Northeast Oregon Hatchery Program

Grande Ronde - Imnaha Spring Chinook Hatchery Project

Final

Environmental Impact Statement

Bonneville Power Administration
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1.1 Introduction

The Bonneville Power Administration (BPA) has a responsibility to protect, mitigate, and enhance fish and wildlife affected by the Federal Columbia River Power System (Northwest Power Act, 16 U.S.C. § 839 et seq). One species covered by that mandate is the Snake River spring/summer chinook salmon listed as threatened under the Endangered Species Act (ESA). BPA is now evaluating whether to provide funding for final design, property acquisition, construction, modification, operation, and maintenance of facilities to better implement existing, pre-approved programs of hatchery fish production for Snake River spring/summer chinook native to the Grande Ronde and Imnaha Rivers of Northeast Oregon. Before taking action on this matter, BPA must comply with the National Environmental Policy Act (NEPA) by preparing an Environmental Impact Statement (EIS). BPA, therefore, has prepared an EIS to consider alternatives and the environmental consequences of a Proposed Action (Proposed Action) to modify and modernize existing hatchery facilities and to construct auxiliary hatchery facilities where needed to aid in conservation and recovery of this species in Northeast Oregon.[1]

This Final EIS is an abbreviated document that updates some information that was presented in the Draft EIS (DOE/EIS-340 2003) where warranted, makes factual corrections of minor errors or oversights, and responds to substantive comments received on the Draft EIS. This Final EIS is intended to complement the Draft EIS, and together, these documents combine to constitute "the EIS" or "this EIS". This EIS evaluates and presents the environmental effects of the Proposed Action and a No Action Alternative.

Consideration of issues or elements of the hatchery production program is outside the scope of this EIS. Therefore, this EIS does not consider or evaluate changes to pre-established programmatic goals, costs versus benefits of the proposed facilities compared to other recovery methods, production levels, monitoring and evaluation requirements, genetics, ecological interactions, operational means of achieving programmatic goals, or hatchery phase-out or removal. While this EIS addresses cumulative effects of construction and operation of the proposed facilities, it does not address programmatic issues associated with spring/summer chinook recovery programs, hatcheries in general, or funding priorities for different recovery methods.

The abbreviated Final EIS consists of three chapters:

- **Chapter 1: Updated Summary and Project Description.** Chapter 1 provides an updated project overview and repeats the purpose and need for the Proposed Action (NEPA requirement); identifies the key decision-makers and responsible officials; summarizes public involvement, consultation, and coordination; provides an overview of changes since the Draft EIS; describes the Proposed Action, No Action Alternative, and alternatives eliminated from detailed study; summarizes environmental consequences and mitigation measures; and summarizes cumulative impacts.

- **Chapter 2: Revisions to Draft EIS.** Rather than reprinting the entire Draft EIS, Chapter 2 incorporates the Draft EIS by reference and identifies corrections, updates, and edits to information in

[1] The Northeast Oregon Hatchery Project (NEOH) Spring Chinook Master Plan (Master Plan) (Ashe et al. 2000) documented a need for updated, modified, and augmented production facilities in Northeast Oregon. It found that current hatchery facilities do not provide adequate space, the best available technical and scientific advancements, or suitable rearing and migration conditions to support conservation and recovery of the Snake River spring/summer chinook. The Master Plan explains how existing hatchery facilities have become over-extended and unable to meet the mitigation goals of the Lower Snake River Compensation Plan (LSRCP) or the conservation and recovery goals for ESA-listed species.

the Draft EIS. Most of these errata reflect dropping the proposed construction of the Imnaha Final Rearing Facility, although a few revisions were made to better clarify and expand upon descriptions or analyses, and/or respond to particular comments made on the Draft EIS.

- **Chapter 3: Comments on Draft EIS and Responses.** Chapter 3 includes reproductions of comments provided on the Draft EIS and responses to those comments.

1.2 Purpose and Need for the Proposed Action

The purpose and need for the Proposed Action remain the same as described in the Draft EIS (Sections 1.1 and 1.2). They are included here (Sections 1.2.1 and 1.2.2, respectively) for continuity and to aid reader comprehension.

1.2.1 Need for Action

The Snake River spring/summer chinook salmon native to the Grande Ronde and Imnaha Rivers of Northeast Oregon are listed as threatened and are protected by the Endangered Species Act (ESA). Adequate, contemporary hatchery facilities are needed in mitigation and recovery of these fish stocks.

Currently, the Lookingglass Hatchery in the Grande Ronde subbasin and the Imnaha Satellite Facility in the Imnaha subbasin are the only two existing permanent hatchery facilities for spring chinook in Northeast Oregon. Both of these facilities were built in the early 1980s. These facilities do not provide adequate space, the best available technical and scientific advancements, or suitable rearing and migration conditions to provide for the conservation and recovery of ESA-listed species. The National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries), U.S. Fish and Wildlife Service (USFWS) and local fishery and hatchery managers recognize that modernization and augmentation of hatchery facilities is needed to increase the success of mitigation efforts and to halt the decline of spring/summer chinook runs.

