

2.0 Alternatives

2.0 ALTERNATIVES

This chapter presents the alternatives being considered for implementation of the Henry Hagg Lake RMP. It describes the No Action Alternative and two action alternatives in detail and provides a summary comparison. For each of the alternatives, recreation area improvements are described, such as trails, formal campsites, signage, boat launching facilities, maintenance facilities, and parking improvements. Reclamation does not have the authority, nor does it intend to build all of these facilities independently. Rather, Reclamation would allow these developments to occur if its managing partner (WACO) is involved, cost-share conditions are met, and Reclamation funds are available or other funding sources become available. For comparison of the alternatives, it is assumed that all of the facilities would be built.

2.1 Alternatives Development

NEPA requires Federal agencies to evaluate a range of reasonable alternatives to a proposed Federal action that meet the purpose and need of a proposed action. The NEPA alternatives development process allows Reclamation to work with interested agencies, Tribes, the public, and other stakeholders to develop alternative management plans that respond to identified issues. This Final EA documents Reclamation's planning and decision-making process for the RMP.

Reclamation began the public involvement process for the Henry Hagg Lake RMP in January 2002 by initiating public scoping. The purpose of this scoping process was to identify issues at Henry Hagg Lake that needed to be included in the RMP alternatives and addressed in the EA. After the first public meeting, held in Hillsboro, Oregon, an Ad Hoc Work Group was formed to address issues and provide input to developing alternatives. The public involvement process is more fully described in Chapter 4, Consultation and Coordination. Reclamation developed the alternatives based on issues identified during the public involvement process, and refined the alternatives with assistance from the Ad Hoc Work Group. The Preferred Alternative was identified during this process for evaluation in this Final EA.

This process resulted in the development of two action alternatives that prescribe a range of natural, cultural, and recreation resource management actions. A third alternative analyzed in this Final EA is the No Action Alternative, as required by NEPA. Each alternative would result in different future conditions at the reservoir. The three alternatives are summarized below.

- **Alternative A - No Action - Continuation of Existing Management Practices.** Management would be conducted according to the priorities and projects proposed under the preferred alternative in the 1994 EA for Scoggins Valley Park/Henry Hagg Lake Recreation Development, including camping. Reclamation would continue to adhere to all applicable Federal and State laws, regulations, and executive orders, including those enacted since the 1994 EA was adopted.
- **Alternative B - Minimal Recreation Development with Resource Enhancement.** Alternative B accommodates the increasing demands for recreation at Henry Hagg Lake primarily by expanding and upgrading existing facilities. No camping is proposed under Alternative B. A number of wildlife habitat and vegetation enhancements are included within the alternative.

- **Alternative C - Moderate Recreation Development with Resource Enhancement (Preferred Alternative).** Alternative C proposes the highest level of development among the three alternatives. Provisions of this alternative include allowing for the development of an environmental education & research center and greater expansion of existing recreation sites. A number of wildlife habitat and enhancement measures also are included under Alternative C. No overnight camping facilities are proposed under this alternative.

2.1.1 Similarities Among Alternatives

Although the alternatives differ in many ways, several features are common to all three alternatives:

- Continue to operate and maintain Reclamation lands and facilities.
- Continue to adhere to existing and future Federal, State, and County laws and regulations and executive orders.
- Authorize special recreation events on a case-by-case basis.
- Continue to implement existing restrictions on vehicle use of the shore and drawdown zone.
- Prior to any ground-disturbing action, the appropriate level of site-specific NEPA analysis would be completed. Necessary cultural resources surveys, tribal consultations about traditional cultural properties (TCPs), site evaluation actions, and site protection or mitigation actions would occur when planning new actions. Tribal consultations to identify Indian sacred sites or Indian Trust Assets (ITAs) would also occur as part of planning such actions.
- Continue to follow the principles in Public Law 89-72, Federal Water Projects Recreation Act of 1965, as amended by Title 28 of Public Law 102-575, to share recreation development and fish and wildlife enhancement project costs with WACO.
- WACO continues to manage Reclamation lands under an agreement with Reclamation.
- Weed management through completion and implementation of the Henry Hagg Lake IPM Plan.
- Coordinate with law enforcement entities regarding Public Law 107-69, which authorizes Reclamation to enter agreements with State, Tribal, and local law enforcement agencies to carry out law enforcement on Reclamation land.
- Continue to consult with the Oregon State Historic Preservation Office (SHPO), affected tribes, and other interested parties about cultural resource management actions, consistent with the processes defined for the National Historic Preservation Act (NHPA) in 36 CFR 800.
- Compliance with current accessibility regulations and standards required at all new facilities and on retrofits of existing facilities.
- Implementation of the Elk Mitigation Meadows Maintenance and Monitoring Plan.

- All actions are dependent upon the availability of funding and must be within the authority of the applicable agency.

2.2 Alternatives Considered in Detail

Three alternatives were selected for detailed analysis. A narrative highlights the primary elements of each alternative, and Table 2.2-1 summarizes each alternative. The impacts of each alternative are described in Chapter 3, Affected Environment and Environmental Consequences.

Alternative plans are defined by different choices to address future management of the study area. These alternatives are an important part of the planning process because they allow for a thorough exploration of a range of different options and an analysis of the potential environmental impacts that may result from their implementation.

Analysis of the No Action Alternative is required under NEPA. For the purposes of managing this area and analysis in the EA, the No Action Alternative (Alternative A) represents the continuation of management under the Preferred Alternative of the 1994 EA. Two action alternatives have been built around the following themes: (1) Alternative B - Minimal Recreation Development with Resource Enhancement; and (2) Alternative C - Moderate Recreation Development with Resource Enhancement. Alternative C has been identified as the Preferred Alternative.

Table 2.2-1. Henry Hagg Lake Resource Management Plan – EA Alternatives.^{1/1}

Alternative A-No Action ^{2/1} – Continuation of Existing Management Practices		Alternative B – Minimal Recreation Development with Resource Enhancement		Alternative C – Moderate Recreation Development with Resource Enhancement (Preferred Alternative)	
TOPICS APPLICABLE TO THE ENTIRE AREA					
Area and Topic					
Overall Wildlife and Vegetation Management	Develop native vegetation buffers at developed areas and monitor impacts from recreation use.	Install and maintain bird/bat boxes where appropriate. Plant woody species in riparian zones, specifically - Tanner and Scoggins Creeks. Maintain buffer zones adjacent to recreation sites. *Investigate the feasibility of installing a cofferdam at Tanner Creek Cove to enhance wetlands including provisions for fish passage, water quality, sediment control, and habitat restoration.	Same as Alternative B, plus: Allow the environmental education and research center to investigate the feasibility of installing a cofferdam at Nelson Cove to enhance wetlands as part of the center.		
Elk Meadows	No development proposed in elk meadows, set aside for wildlife values. Develop long-term management plan for rehabilitation and maintenance of elk meadows (approximately 140 acres total).	RMP to include long-term management plan for the rehabilitation and maintenance and monitoring of elk meadows (i.e., specific actions for each site). Main objectives to: enlarge, rehabilitate, and maintain a minimum of 140 acres of elk meadows. Maintain elk meadows with vegetative buffer between the meadows and reservoir to protect water quality. Allow disc golf at Sain Creek meadow, including gravel parking lot for 8 cars, with a seasonal closure consistent with park operating season. Mitigate for any impacts to elk habitat from future development, as needed. Using monitoring data, work with ODFW to evaluate use of the meadows by elk over the course of the next 10 years and adjust management as needed.	Same as Alternative B.		

