

**BLM Recreation Construction
Hells Canyon Reservoir
EA #OR-035-03-07**

Table of Contents

Chapter 1 – Purpose and Need for Action.....2
 1.1 Introduction
 1.2 Purpose and Need for Proposed Action
 1.3 Consistency with Management Plans
 1.4 Scoping
 1.5 Key Issues to be Addressed
Chapter 2 – Alternatives Including the Proposed Action.....7
 2.1 Alternatives
 Tables 1-4 – Summary of Proposed Action
 2.2 Alternatives Considered but Eliminated
 2.3 Comparison of the Alternative
 Table 5 – Summary Comparing Issues and Alternatives
 Table 6 – Number of Campsites per Alternative
 2.4 Mitigation Measures
Chapter 3 – Affected Environment and Consequences18
 3.1 Overview
 3.2 Key Issues Analyzed in Detail (Existing Condition and Effects)
 3.2.1 Issue #1: Recreation – What are the effects on recreation users?
 3.2.2 Issue #2: Vegetation – What are the effects on riparian areas?
 3.2.3 Issue #3: Wildlife – What are the effects on wildlife and big game winter range?
 3.2.4 Issue #4: Listed Species – What are the effects on Bull Trout? What are the effects on nesting
 and wintering bald eagles?
 3.3 Other Resources (Existing Condition and Effects)
 3.3.1 Soils & Water Quality
 3.3.2 Mineral Resources
 3.3.3 Cultural Resources
 3.3.4 Transportation/Access
 3.3.5 Socio/Economic
 3.3.6 Livestock Forage/Management/Improvements
 3.3.7 Noxious Weeds
 3.3.8 Land Uses/Rights/Facilities
 3.3.9 Visual Quality
 3.3.10 Air Quality
 3.4 Cumulative Effects
 3.5 Residual Impacts
Participating Staff.....40
Appendix
 A. Vicinity maps (2)
 B. Aerial photos (2)
 C. Site Plans (4)
 D. AMS
Bibliography

CHAPTER 1

PURPOSE AND NEED FOR ACTION

1.1 Introduction

The Bureau of Land Management, Baker Resource Area of Vale District proposes to construct recreation facilities at four sites adjacent to Hells Canyon Reservoir (see map A). The sites have been assigned local names for clarification; Westfall, Bob Creek, Airstrip, and Copper Creek. These four sites currently have some level of development and capital investment.

The proposal would involve a series of projects to be implemented over several years as funding allows. Site plans for each site can be found in the Appendix. These site plans show what the proposed Project entails with locations of facilities and roads. Tables 1-4 summarize the proposed Projects and changes at each site. Construction of the primary priorities would begin at some sites in fall 2003. Primary and secondary priorities were determined by considering resource effects; user desires, funding availability, and feasibility.

The proposed Project would define use sites, create level camping units, establish specified roadways, increase sanitation facilities, and increase shade and riparian vegetation. Physical barriers would be created to limit vehicle access to shorelines. The riparian areas would then be rehabilitated.

There is a link between this proposed Project and ongoing planning regarding the re-licensing of the Hells Canyon Complex of dams owned by Idaho Power Company (IPC). One of the license articles requires IPC to provide recreation opportunities to the public. IPC has been cooperating with BLM and planning for recreation along Hells Canyon Reservoir for several years. IPC has committed to funding for future recreation needs in the next license cycle (30-50 years beyond 2005). During the re-licensing effort, many stakeholders participated in a Recreation Work Group that outlined a desired future condition for the area and identified ways in which to achieve that condition over time. This proposed Project implements the first step toward that future.

1.2 Purpose and Need for Proposed Action

The objective of the proposed Project is to mitigate negative effects to resources while providing for public enjoyment of water based recreation activities. Current users value the existing condition for its lack of structure and regulation. However, these are the very conditions that cause resource damage. Current users are often frustrated with lack of

level ground for camping, extensiveness of human waste and litter, lack of shade, and lack of screening from other users (per IPC surveys). BLM's objective is to find the right level of development that retains the positive elements of the existing recreation experience while at the same time protecting other resource values.

The planning area's proximity to the Hells Canyon National Recreation Area, Hells Canyon Wilderness, scenic beauty, and acres of water for fishing and boating make it a popular recreation destination. Recreational use along the shores of the Hells Canyon Reservoir has increased beyond the capacity of the natural resources to maintain a stable condition.

Vegetation and riparian areas have been trampled, chopped on, and destroyed by recreation activities right to the water's edge. Wildlife are dependent on the narrow band of riparian vegetation year round. Listed species such as bull trout and bald eagles are known to utilize the waters and uplands of the area. Recreation use is increasing over time with a corresponding increase in negative impacts on vegetation and wildlife. The proposed Project is designed to accommodate the needs of the recreating public while improving conditions for wildlife.

1.3 Consistency with Management Plans

This proposal is designed to help achieve the goals, objectives, and desired future condition as identified in the "Baker Resource Area Management Plan" (RMP), "Analysis of Management Situation and Conceptual Recreation Plan for Hells Canyon Complex" (AMS), and "Public Lands Recreation, A Management Strategy for Special Recreation Management Areas in Oregon and Washington" (SRMAs)

The RMP, dated July 1989 provides overall guidance and long-term direction for the Resource Area. This project is in keeping with the direction given on pg. 117 of the Geographic Unit Management Guidance. Hells Canyon Reservoir is identified as part of an Extensive Recreation Management Area. The management actions state "Develop recreation facilities on identified key parcels of public land." Direction in the RMP was designed to move the Resource Area from an existing condition to a desired future condition. The desired future condition is a snapshot into the future of how the Resource Area will appear and function after several decades of carrying out the RMP's direction. The stated Resource Condition Objective is to maintain scenic quality and enhance recreation opportunities. In addition to this RMP direction, Best Management Practices (BMPs) specific to bull trout and INFISH standards, which include RHCA requirements and riparian reserves, direction is provided for managing resources associated with listed species.

In June 1989, the Oregon State Office of BLM published a document regarding Special Recreation Management Areas (SRMAs). It identified the “Snake River Pools Complex” as a SRMA where management actions are necessary to resolve statewide issues and meet management objectives. The major needs identified included: management cooperation with other agencies, develop day use & overnight recreation facilities, acquire access easement, and provide public information.

In April 2000, the BLM published an AMS document that was designed to facilitate planning for IPC re-licensing (see Appendix). The plan describes the existing management situation and offers proposals for managing BLM sites and lands in the area. The document was prepared for the purpose of public scoping and to help BLM develop terms and conditions for re-licensing of the Hells Canyon Complex. The AMS addressed site specific needs on BLM lands along all three reservoirs. The four sites which are the subject of this environmental analysis were identified in the AMS and specific improvements were proposed. The proposed Project would implement a portion of the recommendations made in the AMS.

1.4 Scoping

Several issues were identified as a result of interdisciplinary team discussions, input from the public, and findings from Idaho Power studies.

The AMS (referenced above) went through an extensive public outreach. In April and May 2000 the draft AMS was distributed widely asking for comments via the following:

- The AMS was posted on the Internet.
- A news release was distributed to about 30 local print and broadcast media.
- Two briefings were held with representatives of tribal governments; one with the Nez Perce and one with the Shoshone-Paiute and Shoshone-Bannock.
- The AMS was mailed to county commissioners, Baker Progress Board, local mayors, and over 120 interested citizens in Oregon and Idaho.
- The AMS was sent to Shoshone-Paiute, Shoshone-Bannock, Confederated Tribes of the Umatilla, Nez Perce, and Burns Paiute Tribes.
- Open houses were held in Baker City and Halfway.
- Presentation at Ontario Chamber of Commerce forum.

As a result of this scoping, approximately 50 comments on the AMS were received and documented (comments are in the project record, Baker Resource Area office). The majority of comments supported the proposals in the AMS. Since this environmental analysis is tiered to the AMS, the extensive public outreach has not been repeated.

Since the AMS was published in 2000, areas of designated bull trout habitat have changed. Designation has recently expanded to include the Hells Canyon Reservoir. Bull trout have been found to winter within Hells Canyon Reservoir and Critical Habitat areas have been identified. The multi-agency, Level 1 Consultation Team was familiarized with the area and the proposed action during a field trip held in April 2003. Discussions were focused on range and recreation activities along the reservoir shore.

1.5 Key Issues to be Addressed

As a result of the scoping process for the proposed Project, the BLM identified key issues to be analyzed in detail in the EA. These key issues are summarized below and discussed in more detail in Chapter 3. The stated purpose and need is to mitigate negative impacts on various natural resources while providing for public water based recreation. These four issues should help reviewers decide if the effects might be significant or if one of the alternatives is better than another alternative while achieving the stated purpose and need.

ISSUE #1: Recreation - What are the effects on recreation users?