1.2.2 Purposes of Taking Action

Agency decision-makers and local fishery and hatchery co-managers will consider the following purposes (i.e. objectives) in evaluating alternative ways to meet the conservation and recovery needs described above:

- Provide adequate, contemporary hatchery facilities in the Grande Ronde and Imnaha subbasins to help in the conservation and recovery of ESA-listed spring/summer chinook salmon native to the Grande Ronde and Imnaha Rivers, and thus further implementation of the LSRCP's hatchery fish production program.

- Coordinate the operation at the existing Lookingglass Hatchery and related LSRCP hatchery facilities with the Fish and Wildlife Programs of the Northwest Power and Conservation Council (NPCC or Council), thereby aiding BPA's efforts to mitigate and recover anadromous fish affected by the Federal Columbia River Power System.

- Aid in BPA's fulfillment of mitigation and recovery goals outlined in Biological Opinion from NOAA Fisheries (formerly known as the National Marine Fisheries Service [NMFS]) on operation of the Federal Columbia River Power System (NMFS 2000a).

- Achieve economic efficiencies by integrating management of fish production programs and facilities.

- Be consistent with pertinent federal laws, regulations, and executive orders, and relevant plans and programs.

- Support the Nez Perce Tribe's (NPT) goal to restore anadromous fish populations and enhance the Tribe's opportunities to exercise treaty fishing rights.

1.3 Decisions To Be Made and Responsible Officials

While the decisions to be made and the responsible officials have not changed since publication of the Draft EIS, the text from the Draft EIS (Section 1.3) has been revised below to more clearly describe the relationships among the various entities involved in the Proposed Action.

BPA is the lead federal agency for purposes of NEPA compliance because it will decide whether to fund the final design, land acquisition, and facility construction and improvements. The NPT, the Confederated Tribes of the Umatilla Indian Reservation (CTUIR), and the Oregon Department of Fish and Wildlife (ODFW) as co-managers of the spring/summer chinook conservation and recovery program in Northeast Oregon, have worked collaboratively to help develop the Proposed Action. Although not federal agencies, they are the primary cooperating agencies for this EIS, and would be operating and maintaining the facilities if constructed.

Several other entities have been consulted during the development of this EIS. The U.S. Forest Service (Forest Service) must decide whether to authorize/permit facility modifications at the Imnaha Satellite Facility. The USFWS is responsible for administering the LSRCP program, and must concur with the design of any facilities, approve modifications to Lookingglass Hatchery and the Imnaha Satellite Facility, and work with others to resolve any fish production issues that may result from the addition or modification of facilities serving the LSRCP program. The NPCC administers the Columbia River Basin Fish and Wildlife Programs and makes recommendations regarding project funding.

1.4 Summary of Public Involvement, Consultation, and Coordination

This section includes information taken from the Draft EIS (Executive Summary and Section 1.5) that has been edited slightly for clarity and flow. It has been updated to reflect publication of the Draft EIS, and additional public involvement, consultation, and coordination which has happened since.

In conformance with NEPA, BPA involved the public in meetings during the environmental review process to identify environmental issues and concerns. The public or interested and affected parties included local residents, local business owners, regional special interest groups involved with fish conservation, government agencies with regulatory responsibilities related to the environment, and others. Open scoping meetings were held in Imnaha, Oregon (January 15, 2002); Lostine, Oregon (January 16, 2002); and La Grande, Oregon (January 17, 2002). Several follow-up meetings and communiqués with particular groups and individuals also occurred.

The public raised concerns about potential effects on the biological environment, physical environment, and the social and economic environment. Specifically, the public had concerns about potential effects of the Proposed Action on ESA-listed fish species, other aquatic species, ESA-protected wildlife, big game, and plants, particularly ESA-protected plants and riparian plant communities. The public also raised issues about potential effects of the Proposed Action on water quantity and water quality and about whether proposed new facilities would unreasonably diminish values of the Imnaha and Lostine Wild and Scenic Rivers and the Hells Canyon National Recreation Area. Furthermore, the public expressed concern about potential noise, visual quality, and the effects of construction and operation of proposed facilities on health, safety, and

security of local residents and road-users. The public also asked about the costs of hatchery facilities in the context of other means to conserve and recover spring/summer chinook in Northeast Oregon. All of these issues were analyzed, and results were summarized in the Draft EIS Chapter 3, except for the value of hatcheries compared to other means to conserve and recover chinook, which was determined to be beyond the scope of this EIS (Draft EIS, Section 1.6).