Table 2.2-1. Henry Hagg Lake Resource Management Plan – EA Alternatives.^{1/1}

Alternative A-No Action ^{2/1} – Continuation of Existing Management Practices		Alternative B – Minimal Recreation Development with Resource Enhancement		Alternative C – Moderate Recreation Development with Resource Enhancement (Preferred Alternative)	
TOPICS APPLICABLE TO THE ENTIRE AREA (CONT.)					
Noxious Weeds	Develop and implement an Integrated Pest Management Plan.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.	Same as Alternative A.
Rare, Threatened, and Endangered Species	Comply with Federal Endangered Species Act regarding all pertinent activities. Construction and necessary tree removal limited to between March 31 and October 31 to protect wintering eagles. Protect eagle perch sites around reservoir.	Same as Alternative A plus: Cooperate with USFWS to monitor eagle use on Reclamation land and water.	Same as Alternative B.	Same as Alternative B.	Same as Alternative B.
Fisheries Management	Continued management of fisheries in reservoir by ODFW. Provide mitigation for installation of floating docks and their effect to fish habitat.	Continued management of fisheries in reservoir by ODFW. Cooperate with ODFW and fishing clubs on habitat enhancement projects.	Same as Alternative B.	Same as Alternative B.	Same as Alternative B.
Water Quality & Erosion and Sedimentation Control	Provide erosion control for construction-related activities. Provide appropriate drainage control at parking lots and add garbage cans.	Same as Alternative A, plus: Coordinate w/ applicable agencies to install woody debris in place of portions of diversion dams where appropriate. Coordinate with applicable agencies on sediment and erosion control projects upstream of Reclamation lands. Continue to cooperate with CWS and TVID water quality sampling efforts. All new construction and major renovations of facilities would comply with BMPs regarding the design of stormwater control.	Same as Alternative B, plus: Add a floating restroom near buoy line.	Same as Alternative B, plus: Add a floating restroom near buoy line.	Same as Alternative B, plus: Add a floating restroom near buoy line.

Table 2.2-1. Henry Hagg Lake Resource Management Plan – EA Alternatives.^{1/1}

Area and Topic	Alternative A-No Action ^{2/1} – Continuation of Existing Management Practices	Alternative B – Minimal Recreation Development with Resource Enhancement	Alternative C – Moderate Recreation Development with Resource Enhancement (Preferred Alternative)
TOPICS APPLICABLE TO THE ENTIRE AREA (cont.)			
<p>Cultural Resources</p> <p>General</p>	<p>Comply with Sections 106 and 110 of NHPA, ARPA, and NAGPRA. Use consultative processes defined in 36 CFR 800 to determine if sites are eligible to the National Register of Historic Places (National Register), assess project effects, and identify preservation or mitigation actions. Use processes defined in 45 CFR 10 if human remains are discovered that are of Indian origin.</p>	<p>Same as Alternative A.</p>	<p>Same as Alternative A.</p>
<p>Identification & Evaluation</p>	<p>Complete archeological surveys when ground-disturbing actions are proposed in locations where no survey that meets today's professional standards has been previously performed. This determination will be made by a Reclamation archeologist. Complete test excavations or other site evaluation actions at archeological sites found in areas of new ground disturbance or at other recorded sites if they appear threatened by land use or project operations.</p> <p>Complete Tribal consultations as necessary to determine if traditional cultural properties (TCPs) are present in areas of new ground-disturbing actions, or are in or near focused use areas. If TCPs are present, assess impacts on National Register eligible TCPs from proposed new actions or from existing use.</p> <p>Reclamation will complete research to determine if site 02/801-3 is eligible to the National Register.</p>	<p>Same as Alternative A.</p>	<p>Same as Alternative A.</p>

Table 2.2-1. Henry Hagg Lake Resource Management Plan – EA Alternatives.^{1/1}

Area and Topic	Alternative A-No Action ^{2/1} – Continuation of Existing Management Practices	Alternative B – Minimal Recreation Development with Resource Enhancement	Alternative C – Moderate Recreation Development with Resource Enhancement (Preferred Alternative)
Protection	<p>Unless justified, develop no new features or implement no new ground-disturbing actions within the boundaries of a National Register-eligible site or TCP. If a decision were made to proceed with a damaging action, design the facilities to avoid or minimize resource damage.</p> <p>Monitor National Register-eligible or unevaluated sites or TCPs in or near focused use areas to allow early detection of damage, in the event such sites are recorded in the future.</p> <p>Implement management actions or mitigation actions to address identified adverse effects on National Register-eligible sites or TCPs. Implement actions at site 02/801-3, if needed.</p> <p>In the event of discovery of human remains of Indian origin, complete protective actions, Tribal notification, and consultation procedures as required by 45 CFR 10. Consult potentially affiliated Tribes about procedures for protection, treatment, and disposition. Human remains would be left in place, unless it were determined they could not be protected from harm.</p> <p>In the event that future actions generate archeological collections, curate those collections using processes consistent with 36 CFR 79 and 411 DM, which define Federal requirements.</p>	<p>Same as Alternative A plus: Work with local partners to provide educational information about resource value and interpretive information about area prehistory and history.</p>	<p>Same as Alternative B.</p>

TOPICS APPLICABLE TO THE ENTIRE AREA (cont.)

Table 2.2-1. Henry Hagg Lake Resource Management Plan – EA Alternatives.^{1/1}

Area and Topic	Alternative A-No Action ^{2/1} – Continuation of Existing Management Practices	Alternative B – Minimal Recreation Development with Resource Enhancement	Alternative C – Moderate Recreation Development with Resource Enhancement (Preferred Alternative)
TOPICS APPLICABLE TO THE ENTIRE AREA (cont.)			
Indian Sacred Sites	Comply with Executive Order (EO) 13007, Indian Sacred Sites, for any new undertakings. Complete Tribal consultations to determine if sacred sites are present in areas of new ground-disturbing actions. Seek to avoid damages and maintain access when implementing new undertakings, when protective actions are consistent with accomplishing the agency mission and with law.	Same as Alternative A, plus: If existing public land uses are found to damage sacred sites, seek to resolve impact in a manner that preserves public land use while maintaining access.	Same as Alternative B.
Indian Trust Assets	Consult on actions that may affect ITAs and seek to avoid impacts.	Same as Alternative A.	Same as Alternative A.
Scenic Values	Design new facilities to be compatible with scenic values. Use native plants for landscaping. Buffer views of new parking areas from road using plantings. Restore viewsheds through selective vegetation thinning.	Same as Alternative A.	Design new facilities to be compatible with scenic values. Use native plants for landscaping, where feasible. Restore viewsheds through selective vegetation thinning.

