCESS ROAD (roadway next to parking/concrete pad)

- Shift Carey Creek ramp access roadway to the east to attain additional parking, increasing the roadway area from 2,670 square feet to 3,670 square feet (up to about 100 feet in length);
- Recondition and gravel the first 50 feet of approach and construct drainage dip.

7. UPGRADE TWO EXISTING PICNIC AREAS

- Maintain and improve two existing picnic sites;
- Remove stone chimney and re-use chimney rock for retaining wall material;
- Delineate path from the Salmon River roadway into picnic area;
- Replace fire rings with pedestal barbeques.

**WIND RIVER TRAILHEAD**

1. IMPROVE WEST PARKING AREA

- Excavate 2,480 square feet of new area.
- Gravel 6,980 square feet of parking area;

2. IMPROVE EAST PARKING AREA

- Excavate 750 square feet to extend existing parking area.

3. EXTEND EXISTING CULVERT

- Extend existing 18” culvert by ten feet to accommodate sediment catch basin for parking area runoff.

4. UPGRADE EXISTING STOCK FACILITIES

- Remove existing loading ramp, hitch rails, and feed bunks;
- Install two new feed bunks;
- Install two new hitch rails.

**VINEGAR CREEK BOAT RAMP**

The following key will help readers understand the following descriptions of the proposed activities at Vinegar Creek.



Ramp Locator Description	
<b>Ramp A:</b>	Existing furthest upriver ramp with concrete panels
<b>Ramp B:</b>	Existing steep, short middle ramp
<b>Ramp C:</b>	Existing downriver ramp across from restroom that receives sand deposition
<b>Ramp D:</b>	Existing downriver ramp near re-fueling station
<b>Ramp E:</b>	Proposed new ramp between ramps A and B

1. REMOVE AND RELOCATE SAND
  - Remove and relocate annual sand deposits. Relocate material to naturally occurring sand beaches downstream.
2. SURFACE AND DELINEATE EXISTING PARKING AREA (located approximately from Ramp C to Ramp A)
  - Surface 27,900 square feet of existing hardened parking area from restroom upriver/east toward Ramp A with concrete;
  - Create bus and vehicle turnaround (one-way traffic) within the 27,900 square feet proposed concrete area.
3. CONSTRUCT ACCESSIBLE PATHWAY TO RESTROOM
  - Add 285 square feet of new concrete path to existing restroom, consistent with the Americans with Disabilities Act (ADA).
4. CONSTRUCT NEW ANGLED PARKING AREA
  - Clear vegetation;
  - Place fill material;
  - Excavate 5,248 square feet up to embankment;
  - Construct stacked rock buttresses.
5. STABILIZE EXISTING CONCRETE BOAT RAMPS (Ramps B and C)
  - Stabilize Ramp B by constructing approximately 50 to 200 square feet of stem walls, concrete walls on the side of the ramp, below mean flow;
  - Stabilize Ramp C by replacing deteriorating panels at the end of the ramp below mean flow.
6. WIDEN EXISTING CONCRETE BOAT RAMP A
  - Widen Ramp A from 3,195 square feet to 4,500 square feet.

**2.3.3.3 ALTERNATIVE 3 – ENHANCED DEVELOPMENT**

The ID team developed Alternative 3 in response to public comment. This alternative addresses the purpose and need for the project, and includes additional work at each recreation site compared to Alternative 2 (Proposed Action).



The proposed improvements include increasing parking areas, hardening or resurfacing sites, and improving the flow of vehicle and foot traffic at the recreation sites as described below. The ID team designed the proposed improvements to provide for user convenience and safety, and reduce impacts to natural resources. These improvements would satisfy user demand and meet Payette and Nez Perce Forest Plans direction to develop recreation sites to meet demand, and maintain or enhance existing sites. The improvements would also reduce sediment entering the Salmon River from existing sources.

**Alternative 3** would increase parking areas, harden or resurface sites, and improve the flow of vehicle and foot traffic at each of the recreation sites, as follows:

### ***SPRING BAR (ALTERNATIVE 3)***

Alternative 3 includes all the components in Spring Bar for Alternative 2, described in Section 2.3.3.2, plus the following items:

1. CONSTRUCT NEW TRAIL TO RESTROOMS
  - Add new asphalt or concrete trail from new west parking area to restrooms, impacting 2,050 square feet, with a hardened surface area of 1,200 square feet.
2. RECONDITION ACCESS ROAD AND TURNAROUND AREA BY RAMP
  - Recondition the road, including re-shaping drain dips and adding new gravel. The existing entrance (1,440 square feet of gravel road area) is above 100,000 cfs elevation and would not be surfaced;
  - Harden the 5,380 square feet of existing turnaround area with concrete.

### ***CAREY CREEK (ALTERNATIVE 3)***

Alternative 3 includes all the components in Carey Creek for Alternative 2, described in Section 2.3.3.2, plus the following items:

1. CONSTRUCT NEW PARKING AREA
  - Construct 16,020 square feet of new graveled parking area, with a total of 22,500 square feet of excavation, to accommodate six vehicles with trailers and eleven vehicles without. The turnaround radius would accommodate a passenger vehicle towing a trailer (P/B) (20 foot vehicle towing a 23 foot trailer).
2. CONSTRUCT PATHWAY FROM PARKING AREA TO BOAT RAMP ACCESS ROAD
  - Construct 300 square feet of new staircase from new parking area to road

### ***WIND RIVER TRAILHEAD (ALTERNATIVE 3)***

Alternative 3 includes only the *Extend Existing Culvert* component in Wind River Trailhead for Alternative 2, located in Section 2.3.3.2, plus the following items:



1. IMPROVE WEST PARKING AREA
  - Excavate 3,600 square feet of new area.
  - Gravel 9,450 square feet of parking area.
2. IMPROVE EAST PARKING AREA
  - Extend existing parking area by excavating 600 square feet. This extension would be located slightly upriver from the proposed location in Alternative 2 to accommodate the restroom and road proposed under this alternative.
3. UPGRADE EXISTING STOCK FACILITIES
  - Remove existing loading ramp, hitch rails, and feed bunks;
  - Relocate and install two new feed bunks;
  - Relocate and install two new hitch rails;
  - Relocate and install one new stock loading ramp.
4. ERECT WATER TANK AND INSTALL WATER LINE
  - Erect water tank and install water line. The water line excavation would fall mostly within the new road realignment excavated area. Water line excavation outside of the new road realignment excavated area would occur from the water source to the new road.
5. REALIGN HUNTZ GULCH ACCESS ROAD
  - Excavate and gravel 11,490 square feet of roadway (total length is 450 feet), of which 5,745 square feet are within the existing disturbed area.
6. OBLITERATE OLD HUNTZ GULCH ACCESS ROAD
  - De-compact the old Huntz Gulch access roadway and re-contour slope on 1,220 square feet (total length is 180 feet).
7. CONSTRUCT NEW RESTROOM AND SIGNBOARD
  - Construct new restroom structure to occupy 25 square feet within the existing hardened area.
  - Construct a new signboard.

### ***VINEGAR CREEK (ALTERNATIVE 3)***

The following key will help readers understand the following descriptions of the proposed activities at Vinegar Creek.



Ramp Locator Description	
<b>Ramp A:</b>	Furthest upriver ramp with concrete panels
<b>Ramp B:</b>	Steep, short middle ramp
<b>Ramp C:</b>	Downriver ramp across from restroom that receives sand deposition
<b>Ramp D:</b>	Downriver ramp near re-fueling station
<b>Ramp E:</b>	Proposed new ramp between ramps A and B

Alternative 3 includes all of the components in Vinegar Creek Boat Ramps for Alternative 2, described in Section 2.3.3.2, **with the exception** that Boat Ramp B would be removed, as described below. Additionally, the following renovations and construction would occur:

1. REMOVE EXISTING CONCRETE BOAT RAMP B
  - Break up and remove existing concrete. Restore the area to natural contours with native materials.
2. CONSTRUCT TWO ADDITIONAL NEW ANGLED PARKING AREAS
  - Construct two new parking areas downriver of boat ramps, near the fuel tanks, to provide 15 additional parking spaces (6,363 square feet). Construction would include vegetation removal, excavation, shaping, and gravelling.
3. CONSTRUCT NEW SITE FOR RESTROOM AND INSTALL REPLACEMENT RESTROOM AND CHANGING AREA
  - Excavate area, including hillslope excavation, and construct retaining walls as necessary for replacement.
  - Construct a one-vault restroom with adjacent changing area. The new restroom site would not be lower in elevation than the current restroom to maintain placement above 100,000 cfs.
4. CONSTRUCT NEW BOAT RAMP E
  - Construct 3,340 square feet new Boat Ramp E below 100,000 cfs elevation with minimal vegetation removal, and excavating, shaping, borrow and filling, and paving 1,680 square feet with concrete.

### **2.3.3.4 ELEMENTS COMMON TO ALTERNATIVES 2 AND 3**

#### **IMPLEMENTATION DATE**

Implementation of the Salmon River Recreation Sites Renovation project would begin in calendar year 2010, dependent on funding. Activities would be expected to span five to ten years.

#### **LANDSCAPING**

Landscaping covers a range of activities, such as planting trees, shrubs, and grass, shaping the surface with machinery, and watering and fertilizing. Landscaping would



occur above and below 100,000 cfs as determined appropriate. These activities are necessary to address issues concerning maintaining the scenic integrity of the river corridor, maintaining or improving habitat for fish and wildlife, maintaining or improving site stability, and assisting in defining the flow of human foot and vehicle traffic to improve site function.

### **FUEL STORAGE**

The following information applies to storage of fuel within the project area. Due to topography and the proximity of Forest Road #1614 to the Salmon River, limited sites suitable for fuel storage are located at a distance greater than 300 feet from live waters. For this reason, a Nez Perce National Forest representative would be required to show the construction contractor where these activities could occur prior to project implementation. The following restrictions would also apply:

- Fuel, refuel, and maintain project construction and implementation machinery 100 feet or greater from the Salmon River and other stream courses and in an area(s) where topography would restrict any potential spill from flowing directly into the Salmon River or other stream courses.
- Do not exceed 150 gallons of fuel hauled on site for refueling of equipment. If over 50 gallons of fuel is stored within the RHCA, it will be stored in a lined contained structure that will be large enough to contain 150% of the stored volume.
- Store and handle toxic material in an area where topography would restrict any potential spill from flowing directly into the Salmon River or other stream courses.
- Keep an emergency spill containment kit on site during construction activities. On-site personnel will be knowledgeable and trained in the use of the spill containment equipment.
- Clean equipment and repair any leaks prior to arriving at the project site. Inspect equipment daily for leaks or accumulations of grease, and fix any identified problems before entering areas that drain directly to live water.
- Prepare and implement a Spill Prevention Control and Counter Measures Plan (40 CFR 112), prior to fuel hauling.
- Immediately contact the Nez Perce National Forest if a fuel/oil or other hazardous material spill occurs, and take actions to prevent the spill material from entering live waters. Such measures may include straw bale plugs, earthen berms, or use of other absorbent materials. If necessary, conduct soil remediation, including the removal of contaminated soils to an approved bioremediation facility and take a soil sample(s) to verify the success of the site remediation.
- Notify NOAA-Fisheries as soon as possible of any fuel spill of one gallon or more.
- In addition, the construction contractor would be required to follow any other local, state, or federal regulations related to the use, handling, storing, transporting, and disposing of hazardous materials.