The proposed Project areas are four of many minimally developed recreation areas located near and adjacent to Hells Canyon Reservoir. Hunting, fishing, camping, wildlife viewing and water sports are the primary activities. Further development at the Project areas may change the existing recreation experience, limit group uses, regulate activities more closely, and establish an upper limit of camping sites available in the area.

ISSUE #2: Vegetation - What are the effects on riparian areas, noxious weeds, and upland vegetation?

Resource damage has been occurring from uncontrolled access to the reservoir shore. This includes problems with improper human waste disposal, soil compaction and erosion from motor vehicles, and campsites located too close to the water's edge. The proposed Project areas are located within Riparian Habitat Conservation Areas (RHCA). Camping often includes OHV activities. OHVs have had impacts on upland vegetation and contribute to the spread of noxious weeds. Will the proposed Project have a positive or negative effect on riparian condition?

ISSUE #3: Wildlife - What are the effects on wildlife and big game winter range?

The proposed Project areas are known habitat for wintering big game animals. The area is especially important during harsh winter conditions by providing relatively low elevation forage and habitat. The Hells Canyon vicinity provides somewhat unique habitat conditions attracting many species of migratory and seasonal birds, mammals, and

amphibians. Will the proposed Project further degrade the scarce habitat? Will more people be attracted to the area that will further disturb wildlife?

ISSUE #4: Listed Species - What are the effects on Bull Trout? What are the effects on nesting and wintering bald eagles?

The US Fish and Wildlife Service (USFWS) reported three listed animal species either known to occur or have a potential for occurrence in the vicinity of the proposed Project: bald eagle (*Haliaeetus leucocephalus*), Canada lynx (*Lynx canadensis*), and bull trout (*Salvelinus confluentus*). The proposed Project areas do not provide adequate habitat for lynx; however, there is known bald eagle nesting and wintering habitat. There are two known bald eagle nests near the project area. Disturbance from construction activities and continuing use could potentially impact this species. Additionally, there is proposed critical habitat for bull trout that includes the waters of the Snake River through Hells Canyon Reservoir.

CHAPTER 2

ALTERNATIVES INCLUDING THE PROPOSED ACTION

2.1 Alternatives

A number of alternatives were formulated through an Interdisciplinary Team (IDT) process. This team was composed of specialists that represent the different resources and uses within the project area. The team examined comments and issues solicited throughout the scoping process. As a team, it was decided which issues were considered to drive the development of the alternatives and which ones would be used to develop mitigation to address issues. The team then developed alternatives for implementing the proposed action based on the driving issues. The team also looked at the goals, objectives and desired future conditions as stated in the RMP and INFISH, and all applicable laws, regulations and policies that govern the management of public lands.

Alternative 1: Continue Present Access, Maintenance, and Use (No Action)

This alternative would not develop new roads, toilets, or campsites at the four existing use areas. Routine maintenance would continue. The area would remain an unregulated camping area with few facilities and roads.

Alternative 2: Development at One Site

This alternative would fully develop the Airstrip site while Westfall, Bob Creek and Copper Creek would be closed and limited to foot access only. This alternative responds to the stated purpose and need of reducing impacts to other resources. It addresses many of the concerns of wildlife and vegetation. The one area to be developed was selected based on the area that was most physically feasible to construct, offering the most campsites for the least cost, being centrally located, and having the least conflict with other resources. The Airstrip site was selected. Airstrip would be fully developed as described in Alternative 3 including primary and secondary priorities. This would include campsite, tables, fire rings, toilets, a well for potable water, a boat launch and ADA accessible dock, improvement of walking trails, plus a fee system and campground host would be developed.

Airstrip was chosen for full development due to its comparatively good cost/benefit ratio. It is a fairly easy site to work with because its slope is 2-4%; it is large enough to accommodate at least 16 single, double, and group campsites; property lines have been surveyed and determined; adjacent landowner is Idaho Power who is cooperative with development; it is on the upland side of the county road so impacts to shoreline can be

more easily controlled; existing trees and shrubs provide shade and privacy; it has been highly disturbed by past mining related occupancy; there is room for future expansion; it is feasible to develop a water source; and it is centrally located along the Homestead Road.

Westfall was dropped from consideration even though it is the closest public land site available along the county road. Previous occupants at the site created four terraces up the steep slope that offer room for 14 level campsites. However, steepness of the access road would limit type and size of vehicles. There is limited space for turn radius or a pull through road system. The cost of building an adequate interior road system is prohibitive at this time. Access to the river is difficult due to the slope, prohibiting access for anyone that is not physically able.

Bob Creek was dropped from further consideration for development even though it currently receives the most use of any of the four sites. The site is limited in size. Future expansion possibilities exist on the upland side of the county road, but expansion in that direction would be very disruptive to private homeowners. Bob Creek would have been the second choice for full development. It offers good cost/benefit in the north section, and fair cost/benefit in south section.

Copper Creek was not considered for full development even though it is the largest site to work with, it serves as a trailhead into the National Recreation Area and Wilderness Area, offers a good cost/benefit ratio, and since it is at the end of the road, it lacks the dust from through traffic. However, the distance to travel from a paved road is a detriment for many visitors, and road conditions limit size and type of vehicle use. Private land borders on two sides of this site and the landowner is very concerned about public use encroaching onto the private land.

Alternative 3: Development at Four Sites (Proposed Action)

This alternative is the proposed Project. It would develop all four areas but phase in improvements over time based on priorities and funding availability. At this time, funding is available for only the primary priority actions listed below. Secondary priorities will be postponed until some future date but analyzed in this document.

The following tables summarize the proposed actions. Reference the site plans in the appendix for details and location of facilities. Construction elements common to all sites include: seeding native grass species with rangeland drill in areas of annual grasses, seeding of disturbed areas, and noxious weed control. Existing maintenance levels will continue with weekly service. No fee systems will be implemented at this time. Law enforcement will be enhanced via posting of regulations on bulletin boards and defined roads and camp sites. Enforcement of regulations regarding destruction of vegetation and digging of leveling pits will be more affective.

Table 1
Westfall Project

| |
|-----------------------------------------------------------------------------------------------------------|
| WESTFALL |
| Primary |
| grade and improve roads to upland terraces, extend road through Level 1 |
| surface roads and camping spurs with small diameter crushed rock |
| define parking areas |
| designate river side portion of Westfall as walk-in only for day use and tent camping |
| build parking area for 3-5 vehicles for walk-in area, place boulders to eliminate vehicle access beyond |
| convert existing roads in walk-in area to pedestrian trails |
| level two tent sites |
| define 14 universal camping sites with vehicle access, and 7 sites for walk-in camping or picnicking |
| install two ADA toilet(s); one above Homestead Rd., one below |
| fire rings and tables at 3 sites on Level 1, plus 2 sites in walk-in area |
| public access signing, bulletin boards by both toilets; heritage protection and property boundary signing |
| clear vegetation to edges of level areas on Levels 1-4, control blackberry encroachment in walk-in area |
| Secondary |
| add third toilet on Level 3 |
| install fire rings and tables at remaining 16 sites |
| create pull through road system from Levels 2 and 3, if feasible |
| establish hiking trail utilizing old road bed |

Table 2
Bob Creek Project

| BOB CREEK - SECTION C |
|-------------------------------------------------------------------------------------------------------------|
| Primary |
| define and grade road, camping spurs, and parking within area |
| reopen pull through road for south section of site that currently dead ends , realign existing road |
| build loop off County road to access toilet without driving through camp sites |
| define 14 universal camping sites (total for both sections of Bob Creek) with vehicle access |
| establish site #12 as ADA accessible with 5% trail with binder from camp site to toilet |
| surface roads and camping spurs with small diameter crushed rock |
| use boulders to prohibit vehicle access to water's edge and to define boat launch area |
| identify, rehabilitate, and protect areas for vegetation growth and shade tree starts |
| pursue acquiring water rights for tree irrigation |
| add additional vault toilet to south section |
| public access signing , bulletin boards by both toilets ; heritage protection and property boundary signing |
| Secondary |
| replace existing toilet in north section |
| add tables and fire rings to all 14 sites |

**Table 3
Airstrip Project**

| AIRSTRIP - SECTION A |
|-------------------------------------------------------------------------------------------------------------------------------|
| Primary |
| define and grade road, camping spurs, and parking within area |
| define 16 universal camping sites with vehicle access |
| designate site #9 as ADA, add binder if necessary to access toilet |
| surface roads and spurs with small diameter crushed rock |
| designate river side portion of Airstrip as walk-in only for day use only, add boulders to deter vehicles & post "No Camping" |
| improve access to water by creating a trail through blackberry, retain openness of day use area |
| Install two ADA toilets; one near County road, one back toward slope |
| public access signing, bulletin boards by both toilets; heritage protection and property boundary signing |
| Secondary |
| install fire ring and tables at all 16 sites |
| drill well for potable water, install hand pump |
| develop boat launch and dock |
| establish hiking trail utilizing old road bed |
| if all of the above occurs, establish a fee demo system and campground host |