Table 2.2-1. Henry Hagg Lake Resource Management Plan – EA Alternatives.^{1/1}

Area and Topic	Alternative A-No Action ^{2/1} – Continuation of Existing Management Practices	Alternative B – Minimal Recreation Development with Resource Enhancement	Alternative C – Moderate Recreation Development with Resource Enhancement (Preferred Alternative)
TOPICS APPLICABLE TO THE ENTIRE AREA (cont.)			
Safety and Emergency Services	<p>Continue emergency service agreements with Oregon Department of Forestry and Gaston Rural Fire District.</p> <p>Coordinate agency input to review proposed facilities and campground regarding safety and emergency services access.</p> <p>Provide 24-hour staff presence at proposed campground.</p>	<p>Continue emergency service agreements with Oregon Department of Forestry and Gaston Rural Fire District.</p> <p>Coordinate agency input to review proposed facilities regarding safety and emergency services access.</p> <p>Maintain clear and open view corridors between the perimeter road and parking areas for law enforcement/ monitoring.</p> <p>Reclamation, TVID, and WACO will develop an Emergency Action Plan for closure of facilities.</p> <p>Reclamation, in cooperation with TVID, WACO, Gaston Rural Fire District, and Oregon Department of Forestry, will develop a fire prevention and management plan.</p>	<p>Same as Alternative B.</p>
Enforcement	<p>Park rangers to continue to provide enforcement.</p> <p>Continue to coordinate with Washington County Sheriff's Department, Oregon State Police, and Coast Guard Auxiliary.</p>	<p>Same as Alternative A, plus:</p> <p>Maintain adequate enforcement commensurate with levels of public use.</p>	<p>Same as Alternative B.</p>
Special Events	<p>Continue to comply with WACO's Scoggins Valley Park reservation application system, including current policies and fees for special use.</p>	<p>Same as Alternative A.</p>	<p>Same as Alternative A.</p>

Table 2.2-1. Henry Hagg Lake Resource Management Plan – EA Alternatives.^{1/1}

Alternative A-No Action ^{2/1} – Continuation of Existing Management Practices		Alternative B – Minimal Recreation Development with Resource Enhancement		Alternative C – Moderate Recreation Development with Resource Enhancement (Preferred Alternative)		
TOPICS APPLICABLE TO SPECIFIC SHORESIDE AREAS						
Area and Topic	Alternative A-No Action ^{2/1} – Continuation of Existing Management Practices	Alternative B – Minimal Recreation Development with Resource Enhancement	Alternative C – Moderate Recreation Development with Resource Enhancement (Preferred Alternative)	Alternative A-No Action ^{2/1} – Continuation of Existing Management Practices	Alternative B – Minimal Recreation Development with Resource Enhancement	Alternative C – Moderate Recreation Development with Resource Enhancement (Preferred Alternative)
Public Information	<p>Continue Washington County information program that includes:</p> <ul style="list-style-type: none"> • Web site • Brochures • Bulletin boards • Special event notices • County newsletter • Press releases • Neighborhood newsletter • Park Advisory Board meetings • Outreach program 	<p>Same as Alternative A, plus: Develop interpretative program to highlight:</p> <ul style="list-style-type: none"> • Natural history • Reclamation Project history • Surrounding Forest Practices • Pre-history & history • Natural resources <ul style="list-style-type: none"> – Wildlife/human interactions – Sensitive species (e.g., elk, western pond turtle) 	<p>Same as Alternative B.</p>	<p>Same as Alternative A, plus: Develop interpretative program to highlight:</p> <ul style="list-style-type: none"> • Natural history • Reclamation Project history • Surrounding Forest Practices • Pre-history & history • Natural resources <ul style="list-style-type: none"> – Wildlife/human interactions – Sensitive species (e.g., elk, western pond turtle) 	<p>Same as Alternative B.</p>	<p>Same as Alternative B.</p>
RMP Implementation	No Actions identified.	<p>Establish, maintain, and annually update a planning schedule and list of priority actions.</p> <p>Until a decision is made regarding raising the dam, focus RMP implementation on critical operation, maintenance, and capacity accommodation (where feasible), and avoid high cost capital improvement projects.</p> <p>Seek joint funding opportunities to implement RMP actions.</p> <p>Keep stakeholders, surrounding landowners, and the public informed of RMP implementation status.</p>	<p>Same as Alternative B.</p>	<p>Establish, maintain, and annually update a planning schedule and list of priority actions.</p> <p>Until a decision is made regarding raising the dam, focus RMP implementation on critical operation, maintenance, and capacity accommodation (where feasible), and avoid high cost capital improvement projects.</p> <p>Seek joint funding opportunities to implement RMP actions.</p> <p>Keep stakeholders, surrounding landowners, and the public informed of RMP implementation status.</p>	<p>Same as Alternative B.</p>	<p>Same as Alternative B.</p>
Reclamation Zone (operation and maintenance area around the dam)	No actions identified.	<p>Recreation use to be conditionally permitted within the Reclamation Zone.</p> <p>Show and describe Reclamation Zone on publicly distributed materials and signage.</p>	<p>Same as Alternative B.</p>	<p>Recreation use to be conditionally permitted within the Reclamation Zone.</p> <p>Show and describe Reclamation Zone on publicly distributed materials and signage.</p>	<p>Same as Alternative B.</p>	<p>Same as Alternative B.</p>

Table 2.2-1. Henry Hagg Lake Resource Management Plan – EA Alternatives.^{1/1}

Alternative A-No Action ^{2/1} – Continuation of Existing Management Practices		Alternative B – Minimal Recreation Development with Resource Enhancement		Alternative C – Moderate Recreation Development with Resource Enhancement (Preferred Alternative)	
TOPICS APPLICABLE TO SPECIFIC SHORESIDE AREAS (cont.)					
Area and Topic	Alternative A-No Action ^{2/1} – Continuation of Existing Management Practices	Alternative B – Minimal Recreation Development with Resource Enhancement	Alternative C – Moderate Recreation Development with Resource Enhancement (Preferred Alternative)	Alternative B – Minimal Recreation Development with Resource Enhancement	Alternative C – Moderate Recreation Development with Resource Enhancement (Preferred Alternative)
Fee Station and Entry Road	No additions or changes to existing facility.	Same as Alternative A.			If feasible and justified due to security concerns and carrying capacity limitations, work with Washington County Commissioners, Land Use & Transportation Department, and neighboring landowners to implement a limited access plan whereby park traffic is required to access the area through the fee station and local traffic is afforded a separate, gated access. Same as Alternative B.
Park Administrative Office & Maintenance Yard	No actions identified.	Construct an addition to the existing vehicle storage shed (60'x 26') for equipment and vehicle storage.			Same as Alternative B.
Recreation Area A East	Add the following to the existing facilities: <ul style="list-style-type: none"> • Showers in existing buildings • One group picnic area • One play structure • 70 campsites (30 tent walk-in, 40 drive-in or RV sites) • 15-unit group camp • 40-slip boat dock • RV dump site Limit camping to between Apr 1 - Oct 31.	Re-open as day use area and add: <ul style="list-style-type: none"> • Play structure • Group shelter 	Same as Alternative B plus: <ul style="list-style-type: none"> • Group picnic area Limited special event use including periodic overnight use.		
Boat Ramp/Recreation Area A West	Add the following to the existing facilities: <ul style="list-style-type: none"> • Pave, add curbs, striping, and arrows (as needed) to the existing 17,000 sf gravel parking area. • Group picnic shelter • One restroom 	Add the following to the existing facilities: <ul style="list-style-type: none"> • *Self-adjusting boat floats (replacement of existing boat floats) • *Fish-cleaning station • Designate concession area • *Boat dump facility 	Same as Alternative B, plus: <ul style="list-style-type: none"> • New picnic shelter • Play structure • Permanent concession facility • *Expanded parking for 30 vehicles/trailers and 20 cars 		