### **ROAD RECONDITIONING**

Road reconditioning covers a range of activities, such as surface blading, drainage repair, roadway brushing, minor culvert installation, minor slump repairs and stabilization work.



## **INFORMATIONAL & INTERPRETATIVE SIGNBOARD DEVELOPMENT**

Some sites have existing informational boards that, at the time of construction, would need to be rebuilt. Each site has the capacity to have interpretive signboard displays constructed in addition to informational boards.

### **2.3.3.5 PROJECT DESIGN CRITERIA AND MITIGATION MEASURES FOR ALTERNATIVES 2 AND 3**

Tables 2-1 and 2-2 outline the project design criteria and mitigation measures. The tables display the alternative to which each project design criteria or mitigation measure applies. These lists are not all-inclusive, as the Forest Plan standards and the Programmatic Biological Assessment- Developed Recreation Site Maintenance for Fall Chinook Salmon, Sockeye Salmon, Spring/Summer Chinook Salmon, Steelhead Trout, Westslope Cutthroat Trout, and Bull Trout (USDA Forest Service 1999) are incorporated by reference.

*Design criteria* are criteria that the Forest Service should meet in implementing this project. Design criteria would be applied prior to, during, and after project implementation to prevent or minimize potential adverse environmental effects of the proposed action. The ID team developed design criteria to address public comments, and minimize environmental effects of the proposed action.

*Mitigation measures* are practices generally used during or after project implementation, and may include: (a) avoiding the impact altogether by not taking a certain action or parts of an action; (b) minimizing impacts by limiting the degree or magnitude of the action and its implementation; (c) rectifying the impact by repairing, rehabilitating, or restoring the affected environment; (d) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and (e) compensating for the impact by replacing or providing substitute resources or environments (40 CFR Sec. 1508.20). Mitigation measures may minimize short term effects. The ID team used Payette and Nez Perce Forest Plans standards and other agency direction, along with information derived from monitoring past projects to identify mitigation measures applicable to this project.

Best Management Practices (BMPs) are incorporated in this project. BMPs are the primary mechanism to ensure compliance with the Clean Water Act of 1972, as amended (1977 and 1987) and Idaho State Water Quality Standards. BMPs are practices that are preventative rather than enforcement based. They are tailor-made to account for the complexity and physical and biological variability of the natural environment.

As defined in the Idaho State Water Quality Standards (IDAPA 58.01.02), BMPs include the Idaho Forest Practices Act Rules (IDAPA 20.02.01) and Idaho Stream Alteration Rules (IDAPA 37.03.07). BMPs also include the USDA Forest Service Northern and Intermountain Region's Soil and Watershed Conservation Practices Handbook (USDA Forest Service 1988a; FSH 2509.25). BMPs are also derived from the Payette and Nez Perce Forest Plans, as amended. BMPs specifically tailored to this project are defined below and would be included in contracts or other measures used to implement the



project. Gerhardt et al (1991) described the effectiveness of BMPs commonly used on the Nez Perce National Forest.

**SALMON RIVER RECREATION SITES RENOVATION PROJECT DESIGN CRITERIA**

**Table 2-1. Salmon River Recreation Sites Renovation Project Design Criteria.**

Item	Project Design Criteria	Implementation Method	Effectiveness	Applicable Alternative(s)
<b>Soils Resources, Watershed, and Fish Habitat</b>				
1	Manage and maintain vegetation at sites to achieve objectives of providing facility management and aquatic resource needs consistent with Nez Perce Forest Plan's Amendment 20.	NEPA project design, and contract	High, to the degree implemented; based on monitoring data	Alternatives 2 and 3
2	Grade and shape parking facilities and roadways to avoid direct sediment runoff into waterways, and use vegetation buffers to improve percolation of runoff through the soil.	Contract and contract administration/ inspection	High, based on experience	Alternatives 2 and 3
3	Minimize disturbance of existing vegetation (particularly trees and tall brush) where possible.	Contract and contract administration/ inspection	High, based on experience	Alternatives 2 and 3
4	Develop soil erosion management plans for construction activities prior to construction actions.	NEPA project design, and contract	High, to the degree implemented; based on monitoring data	Alternatives 2 and 3
<b>Fisheries</b>				
5	Prohibit storage of fuels and other toxicants within Riparian Habitat Conservation Areas. Prohibit refueling within Riparian Habitat Conservation Areas unless there are no other alternatives. Refueling sites within a Riparian Habitat Conservation Area must be approved by the Forest Service and have an approved spill containment plan. *See Section 2.3.3.4 for additional information.	Contract and contract administration/ inspection	High, based on experience	Alternatives 2 and 3
6	Do not use treated wood materials and do not pave using asphalt below the Salmon River's 100,000 cfs flow elevation.	Contract and contract administration/ inspection	High, based on experience	Alternatives 2 and 3
7	Stabilize and maintain integrity of river banks adjacent to any new boat ramp, boat ramp extension, boat ramp widening, and access road improvement or development by placing riprap, where needed to comply with Nez Perce Forest Plan's Amendment 20 (PACFISH). Consider opportunities in riprap design to create micro-habitat for riparian plantings.	Contract and contract administration/ inspection	High, based on experience	Alternatives 2 and 3