Following publication of the Draft EIS, BPA held four public meetings in La Grande, Oregon (June 9, 2003); Enterprise, Oregon (June 10, 2003); Imnaha, Oregon (June 11, 2003); and Lostine, Oregon (June 12, 2003). Meeting attendance was small, except that the Lostine River Hatchery meeting was well attended. Most of the attendees represented neighbors of the two Lostine facilities. The comment period on the Draft EIS ran through July 7, 2003, during which time 19 comment letters and 1 petition were submitted. Chapter 3 of this Final EIS includes reproductions of all of the comment letters on the Draft EIS and responses to substantive comments.

On August 6 and November 9, 2003, BPA and the co-managers met with Forest Service representatives to discuss Wild and Scenic Rivers issues and respond to Forest Service concerns. The Bureau of Land Management (BLM) was contacted in December, 2003 to discuss any potential concerns related to the Grande Ronde Wild and Scenic River. The State of Oregon was contacted in late 2003 and early 2004 to discuss any potential concerns about state designated scenic waterway status of the Grande Ronde River. Neither BLM nor the State expressed concerns about potential (Proposed Action) impacts to the Grande Ronde River.

Consultation and coordination with the NPT and CTUIR are on-going with both tribes serving as leaders and decision-makers in setting project direction. On February 25, 2004, the Oregon State Historic Preservation Office documented its concurrence with BPA's determination that no historic properties would be affected by the Grande Ronde – Imnaha Spring Chinook Hatchery Project.

On June 1, 2002, BPA initiated formal consultation with NOAA Fisheries and USFWS as required by Section 7 of the Endangered Species Act. The project Biological Assessment (FishPro/HDR 2004a) is incorporated by reference in its entirety in this EIS.

1.5 Overview of Project Changes Since Draft EIS

The Draft EIS evaluates hatchery facilities on five sites (Figure 2-1, Draft EIS). However, the Imnaha Final Rearing Facility is no longer proposed for construction because, upon further study, the co-managers of the chinook fishery and hatchery facilities determined that the fish production program could be accomplished at the four other sites with minor refinements to their components, layouts, and operations. This configuration would meet the purpose and need for the Proposed Action, cost less, and avoid some environmental impacts.

The Final EIS evaluates the environmental effects of relocating the functions of the Imnaha Final Rearing Facility to the other facilities (existing and proposed) and of removing the existing Acrow panel bridge from the Imnaha Final Rearing Facility site for use at the Lostine Adult Collection Facility. Total ground area involved and environmental effects would be diminished overall (cumulatively) by foregoing the construction of the Imnaha Final Rearing Facility. Impacts at the four other sites are expected to be unchanged from the conditions assessed and disclosed in the Draft EIS.

Because of the plan to remove the existing Acrow panel bridge from the Imnaha Final Rearing Facility site, the site is included in the Proposed Action in this Final EIS and is referred to as the Acrow Panel Bridge Site.

1.6 Description of Proposed Action

The Proposed Action is to modify and modernize two existing hatchery facilities and construct two auxiliary hatchery facilities to aid spring/summer chinook conservation and recovery. The Master Plan recommends that hatchery facilities be designed and constructed to meet criteria of Natural Rearing and Enhancement Systems (NATURES), such as low density rearing, volitional release, natural lighting, and other more "natural" features, as described in the Draft EIS (Section 3.2.3.1). As described in the Draft EIS (Section 2.1), and summarized here, facility design and construction under the Proposed Action would comply with applicable regulatory requirements, permits, and guidance for protection of the environment and human well-being and safety, and would incorporate best management practices such as erosion and dust control, waste management, weed management, fire prevention, and work-hour and noise restrictions. The Proposed Action incorporates special measures such as retaining sensitive riparian vegetation, landscaping with native plants, erecting buildings reflective of local character, and shielding of facility lighting. Instream structures would meet applicable NOAA Fisheries and USFWS design requirements, and construction would be staged to accommodate and reduce impacts on existing fish production at each facility. Instream work would comply with applicable regulations and permits and would occur behind temporary cofferdams or other appropriate water diversions.

The Proposed Action (Figure 1-1, Final EIS) consists of constructing facilities at four of the five sites discussed below. No hatchery facility construction is proposed at the Acrow Panel Bridge Site, although the existing bridge would be removed for use at the Lostine Adult Collection Facility. Sections 1.6.1 and 1.6.2 of the Final EIS replace Sections 2.1.1 and 2.1.2 of the Draft EIS. Substantive changes or clarifying points are underlined and described, as needed, in *underlined italics*.