Table 2.2-1. Henry Hagg Lake Resource Management Plan – EA Alternatives.^{1/1}

Alternative A-No Action ^{2/1} – Continuation of Existing Management Practices		Alternative B – Minimal Recreation Development with Resource Enhancement		Alternative C – Moderate Recreation Development with Resource Enhancement (Preferred Alternative)	
TOPICS APPLICABLE TO SPECIFIC SHORESIDE AREAS (cont.)					
Area and Topic					
Access and Trails					
Hiking and Biking	*Develop connections to existing Master (shoreline) Trail – multiple use, bike and pedestrian, 15 miles long. Perimeter road – 10.5 mile long.	Same as Alternative A.	*Same as Alternative A, plus: <ul style="list-style-type: none"> • Where feasible, widen the road shoulder from 7' to 10' and sign/stripe for bicycles, pedestrians, and overflow parking. • Fully develop the Master (shoreline) Trail to route entire trail off the paved road. 		
Equestrian	No trail proposed.	Same as Alternative A.	Allow for development of a new, independent equestrian trail to be constructed and maintained by equestrian groups on the upper side of the perimeter road; include an accessible staging/parking area with sanitation facilities for up to 25 users.		
Nelson Cove – Tualatin Watershed Education & Research Center	Maintain existing elk meadow with no recreation development.	Same as Alternative A.	Authorize development of education & research center as fully proposed, including: <ul style="list-style-type: none"> • Outdoor School • Portland State University Field Research Station • Community Center for neighboring landowners • Mitigate for loss of elk meadow 		
Scoggins Creek Picnic Area	Add to existing facilities: <ul style="list-style-type: none"> • *New groundwater supply • *Permanent vault restroom facility • Six picnic tables • One sheltered group picnic site Pave parking lot.	Add to existing facilities: <ul style="list-style-type: none"> • Permanent vault restroom facility • Boardwalk and interpretive signs 	Same as Alternative A, plus: <ul style="list-style-type: none"> • Play structure • *Boardwalk and interpretive signs 		
Boat Ramp/Recreation Area C	Add to existing facilities: <ul style="list-style-type: none"> • One sheltered group picnic area. • *One restroom • One play structure • *One permanent concession facility (approximately 400 sq. ft.) • *245 car parking 	Same as Alternative A, plus: <ul style="list-style-type: none"> • Self-adjusting boat float (replacement of existing boat floats) • Fish-cleaning station But without: <ul style="list-style-type: none"> • Play structure • Permanent concession 	*Same as Alternative A, plus: <ul style="list-style-type: none"> • Self-adjusting boat floats (replacement of existing boat floats) • Fish-cleaning station 		

Table 2.2-1. Henry Hagg Lake Resource Management Plan – EA Alternatives.^{1/1}

Area and Topic	Alternative A-No Action ^{2/1} – Continuation of Existing Management Practices	Alternative B – Minimal Recreation Development with Resource Enhancement	Alternative C – Moderate Recreation Development with Resource Enhancement (Preferred Alternative)
TOPICS APPLICABLE TO SPECIFIC SHORESIDE AREAS (cont.)			
Recreation Area C Extension (Cove Area)	Add to existing facilities: <ul style="list-style-type: none"> Extend potable water from Recreation Area C One restroom building 20 picnic tables One sheltered group picnic area Parking area adjacent to road (129 parking spaces) 	No development proposed.	Allow for the development of facilities according to the following two-phased approach: <p>Phase One</p> <ul style="list-style-type: none"> Recondition existing parking area and turn around with 35 marked parking spaces, curbs, and entry and exit ways Install accessible pathway to waters edge <p>*Phase Two</p> <ul style="list-style-type: none"> Expand parking area from 35 to 70 parking spaces Add roadway from Cove entrance to connect with parking/roadway system at Recreation Area C Boat Ramp Add 8 accessible parking slots in proximity to accessible fishing pier Add accessible restroom between new accessible parking area and accessible fishing pier Install non-motorized (kayak, canoe, etc.) boat launch
Sain Creek Picnic Area	Add to existing facilities: <ul style="list-style-type: none"> One play structure. 	No change from existing facilities.	Same as Alternative A.
Elks Picnic Area	Enhance existing facilities by paving the parking area.	No change from existing facilities.	Same as Alternative A.

Notes:

^{1/1} All new and remodeled facilities will be designed and constructed in accordance with current standards for accessibility for persons with disabilities.

^{2/1} Alternative A is the No Action Alternative as required under NEPA. In this case, if implemented, it would mean continuing to manage the RMP study area under the 1994 Recreation Management Plan and follow current Federal regulations. It is important to note that Alternative A is not necessarily a “status quo” situation. Rather, Alternative A would be a continuation of the existing 1994 Plan whereby actions called for in that plan would continue to be implemented, dependent on funding, coordination, and willing partners.

* Implementation is dependent on decision regarding dam raise and are shown only for actions that apply to the Preferred Alternative. See Section 1.6 for a detailed discussion.

2.2.1 Alternative A – No Action Alternative

Under the No Action Alternative, management would continue to be guided by the preferred alternative as outlined in the 1994 EA for Scoggins Valley Park/Henry Hagg Lake (Figure 2.2-1). Reclamation's support and funding would continue to be directed by the guidelines of the 1994 EA, which may or may not meet current and future demand or facility needs. Issues and concerns not previously addressed or included in the 1994 EA would be dealt with on an ad hoc basis. Recreation development is generally greater than that of Alternative B but less than that of Alternative C. Under the No Action Alternative, it is assumed that the portions of the 1994 EA that have not been implemented, such as providing for camping at Recreation Area A East, would be completed. Specifics of Alternative A are discussed below.

2.2.1.1 Topics Applicable to the Entire Area

Overall Wildlife and Vegetation Management

The 1994 EA stipulated that native vegetation buffers would be developed between recreation sites and natural areas for wildlife enhancement. These buffers have not been implemented to date. These buffers would be monitored for impacts from recreation use.

Elk Meadows

No development would occur in any of the designated elk meadows along the perimeter of the reservoir. In addition, a long-term management plan (an Elk Mitigation Meadows Maintenance and Monitoring Plan) has been developed for the rehabilitation and maintenance of the elk meadows (total 140 acres) and would be implemented. See Section 3.5 for a detailed discussion of the elk meadows.

Noxious Weeds

The IPM Plan will be prepared by Reclamation and will prescribe specific technical measures and strategies for weed control. Implementation of the IPM Plan would be done by the managing partners, WACO and TVID. A separate NEPA process will be conducted for this plan.

Rare, Threatened, and Endangered Species

Reclamation would continue to comply with the Federal Endangered Species Act (ESA) regarding all activities at Henry Hagg Lake. Construction and necessary tree removal would be limited to between March 31 and October 31 for the protection of wintering bald eagles. In addition, identified eagle perch trees around the reservoir would be protected.