**Table 4
Copper Creek Project**

| COPPER CREEK |
|----------------------------------------------------------------------------------------------------------------------------|
| Primary |
| develop loop access road, rehab portions of existing two track unimproved road |
| define and grade road, camping spurs, and parking within area |
| define 14 camping sites for vehicle access, and 5 sites for walk-in area |
| designate site #1 as ADA, add binder if necessary |
| surface roads and spurs with small diameter crushed rock |
| build trailhead parking area with capacity for some large rigs including horse trailers |
| prohibit vehicle access to cove and point areas , build parking area to serve these two areas |
| use boulders to prohibit vehicle access to water's edge and to point and cove areas |
| identify, rehabilitate, and protect areas for vegetation growth and shade tree starts |
| pursue acquiring water rights for tree irrigation |
| install fire rings and tables at 3 sites in cove and point areas |
| relocate wilderness trail and rehab existing trail which has become a road |
| public access signing , bulletin boards by both toilets, trailhead sign; heritage protection and property boundary signing |
| if necessary to deter range cattle, build fence along alluvial cobble bed of Copper Creek |
| install cattleguard and traffic counter at entrance into site |
| post safety sign on point, steep drop off |
| Secondary |
| install fire rings and tables at remaining 16 sites |
| armor point to prevent erosion |

The proposed Project will utilize many pieces of heavy equipment including graders, roller, dump trucks, backhoes and excavators. The equipment will travel along established routes to reach the work area and precautions will be taken to minimize damage to the surrounding terrain.

The majority of the work will consist of bringing in fill material, typically ¾" minus aggregate to build up the camping areas with very little excavation planned. The majority of the excavation will occur when the outhouses are installed, requiring a hole approximately 15' x 20' and 5 foot deep.

The equipment will be used in the following manner; dump trucks will bring in the aggregate that the grader and/or backhoe will then spread in the desired areas. The roller will be utilized to compact the fresh aggregate. A backhoe will be used to install the outhouses and clear some vegetation (blackberry bushes). The dump truck and backhoe or excavator will be used to place the boulders around the edges of the campgrounds.

2.2 - Alternatives Considered but Eliminated

One other alternative was considered in addition to the above alternatives but was eliminated from detailed analysis.

Fencing

This alternative proposed fencing along the eastern edge of the county road on all BLM managed lands and to formally close the area to motorized use. The objective was to maximize benefits to riparian and wildlife resources. Gently sloping, low elevation lands are critical for big game habitat during harsh winters. The four sites being evaluated add to this scarce land base. This alternative would eliminate vehicle access between the reservoir shoreline and the county road. Walk-in access would be permitted. Stiles or other user friendly gates would be built into the fence design.

This alternative was dropped from further consideration because it does not address all the issues, and does not meet the purpose and need. Recreation use has been established since the construction of the reservoir in 1967. There is very limited space available that is gently sloping enough to accommodate camping and other water based recreation uses. This alternative would significantly reduce recreation use along the 10 mile shoreline of the reservoir.

It is also impractical to enforce. Public acceptance of this alternative would be low. Violation of the closure in order to gain vehicle access would probably be very common. Landownership along the reservoir is interspersed. Fencing only BLM lands, then being

open through Idaho Power and other private lands would be confusing and easily breached.

2.3 Comparison of the Alternatives

The following table is a summary of the comparison of each alternative in relationship to the identified issues. The resources of recreation, vegetation, wildlife, and fish are all directly related to the issues; therefore the effects are displayed in the table. All remaining resources are affected by the proposed action but are not directly related to the identified issues. For an analysis of the effects, see Chapter 3.

**Table 5
Summary Comparing Issues and Alternatives**

| | Alt. 1 No Action | Alt. 2 One Site – Airstrip | Alt. 3 Four Sites |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Effects on recreation users? | None. Sanitation remains same. 20 relatively level sites would remain. Up to 150 sites would be available during high use periods. Experience would be unstructured, with minimal regulation. Existing 3 vault and 3 seasonal toilets remain. No walk-in only sites. | Create 23 level camp sites, an increase from 5. Rec experience more structured. Use concentrated into one site. Increase in capacity at Airstrip. Improved comfort, security, privacy, and cleanliness. Other 3 sites would be closed to vehicles. Existing 3 vaults & 2 seasonal toilets would remain. 2 new toilets at Airstrip. One walk-in site. | Create 58 level camp sites. Increase in structure and regulation at all four areas. Rec experience more controlled. Create 13 walk-in only sites. Vehicle limitations. Improved sanitation & comfort. Existing 3 plus 5 new vaults. No seasonal. |
| Effects on riparian areas? | Continued decline with increased use. Continued riparian destruction. No planting. | Some hackberry and blackberry removal. Improved grass/forb condition. Planting program. Shoreline effects eliminated and rehabilitated at three walk-in areas. | Improvement at walk-in sites. Vehicle control at all areas. Planting program at all areas. General improvement in vegetative condition at all sites. Shoreline effects eliminated and |

| | | | |
|------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | rehabilitated. Plant and protect shade trees. |
| Effects on wildlife and big game winter range? | No change. Effects will continue or may increase with increased use. | Least impact to wildlife & winter range. Decrease of harassment due to more localized use by recreating public. Improvement of riparian habitat. | Higher impact to winter range. Improved effect on riparian habitat. Limitation set on increased use therefore human/wildlife conflicts reduced. |
| Effects on bull trout? | Continued decline due to soil compaction, vegetation reduction, increasing erosion. | Same as No Action Alt at three sites. Development at Airstrip would have no adverse effect on bull trout but would not improve existing sediment sources fully. | Improvement of riparian condition, greatest reduction in stream bank erosion for bull trout habitat. No adverse effects to bull trout. |
| Effects on bald eagle? | Continued harassment of eagles during nesting and wintering periods. | Least impact to bald eagles because nest site is outside 800 meters of project site. | Higher impact to bald eagle nest site because of location of project sites relative to nest location. |

Table 6 displays the changes in camp site capacity under the three alternatives. It displays the fact that the existing condition is difficult to quantify due to the unregulated use. It also shows that some areas are being created that will not be accessible with vehicles.

**Table 6
Number of Camp Sites per Alternative**

| | Westfall | | Bob Creek | | Airstrip | | Copper Creek | | Total | |
|-----------------------------------|----------|-----|-----------|----|----------|---|--------------|----|--------|----|
| | *v | **w | v | w | v | w | v | w | v | w |
| Alt. 1 No Action (existing) | ***6-20 | - | 5-50 | - | 5-30 | - | 4-50 | - | 20-150 | - |
| Alt. 2 (One Site) | 14 | 7 | - | 14 | 16 | 1 | - | 19 | 23 | 48 |
| Alt. 3 (Four Sites) | 14 | 7 | 14 | - | 16 | 1 | 14 | 5 | 58 | 13 |
| | | | | | | | | | | |

*v = vehicle accessible sites

**w = walk-in only accessible sites

***There are currently no designated or designed camp sites. The lower number is an estimation of sites that are relatively level and are consistently used as camp sites. The higher number is an estimation of the number of camp units that squeeze in to the area during periods of high use.

2.4 Mitigation Measures Common to all Action Alternatives

Construction plans would apply the following measures to prevent or reduce various impacts. Several of these are considered “best management practices” by BLM and are consistently adhered to.

- Shape the road prism as necessary. Follow INFISH Road Management Objectives when constructing within the RHCA
- Place sediment control or retention structures where needed.
- Seed all areas of bare soil created by construction and large areas of predominantly annual grasses with native seed recommended by the botanist. All seed will be certified weed free. This measure would replace destroyed vegetation, provide soil protection, and retard invasion by noxious weeds.

- Scatter and smooth any excess fill material. This would reduce the visibility of the project. Do not deposit any excess material in drainage channels, riparian areas, or borrow ditches.
- Noxious weeds will be treated according to the Vale District Weed Management Plan for Noxious Weeds, which has been consulted on by USFWS and NOAA Fisheries. Potential weed spread will be minimized whenever possible.
- Comply with any requirement of Baker County concerning the Homestead County Road.
- Avoid any impact to structures on the electric power lines in the vicinity.
- Standard design features and protection/mitigation measures for cultural resources under all alternatives include:
 - Heritage protection information signs would be posted at the recreation sites for public education.
 - Concurrence from the Oregon State Historic Preservation Office (SHPO) would be received prior to construction at individual sites.
 - An assessment of potential for cultural resources at Copper Creek has been initiated but additional evaluation is needed. This evaluation would be completed, and if no cultural resource concerns are identified in consultation with the Oregon SHPO and interested Tribes, the project could proceed. If cultural resource concerns are identified, consultation with the Oregon SHPO and Tribes would continue to determine how avoidance, project redesign, or mitigation would be implemented to achieve no adverse effect.
 - Construction at the recreation sites would be monitored by an archaeologist for inadvertent discoveries. Regulations implementing of the Native American Graves Protection and Repatriation Act would be followed for any inadvertent discovery of human remains; including stop work and protection provisions and consultation with Tribes. If any previously unidentified archaeological sites are encountered, the work would be suspended, the resource would be evaluated and could be mitigated by avoidance, project redesign or data recovery.