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Item	Project Design Criteria	Implementation Method	Effectiveness	Applicable Alternative(s)
8	Use appropriate erosion/sediment control measures to prevent sediment from reaching live water prior to ground-disturbing construction activities. Examples of appropriate erosion control measures include sediment fences, straw bales, sediment traps, non-eroding dike, mulching, and seeding. In addition, the construction contractor will prepare an erosion control plan and the Nez Perce National Forest will approve it prior to project implementation.	Contract and contract administration/ inspection	High, based on experience	Alternatives 2 and 3
9	Conduct final site grading of parking areas in such a fashion as to reduce soil surface erosion and the direct delivery to live water of any run-off suspended toxicants. Design improvements to prevent run-off drainage from reaching live water.	Contract and contract administration/ inspection	High, based on experience	Alternatives 2 and 3
10	Conduct boat ramp construction and improvements during low flow periods, when ramps are not under water.	Contract and contract administration/ inspection	High, based on experience	Alternatives 2 and 3
11	Stop all construction activity during heavy precipitation events, when the potential to have adverse erosion/ sediment reaching live water is greatest, unless some activity is needed to curb/prevent sedimentation during the event.	Contract and contract administration/ inspection	High, based on experience	Alternatives 2 and 3
12	Initiate seeding, fertilizing, and mulching in all disturbed areas outside of the permanent travelway with an approved native seed mix following construction. Use appropriate measures to prevent public vehicle access beyond the intended designed and managed recreation sites.	Contract and contract administration/ inspection	High, based on experience	Alternatives 2 and 3
13	Conduct all instream work between July 1 and August 15, and adjust timeframes if necessary dependent upon presence or absence of threatened or endangered fish species' redds and the development stage and mobility of any age fish in the vicinity at these redds at the instream construction site(s), including 20 yards upstream, or 50 yards downstream of each instream construction site.	Contract and contract administration/ inspection	High, based on experience	Alternatives 2 and 3



Item	Project Design Criteria	Implementation Method	Effectiveness	Applicable Alternative(s)
14	Prior to project implementation, a Nez Perce National Forest fisheries biologist or technician, or their trained representative, would examine the project area for the identification of potentially suitable spawning habitat for appropriate fish species, including 20 yards upstream, or 50 yards downstream of each instream construction site. If a site is determined to contain suitable spawning habitat for these fish species at the site of instream construction, or 20 yards upstream or 50 yards downstream, monitor for redds prior to instream construction activities. If a redd(s) is identified, decide whether or not to implement the project, and if so, develop potential mitigation measures. Adjust the work window on a site-specific basis with Level 1 Team approval.	Contract and contract administration/ inspection	High, based on experience	Alternatives 2 and 3
15	Develop a re-vegetation plan prior to construction, for review and approval by the US Forest Service, the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service. Emphasize the planting and/or seeding of native plant species on disturbed areas outside of the permanent travel way, including the stream bank.	NEPA project design, and contract	High, to the degree implemented; based on monitoring data	Alternatives 2 and 3
16	Do not wash or rinse heavy machinery and tools used for concrete work at the project site. Dispose of all concrete at an approved site.	NEPA project design, and contract	High, to the degree implemented; based on monitoring data	Alternatives 2 and 3
<b>Noxious Weeds</b>				
17	Remove all mud, soil and plant parts from all equipment prior to moving into the project area to limit the spread of weeds. Cleaning must occur off National Forest system lands. This measure applies to all vehicles and equipment used at the project sites, but does not apply to service or hauling vehicles that would stay on the roadway, traveling frequently in and out of the project area.	Contract and contract administration/ inspection.	High, based on experience and fact	Alternatives 2 and 3
18	Use only certified blue-tagged plant cultivars in revegetation. Use only certified weed-free seed during revegetation. Use only straw and mulch certified as free of noxious weed seed.	Contract and contract administration/ inspection	High, based on experience	Alternatives 2 and 3



Item	Project Design Criteria	Implementation Method	Effectiveness	Applicable Alternative(s)
19	Inspect gravel and borrow material source sites for noxious weeds before materials are processed, used, or transported from the source site into the project area or onto the National Forest. Do not use gravel or borrow material source sites with noxious weed species present unless effective treatment or other mitigation measures are implemented.	Contract and contract administration/ inspection	High, based on experience	Alternatives 2 and 3

**SALMON RIVER RECREATION SITES RENOVATION PROJECT MITIGATION MEASURES**

Table 2-2. Salmon River Recreation Sites Renovation Project Mitigation Measures.

Item	Project Mitigation Measure	Implementation Method	Effectiveness	Applicable Alternative(s)
<b>Soils Resources, Watershed, and Fish Habitat</b>				
1	Include a geotechnical review prior to excavation on slopes in excess of 55% to evaluate the need for engineered stabilization of excavated slopes.	NEPA project design, and contract	High, to the degree implemented; based on monitoring data	Alternatives 2 and 3
2	Immediately cease operation if a sick, injured, or dead specimen of a threatened or endangered species is found as a result of the proposed action. Notify the Vancouver Field Office of NOAA Fisheries Law Enforcement at (360) 418-4246.	NEPA project design, and contract	High, to the degree implemented; based on monitoring data	Alternatives 2 and 3
<b>Heritage Resources</b>				
3	Monitor ground disturbing activities at Carey Creek by a qualified archaeologist. In the unlikely event previously unknown cultural properties are discovered during the course of this project, all project activity within that area shall stop and the Forest Archaeologist will be notified per 36 CFR 800.13b3.	NEPA project design, and contract administration	High, objective to achieve a “no adverse effect” on these resources	Alternative 3
<b>Watershed, Noxious Weeds and TES Plants</b>				
4	Treat invasive weed species prior to and after completion of project activities at all sites. Treat noxious weeds at Spring Bar, Carey Creek, and Wind River Trailhead locations prior to disturbance.	Rangeland Specialist, Contract Administrator	High, based on experience	Alternatives 2 and 3
5	Locate rare plant populations at Vinegar Creek by a qualified plant specialist prior to project activities.	Botanist	High, based on experience	Alternatives 2 and 3