Fisheries Management

Reclamation would continue to coordinate on the management of fisheries resources with the Oregon Department of Fish and Wildlife (ODFW). Mitigation would be provided for the installation of any floating docks and the subsequent effect to fish habitat.

Water Quality and Erosion and Sedimentation Control

Erosion control would be provided for all construction-related activities. Appropriate drainage control would be provided at parking lots. Garbage receptacles would be added where necessary for improved collection.

Cultural Resources

General

Reclamation would comply with requirements of Sections 106 and 110 of the National Historic Preservation Act (NHPA), the Archaeological Resources Protection Act (ARPA), and the Native American Graves Protection and Repatriation Act (NAGPRA). Reclamation would use consultative processes defined in 36 CFR 800 to determine if sites are eligible to the National Register of Historic Places (National Register), assess project effects, and identify preservation or mitigation actions. Reclamation would use processes defined in 45 CFR 10 if human remains are discovered that are of Indian origin.

Identification & Evaluation

Reclamation will complete research to determine if site 02/801-3 is eligible to the National Register. Reclamation would complete archeological surveys when ground-disturbing actions are proposed in locations where no survey that meets today's professional standards has been previously performed. This determination will be made by a Reclamation archeologist. Reclamation would complete test excavations or other site evaluation actions at archeological sites found in areas of new ground disturbance or at other recorded sites if they appear threatened by land use or project operations.

Reclamation would complete Tribal consultations as necessary to determine if TCPs are present in areas of new ground-disturbing actions, or are in or near focused use areas. If TCPs are present, Reclamation would assess impacts on National Register eligible TCPs from proposed new actions or from existing use.

Protection

Unless justified, Reclamation would develop no new features or implement no new ground-disturbing actions within the boundaries of a National Register-eligible site or TCP. If a decision were made to proceed with a damaging action, design the facilities to avoid or minimize resource damage.

Reclamation would monitor National Register-eligible or unevaluated sites or TCPs in or near focused use areas to allow early detection of damage, in the event such sites are recorded in the future.

Reclamation would implement management or mitigation actions to address identified adverse effects on National Register-eligible sites or TCPs. If site 02/801-3 is found to be eligible, then Reclamation will assess the impacts to the site from use and maintenance of the shoreline Master Trail, and then identify and implement actions to either avoid further impacts or mitigate ongoing impacts.

Figure 2.2-1 Alternative A: No Action – Continuation of Existing Management Practices

Back of Figure 2.2-1

In the event of discovery of human remains of Indian origin, Reclamation would complete protective actions, Tribal notification, and consultation procedures as required by 45 CFR 10. Consult potentially affiliated Tribes about procedures for protection, treatment, and disposition. Human remains would be left in place, unless it were determined they could not be protected from harm.

In the event that future actions generate archeological collections, Reclamation would curate those collections using processes consistent with 36 CFR 79 and 411 DM, which define Federal requirements.

Indian Sacred Sites

Reclamation would comply with Executive Order (EO) 13007, Indian Sacred Sites, for any new undertakings. Complete Tribal consultations to determine if sacred sites are present in areas of new ground-disturbing actions. Reclamation would seek to avoid damages and maintain access when implementing new undertakings, when protective actions are consistent with accomplishing the agency mission and with law.

Indian Trust Assets

Reclamation would consult on actions that may affect ITAs and avoid impacts.

Scenic Values

All new facilities would be designed to be compatible with existing scenic values. Native plants would be used for landscaping and views of parking lots from the perimeter road would be buffered with vegetation. In addition, viewsheds would be restored by selective brush clearing.

Safety and Emergency Services

Emergency services agreements with the Oregon Department of Forestry (ODF) and the Gaston Rural Fire District (GRFD) would continue. Reclamation would coordinate review of any proposed facilities with the appropriate safety and emergency service agencies regarding access. In addition, park and/or volunteer staff would be present on a 24-hour basis at the proposed campground at Recreation Area A East.

Enforcement

Park rangers would continue to provide enforcement of park regulations and would continue to coordinate with State Police, County Sheriff's Department, and the U.S. Coast Guard Auxiliary.

Special Events

Reclamation would continue to comply with WACO's Scoggins Valley Park reservation system, including the fee structure and general policies.

Public Information

WACO would continue its public outreach program using a variety of media.

RMP Implementation

No actions were identified in the 1994 EA under this heading.

Reclamation Zone

No actions were identified for this zone around the dam (Figure 2.2-1) in the 1994 EA under this heading.

2.2.1.2 Topics Applicable to Specific Shoreside Areas

Fee Station and Entry

No changes were proposed to the existing facility.

Park Administrative Office and Maintenance Yard

No changes were proposed to the existing facility.

Recreation Area A East

A number of improvements were proposed for this area to accommodate camping. Features such as showers, designated campsites for tents and recreation vehicles (RVs), a boat dock, picnic area, play structure, and an RV dump are included. Camping was never instituted at Recreation Area A East. Camping that would be instituted under this alternative would be limited to between April 1 and October 31.

Recreation Area A West

New paving, curbs, striping, and road arrows would be added to the existing parking lot. Other added features include a group picnic area and a new restroom.

Access and Trails

Connections would be developed to the existing shoreline trail, but no equestrian trail use is proposed.

Nelson Cove – Tualatin Watershed Education & Research Center

No measures are proposed under this heading in the 1994 EA.

Scoggins Creek Picnic Area

A number of existing facilities would be added to the site including a new groundwater supply, a permanent vault restroom, six picnic tables, and one sheltered group picnic site; in addition, the parking lot would be paved.

Recreation Area C

A number of facilities would be added to the day use area including a sheltered picnic area, parking for 245 cars, one restroom, a play structure, and a permanent concession facility.

Recreation Area C Extension (Cove Area)

Facilities that would be added include extension of potable water from the adjacent Recreation Area C, one restroom, 20 picnic tables, a sheltered picnic area, and parking for 129 cars.

Sain Creek Picnic Area

The addition of one play structure is proposed for this site.

Elks Picnic Area

The existing parking lot would be paved.

2.2.2 Alternative B – Minimal Recreation Development with Resource Enhancement

Alternative B provides for minimal recreation development with enhancement of natural resources on Reclamation land (Figure 2.2-2). While adding to the existing recreation facilities, Alternative B also provides for a number of resource enhancements for wildlife habitat and wetlands. A primary component that differs from Alternative A is that Alternative B would facilitate day use at Recreation Area A East while Alternative A would accommodate camping. Increased capacity would be implemented through expansion of existing facilities. For instance, unlike the other two alternatives, no development is proposed at the Recreation Area C Extension (Cove Area). Modifications to existing facilities are generally less than or similar to those proposed under Alternative A, and are generally less intensive than those under Alternative C.

2.2.2.1 Topics Applicable to the Entire Area

Overall Wildlife and Vegetation and Management

A number of wildlife and vegetation enhancements are proposed, including: installing bird/bat boxes where appropriate, planting woody species in the riparian zones of Tanner and Scoggins Creeks, maintaining buffer zones adjacent to recreation sites, and investigating the feasibility of installing a cofferdam at Tanner Creek Cove to enhance wetlands that would include provisions for fish passage, water quality, sediment control, and habitat restoration. Installation of any wetland enhancement projects would depend on the timing and final decision regarding the potential dam raise.