CHAPTER 3

AFFECTED ENVIRONMENT and CONSEQUENCES

3.1 Overview

This chapter will analyze the effects of implementing the alternatives. Resources that are considered include: recreation, vegetation, wildlife, listed species, soils and water quality, mineral resources, cultural resources, transportation/access, economics, livestock, noxious weeds, land uses, visual quality, and air quality. This chapter provides the scientific and analytical basis to compare the alternatives against the issues and resources.

Alternatives analyzed include: #1 No Action, #2 One Site, and #3 Four Sites. Key issues have been identified as: 1) Recreation - What are the effects on recreation users, 2) Vegetation - What are the effects on riparian areas, 3) Wildlife - What are the effects on wildlife and big game winter range, and 4) Listed Species - What are the effects on Bull Trout? What are the effects on nesting and wintering bald eagles?

3.2 Key Issues analyzed in Detail (Existing Condition and Effects)

3.2.1– ISSUE #1: Recreation - What are the effects on recreation users?

Existing Condition

The project area includes four existing, minimally developed sites adjacent to Hells Canyon Reservoir which receive heavy recreation use. The recreation experience is defined by access to the reservoir, quality of fishing, quality of water sports, vehicle access, shade, and useable land base (levelness). Areas providing these amenities generally attract the most use. The recreation experience provides a retreat from urban life and a place to gain a sense of independence and self-reliance.

IPC reported visitation to Hells Canyon Reservoir in 1996 as 82,691 visits. A visit equals one person for any portion of one day. Approximately 30% of the total visits can be associated with the four project area sites. The following visitation figures are the best estimates for an average year compiled from IPC data, BLM traffic counters, and observation:

| Site | Visits* | Visitor Day** |
|-----------------------------|----------------|----------------------|
| Westfall (nearest tunnel) | 3,000 | 1,300 |
| Bob Creek (existing toilet) | 10,450 | 4,311 |
| Airstrip (power drop site) | 4,000 | 2,050 |
| Copper Creek (end of road) | 5,000 | 1,208 |
| Total | 22,450 | 8,869 |

*Visits – number of individuals that visit the site annually

** Visitor Day – one visitor, or a combination of visitors, for 12 hours

Access to the area is provided by a very narrow, two lane gravel road which parallels the reservoir on the Oregon shore, Homestead Road. Baker County and Idaho Power share maintenance of this county road.

There are other recreation attractions in the general vicinity. Idaho Power maintains two fully developed RV campgrounds with full hookups that offers irrigated grass, flush toilets, showers, and paved roads. The US Forest Service manages the Hells Canyon National Recreation Area, Wilderness, and Wild and Scenic River. All of these attractions draw people to the analysis area, but people who choose to recreate in the project area are seeking a more unstructured and primitive experience.

The majority of the landscape character within the analysis area is natural in appearance but somewhat modified by past management activities and public use. Vault toilets, interior road ways, signs, rock fire rings, and vandalized vegetation all contribute to the present condition. Soils have become compacted causing a loss of vegetation, including grasses, forbs, shrubs and trees. Many of the trees in the area are stressed by damage.

Effects

Alternative 1 (No Action) would have no major effects on the recreation or visual resource. The three existing vault toilets and three seasonal porta-potties would be retained and receive weekly maintenance. Interior roads would remain as they currently exist. No leveling of campsites would be done, and undefined minimally developed use would continue. Access to the waters edge and throughout the areas would be uncontrolled. Continued deterioration of resources would be expected. As use continues to increase, many users will be displaced due to crowding, inappropriate activities of others, and increased sanitation and litter problems.

Alternative 1 meets the present need for a number of recreators. This alternative provides for recreation opportunities such as fishing and camping but does not address future

recreation use and demand or the needs of a wider range of recreationists. All four areas have some site degradation, sanitation and litter effects.

Alternative 2 (One Site) would have a major effect on user's recreation experience. Full development at one site, Airstrip, would provide visitors with a choice between a fully developed RV park and a moderately developed campground with many conveniences. They could also choose an experience available at three newly established walk-in areas. Facilities would be provided at Airstrip such as parking, 16 level camp sites, tables and fire rings, two vault toilets, a walk-in only day use area, trails, potable water with hand pump, boat launch, and dock. A fee system and campground host would also be established. The day use area would be rehabilitated and closed to vehicles in order to provide pedestrian access to the reservoir.

Alternative 2 does address the need for mid-level development at one site, and the desire for some areas that are not impacted by vehicles. The recreation experience at Airstrip would be changed from uncontrolled and unregulated to one with more regulation, controlled use and fees. The area would accommodate more campers by making new sites accessible by vehicle and by leveling use areas. Airstrip would offer more comfort, security, privacy, and cleanliness.

The recreation experience at Copper Creek and Bob Creek would change greatly. Vehicle access into the areas would be prohibited. Since Copper Creek serves as a trailhead and is at the end of a county road, parking and turnaround facilities would be established. Recreation activities within the area would be limited to walk-in only. Boat launching at both sites would become prohibited. Bob Creek would provide quality day-use, swimming, and tent camping opportunities. Copper Creek could become a destination boat-in camp site. Boat moorage would be developed.

Westfall would still provide upland vehicle access. The river side portion of the area would be closed off to vehicles and provide walk-in camping and day-use opportunities. The overall recreation experience would be changed minimally.

Alternative 3 (Four Sites) would have some effect on recreation resources at four existing use sites; Westfall, Bob Creek, Airstrip, and Copper Creek. Facilities at the four sites would be basic and limited to level and graveled parking and camping sites, improved accessibility, signing, vault toilets, vehicle barriers where appropriate, establishment of sites with walk-in access only, vegetation plantings, limited trail creation, and picnic tables and fire rings. Refer to site plans and Tables 1-4 for details regarding numbers and location. The effect on recreation experiences would be minimal but the effect on sanitation and user comfort should be great.

Alternative 3 retains most of the present recreation opportunities at all four sites while addressing the need for some user controls. By developing interior road systems that provide adequate access, vehicle use is defined and limited. There would be a change in the current use of being able to drive wherever a visitor wants and is capable of. By leveling specific parking and camping spurs, visitors would no longer need to dig “leveling divots” to accommodate their RVs and tents. A few sites adjacent to the reservoir would be blocked to vehicle access providing a missing opportunity of walk-in only and day use recreation activities.

There are two designated Wilderness Study Areas (WSAs), McGraw and Homestead, in the vicinity of the proposed Project. There would be no impact on their wilderness characteristics generated from any of the Alternatives.

3.2.2 ISSUE #2: Vegetation - What are the effects on riparian areas?

Existing Condition

The types of vegetation occurring along the canyon slopes of the Snake River are the result of three primary ecological factors: topography, soils, and climate. Of these three considerations, climate exerts the strongest influence on the development of plant life. The relatively mild winters below the canyon rim have allowed the development of disjunct species such as hackberry, which is most often found in the southwestern states, but commonly occurs in the middle Snake River area (Tidsdale 1979, from IPC 1997). Grassland, shrubland, riparian, and coniferous forest communities exist in close proximity.

Although a number of rare plant species are known from the Hell's Canyon vicinity (including MacFarlane's four-o'clock, Spalding's catchfly, and Hazel's prickly phlox), there are no Federal listed threatened or endangered plant species known or likely to occur at the recreation sites or in the nearby vicinity. The habitats at the recreation sites have been greatly altered by human activity, and lack physical and plant community components of suitable habitats for the rare species. Previous plant surveys at the sites failed to document any special status plant species.

With the settlement of Hells Canyon, large numbers of cattle were introduced into the area's rangelands which were grazed heavily until the 1920s. Cattle grazing was then mostly replaced by sheep grazing (Tisdale 1986a, from IPC 1997). Overgrazing was already considered to be a serious problem in the early 1900s. By the 1940s, however, a shift back to cattle occurred and numerous cattle feedlots were developed along the Snake River (Asherin and Claar 1976, from IPC 1997).

Bluebunch wheatgrass is the major forage-producing plant. If the condition of the site deteriorates through overgrazing, bluebunch wheatgrass and Idaho fescue lose vigor and decrease in extent. Sandberg bluegrass increases in extent. If deterioration continues, cheatgrass, soft brome, and other annual plants invade the site.