### 2.3.3.6 MONITORING FOR ALTERNATIVES 2 AND 3

Monitoring is a process of gathering information through observation and measurement to assure the goals, objectives, and standards of the Payette and Nez Perce Forest Plans are implemented. Additionally, it is used to ensure the effectiveness of design and mitigation measures.

Two forms of monitoring are proposed:

1. **Implementation Monitoring** - This type of monitoring is used to determine if management practices are implemented as planned in the Payette and Nez Perce Forest Plans and the Salmon River Recreation Sites Renovation project.

The following implementation monitoring would occur for the Salmon River Recreation Sites Renovation project if Alternatives 2 or 3 are selected:

- **Heritage Resources:** The project heritage resource specialist would provide documentation of the monitoring completed during ground disturbing activities at Carey Creek to the State Historic Preservation Office (SHPO).
  - **Weeds and Non-Native Vegetation:** Rangeland specialists would complete noxious weed surveys prior to and after completion of project activities at all sites. Monitoring would determine changes in noxious weed populations as a result of the project and guide future management actions. A documented increase or detection of a new invasive weed(s) would trigger Integrated Weed Management (IWM; FSH 2080), development and implementation of a management plan, and future actions would be adjusted as necessary following coordination with the District/Forest weed coordinators.
2. **Effectiveness Monitoring** - This type of monitoring is used to determine if management practices, as designed and executed, are effective in meeting project objectives, as well as the goals, objectives, and standards of the Payette and Nez Perce Forest Plans.

The following effectiveness monitoring would occur for the Salmon River Recreation Sites Renovation project if Alternatives 2 or 3 are selected:

- **Fisheries:**
  - 1.) A fish biologist would examine the Project Area prior to beginning any construction, and aquatics personnel would visit the Project Area immediately after completion of activities, and as needed in the future, to determine needs for reseeding on un-recovered sediment sources. These sites would be monitored and reseeded as necessary to recover vegetation to the site.
  - 2.) A fish biologist would monitor to ensure that all precautionary or mitigation measures, as outlined in the BA, are performed as described.



- 3.) A fish biologist would document if adverse recreation-related impacts to soils and vegetation, or riparian areas or water quality are occurring. If monitoring identifies adverse effects to riparian vegetation or bank stability and/or active erosion and sediment occurring from such use, corrective measures would be taken to reduce adverse impacts.



## 2.4 Comparison of Alternatives

This section compares the alternatives described in the beginning of this chapter. Table 2-3 compares activities of the alternatives. Table 2-4 depicts how well the alternatives respond to the elements of the purpose and need. Table 2-5 compares the alternatives in terms of environmental effects related to the issues. See Chapter 3 for further information on the effects of the proposed activities and the basis for the results in the comparison tables.

**Table 2-3. Comparison of Activities by Alternative for Each Location.**

Proposed Activity	Alternative 1 (No-Action)	Alternative 2 (Proposed Action)	Alternative 3 (Enhanced Development)
<b>Spring Bar</b>			
New Parking Area Construction	None	Asphalt paving for eight vehicles	Asphalt paving for eight vehicles
New Pathway Construction to Boat Ramp Area	None	102 ft <sup>2</sup>	102 ft <sup>2</sup>
Existing Ramp Repairs	None	Repair and replace with 2,400 ft <sup>2</sup> concrete	Repair and replace with 2,400 ft <sup>2</sup> concrete
New Trail Construction to Restrooms	None	None	2,050 ft <sup>2</sup>
Access Road and Turnaround Reconditioning	None	None	5,380 ft <sup>2</sup>
<b>Carey Creek</b>			
Boat Ramp Entrance Widening	None	Total area: 18,000 ft <sup>2</sup>	Total area: 18,000 ft <sup>2</sup>
Vehicle Turnaround Improvements	None	Total area: 21,650 ft <sup>2</sup>	Total area: 21,650 ft <sup>2</sup>
Boat Ramp Widening	None	Total area: 8,360 ft <sup>2</sup>	Total area: 8,360 ft <sup>2</sup>
Staircase Construction	None	90 ft <sup>2</sup>	90 ft <sup>2</sup>
Restroom Construction	None	One double vault	One double vault
Carey Creek Ramp Access Road Realignment	None	Shift roadway & increase to 3,670 ft <sup>2</sup> ; Recondition & gravel approach & construct drainage dip	Shift roadway & increase to 3,670 ft <sup>2</sup> ; Recondition & gravel approach & construct drainage dip
Picnic Area Upgrades	None	Remove chimney Delineate path Replace fire rings with pedestal barbeques	Remove chimney Delineate path Replace fire rings with pedestal barbeques
New Parking Area Construction	None	None	Total Area: 22,500 ft <sup>2</sup>
Pathway Construction	None	None	300 ft <sup>2</sup>
<b>Wind River Trailhead</b>			
West Parking Area Improvements	None	6,980 ft <sup>2</sup>	9,450 ft <sup>2</sup>
East Parking Area Improvements	None	750 ft <sup>2</sup>	600 ft <sup>2</sup>
Culvert Extension	None	10 ft 18 in	10 ft 18 in
Stock Facilities Upgrades	None	Remove existing ramp, hitch rails, & feed bunks 2 new feed bunks 2 new hitch rails	Remove existing ramp, hitch rails, & feed bunks 2 new feed bunks 2 new hitch rails 1 new loading ramp
Water Tank and Water Line Installation	None	None	Install water tank & water line
Huntz Gulch Access Road Realignment	None	None	11,490 ft <sup>2</sup>
Old Huntz Gulch Access Road Obliteration	None	None	1,220 ft <sup>2</sup>