Elk Meadows

Under Alternative B, the RMP would include a long-term plan to rehabilitate and maintain the elk meadows with the goal to maintain 140 acres. Buffers would be maintained between the meadows and the reservoir to protect water quality. A disc golf course would be installed at the Sain Creek meadow with seasonal closures consistent with the park operating season to protect against disturbing elk use. Reclamation, with ODFW, would implement the monitoring plan to evaluate elk use of the meadows over the next 10 years and adjust management as needed. Any impacts to elk meadows in the future would be appropriately mitigated.

Noxious Weeds

Reclamation would develop and implement an IPM Plan for Henry Hagg Lake.

Rare, Threatened, and Endangered Species

Alternative B would incorporate the measures described under Alternative A and also calls for cooperation with the U.S. Fish and Wildlife Service (USFWS) to monitor eagle use on Reclamation lands and water.

Figure 2.2-2 Alternative B: Minimal Recreation Development with Resource Enhancement

Back of Figure 2.2-2

Fisheries Management

Alternative B would incorporate the measures described in Alternative A. In addition, Reclamation would cooperate with ODFW and fishing clubs on appropriate habitat enhancement projects. ODFW would continue to manage the fisheries resources at the reservoir.

Water Quality and Erosion and Sedimentation Control

In addition to the measures described under Alternative A, Alternative B would include coordination with applicable agencies to install woody debris in streams where appropriate, coordinate with agencies on sediment and erosion control projects upstream of Reclamation lands, and continue coordination with CWS and TVID on water quality monitoring. All new construction and major renovations of facilities would comply with WACO regulations regarding design of stormwater controls.

Cultural Resources

Measures under Alternative B would be the same as for Alternative A, except they would also include provisions for working with local partners to provide educational information regarding the area's prehistory and history.

Indian Sacred Sites

Measures under Alternative B for Indian sacred sites would be the same as those under Alternative A and would resolve any impacts to Indian sacred sites while maintaining public access.

ITAs

Measures under Alternative B for ITAs would be the same as those under Alternative A.

Scenic Values

Provisions for maintaining the visual qualities of the area are the same as those described under Alternative A.

Safety and Emergency Services

Alternative B would continue the emergency services agreements with ODF and GRFD, coordinate agency input to review safety and emergency services access with appropriate agencies, and maintain clear and open view corridors between the perimeter road and parking areas for enforcement and monitoring. In addition, TVID, WACO, and Reclamation would develop an Emergency Action Plan for closure of the facilities. Reclamation, in cooperation with TVID, WACO, Gaston Rural Fire District, and Oregon Department of Forestry would develop a Fire Prevention and Management Plan.

Enforcement

Alternative B would include the measures described under Alternative A but also would maintain adequate enforcement commensurate with levels of public use.

Special Events

Actions under Alternative B would be the same as those described under Alternative A.

Public Information

In addition to the measures described under Alternative A, Alternative B would include the development of an interpretative program for natural history, Reclamation Project history, surrounding forest practices, and the general pre-history and history of the area. Public information also would include guidelines regarding human/wildlife interactions and protection of sensitive species including elk and western pond turtles.

RMP Implementation

Alternative B would include provisions to establish an annual planning schedule and priority list, focus RMP implementation to avoid high capital cost improvements until a decision regarding the dam raise is made, seek joint funding opportunities, and keep the public informed of RMP implementation status.

Reclamation Zone

Recreation use of the Reclamation Zone would be conditionally permitted. The Reclamation Zone would be indicated on publicly distributed materials.

2.2.2.2 Topics Applicable to Specific Shoreside Areas

Fee Station and Entry Road

Measures would be the same as those described under Alternative A.

Park Administrative Office and Maintenance Yard

An additional vehicle storage shed (60 x 40 ft) would be constructed.

Recreation Area A East

This site would be re-opened as a day use area only with the inclusion of a play structure and a group shelter.

Recreation Area A West

Improvements to the existing facilities would include a self-adjusting boat floats to replace the existing boat floats, a fish cleaning station, a concession area, and a boat dump facility.

Access and Trails

Measures under Alternative B would be the same as those described under Alternative A.

Nelson Cove – Tualatin Watershed Education & Research Center

Measures under Alternative B would be the same as those described under Alternative A.

Scoggins Creek Picnic Area

A permanent vault restroom and a boardwalk with interpretive signs would be added to the day use area.

Recreation Area C

Improvements would include the addition of a sheltered group picnic area, parking for 245 cars, a restroom, a self-adjusting boat float, and a fish cleaning station.

Recreation Area C Extension (Cove Area)

No development is proposed at this site under Alternative B.

Sain Creek Picnic Area

No changes to the existing facilities are proposed.

Elks Picnic Area

No changes to the existing facilities are proposed.

2.2.3 Alternative C - Moderate Recreation Development with Resource Enhancement – Preferred Alternative

Alternative C includes a generally higher level of development than the other two alternatives and includes the proposed environmental education & research center and new facilities at the Recreation Area C Extension (Cove Area) (Figure 2.2-3). This alternative also incorporates provisions for fish and wildlife enhancement, improvements and monitoring of elk meadows, and use of native plants for landscaping. Similar to Alternative B, increased capacity is addressed by expansion of existing facilities, but to a greater degree. In addition, day use at Recreation Area A East is proposed. This alternative will consider the potential development of an independent equestrian trail to be constructed and maintained by equestrian groups to include a staging/parking area with sanitation facilities and parking for up to 25 vehicles/users.

Camping is a recreational opportunity that should be available at Henry Hagg Lake. Proximity to the Portland Metropolitan area, input received during the RMP planning process, high levels of interest from the general public and favorable cost/benefit impacts on the WACO operating budget for Henry Hagg Lake clearly support further exploration of the development of an overnight tent and RV campground. However, the investment that would be required to produce even a modest campground cannot be justified at this time due to the uncertainty associated with the possible dam raise. When specific plans for the dam raise are finalized, the development of tent and RV camping opportunities should be more fully explored and implemented at a suitable Henry Hagg Lake location.

2.2.3.1 Topics Applicable to the Entire Area

Overall Wildlife and Vegetation Management

In addition to the measures described under Alternative B, the environmental education and research center will investigate the feasibility of an additional cofferdam for Nelson Cove for wetland enhancement.

Elk Meadows

Measures for Alternative C would be the same for those described under Alternative B.

Noxious Weeds

Measures for Alternative C would be the same as those described under Alternative B.

Rare, Threatened, and Endangered Species

Measures for Alternative C would be the same as those described under Alternative B.

Fisheries Management

Measures for Alternative C would be the same as those described under Alternative B.

Figure 2.2-3 Alternative C: Moderate Recreation Development with Resource Enhancement
(Preferred Alternative)

Back of Figure 2.2-3

Water Quality and Erosion and Sedimentation Control

In addition to the measures described under Alternative A, a floating restroom would be added near the reservoir buoy line.

Cultural Resources

Measures for cultural resources under Alternative C would be the same as those described under Alternative B.