The existing plant communities consist of shrub-steppe species with some riparian species in the tributaries and along the Reservoir. Vegetation types consist of perennial grasses, big sagebrush, bunchgrass, big sagebrush/annual grass, and mixed shrub plant communities that occur on mid- and lower-elevation intermountain rangelands (USDI 1986, from IPC 1997). The shrub-steppe vegetation has been extensively changed by humans through livestock grazing, and introduction of exotic plants and noxious weeds.

Native plant communities on hillsides are dominated by bluebunch wheatgrass, Sandberg's bluegrass, and Idaho fescue, sagebrush, bitterbrush, chokecherry, serviceberry, and mock-orange. Cheatgrass is a non-native annual weedy grass species that dominates the more disturbed habitats. Forb species include various buckwheats, arrowleaf balsamroot, and several species of desert-parsley. Riparian habitat is a mixture of sedges, grasses, forbs, and shrubs. Ponderosa pine and hackberry are the most common riparian trees.

Other invasive non-native plants at these sites also includes blackberry, box elder, and (at the Westfall site) tree of heaven (*Ailanthus sp.*). Even though these species are non-native, they do have values for shade and privacy screening.

It is BLM policy that where possible, native plant species shall be used in ecosystem management. Non-native plant materials may be used when objectives cannot be met using native plants.

Effects

The existence of wetland and riparian areas within the project sites is minimal, consisting of narrow strips of grasses and sedges along a few intermittent streams which may be influenced by the seasonal flow in these draws.

A minimal amount of this vegetation would be disturbed or destroyed during excavation and installation of the facilities, and would be largely replaced by the reseeding measures. Noxious weeds will be treated in these areas to allow restoration of native species.

Alternative 1 (No Action)

The No Action alternative would have no major effects on the existing vegetation resource. Current use patterns would continue. Since the four areas would continue to

have no defined sites, no limit would be established and use would probably increase over time. Impacts from dispersed use would continue to increase. Therefore, effects to vegetation would continue to degrade.

Alternative 2 (One Site)

The effects specific to development at the Airstrip site would require the removal of a few hackberry trees. Grass areas would be planted with perennial native species. The blackberry along the reservoir edge would be reduced to accommodate boat launching. Even though one campsite on the reservoir edge would be closed to camping, vegetation growth would be kept in a condition that would permit easy access to the waters edge. Vegetation at the three areas closed to vehicles would improve over time.

Alternative 3 (Four Sites)

This alternative would involve development at all four areas but would require minimal removal of shrub or tree vegetation. Care was taken during site planning to route roads and camp spurs around existing vegetation. The value of shade and screening was a primary consideration. Vegetation would be enhanced with a vigorous program of seeding and tree planting. Vehicle controls would prevent degradation in open areas and along the waters edge. Riparian vegetation would respond quickly.

The reseeded measures included as a mitigating measure would replace destroyed vegetation with native plant species.

3.2.3 ISSUE #3: Wildlife - What are the effects on wildlife and big game winter range?

Existing Condition

The proposed Project is located within important winter range of big game animals. Critical use occurs between December and March. Dam construction inundated 12,000 acres of low elevation, critical habitat for mule deer and other wildlife including upland and passerine bird species, and created in its place three large reservoirs. These reservoirs inhibit wildlife movement, particularly deer, and disrupt traditional migration routes and travel corridors between Oregon and Idaho. Inundation of this habitat prevents tree species from regenerating and prevents vegetation establishment.

The USFWS has also indicated they have concerns about the following species of wildlife that are known to occur or have the potential to occur in the vicinity of Hells Canyon Reservoir: the California wolverine, northern sagebrush lizard, the ferruginous hawk, yellow-billed cuckoo, mountain quail, long-billed curlew, and seven species of bats. Although these species have no status under the Endangered Species Act, biologists

are concerned about their population status and threats to long-term viability. Also occurring in the area are accipiter hawks including the prairie falcon, sharp-shinned hawk, and Cooper's hawk. Other birds of prey that may nest or feed in the area include the red-tailed hawk, Swainson's hawk, and golden eagle. These species are BLM species of concern and are to be considered when planning any activities on BLM lands.

In addition to the species mentioned above, there are many species of wildlife known to occur near Hells Canyon Reservoir that are of special interest to the hunting public. Species include: mule deer, elk, chukar, many waterfowl species, mourning dove, and wild turkey.

Effects

The manner in which the recreating publics currently use Hells Canyon Reservoir has a relatively high impact. Wildlife are continuously harassed because of the dispersed recreation along most of the length of the Reservoir shore. There are few areas for cover or hiding where wildlife can retreat. Therefore, many wildlife species avoid the shore areas of the Reservoir. By localizing public use of the Reservoir shore, the concentration of wildlife harassment will occur in those localized areas and wildlife will begin to use those areas where human occupancy has been eliminated or minimized. Additionally, the areas between developed sites will begin to recover and provide hiding and cover habitat for many wildlife species.

The noise and presence of men and equipment during construction would frighten away wildlife for a short time. After construction is completed, wildlife would return to the area and there would be no long-term effects. There would be negligible loss of habitat, which would largely be replaced by the reseeding measures.

Construction of the dams and creation of Hells Canyon Reservoir has increased the number of visitors to the area. Effects to wildlife resources occur through dispersed recreation and damage to the riparian zone, vehicle collisions with wildlife, harassment of wildlife, and lost habitat.

Recreation use occurs as close to the water as is feasible. This use can prevent the establishment of important and desirable riparian vegetation. Use figures and BLM records reveal significant increases in recreation use over the past 50 years. This trend is expected to continue. This increase has led to significant effects to riparian and upland habitats from dispersed use sites established in every flat spot accessible next to the reservoir. Without management, recreation use could displace the majority of healthy riparian communities adjacent to Hells Canyon Reservoir.

The primary problem is unrestricted camping and recreational uses that damage vegetation. Vegetation removal occurs when vehicles drive off roadways, or humans dig holes for toilets, fire pits and leveling, cut trees or shrubs for various reasons and create pathways by foot and OHV traffic. By reducing vegetation densities, erosion can increase from wind or water. Recreational use in or near riparian vegetation limits or displaces wildlife use.

Effects in relationship to the specific alternatives are as follows:

Alternative 1 (No Action)

The No Action alternative would have no change regarding existing effects as described above. The degradation and effects would continue. As the number of people visiting the Hells Canyon area increase through the years, the impacts to wildlife increase and wildlife habitat will continue to degrade and decrease in size. Further harassment of wildlife will continue and use of the riparian vegetation by wildlife species will decrease.

Alternative 2 (One Site)

The effects specific to Alternative 2 would be higher on wildlife at the Airstrip site because a higher concentration of public use would occur in this one area. With development at this site, there would be an increase in human use so the primary effect on wildlife would occur from increased harassment.

Other sites along the river would be closed and limited to foot access only. This would decrease the impact to wildlife along this area because of the limited vehicle traffic and therefore public use of the area. Habitat within these areas would improve and wildlife species would use the areas more often because of the increase in cover and hiding habitat and the decrease in disturbance from the public.

Alternative 3 (Four Sites)

This alternative would have higher effect on wildlife than Alternative 2 because four sites are being developed instead of only one. However, by defining camp sites which create a cap on numbers of visitors, eliminate driving off roadways, eliminate vegetation removal for toilets and leveling, and improving riparian vegetation, this alternative would have a lower impact to wildlife than what is currently occurring in the area. By limiting and concentrating the recreational use in the area to four localized sites, the impacts to wildlife and wildlife habitat would be localized as well. This would allow the wildlife species in the area to avoid those specific areas occupied by the public and use those areas in between that would be improving and providing hiding and cover habitat.

3.2.4 ISSUE #4: Listed Species – What are the effects on Bull Trout? What are the effects on nesting and wintering bald eagles?

Existing Condition

Historically the Snake River was a cold water fishery that supported anadromous fish species such as chinook salmon, steelhead, and Pacific lamprey. The Hells Canyon complex of dams are barriers for anadromous (ocean-dependent) fish. Snake River spring/summer chinook, fall chinook, steelhead, and bull trout are all listed as “threatened” species under the Endangered Species Act.

The dams created reservoirs that slowed and varied the natural river flow, creating a habitat suitable for warm water fisheries. Many species of introduced fish are well established and provide fisheries for recreation. Channel catfish, large and small-mouth bass, crappie, and carp were all species introduced to Hells Canyon Reservoir. White sturgeon continue to persist in isolated reaches, however, populations are assumed to be depressed. Bull trout, redband trout, and rainbow trout (native) have been determined to utilize Hells Canyon Reservoir during the cold water months.

Bull trout occur in coldwater streams and rivers, and occasionally in some higher lakes. The species is currently listed as “Threatened” by the USFWS, and is considered a ‘sensitive critical’ species by the ODFW. Bull trout are on ‘List 1’ of the Oregon Natural Heritage Program’s sensitive species lists (ONHP 2001). The USFWS has proposed critical habitat for this species that includes the waters of Hells Canyon Reservoir. Bull Trout are known to utilize Hells Canyon Reservoir during the cold water months in the winter.