Proposed Activity	Alternative 1 (No-Action)	Alternative 2 (Proposed Action)	Alternative 3 (Enhanced Development)
Restroom and Signboard Construction	None	None	25 ft <sup>2</sup> New signboard
<b>Vinegar Creek</b>			
Sand Removal and Relocation	None	Regularly	Regularly
Parking Area Surfacing and Delineation	None	27,900 ft <sup>2</sup>	27,900 ft <sup>2</sup>
Pathway to Restroom Construction	None	285 ft <sup>2</sup>	285 ft <sup>2</sup>
Parking Area Construction	None	5,248 ft <sup>2</sup>	11,611 ft <sup>2</sup>
Concrete Boat Ramp Stabilization	None	Ramp B: 200 ft <sup>2</sup> new stem wall; Ramp C: Replace panels	Ramp C: Replace panels
Concrete Boat Ramp Widening	None	Ramp A total area: 4,500 ft <sup>2</sup>	Ramp A total area: 4,500 ft <sup>2</sup>
Boat Ramp Removal	None	None	Remove Ramp B
Restroom Replacement	None	None	One
New Boat Ramp Construction	None	None	Ramp E total area: 3,340 ft <sup>2</sup>

**Table 2-4. Comparison of the Alternatives for Response to the Elements of the Purpose and Need (Decrease Congestion at Recreation Sites along the Salmon River Road by Improving Parking, Traffic Flow, and Boat Ramps, and Developing Changing Areas).**

		Alternative 1	Alternative 2	Alternative 3
<b>RECREATIONAL IMPROVEMENTS</b>				
<b>Vehicle Parking Capacity</b>	<b>Site Name</b>	<b># Parking Spaces</b>	<b># Parking Spaces</b>	<b># Parking Spaces</b>
	Spring Bar	10	18	18
	Carey Creek	26	35	52
	Wind River	5	11	17
	Vinegar Creek	41	62	62
<b>Persons at One Time* (PAOT) Capacity</b>	<b>Site Name</b>	<b># People</b>	<b># People</b>	<b># People</b>
	Spring Bar	35	63	63
	Carey Creek	38	62	91
	Wind River	17.5	38.5	49
	Vinegar Creek	43	147.5	165
<b>Toilet/Changing Areas</b>	<b>Site Name</b>	<b># Toilets/ # Changing Wings</b>	<b># Toilets/ # Changing Wings</b>	<b># Toilets/ # Changing Wings</b>
	Spring Bar	2/2	2/2	2/2
	Carey Creek	1/0	1/2	1/2
	Wind River	0/0	0/0	1/0
	Vinegar Creek	1/0	1/0	1/2



	Site Name	Alternative 1 Ramp Description	Alternative 2 Ramp Description	Alternative 3 Ramp Description
<b>Boat Ramp Access</b>	<b>Spring Bar</b>	One 2 lane ramp	One 2 lane ramp with barriers and repairs	One 2 lane ramp with barriers and repairs, plus reconditioned entrance road and concrete turnaround
	<b>Carey Creek</b>	One 2 lane ramp	One 2 lane ramp with widened turn radius	One 2 lane ramp with widened turn radius
	<b>Wind River</b>	None	None	None
	<b>Vinegar Creek</b>	3 ramps	3 ramps: Ramp A-Widened Ramps B & C - Stabilized	3 ramps: Ramp A-Widened Ramp B-Removed Ramp C-Stabilized Ramp E-new
<b>Water Availability</b>	<b>Site Name</b>	<b>Water Available?</b>	<b>Water Available?</b>	<b>Water Available?</b>
	<b>Spring Bar</b>	Yes	Yes	Yes
	<b>Carey Creek</b>	No	No	No
	<b>Wind River</b>	No	No	Yes-Non-potable
	<b>Vinegar Creek</b>	No	No	No
<b>Informational Board/Interpretive Panel</b>	<b>Site Name</b>	<b># Info Boards/ # Interpretive Panels</b>	<b># Info Boards/ # Interpretive Panels</b>	<b># Info Boards/ # Interpretive Panels</b>
	<b>Spring Bar</b>	1/0	1/0**	1/0**
	<b>Carey Creek</b>	1/0	1/0**	1/0**
	<b>Wind River</b>	0/0	1/0**	1/0**
	<b>Vinegar Creek</b>	2/0	2/0**	1/0**
<b>Footpaths</b>	<b>Site Name</b>	<b># Footpaths</b>	<b># Footpaths</b>	<b># Footpaths</b>
	<b>Spring Bar</b>	0	1-Boat ramp path	1-Path from parking to restroom
	<b>Carey Creek</b>	0	1-Stairs from parking ramp	1-Stairs from parking ramp
	<b>Wind River</b>	0	0	0
	<b>Vinegar Creek</b>	0	1-Path to restroom	1-Path to restroom
<b>Site Improvements</b>	<b>Site Name</b>	<b>Existing Improvements</b>	<b>Improvements</b>	<b>Improvements</b>
	<b>Spring Bar</b>	None	Vegetate & landscape	Vegetate & landscape
	<b>Carey Creek</b>	2 picnic areas- tables, fire rings, old chimney	2 picnic areas- tables, fire rings, Vegetate & landscape Remove old chimney	2 picnic areas- tables, fire rings, Vegetate & landscape Remove old chimney
	<b>Wind River</b>	2 feed bunks 1 unloading ramp 1 hitch rail	2 feed bunks (new) 1 loading ramp (new) 2 hitch rails (new) Vegetate & landscape	2 feed bunks (new) 1 loading ramp (new) 2 hitch rails (new) Water line & tank (new) Vegetate & landscape
	<b>Vinegar Creek</b>	None	Vegetate & landscape	Vegetate & landscape