1.6.1 Grande Ronde Facilities

1.6.1.1 Lookingglass Hatchery

The proposed modifications are within the existing 11-acre hatchery compound, which is operated and maintained year round. Most of the modifications are additions to existing facilities or internal changes to existing structures (Figure 1-2, Final EIS). *The six-bay garage, additional raceways (and associated excavation), and powerline upgrade analyzed in the Draft EIS are no longer part of the Proposed Action*. Modifications to Lookingglass Hatchery include:

- Modifying the hatchery building (adding incubation trays to improve fish health, segregation, and monitoring and evaluation requirements of the hatchery fish production building).
- Modifying the hatchery building (increasing the size of the rearing troughs to reduce rearing densities).
- Installing bird netting to reduce predation on fish in raceways.
- Replacing the existing standby generator and upgrading the on-site electrical power supply to meet building code requirements and to provide adequate, reliable power to operate the facility year round.
- Adding a new standby generator at the intake building.

Water Requirements at Lookingglass Hatchery — No additional water withdrawals are proposed for this facility beyond those already authorized.

Construction Activities at Lookingglass Hatchery — Only incidental land disturbance would result from construction at this facility, and no instream work would be necessary.

1.6.1.2 Lostine Adult Collection Facility

Currently, fisheries managers use a collapsible panel weir *(incorrectly identified as a portable picket weir in the Draft EIS)* on the Lostine River near its confluence with the Wallowa River to collect adult spring/summer chinook for hatchery spawning. The weir cannot be safely or effectively operated during higher river flows (greater than 800 cubic feet per second [cfs]) typical during early spring to July when many adult chinook are migrating upstream, which restricts the number and genetic diversity of adults that can be collected to meet hatchery goals.

A new adult spring/summer chinook collection facility is proposed approximately 1 mile upstream (south) of the town of Lostine (private land purchase or easement). This site is located downstream of primary spring/summer chinook spawning areas, and the new facility (Figure 1-3, Final EIS) would be designed to operate effectively during typical higher flows (800 to 1200 cfs). The existing collapsible panel weir may continue to be used during periods of lower flows.

The new adult collection facility would be located on the west bank of the Lostine River, across from an existing fish screen/fish ladder/irrigation diversion complex. *Since the Draft EIS was published, the design has evolved to improve compatibility with the existing irrigation diversion by shifting the location of the release channel and fish ladder exit downstream 60 feet*. The new Lostine Adult Collection Facility would involve:

- Decommissioning the existing, deteriorating concrete fish ladder. The most upstream and most downstream sills would be entirely removed; the other sills would be partially removed to the extent needed and allowed to fill with stream gravels.

- Constructing a new concrete fish ladder and installing a modern, fish-friendly weir structure (termed a hydraulic velocity barrier) for adult fish passage and chinook broodstock collection. The new structure (primarily cast-in-place concrete) would meet NOAA Fisheries criteria and would greatly improve fish trapping and passage over a range of river flow conditions.

- Protecting the river's west bank from damage during high flow conditions by constructing a soil and rock levee, about 3- to 5-feet high and extending about 360 feet upstream of the exit of the fish ladder. Existing vegetation would be removed for levee construction. *(The levee was lengthened an additional 60 feet downstream to correspond with shifting the release channel and fish ladder exit.)*

- Protecting/stabilizing the river channel by placing riprap or a concrete retaining wall along both banks about 100 feet upstream of the new facility.

- Clearing, grading, and graveling an area to provide access for loading and transporting broodstock.

- Replacing the log bridge with a steel panel bridge (removed from the Acrow Panel Bridge Site) and placing the bridge abutments outside the ordinary high water level.

- Bringing new electrical service across the bridge and installing a transformer to provide power during collection operations for the hoist, and possibly for lights.

- Constructing a temporary construction access road from the Lostine River Road to the Lostine River, just upstream of the existing irrigation diversion.

Water Requirements at Lostine Adult Collection Facility — This facility would not require water withdrawals from the Lostine River or from groundwater wells.

Construction Activities at Lostine Adult Collection Facility — Instream work would be involved with most activities, although most would be contained within a ¼ acre area. About 2 acres would be cleared and graded adjacent to (above) the west bank of the Lostine River for construction staging and permanent access to the facility. Temporarily disturbed construction areas would be revegetated with native species early the following growing season for the best plant growth and survival.

1.6.1.3 Lostine River Hatchery

Currently, Lostine River spring/summer chinook adults are spawned at Lookingglass Hatchery. Incubation occurs at two hatcheries on the Columbia River: Oxbow Hatchery (near Cascade Locks, Oregon, about 250 miles west of Lookingglass) and Irrigon Hatchery (downstream of McNary Dam, about 100 miles away). Fish are reared at Irrigon and Lookingglass hatcheries. Smolts are then trucked to a temporary facility on the Lostine River for acclimation for a couple weeks prior to release. The temporary facility consists of two aboveground troughs, a portable pump, and piping. This temporary facility does not provide sufficient rearing capacity, or acceptable low-density rearing conditions.