The complete distribution of bull trout within the Hells Canyon Reservoir has only recently been documented. Bull trout were known to exist in Pine Creek and Indian Creek, tributaries that flow into the Hells Canyon Reservoir. Use of the reservoir by bull trout was not confirmed until recently (Chandler and Richter 2001). The Pine Creek basin is in Oregon and the Indian Creek basin is in Idaho. The confluence of Indian Creek is within the Oxbow Dam bypass, a 3.7 kilometer (2.3 mile) reach of original river channel between Oxbow Dam and the point of water discharged from the Oxbow Dam Powerhouse (Idaho Power Company 1999). The confluence of Pine Creek with the Hells Canyon Reservoir is just below the Oxbow Dam.

During 1993 – 1999, Idaho Power collected a total of 13 bull trout and 4 bull trout hybrids upstream of Hells Canyon Dam in the reservoir and in Indian Creek (Chandler and Richter 2001). Several of the fish were radio tagged and subsequently located at least 8 kilometers (5 miles) upstream in Pine Creek. The full use and distribution of bull trout within the reservoir is unknown but present information indicates there may be use of the reservoir during rearing, especially during winter months when temperatures are cool. The populations of

bull trout are well documented by ODFW and US Forest Service (Fedora and Walters, 2001) in Pine Creek. Spawning and rearing is known to occur in four upper headwater tributaries, North Pine Creek, East Pine Creek, Clear Creek and Upper Pine Creek. The maximum abundance for bull trout was less than 400 individuals for each stream. The extent of rearing and migration downstream into lower Pine Creek and into the Hells Canyon Reservoir by individuals is not known. There is no known use by bull trout in the other perennial streams which flow into the Hells Canyon Reservoir. Most of the streams are too steep and provide limited habitat for bull trout.

The bald eagle is designated a federally *threatened* species and is known to occur throughout the Snake River Canyon corridor. There are two known bald eagle nests within the corridor of the Hells Canyon Reservoir. One active nest was established in 1998 and has produced young each year through 2002. The other nest is a historic nest that is currently not occupied. The active nest is located on the Idaho side of the river approximately 400 meters from one of the project sites and approximately 750 meters from one other site.

The wolf, listed as federally *endangered*, may occur as a transient. Wolves from a reintroduced population in Idaho have crossed Hells Canyon.

The Canada lynx, listed as federally threatened, may also occur as a transient species. However, because of the low elevation and lack of suitable lynx habitat, this species would not be likely to occur within the project area.

Consultation with the U.S. Fish and Wildlife Service (USFWS) will be conducted for impacts associated with this project on wintering and nesting bald eagles.

Because the use of the area by the public is highest during the warmer summer months (April-September), the effects to wintering bald eagles is low. Bald eagles roost along the river on trees and rocks between November and February. Disturbance occurs to these birds roosting along the river when vehicles stop and people get out of their vehicles to observe the eagles. The eagles will be temporarily disturbed, move to another location and resume hunting for prey. Most often the birds will relocate to an area that has little or no access by the public and roost.

Effects

The project area lies within the Snake River watershed. The project sites are adjacent to Bob and Copper Creeks plus several unnamed drainages which are tributaries to the Snake River. The unnamed tributaries and Bob Creek are intermittent and non-fish bearing. Copper Creek is a perennial stream but use by bull trout is unknown at this time.

It is suspected if there is any use by bull trout it would occur near the confluence as it becomes very steep approximately 1/8 mile upstream. The proposed Projects will be constructed within the RHCA (Riparian Habitat Conservation Areas) of the Hells Canyon Reservoir and will adhere to the INFISH standards and guidelines for Recreational Use.

Category 1 - Fish bearing streams and reservoirs that support TES fish species must protect and enhance habitat for inland native fish species and adhere to the protection measures within INFISH. This area is the equivalent of the 100 year floodplain, or to the outer edges of riparian vegetation, or to a distance equal to the height potential of two site potential trees, or 300 feet slope distance, whichever is greatest (INFISH 1995).

The standards and guidelines for recreation management should design, construct and operate recreational facilities, including trails and dispersed sites in a manner that does not retard or prevent attainment of the Riparian Management Objectives (RMO's) and avoids adverse effects on inland native fish. For existing recreation facilities inside RHCA areas assure that the facilities or use of the facilities would not prevent attainment of Riparian Management Objectives or adversely affect inland native fish. Relocate or close recreation facilities where RMO's cannot be met or adverse effects on inland native fish can not be avoided (INFISH 1995).

Adjust dispersed and developed recreation practices that retard or prevent attainment of Riparian Management Objectives or adversely affect inland native fish. Where adjustment measures such as education, use limitations, traffic control devices, increased maintenance, relocation of facilities, and/or specific site closures are not effective in meeting RMO's and avoiding adverse effects on inland native fish, eliminate the practice or occupancy (INFISH 1995).

Bull trout, a listed species under the Endangered Species Act, is present in the Hells Canyon Reservoir of the Snake River. A Biological Assessment prepared for the project reached a determination that it MAY AFFECT bull trout but is NOT LIKELY TO ADVERSELY AFFECT bull trout populations or their habitat. Potential effects are from sedimentation due to vegetation removal during construction of roadways and camping sites.

Concurrence from U.S. Fish and Wildlife Service will be received prior to the project construction.

A botanical survey was conducted. No special status plant species were found. The proposed action is unlikely to affect any special status plant species.

Effects in relationship to the specific alternatives are as follows:

Alternative 1 (No Action)

The No Action alternative would continue to affect the fishery resource through soil compaction and reduced shoreline vegetation. . This alternative would not meet the objectives of INFISH to avoid adverse affects on inland fish. The shoreline would continue to have impacts from recreational activities. Bare soil would continue to contribute sediment to the streams and reservoir from over-use. There would be no restoration of shoreline vegetation or seeding of perennial grasses and sedges.

Alternative 2 (One Site)

The effects specific to Alternative 2 would have basically be the same as Alternative 1, except for the improvement of the Airstrip site. This would only minimally improve the shoreline at this site facility but would have no effect to the other three sites which are heavily impacted and need change to attain goals and objectives for the entire area. This alternative would not meet the objectives of the RMO's for the entire area, especially when other sites will not be restored to prevent effects to inland fish species.

This alternative would have very limited impacts to the known bald eagle nest site in the area because the Airstrip site is located greater than 800 meters from the nest location. Mitigation measures associated with the Pacific Bald Eagle Recovery Plan would apply to wintering and foraging habitat modifications and would not involve nest site mitigations.

Alternative 3 (Four Sites)

This alternative would have the most positive affect on fish by reducing soil compaction, improving shoreline vegetation, and thereby decreasing erosion and sedimentation into the reservoir, as compared to the other alternatives. This alternative meets the INFISH standards and guidelines for recreational management better than Alternatives 1 and 2. This alternative relocates camping and use of the shoreline that is causing the most amount of compaction and loss of shoreline vegetation. This alternative will restore more shoreline and prevent less erosion and sediment production, in comparison to the other alternatives.

This alternative would have a higher impact on the bald eagle nest in the area than would Alternative 2. One of the proposed sites for improvement is located approximately 400 meters from an existing bald eagle nest site. Concentrated use of an area this close to a bald eagle nest, especially during nesting season, could disturb the nesting bald eagles enough to abandon the nest. The Pacific Bald Eagle Recovery Plan states that "Picnicking, camping, blasting, firearm use, timber harvest, and low level aircraft operation should not be allowed within 400 m of nest and roosts during periods of eagle use. These activities should also be regulated up to 800 m from nests and roosts where

eagles have line-of-sight vision.” In addition, the Plan states: “Permanent structures that are occupied during periods of eagle use should not be constructed near nesting or winter use areas. Buildings should be no closer than 400 m from the shoreline of feeding waters. Wooded summer campgrounds and small farming operations are probably compatible with winter eagle use, but campgrounds in most wintering eagle areas should be closed from November to March.”

This area is unique, however, in that there is already a human presence within 400 m of the nest location. In addition, there currently exists a permanent residence approximately 400 meters from the nest location. The nesting eagles have occupied the same nest tree since 1998 and have produced young each year including the current year. Therefore, it seems that these eagles have become accustomed to the presence of humans in and around the area during the nesting period when most of the use of the area occurs. With the establishment of improved sites as a result of this project, the impacts to nesting bald eagles would lessen, compared to the current conditions, because of the reduction in the number of people able to camp in the sites and the localization of the disturbance.

3.3 Other Resources (Existing Condition and Effects)

The following resources are present within the project sites and may be affected by the proposed Project but were determined to not drive the selection of an alternative.