\*PAOT (Persons at One Time) is calculated using: 5 persons per general family picnic/camp unit; 3.5 persons per parking lot stall; and 30 persons per tour bus parking stall.



**\*\*Informational & Interpretive Signboard and Panel Development:** Some sites have existing informational boards that, at the time of construction, would need to be rebuilt. Each site has the capacity to have interpretive panel displays constructed in addition to informational boards.

**Table 2-5. Issue Alternative Comparisons.**

INDICATOR	Alternative 1	Alternative 2	Alternative 3
<b>VISUAL RESOURCES</b>			
<i>ISSUE 1: The proposed activities have the potential to change the outstandingly remarkable values (ORVs) for the Wild and Scenic River “Recreational” eligible status of the Salmon River.</i>			
Change to scenery ORV	No change	No change	No change
Change to recreational ORV	No change	Enhancement	Enhancement
Change to geology	No change	No change	No change
Change to fish ORV	No change	No change	No change
Change to water quality ORV	No change	No change	No change
Change to wildlife ORV	No change	No change	No change
Change to vegetation/botany ORV	No change	No change	No change
Change to pre-historic ORV	No change	No change	No change
Change to historic ORV	No change	No change	No change
Change to traditional use/cultural ORV	No change	Enhancement	Enhancement
<b>FISHERIES</b>			
<b>FISH SPECIES and HABITAT</b>			
<i>ISSUE 1: The proposed activities have the potential to affect threatened, endangered, sensitive, and wildlife management indicator species.</i>			
<b>Effects on fish species and habitat:</b>			
<b>TES Specie:</b> Sockeye salmon	No Effect	No Effect	No Effect
<b>TES Species:</b> Snake River fall and spring/summer Chinook salmon, Snake River steelhead trout	No Effect	May Affect, Likely to Adversely Affect	May Affect, Likely to Adversely Affect
<b>TES Specie:</b> Bull trout	No Effect	May Affect, Not Likely to Adversely Affect	May Affect, Not Likely to Adversely Affect
<b>Sensitive Species:</b> Interior redband trout, Westslope cutthroat trout, Pacific lamprey	No Impact	May Impact Individuals or Habitat, but not Likely to Contribute to a Trend Toward Federal Listing or Loss of Viability	May Impact Individuals or Habitat, but not Likely to Contribute to a Trend Toward Federal Listing or Loss of Viability
<i>ISSUE 2: The proposed activities may adversely impact fisheries resources by directly impacting redds, or individuals.</i>			
The potential for which fish species, and at what life stage, that could be present during and after construction activities.	Limited potential	Limited potential; Mitigation limits effects	Limited potential; Mitigation limits effects
<i>ISSUE 3: The proposed activities may adversely impact fisheries habitat (i.e. spawning, migration, juvenile rearing).</i>			
Area of habitat disturbance below mean annual peak Q2 flow elevation (60,000 cfs) (acres).	0	0.08	0.12
Area of habitat disturbance below 100,000 cfs flow elevation (acres)	0	0.7	0.83
New concrete at or below mean annual peak Q2 flow elevation (60,000 cfs) (acres)	0	0.08	0.09
New concrete at or below 100,000 cfs flow elevation (acres)	0	1.00	1.11



INDICATOR	Alternative 1	Alternative 2	Alternative 3
<b>ISSUE 4: The proposed activities may temporarily impact water quality or fisheries resources by displacing cobble and eroding sands thus creating short term pulses of turbidity.</b>			
Bank/channel disturbance below mean annual peak Q2 flow elevation (60,000 cfs) (feet)	0	140	200
Bank/channel disturbance below 100,000 cfs flow elevation (feet)	0	1,410	1,550
<b>ISSUE 5: The proposed activities may adversely impact water quality or fisheries resources by increasing overland sediment flow into the aquatic system during and immediately following a precipitation event during and post construction activities.</b>			
Total new activity surface disturbance (acres)	0	1.82	3.7
<b>RIPARIAN FUNCTION</b>			
<b>ISSUE 1: The proposed activities may be inconsistent with Riparian Management Objectives (RMOs) and Standards and Guidelines described in the Nez Perce and Payette Forest Plans, including the Nez Perce Forest Plan's Amendment 20 (USDA Forest Service 1995).</b>			
Consistency of proposed activities with the Nez Perce and Payette Forest Plans [including RMOs and Standards and Guidelines described in the Nez Perce Forest Plan's Amendment 20 (USDA Forest Service 1995)].	N/A	Consistent	Consistent
<b>ISSUE 2: Existing riparian vegetation below Q2 (60,000 cfs) and 100,000 cfs, river flow, deposition of fines, and the establishment of future riparian vegetation at the sites may be altered.</b>			
Area of riparian disturbance below 100,000 cfs (square feet).	<b>Site Name</b>		
	<b>Spring Bar</b>	0	7720
	<b>Carey Creek</b>	0	41,500
	<b>Wind River</b>	0	0
	<b>Vinegar Creek</b>	0	18,169
<b>HAZARDOUS MATERIALS AND WASTES</b>			
<b>ISSUE: The proposed activities may adversely impact water quality or fisheries by the accidental/incidental introduction of hazardous materials (petroleum products; gas, oil, grease, anti-freeze and pesticides) to the aquatic system which could have adverse effects on the environment, listed fish species or habitat.</b>			
Total change in paved parking area (square feet)	0	41,700	40,700
Total change in graveled parking area (square feet)	0	10,498	34,081
Total change in native surface parking area (square feet)	0	0	0
Total change in ramp area (square feet)	0	13,160	13,160
<b>WATERSHED</b>			
<b>SOIL EROSION AND UPLAND STABILITY</b>			
<b>ISSUE 1: The proposed activities have the potential to increase surface erosion.</b>			
Change in surface erosion	<b>Site Name</b>		
	<b>Spring Bar</b>	No change	Temporary and long term increase; negligible effects
	<b>Carey Creek</b>	No change	Net improvement (decrease)
	<b>Wind River</b>	No change	Temporary increase with negligible effects; reduction with shifting of parking from Carey Creek
			Temporary increase with negligible effects; reduction with shifting of parking from Carey Creek, and construction of new road/ obliteration of existing road