The proposed Lostine River Hatchery would be a full-scale, multi-function facility with permanent staff and on-site housing, designed to hold Lostine River chinook during spawning and incubation through final rearing and release into the wild. Along with the proposed adult collection facility downstream, this hatchery would have all the elements necessary to successfully support the Lostine River spring/summer chinook component of the hatchery fish production program (Figures 1-4 and 1-5, Final EIS).

The Lostine River Hatchery would be designed to hold the Imnaha River broodstock for spawning and egg incubation to the eyed stage. The Lostine River Hatchery would also hold half of the Imnaha River spring/summer chinook program from incubation to final rearing. The remainder would be reared at Lookingglass Hatchery (where Imnaha stock is currently reared).

The proposed Lostine River Hatchery would be located on a 6-acre site (private land easement and/or purchase) about 4 miles upstream (south) of the proposed Lostine Adult Collection Facility and would involve:

Installing a water supply intake (Figure 1-5, Final EIS) about ½ mile upstream of the proposed hatchery, just above where the Lostine River Road (County Road 551) crosses the Lostine River. The intake would include a fish screen and trash rack, meeting current NOAA Fisheries criteria for such structures, and would require installing a pneumatically-controlled weir *(Obermeyer gate™ in the Draft EIS)* to raise the surface water elevation to provide sufficient flow to the intake. A vertical slot fish ladder *(pool and weir ladder in Draft EIS)* would be installed to provide upstream and downstream fish passage past the weir structure. A small shed would house the air compressor used to inflate the weir and clear the intake screens. *(These design clarifications would not change the environmental effect of the Proposed Action.)*

- Building a 12-foot wide gravel access road and parking area for permanent access to the intake and temporary construction staging.

- Burying a 24-inch pipeline from the intake to the hatchery site along the Lostine River Road and Granger Road, the existing access to the hatchery site.

- Installing 12-inch pipelines from three existing groundwater supply wells to provide required pathogen-free water for egg incubation and smolt rearing. Small buildings would be placed at each well site to protect the wellhead, pumps, and other equipment. These wells would also provide potable water to staff residences.

- Building a spawning room, including 6 adult holding ponds and isolation tanks for Lostine and Imnaha stocks.

- Constructing a building for egg incubation and early rearing of both Lostine and Imnaha smolts and a laboratory, each complete with necessary apparatus (utilities, supplies, chillers, heaters, drains, vents, etc.).

- Constructing 10 smolt rearing raceways (two banks of five raceways) for holding Lostine and Imnaha stocks.

- Installing a water overflow system from the raceways. Flow would be directed to the hatchery outfall pipeline, volitional release pipeline, hatchery drain, or effluent return pump station.

- Installing a pump station and 18-inch pipeline to return hatchery water back upstream to the base of the fish ladder near the intake. This water, primarily river water with some groundwater, would restore flows in the Lostine River and help attract fish to the ladder, for moving upstream and downstream.

- Constructing an operations building with office space, bunkhouse for temporary and seasonal personnel, shop, electrical room, generator room, garage, and outdoor parking space for three vehicles.

- Constructing a small single family residence and remodeling an existing single family residence for permanent hatchery personnel.

- Building a basin for settling waste from water released when smolt raceways are cleaned. A sump pump would be installed in the cleaning basin to drain it so waste could be periodically removed and trucked to an appropriate off-site disposal facility.

- Constructing a concrete outfall downstream of the hatchery. Water from the hatchery's rearing raceways and cleaning basin would be conveyed through a 24-inch pipe and released into the river through the partially submerged outfall. Smolts would also be released through the pipe and outfall. The outfall's small valve opening and removable bar grate would prevent adult fish from entering the pipe.

- Installing a new septic system to serve the residences, operations building, and the incubation and early rearing facilities.

- Upgrading to a three-phase electrical power supply to the hatchery, conveyed along about 3 miles of the existing PacifiCorp easement. A transformer would be installed at the site's main operations building, and a generator would provide emergency backup power.

- Paving Granger Road from the Lostine River Road to the hatchery when hatchery construction is completed.

- Removing the existing temporary acclimation facility when the new facility is operational.

Water Requirements at Lostine River Hatchery — Lostine River flows vary widely, with average flows ranging from 50 cfs in the winter to 800 cfs in June, during the snowmelt. In September, when spring/summer chinook spawning occurs, the average flow is 50.2 cfs, and recommended withdrawals of 17.8 cfs would result in 32.4 cfs through the bypass reach. Hatchery water withdrawals would be managed to maintain adequate stream depth and instream flows for fish habitat and passage. During low flow periods, a pump back system would ensure a minimum of 12 cfs or 50 percent of the total flow through the bypass reach, whichever is greater (FishPro/HDR 2004a). Three new groundwater wells would provide up to 1,350 gallons per minute (gpm) to the facility (Montgomery Watson 2001). *(The available groundwater from project wells has been updated from the 1,200 gpm noted in the Draft EIS to reflect the results of supplemental testing.)*

Construction Activities at Lostine River Hatchery — The Lostine River Hatchery would require clearing about 5 acres of undeveloped upland, currently used as horse pasture, and adjacent woodlands. Trees would be protected, unless they pose a safety hazard or lie along the outfall pipeline corridor. Trees that would need to be removed may be used as instream structures for fish enhancement in the watershed. The site would be graded and filled with 5,000 to 6,000 *(10,000 in Draft EIS)* cubic yards of rock from a nearby quarry to level the site and to provide some flood protection.