3.3.1 Soils & Water Quality

Existing Condition

The proposed Project is in the Snake River/Indian Creek watershed, which is within the Brownlee Reservoir subbasin.

Riparian Habitat Conservation Areas (RHCAs) would be established on all streams in the project area as outlined in INFISH.

Copper creek is a perennial stream and the other unnamed streams in the project area are all intermittent within the project boundary. Riparian vegetation is limited to a very narrow band adjacent to the stream channel with the majority of the RHCA being comprised of upland vegetation outside the riparian influence of the streams.

The project area is located within the Homestead Geographic Unit. The Baker RMP states that the riparian resource objective for this area is to enhance and/or maintain the riparian habitat (RMP, pg. 78)

Soil map units within the project sites consist of the Gwinly-Immig complex at Westfall, Bob Creek, and Airstrip sites, and Aridic Haploxerolls at Copper Creek.

Soils throughout Hells Canyon are composed primarily of Columbia River Basalt, covered in most areas with a thin mantle of residual soils from weathered native rock. Isolated areas contain deposits of windblown silt. The amount of soil cover declines northward through Hells Canyon.

Most soil complexes are well drained and vary from very shallow to moderately deep. Loams are the dominant textural class and vary from very stony to silty, often with a clay subsoil component (Natural Resources Conservation Service 1995, from IPC 1997). Soils in the Snake River Canyon can erode severely with heavy storm events or in areas of bare soils.

The Copper Creek site occupies a large bar on a river terrace. Slope is generally 2 - 4%. Sediments on-site consist of sand intermixed with gravels of many materials, including local volcanic rocks. Permeability is moderate. Available water capacity is 5 to 7 inches. The effective rooting depth is 60 inches or more. Runoff is slow or medium, and the hazard of water erosion is slight or moderate.

Airstrip is located south of Holbrook Creek adjacent to an unnamed drainage. Surface sediment consists of sand, silt and gravel. Bob Creek is located on the southern end of a large river terrace. Both sites are mapped as being within the same soil unit. Soil is shallow and well drained. It formed in colluvium derived from basalt and influenced by loess and volcanic ash in the surface layer. Typically, the surface layer is 3 inches thick. The depth to bedrock is 10 to 20 inches. Permeability is slow. Available water capacity is 1 to 2 inches. The effective rooting depth is 10 to 20 inches. Runoff is medium, and the hazard of water erosion is moderate or high.

Westfall is located on a steeper slope that has been highly modified. Originally, soils mapping indicates it had 50 to 70 percent slopes. The soil unit is very similar to the above. The primary difference is in the lower part of subsoil which is extremely cobbly clay. The depth to bedrock is 10 to 20 inches. Runoff is rapid, and the hazard of water erosion is very high. Currently, the Westfall site is terraced. The original contours and surface soils have been removed.

The Snake River within the Hells Canyon Complex is listed by the Department of Environmental Quality (DEQ) as an Oregon Water Quality Limited Stream. This is because of summer temperatures 11 degrees over the water quality standard of 64 degrees and presence of sediment and nutrients. Predominant water quality effects in the study area are from nonpoint-source activities (Idaho Department of Health & Welfare and

Idaho Department of Fish & Game 1989, from IPC 1997). Nonpoint-source activities which have been identified as accounting for the majority of effects include agriculture, forest practices, construction, and hydrologic/habitat modifications.

The Snake River from Hells Canyon Dam to Brownlee Dam is listed on the Oregon DEQ 303(d) list for temperature and toxics (specifically mercury) and is listed on the Idaho DEQ 303(d) list for nutrients, pesticides, and sediment.

Effects

While there will be construction activities within the RHCA, there will be no impact to riparian vegetation adjacent to Copper Creek or any of the unnamed streams within the project area. Impacts to vegetation adjacent to the Snake River are mainly limited to removal of some blackberries which is an insignificant impact to the riparian vegetation in the project area.

There would be no direct impacts to water quality from the proposed Project. Indirect impacts could include increased sedimentation due to construction activities, however this impact would be minor and limited in time due to the fact that there would be no disturbance to riparian vegetation adjacent to the tributaries of the Snake River, removal of vegetation within the Snake River RHCA is limited to mainly blackberries, bare ground would be seeded and/or planted, and waterbars would be installed on roads where needed to prevent sediment from directly entering any waterway.

No impact to stream temperature is expected due to the fact that no riparian vegetation would be disturbed adjacent to the Snake River tributaries (Copper creek and the unnamed streams in the project area). No measurable impact to stream temperature of the Snake River would occur due to the fact that the dams of the Hells Canyon Complex are the main factor controlling stream temperature of the river within the project area. The slight modification of blackberries and other vegetation adjacent to the Snake River would result in negligible impacts to the temperature and water quality of the river.

Alternative 3 could result in a very minor long term beneficial impact to the soils and hydrology resource from the seeding and planting of native vegetation and the reduction of compacted ground where vehicles are permitted.

3.3.2 Mineral Resources

Existing Condition

Most of the metallic mineral deposits occurring in the region are associated with the Seven Devils volcanics and predominantly occur along northeast trending fault zones. The ores consist primarily of copper deposits with minor associated gold and silver minerals. Pre-Tertiary, ore-bearing rock is normally buried by extensive lava flows of the Columbia River Basalts or at or below the reservoir level.

The project area is located within the Homestead Mining District, where the historic Iron Dyke mine produced significant amounts of copper in the early 20th century. Westfall and Airstrip were mining claims, and were occupied for that purpose as recently as 1980. Four terraces were created at Westfall and used by their owner for houses and storage buildings. Mr. Westfall died in the 1980s and the buildings were removed. Today concrete stairways, rock retaining walls, steel railings, and a mine adit remain on site.

The Airstrip site was also occupied by mine claimants. One terrace was created where a housing improvement existed until it burned in the late 1970s. BLM found the mining claim occupancy to be unauthorized and the building was not rebuilt. Today a picnic table, spring development, and power line and drop box remain on site. A mine adit and tailing piles remain from the mining era.

Effects

Alternative 1 (No Action) would have no effect on the mineral resource. The sites would remain available for mining location.

Alternative 2 (One Site) would have an effect. The site of development and an appropriate buffer zone (approximately 5 acres) would be withdrawn from locatable mineral entry to protect the investment in facilities. Any abandoned mining features which pose a safety concern for the public will be mitigated. Even though the site has some mineral potential, no claim has been located for many years.

Alternative 3 (Four Sites) would have similar effects as Alternative 2. However, all four sites would be withdrawn from locatable mineral entry, affecting approximately 25 acres.

3.3.3 Cultural

Existing Condition

The Snake River Canyon area has been inhabited by people for thousands of years. Tribal history and archaeological studies show that people wintered in the canyon; hunted and fished along the river and uplands; gathered plants for food, medicine and industry; and assembled for trade and social exchange. The Snake River and adjoining uplands were used by many people that later came to be known as the Nez Perce, Cayuse, Umatilla, Walla Walla, Paiute, Shoshone, and Bannock tribes. The project area is located within the 1855 Treaty ceded area of the Nez Perce Tribe.

The Lewis and Clark expedition of 1805, and the Wilson Price Hunt expedition of 1811, initiated an influx of fur traders, explorers, military, miners, and homesteaders throughout the 19th century. Into the 20th century, emigrants established ranches, orchards, gold mines, ferries and railroads along the Snake River.

Intensive cultural resource surveys at the four locations were conducted by contract archaeologists as part of the Idaho Power Company studies for hydropower project relicensing (Gross 2001). No cultural resources were found on BLM land at Bob Creek. At Copper Creek, isolated artifacts have been found, but whether these indicate potential for subsurface cultural material at definable locations within the property remains to be determined. Two of the proposed recreation project areas were formerly gold-copper mine claims. The Westfall vicinity was minimally developed as the W.J. Bryan claim about 1906, and was subsequently modified by mining claim occupancy between 1964-1980s. A collapsing mine adit, mine tailings, and an old road are remaining historic features on the property. At the Airstrip property, the CH Fraction and Hobo claims date from around the turn of the century, after which a series of claim transactions, development and land modifications occurred between 1918-1977. One historic mine adit, tailings, scattered historic refuse, and an old road or possible railbed route were identified during inventory. The report of these inventories recommended that the historic mine site at Airstrip should be considered not eligible for the National Register, due to lack of integrity or distinctive characteristics. Development of these claims was minimal, apparently limited to short tunnels, and there is no history of production. Neither of the mines at Westfall or Airstrip played an important role in the mining history for the Homestead District.

Effects

Alternative 1 (No Action) would have no adverse effect on cultural resources. Uncontrolled recreation uses on the public lands have the potential to accelerate soil erosion and expose previously unidentified cultural resources, should any exist.