INDICATOR		Alternative 1	Alternative 2	Alternative 3
	Vinegar Creek	No change	Reduction	Reduction similar to Alt.2; Increase with construction of additional parking
<b>ISSUE 2: The proposed activities have the potential to decrease slope stability.</b>				
Mass wasting risk		No change	No change with mitigation	No change with mitigation
<b>WATER QUALITY</b>				
<b>ISSUE 1: The proposed activities have the potential to increase sediment.</b>				
In-channel disturbance		No	Yes; 404 permit required	Yes; 404 permit required
RHCA area disturbed		No	Yes; 2 acres	Yes; 4 acres
Upland area disturbed		No	Yes; Effects nominal	Yes; Effects nominal
<b>ISSUE 2: The proposed activities have the potential to introduce pollutants and toxins to RHCAs.</b>				
Mobilization of pollutants to affect water quality.		No change	Negligible change	Negligible change
<b>Wildlife</b>				
<b>ISSUE: The proposed activities have the potential to affect threatened, endangered, sensitive, and wildlife management indicator species.</b>				
<b>The effect on potentially suitable habitat and occurrences of wildlife species:</b>				
<b>TES Species:</b> Gray wolf, Canada Lynx, and Northern Idaho ground squirrel		No Effect	No Effect	No Effect
<b>Sensitive Species:</b> Boreal toad, ringneck snake, bald eagle (October 1 through March 31), mountain quail, and Columbia spotted frog		No Impact	May Impact Individuals or Habitat, but not Likely to Contribute to a Trend Toward Federal Listing or Loss of Viability	May Impact Individuals or Habitat, but not Likely to Contribute to a Trend Toward Federal Listing or Loss of Viability
<b>Sensitive Species:</b> Black swift, Townsend's big-eared bat, peregrine falcon, wolverine, harlequin duck, fisher, flammulated owl, fringed myotis, white-headed woodpecker, black-backed woodpecker, Coeur d'Alene salamander, pygmy nuthatch, boreal owl, great gray owl, three-toed woodpecker, Columbian sharp-tailed grouse, spotted bat, and bald eagle (April 1 through September 30)		No Impact	No Impact	No Impact
<b>Management Indicator Species:</b> Northern goshawk, elk, bighorn sheep, Shira's moose, pileated woodpecker, and pine marten		No Impacts Anticipated	No Impacts Anticipated	No Impacts Anticipated
<b>Management Indicator Species:</b> Neotropical migratory birds		No Impacts Anticipated	Reduction in riparian habitat	Reduction in riparian habitat
<b>Rare Plants</b>				
<b>ISSUE: The proposed activities have the potential to affect threatened, endangered, and sensitive plant species.</b>				
<b>The effect on potentially suitable habitat and occurrences of rare plant species:</b>				
<b>TES species:</b> Macfarlane's four-o'clock and Spalding's catchfly		No Effect	No Effect	No Effect
<b>Sensitive species:</b> Regions 1 and 4 and Payette Forest Plan lists (excluding Borsch's stonecrop)		No Impact	No Impact	No Impact



INDICATOR	Alternative 1	Alternative 2	Alternative 3
<p><b>Watch Species (Payette Forest Plan):</b> Borsch's stonecrop</p>	No Impact	May Impact Individuals or Habitat, but not Likely to Contribute to a Trend Toward Federal Listing or Loss of Viability	May Impact Individuals or Habitat, but not Likely to Contribute to a Trend Toward Federal Listing or Loss of Viability
<b>Weeds and Non-native Vegetation</b>			
<i>ISSUE: The proposed activities may increase susceptibility to weed spread and infestation.</i>			
Change in weed expansion risk	No change	No change with design criteria and mitigation measures	No change with design criteria and mitigation measures
<b>Heritage Resources</b>			
<i>ISSUE: The proposed activities have the potential to affect heritage resource and historic properties located within the proposed activity areas.</i>			
Known heritage or historic sites adversely affected (number)	0	0 (with mitigation measures)	0 (with mitigation measures)

## 2.5 Identification of the Preferred Alternative \_\_\_\_\_

Alternative 3 is the Forest Service preferred alternative.



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