Site clearing and foundations and exteriors for the main buildings would be undertaken first to allow other work to continue indoors during the winter months. Severe weather conditions may occasionally stop outdoor work activities. Construction of the raceways, incubation and spawning building, water cleaning basin, and related structures and piping would occur during the second construction season.

Because the hatchery would be located in a subdivision of rural cabins, special measures would be taken to avoid neighborhood disturbance from unreasonable noise, dust, light, traffic, and other possible construction-related annoyances. Though normal work hours would be 8 a.m. to 5 p.m., 5 days a week, 12-hour work days for 6 days a week would be needed during crucial instream work windows (normally July 15 to August 15) to accomplish necessary work. Two instream work seasons would likely be needed to complete construction of the hatchery facilities. The first instream work window would be used to construct the river water intake and fish ladder, which would include removal of a portion of the riverbank to place the intake. The eastern portion of the weir, including bank abutments, would also be constructed during the first year's instream work window. The second instream work window would be used to install the remaining portion of the pneumatically-controlled weir, the surface water pipeline at the intake, and the downstream hatchery outfall. Upstream and downstream fish passage would be maintained during instream work, as cofferdams would isolate the construction area on respective banks, allowing free flow on the other side of the river. Less than ½ acre of instream work would be involved.

1.6.2 Imnaha Facilities

1.6.2.1 Acrow Panel Bridge Site

The text in this section totally replaces the text in Section 2.1.2.1 of the Draft EIS.

The proposal is to remove the existing Acrow panel bridge across the Imnaha River (Figure 1-6, Final EIS) for use at the Lostine Adult Collection Facility and to rehabilitate areas disturbed by bridge removal.

Water Requirements at Acrow Panel Bridge Site — No water diversions or withdrawals are proposed at this site.

Construction Activities at Acrow Panel Bridge Site — The existing bridge panels and concrete abutments would be removed, which would temporarily disturb riparian banks and vegetation. A skid-steer loader and crane would each cross the Imnaha River twice (across and back). The entire removal would likely take less than a week. No trees would be removed, although a few shrubs may be. Disturbance would be minor and riparian areas would be revegetated with native plants. *(This would be an improvement over the existing condition and over the proposal analyzed in the Draft EIS.)*

1.6.2.2 Imnaha Satellite Facility

The existing Imnaha Satellite Facility is located about 29 miles upstream (south) of the town of Imnaha on about 6 acres of land administered by the Forest Service. The facility, a satellite of Lookingglass Hatchery, is operated seasonally under a special use permit from the Forest Service. The USFWS owns the facility and holds the special use permit. The ODFW operates the facility as an adult chinook holding and smolt release facility. The facility has deficiencies that limit its effectiveness to safely and efficiently collect and hold adult fish by contemporary standards.

The proposed facility improvements are located within the existing hatchery compound (Figure 1-7, Final EIS). Modifications are proposed to allow for more efficient collection of broodstock over a greater range of flows, and to allow for improved short-term adult holding prior to transfer to the Lostine River Hatchery for spawning. Improvements to the existing juvenile acclimation pond are also proposed to allow for final rearing at preferred densities prior to release.

Spawning is no longer proposed at this facility, so adding an egg incubation room as proposed in the Draft EIS is unnecessary. Because the operating season would be shorter without a spawning operation the powerline would not be extended 6 miles to the site (this also would reduce project cost). The addition of a more effective fish ladder alongside the existing ladder to increase fish attraction at the ladder entrance is no longer part of the proposal. Instead, an auxiliary water supply pipeline would provide increased attraction flows.

The current facility is deficient in adult collection and holding and does not allow acclimation within NATURES operational criteria. Improving the facilities would involve:

- Replacing the existing picket weir with a hydraulically operated weir *(Chiwawa weir™ in Draft EIS)* that functions safely and effectively at higher river flows.
- Enlarging the trapping and holding area.
- Expanding the existing intake to provide more water for acclimation and to improve adult attraction to the fish ladder. The existing fish ladder would be maintained with a new auxiliary water supply pipeline and diffuser constructed adjacent to the existing fish ladder to increase attraction flows.
- Constructing a new 24-inch conveyance pipeline from the new intake, as well as a NOAA Fisheries-compliant debris and fish screen on the existing intake.
- Constructing a rock sluice *(more efficient that the settling basin proposed in the Draft EIS)* for trapping sand and silt before the water flows into the acclimation ponds.
- Developing an on-site well to replace the existing domestic water supply well for domestic use and for use in the adult holding spray system.