Alternative 2 (One Site): BLM considers the historic mine site at Airstrip to be not eligible for the National Register, due to lack of integrity or significance. Adaptive use of the old road or possible railbed for a hiking trail provides an opportunity for preservation and public education. Development at the property would have no adverse effect on any property on or eligible for the National Register. Posting property boundaries and heritage information signs would generally encourage protection of cultural resources.

Alternative 3 (Four Sites): BLM considers the historic mine sites at the Airstrip and Westfall properties to be not eligible for the National Register, due to lack of integrity or significance. Adaptive use of the old roads or possible railbed for a hiking trail provides an opportunity for preservation and public education. Development at these properties would have no adverse effect on any property on or eligible for the National Register. Further assessment of the potential for cultural resources at Copper Creek is needed, and so the potential effects of extensive recreation development are unknown at this time. No construction would occur at Copper Creek until evaluation and consultation with Oregon SHPO and Tribes has been completed. Any avoidance or mitigation measures identified as a result of this consultation would be implemented before construction would occur in order to achieve no adverse effect. Posting property boundaries and heritage information signs would generally encourage protection of cultural resources.

3.3.4 Transportation/Access

Legal and physical access to the project area is provided by Homestead county road which runs parallel to Hells Canyon Reservoir from the town site of Oxbow/Copperfield to Copper Creek. Access on the road could be temporarily disrupted during construction. There would not be any long-term effect. However, the current development and maintenance level, and tunnel on the Homestead Road, limits the type and amount of vehicles that can feasibly use the area. Over time, there may be increased pressure to change the current road condition. The proposed Project is not expected to add to this pressure.

3.3.5 Socio/Economic

Recreation is an important component of the economies of rural communities of Baker County. The effects of the proposed Project would be minimal but may have some economic effect on the businesses in the immediate vicinity, Pine Creek, and to a lesser

degree, Halfway. There may also be an effect on local residents and users that have frequented the area many times. The proposed Project would not increase overall recreation use of the area, but use patterns and experiences may change somewhat. There would be an increase in control and regulation of vehicle access off-roads.

3.3.6 – Livestock Forage/Management/Improvements

The proposed Project lies within the Homestead #3006, Hunsaker #3005, and Copperfield #3007 Allotments. These allotments are utilized for early spring forage. Approximately 343 cow/calf pairs are turned out from approximately April 15th to May 30th. There would be a negligible loss of forage. There would be no effect on permitted use. However, with the action alternatives there may be an effect on management due to increased effort to keep cattle from impacting the recreation sites.

Very little of the corridor area is actually fenced off from the river. Allotment boundaries are natural barriers, ridge tops and the river. BLM requires the permittees to herd and keep livestock in the right areas. Livestock numbers and grazing time are being adjusted to move towards management objectives identified in the RMP and to meet other resource issues, including improvement of perennial grasses in all of the allotments.

The permittees have traditionally trucked or herded cattle to each allotment, including to the end of the Homestead Road (Copper Creek site) for turn out. Alternative #3 would require that permittees take livestock up the Hess Road to turnout in the Homestead Allotment. If the need arises, a drift fence would be constructed at Copper Creek to prevent cattle from gathering in the recreation site and shading up within the riparian trees and shrubs. A cattle guard would be installed at the entrance. The recreation site would no longer serve as a collection area.

The Airstrip site is also commonly used as a collection and distribution site. Cattle would still be released in the vicinity of Holbrook Creek and would be pushed upland immediately if possible or they may need to “mother up” adjacent to the recreation site. If the need arises, a fence may be installed between Airstrip and the Homestead mining property.

Cattle commonly drift down to the county road and utilize it as a travel corridor. The permittee will be required to ride on a more regular basis to either move cattle higher up above the road or gather these cattle and take them home.

The effects to livestock management would be slight, requiring changes in existing practices. The presence of cattle within the recreation areas may become a more

sensitive issue, requiring a higher level of monitoring by permittees or installing fences to keep livestock out of the recreation areas.

3.3.7 – Noxious Weeds

The most prominent species of noxious weed found in the area are medusahead wildrye, scotch thistle, houndstounge, common pepperweed, puncturevine, perennial pepperweed, Scotch thistle, and diffuse knapweed. Dalmation toadflax is also present. These species are typically found in drier, upland sites and are associated with soil disturbance from livestock grazing, roads, recreation, or fire.

Rush skeletonweed , diffuse knapweed, and puncturevine are species that could be expected to be a problem with implementation of any of the alternatives. Soil disturbance and removal of vegetation could encourage the spread of these weeds. Reseeding and planting measures proposed in Alternatives 2 and 3 would retard the spread of weeds.

3.3.8 – Land Uses/Rights/Facilities

The four project sites are within close proximity to a number of existing facilities, as listed below. All existing rights-of-way would continue to be recognized and would be unaffected by the proposed actions.

- 69kV power line, authorized by right-of-way to Idaho Power. The power line runs through Westfall and Airstrip sites, and near Bob Creek.
- 230kV power line, authorized by a linear withdrawal to the Federal Energy Regulatory Commission and licensed to Idaho Power. The four sites lie more than 100 feet down hill from this power line.
- Baker County’s Homestead Road, Baker County Road. All four sites are accessed by this road.

Effects on private landowners. Landownership patterns are very mingled throughout the area. Affects on private landowners is not anticipated to change due to the established use of the area. Definition of sites, improved signing, and creation of some day use and walk-in only areas are elements which private landowners have requested.

3.3.9 Visual Quality

Existing Condition

The visual resource management (VRM) classification for the project area is Class II. In this class, activities may be seen, but should not attract the attention of the casual observer. The recreation setting in the project area is Roded Natural. The degree of access that visitors expect at the sites is identified as difficult. The adjacent recreation settings are Primitive to the northern wilderness area and to the west in the BLM Wilderness Study Areas. The remaining adjacent lands vary from Urban/Rural to Roded Natural.

The analysis area has a management objective of Class II visual quality due to the diverse landforms, rock outcrops, water and transition to the Hells Canyon Wilderness and National Recreation Area. However, the analysis area has been highly modified by dam construction, mining activities, recreation activities, and private land uses. Therefore, the recreation users in the area are only moderately sensitive to the quality of the environment. The project area can be seen from two travel corridors including: 1) Homestead Road (Sensitivity Level 2) on the Oregon side and 2) Hells Canyon Road (Sensitivity Level 1) on the Idaho side.

Effects from any of the alternatives would not attract the attention of the casual observer. In the existing setting, an observer would expect to see recreation facilities and roads. All alternatives would meet Class II objectives.

All alternatives would not alter the Roded Natural setting characteristics and would meet the management objectives of Class II. Roadways, gravel, toilet structures, picnic tables, and signs would be visible, but they would not contrast greatly with the characteristics of the existing condition. After project completion, all disturbed areas will be backfilled, compacted, and seeded, the contrast would lessen over time.

3.3.10 Air Quality

Air quality in the area is generally very good. It could be affected by the Proposed Action from dust being raised during construction activities. Any effects would be minimal, highly localized, and short-term. As soon as the activity is completed, it would quickly clear up.

3.4 Cumulative Effects

Effects from this project would be added incrementally to impacts for uses already occurring in the vicinity. These impacts include dust from travel on the road, vegetative impacts from livestock use, soil impacts from road use and maintenance, sedimentation from the road, and the visual impacts of the various facilities along the Reservoir. The addition of the impacts from the project to this mix would be minimal.

Providing heritage protection information and public land property boundary signs should facilitate protection of cultural resources in the general vicinity of the Hells Canyon Reservoir.

Cumulative impacts also include those related to Idaho Power re-licensing plans. The proposed Project on BLM lands is only a portion of the anticipated recreation measures being discussed as protection, mitigation, and enhancement measures required for re-licensing. Additional projects may occur on Idaho Power and other private lands during the short and long term. This proposed Project is anticipated to provide a diversity in recreation opportunities that will not be duplicated on Idaho Power or other private lands.

3.5 Residual Impacts

With the application of the mitigation measures, the following impacts would be expected:

- Minor, short-term, localized affect on air quality from dust.
- Minor disturbance and destruction of vegetation, replaced by seeded and planted species.
- Minor dislocation and disturbance of soil. Possible threat of soil erosion, minimized by compaction, waterbars, and reseeding.
- Possible minor short-term impact to water quality in Snake River, followed by negligible beneficial effect on water quality due to improved vehicle control, vegetation growth, reduction of soil compaction, and planting of riparian vegetation.
- Minimal visual impact from construction of roads, barriers, toilet facilities, and tables and fire rings.
- Small threat of noxious weed invasion, minimized by cleaning of construction equipment and long term vehicle control, and by the reseeding measures.
- Possible temporary disruption of use at the four sites and access on Homestead Road.
- Improved service to the recreating public.

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Todd Kuck, Hydrologist

Attachments

- A. Vicinity maps (2)
- B. Aerial photos (2)
- C. Site plans (4)
- D. AMS

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