Indian Sacred Sites

Measures for Indian Sacred sites under Alternative C would be the same as those described under Alternative B.

ITAs

Measures for ITAs would be the same as those described under Alternative B.

Scenic Values

Facilities would be designed for compatibility with scenic values, native plants would be used for landscaping where feasible, and viewsheds would be restored using selective vegetation thinning.

Safety and Emergency Services

Measures for safety and emergency services would be the same as Alternative B.

Enforcement

Measures for Alternative C would be the same as those described under Alternative B.

Special Events

Measures for Alternative C would be the same as those described under Alternative B.

Public Information

Measures for Alternative C would be the same as those described under Alternative B. In addition, the proposed education and research center will have a public information component.

RMP Implementation

Measures for Alternative C would be the same as those described under Alternative B.

Reclamation Zone

Measures for Alternative C would be the same as those described under Alternative B.

2.2.3.2 Topics Applicable to Specific Shoreside Areas

Fee Station and Entry Road

If feasible and justified due to security concerns and carrying capacity limitations, Reclamation would coordinate with the Washington County Commissioners, Land Use and Transportation Department, and neighboring landowners to implement a limited access plan. Park traffic would be required to access the area through the fee station, and local traffic would be provided a separate, gated access. This would require a gate across Scoggins Valley Road that leads into the park.

Park Administrative Office and Maintenance Yard

Measures for Alternative C would be the same as those described under Alternative B.

Recreation Area A East

In addition to day use facilities described under Alternative B, a group picnic area would be added. Limited special events would use the site, including some limited overnight use – which is the current practice.

Recreation Area A West

In addition to the measures proposed under Alternative B, Alternative C would include a new picnic shelter, a play structure, permanent concession facility, and expanded parking for 30 vehicles/trailers and 20 cars.

Access and Trails

Alternative C includes the measures proposed under Alternative A plus provisions for widening the road shoulder where possible for bicycles, improving the shoreline trail so it is entirely off of the perimeter road, and allowing a separate equestrian trail to be developed by equestrian groups.

Nelson Cove – Tualatin Watershed Education & Research Center

Reclamation, WACO, the Northwest Regional Education Service District, and Portland State University (PSU) have been cooperating on the potential design of a facility at Henry Hagg Lake for the Northwest Outdoor Science School and Center for Lakes and Reservoirs. The facility could include:

- Fully equipped classrooms for elementary and high school age students and field laboratories for college studies;
- A large lecture hall;
- A dining hall serving up to 230 people during meals and events;
- Overnight lodging for 140 elementary students and 48 counselors in cabins, and accommodations for 25 staff and teachers;

- A boathouse and dock for study excursions to the reservoir and nearby wetlands;
- An outdoor study area with artificial streams and ponds for research; and
- A covered campfire facility, amphitheater, outdoor learning shelters, and pathways.

A feasibility study was finalized on May 21, 2001 (WACO 2001) and provides an overview of the facilities, estimates of costs, documentation of the public input process, facility design options, and a site analysis. The preferred site for the facility is located in the Nelson Cove elk meadow on the east shore of the reservoir. The facility would fully incorporate sustainable development elements and would be designed and positioned in a manner that was the least intrusive to the area's scenic qualities. The feasibility study was an initial step for this facility, and along with potential environmental impacts being considered under this EA, land status, and wildlife mitigation requirements will also guide Reclamation's decision process for this proposal. Any loss of elk meadow habitat would require appropriate mitigation.

Scoggins Creek Picnic Area

In addition to the measures proposed under Alternative A, Alternative C would include a play structure and a boardwalk with interpretive signs.

Recreation Area C

In addition to the measures proposed under Alternative A, a self-adjusting boat float and a fish cleaning station would be developed.

Recreation Area C Extension (Cove Area)

Facilities would be developed under a two-phase approach. Under the initial phase, the existing parking lot would be reconditioned (new paving, add parking stripes, curbs, and entry-exit ways), an accessible pathway would be developed to the water. Phase two would include the expansion of the parking lot, addition of a road connection to C ramp, addition of eight accessible parking slots, addition of an accessible restroom, and a non-motorized boat launch.

Sain Creek Picnic Area

Measures for Alternative C would be the same as those described under Alternative A.

Elks Picnic Area

Measures for Alternative C would be the same as those described under Alternative A.

2.3 Alternative Elements Eliminated from Consideration

Most of the elements suggested by the public were included in one or more of the action alternatives. Some elements that were suggested included construction of a combined equestrian trail (i.e., part of existing shoreline trail), designating a portion of the reservoir for non-motorized boats, designation of a “wildlife refuge area” on the reservoir, specific riparian and fish habitat enhancements, and designation of an off-leash area for pets. These elements were reviewed, discussed, and analyzed among the Ad Hoc Work Group members and the Reclamation RMP Team members but were eliminated from further consideration because of potential costs, high potential for conflict with natural resources, conflicts between users, and standard Reclamation policies.

Henry Hagg Lake is close to a large metropolitan population; this, combined with the current high level of use by motorized boats, made designation of a non-motorized portion of the reservoir likely to lead to user conflicts and safety concerns. Waterfowl use of the reservoir is greatest during the period when the recreation facilities are closed, from November through March. Migrating and wintering waterfowl use the reservoir as resting habitat during this time when the pool level is rising or stable. Because of the different seasons of use between humans and waterfowl and the high recreation demand, no measures were deemed necessary to minimize disturbance of waterfowl.

Specific habitat enhancements were suggested, including the planting of woody riparian species along the reservoir edge and placement of large woody debris for fish habitat. It is impractical to plant riparian species along the reservoir edge because of the large water level fluctuations. Placement of woody debris was considered but not carried forward because concern to the safety of boaters as water levels drop through the recreation season, and such features could become a hazard. Provisions in the alternatives include coordination with ODFW on appropriate aquatic habitat projects.

2.4 Summary of Impacts

The impact analysis is presented in Chapter 3. A summary of these impacts is provided in Table 2.4-1.

Table 2.4-1. Impacts of alternatives comparison summary.*

Resource Area	Alternative A – No Action	Alternative B	Alternative C Preferred Alternative
Noise	Minor long-term adverse effects would result from expanded, enhanced, and re-opened recreation sites causing increased use and more noise.	Impacts would be similar to Alternative A, but slightly less because of less development and lack of camping at re-opened Area "A" East.	Impacts would be virtually the same as Alternative A. No camping is proposed but other recreation areas would be further enhanced and the education and research center would be developed.
Soils	Minor increases in erosion would result from temporary construction activity and from long-term effects of increased recreation.	Impacts would be similar to those of Alternative A but slightly less because of less development and lack of camping facilities.	Impacts would be slightly greater than those of Alternative A because of the amount of soil disturbance related to new facilities including the new environmental education and research center. These effects are somewhat offset by the increased beneficial actions under Alternative C.
Hydrology and Water Quality	There would be minor long-term increases in stormwater runoff from increases in paved surfaces and from effects of long-term recreation use.	Impacts would be similar but less than those of Alternative A because of less development.	Impacts would be slightly greater than those of Alternative A because of the amount of new impervious surfaces. These effects are somewhat offset by the increased beneficial actions under Alternative C.
Vegetation	Long-term benefits would result from weed control, rehabilitation of elk meadows, and buffer enhancements. Minor adverse effects would result from clearing of new recreation sites and increased recreation use.	Beneficial impacts would be similar to, but somewhat greater than those of Alternative A, and include provisions for wetland restoration. Adverse impacts would be slightly less than those of Alternative A because of the lower amount of recreation development.	Beneficial impacts would be similar to, but somewhat greater than those of Alternative A, but also includes additional wetland restoration measures. Adverse impacts would be slightly greater than those of Alternative A due to the relative amount of recreation development, trail construction, and development of the education and research center.