- Enlarging the existing juvenile chinook acclimation pond to provide more space for acclimating fish at preferred densities.

- Shifting the septic drain field to replace the drain field area displaced by construction. *(There would be no change in overall size or function of the drainfield.)*

Water Requirements at Imnaha Satellite Facility — An additional 11.3 cfs (for a total of 20.3 cfs) would be diverted from the Imnaha River for acclimation of smolts and adult holding and collection during peak usage periods (FishPro/HDR 2004a). *(Surface water diversions are reduced from the Draft EIS quantities of 13 cfs additional and 26 cfs total.)* Up to 100 gpm of groundwater would be pumped from a new well for domestic use and for adult holding spray systems.

Construction Activities at Imnaha Satellite Facility — Proposed improvements, including instream work to replace the weir and modify the intake, would involve less than ½ acre, much of which has been previously altered by development. About 650 feet of new pipeline would be buried next to the existing water pipeline under the existing gravel road.

Due to the remote location and harsh winter conditions, construction would likely occur only between late April and early November. Construction would be scheduled to avoid disrupting existing hatchery operations when feasible. However, during installation of the hydraulically operated weir, and the addition of the auxiliary pipe and diffuser box at the fish ladder entrance, migrating fish would be temporarily trapped below the site for broodstock collection and for release above the site. All in-water construction activities would take place during the ODFW-approved work window for the Imnaha River (July 15 – August 15).

1.7 No Action Alternative

The No Action Alternative remains the same as described in the Draft EIS (Section 2.2),It is repeated here for continuity and to aid reader comprehension.

NEPA requires consideration of a No Action Alternative to provide an environmental baseline against which consequences of the Proposed Action (and any alternatives) can be compared. "No Action" in this EIS means the current activities would continue with no changes to the function, type, or number of available facilities. However, the existing facilities would deteriorate over time due to age and use.

Existing facilities would continue to be relied upon to support the conservation and recovery program for the spring/summer chinook in Northeast Oregon. Current disease risks and other problems, insufficiencies, and limitations associated with the existing situation would likely stay the same or possibly improve slightly with changes in practices and minor upgrades over time. Lostine and Imnaha chinook stocks would continue to be incubated and reared away from their natal waters, and acclimated at the facility on the Lostine River and at the Imnaha Satellite Facility.

The No Action Alternative means that the production of spring/summer chinook at Lookingglass Hatchery would continue below levels desired for conservation and recovery goals, and at elevated risk of a complete loss of a year's production of one or more stocks of fish in the event of a system failure or operational accident.

1.8 Alternatives Eliminated from Detailed Study

The Alternatives Eliminated from Detailed Study section remains the same as described in the Draft EIS (Section 2.3)It is repeated here for continuity and to aid reader comprehension. A few points of clarification and updates are underlined where they occur.

The following alternatives were considered in the planning process (Ashe et al. 2000), but have been eliminated from detailed study because they are either physically or economically infeasible, or did not meet the purposes or need for taking action presented in Chapter 1 of this EIS. See Chapter 3 of the Master Plan (incorporated by reference in this EIS, available upon request from BPA) for a complete description of the following alternatives and the screening process used to eliminate them from further study.

1.8.1 Modify Lookingglass Hatchery and Use, Add, or Modify No Other Facilities

This alternative sought to modify Lookingglass Hatchery to the extent necessary to meet full production goals for all fish stocks managed for mitigation, conservation, and recovery goals in Northeast Oregon. However, this alternative would not provide sufficient space or water supply to substantially improve the fish production program. Chapter 3.3.1 of the Master Plan contains more detailed information about this alternative.

1.8.2 Use or Modify Existing Facilities Elsewhere in the Columbia Basin to Assist Lookingglass Hatchery Production

Co-managers considered using existing facilities throughout the Columbia Basin to assist Lookingglass Hatchery in meeting its fish production goals. Though the preferred production strategy requires rearing fish in their natal watershed, all anadromous fish hatcheries in the Columbia Basin and one on the Oregon coast were evaluated. Tables 3-3 and 3-4 of the Master Plan list and describe the 12 facilities reviewed.

The facilities were also reviewed in the NEOH Final Siting Report (Montgomery Watson 1995a). The evaluation resulted in the elimination of each of these facilities for one or more of the following reasons: restricted expansion potential and/or existing facilities near capacity; inadequate water supply to accommodate expansion; poor water quality or undesirable temperature regimes; excessive distance to and from the Grande Ronde and Imnaha subbasins for safely transporting eggs and smolts; and/or did not meet goal of maximizing production within natal waters. Chapter 3.3.2 of the Master Plan contains more detailed information about this alternative.