*Note: Only impacts that vary from those described for the No Action Alternative are described for other alternatives.

Table 2.4-1. Impacts of alternatives comparison summary.*

Resource Area	Alternative A – No Action	Alternative B	Alternative C Preferred Alternative
Fish and Wildlife	<p>Moderate amount of relative disturbance impacts resulting from development and increased park use.</p> <p>Moderate habitat loss without mitigating habitat restoration.</p> <p>Moderate indirect impact to aquatic ecosystems from water quality degradation.</p> <p>Beneficial effects to elk from improved management and habitat enhancement in meadows.</p>	<p>Minimal disturbance impacts resulting from development and increased use.</p> <p>Minimal habitat loss with mitigating habitat restoration.</p> <p>Beneficial impact to fisheries from aquatic habitat enhancement.</p> <p>Minimal indirect impact to aquatic ecosystems from water quality degradation due to increased recreation and resulting erosion.</p> <p>Beneficial effects to elk from improved management and habitat enhancement in meadows.</p> <p>Installation of a cofferdam at Tanner Creek would create wetland habitat for a variety of wildlife and provide minor water quality benefits.</p> <p>Direct beneficial effects to fish and wildlife and indirect benefits through water quality improvements from habitat restoration at Tanner Creek Cove.</p>	<p>Slightly greater adverse effects than Alternative A and greater adverse effects than Alternative B due to relative amount of recreation development and anticipated use, trail development, and development of the education and research center.</p> <p>Beneficial effects from habitat restoration.</p> <p>Beneficial impact to fisheries from aquatic habitat enhancement.</p> <p>Beneficial effects to elk from improved management and habitat enhancement in meadows.</p> <p>Direct beneficial impact to fish and wildlife and indirect benefits through water quality improvements from habitat restoration at Tanner Creek and Nelson Cove.</p>
Threatened, Endangered, and Sensitive Species	<p>Potential impacts to TES species resulting from development and increased disturbance.</p> <p>Minimal benefits to TES plant species from improved control of noxious weeds.</p> <p>Minimal benefits to bald eagles from protection of perch trees.</p> <p>Minimal benefits to TES species from improved maintenance of elk meadows.</p>	<p>Minimal impacts to TES species resulting from development and increased disturbance.</p> <p>Benefits to TES plant species from comprehensive noxious weed control plan.</p> <p>Benefits to bald eagles from protection measures and cooperative monitoring.</p> <p>Minor benefits to downstream steelhead from water quality improvement.</p> <p>Minor benefits to some TES species from habitat restoration at Tanner Creek Cove.</p>	<p>Slightly greater impacts than Alternatives A and B due to relative amount of development and associated human activity.</p> <p>Benefit to TES plant species from comprehensive noxious weed control plan.</p> <p>Benefit to bald eagles from protection measures and cooperative monitoring.</p> <p>Minor benefits to downstream steelhead from water quality improvement.</p> <p>Minor benefits to some TES species from habitat restorations at Tanner Creek and Nelson Cove.</p>

*Note: Only impacts that vary from those described for the No Action Alternative are described for other alternatives.

Table 2.4-1. Impacts of alternatives comparison summary.*

Resource Area	Alternative A – No Action	Alternative B	Alternative C Preferred Alternative
Recreation	Greatest beneficial impact from new recreation development and improvements.	Minor beneficial impact from recreation improvements. Minimal adverse impacts to recreation from wildlife and vegetation enhancements.	Moderate beneficial impact from new recreation development and improvements. Moderate adverse impact from development of the education and research. Minimal impacts to recreation from wildlife and vegetation enhancements.
Visual Resources	Moderate adverse impact to scenic quality of park due to increased recreation facility development.	Minimal adverse impact to scenic quality of park due to lower level of recreation facility development and emphasis on natural resources.	Highest adverse impact to scenic quality of park due to level of recreation facility development and construction of environmental education and research center.
Land Use	Mostly positive impacts to land use due to increased recreation facility development to meet demand while protecting other resources.	Minimal to neutral impacts to land use due to increased recreation facility development. Minimal adverse impact associated with security and safety related to permitting use in the Reclamation Zone.	Minimal impact to land use due to increased recreation facility development. Minimal impact associated with security and safety related to permitting use in the Reclamation Zone. Minimal impact to land use and natural resources by expanding facilities.
Socioeconomics	Minimal positive to neutral benefits to local community through increased recreation use and the need for additional recreation and natural resource management.	Minimal positive to neutral benefits to local community through increased recreation use and the need for additional recreation and natural resource management.	Minimal positive to neutral benefits to local community through increased recreation use and the need for additional recreation and natural resource management.
Public Services and Utilities	Moderate impact to public services due to an increase in recreation facilities and use. Moderate impact to public utilities to support new recreation development.	Minimal impact to public services due to an increase in recreation facilities and use. Minimal impact to public utilities to support new recreation development.	Moderate impact to public services due to an increase in recreation facilities and use. Slightly greater than Alternative A. Moderate impact to public utilities to support new recreation enhancements and education research center development. Slightly greater than Alternative A.
Environmental Justice	No impacts.	Same as Alternative A.	Same as Alternative A.
Cultural Resources	There would be no impacts with the implementation of resource protection and management commitments.	Same as Alternative A.	Same as Alternative A.

*Note: Only impacts that vary from those described for the No Action Alternative are described for other alternatives.

Table 2.4-1. Impacts of alternatives comparison summary.*

Resource Area	Alternative A – No Action	Alternative B	Alternative C Preferred Alternative
Indian Sacred Sites	No identified impacts.	Same as Alternative A.	Same as Alternative A.
Indian Trust Assets	No identified impacts.	Same as Alternative A.	Same as Alternative A.
Transportation and Access	<p>Moderate adverse impact to roads, parking, and access to and within the park due to an increased level of recreation facility development and expected use.</p> <p>Moderate adverse impacts associated with traffic volume from new users groups due to new camping facilities.</p> <p>Minimal beneficial impact associated with opportunities for trail-based recreation and trail access.</p>	<p>Minimal adverse impact to roads, parking, and access to and within the park due to a lower level of recreation facility development.</p> <p>Minimal benefits associated with opportunities for trail-based recreation and trail access.</p>	<p>Moderate adverse impact to roads, parking, and access to and within the park due to a higher level of recreation facility development and expected use.</p> <p>Moderate impact, such as congestion, due to access control at park entry point.</p> <p>Moderate impacts associated with traffic volume from new users groups due to new education & research center.</p> <p>Moderate benefits associated with opportunities for trail-based recreation and trail access.</p>

*Note: Only impacts that vary from those described for the No Action Alternative are described for other alternatives.