1.8.3 Put New Facilities at Other Sites in Northeast Oregon to Assist Lookingglass Hatchery Production

Co-managers studied many sites in the Imnaha and Grande Ronde subbasins for potential new facilities (Table 1-1). Chapter 3.3.3 of the Master Plan describes the sites, screening criteria, and evaluation process used to eliminate them from detailed study in this EIS. Sites were evaluated based on their potential to accommodate a main hatchery facility or several smaller, integrated facilities to serve one or both basins.

This investigation found that only the Imnaha Final Rearing Facility site (Wayne Marks Ranch, site 10) and the Lostine River Hatchery site (adjacent to the ODFW Bighorn sheep range, site 21), both of which were included in the Proposed Action and analyzed in the Draft EIS (Section 2.1), had adequate water flow, supply, and temperature; space; and power supply near historic spawning areas to efficiently accommodate certain critical facilities. All other sites have therefore been eliminated from further consideration. The Imnaha Final Rearing Facility (Wayne Marks Ranch) is no longer proposed for construction because upon further study, the co-managers of the chinook fishery and hatchery facilities determined that they could accomplish the production program at the four other sites with minor refinement to their components, layout, and operations.

Table 1-1. Sites Investigated

Imnaha Subbasin Sites	Grande Ronde Subbasin Sites	
1. Indian Crossing	1. Catherine Creek N&S Fork confluence	16. Wallowa Lake
		17. Hayes Fork-Prairie Creek
2. Gumboot Creek (existing facility)	2. Catherine-Milk Creek confluence	18. Wallowa Hatchery
3. Grouse Creek-Imnaha confluence	3. Catherine Creek at Union	19. Big Canyon Creek
4. Big Sheep-Lick Creek confluence	4. Vey Meadows	20. Minam River – Wallowa River confluence
5. Big Sheep Creek	5. Sheep Creek	
6. Big Sheep-Little Sheep confluence	6. Beaver Creek	21. ODFW Bighorn sheep range
	7. Sanderson Springs-Mill Creek	22. Strathearn Ranch
7. Little Sheep Creek	8. Lower Willow Creek near Elgin	23. Lostine Dam
8. Gene Marr Ranch	9. Indian Creek near Elgin	24. Clearwater Ditch Diversion – Lostine River
9. Horse Creek	10. Grande Ronde near Elgin	
10. Wayne Marks Ranch	11. Lookingglass Hatchery	25. Davis Dam-Catherine Creek
	12. Wildcat Creek Area	26. Minam above Wallowa River
	13. Fish Ladder	27. Wallowa River below Minam confluence
	14. Flora Grade	
	15. Cottonwood Creek	28. Wenaha River above Troy
Source: Montgomery Watson 1995a.		

The Strathearn Ranch (site 22), about 2 miles downstream of the Lostine River Hatchery site, met the project requirements, but the owner ultimately decided not to make the property available. Project Team members also investigated, and eliminated from further consideration, possible sites on the west side of the Lostine River. The one feasible west-side site was dropped from further consideration because it would require substantially more site development; have a potentially greater impact to adjacent landowners; and result in more disruption and potential impact to the natural environment (McMillen 2003, personal communication).

1.9 Comparison of Alternatives and Summary of Potential Impacts

Table 1-2 compares the Proposed Action and the No Action Alternative to the stated purposes of taking action. *This table has been updated to reflect that the Imnaha Final Rearing Facility is no longer part of the Proposed Action. Table 1-2 replaces Table 2-2 in the Draft EIS.*

Table 1-3 compares the facilities associated with the Proposed Action and the No Action Alternative. *This table has been updated to remove the Imnaha Final Rearing Facility and incorporate the Acrow Panel Bridge site. Table 1-3 replaces Table 2-3 in the Draft EIS.*

Table 1-4 summarizes potential impacts (environmental consequences) of the Proposed Action and the No Action Alternative. *This table has been updated to remove the Imnaha Final Rearing Facility and incorporate the Acrow Panel Bridge site. Table 1-4 replaces Tables ES-1 and 2-4 in the Draft EIS.*

Table 1-2. Comparison of Proposed Action and No Action Alternative to the Stated Purposes of Taking Action

Purposes of Taking Action	Proposed Action	No Action Alternative
Provide adequate, contemporary hatchery facilities in the Grande Ronde and Imnaha subbasins to help in the conservation and recovery of ESA-listed native chinook and further the implementation of the LSRCP hatchery fish production program.	Would meet this purpose to the greatest extent. Implementation of the full program would provide facilities adequate to support conservation and recovery of Grande Ronde and Imnaha spring/summer chinook.	Would only provide facilities to implement partial program elements. Existing facilities are currently undersized and inadequate for the proposed low density rearing programs.
Coordinate the operation of Lookingglass Hatchery and related LSRCP hatchery facilities with the Fish and Wildlife Program of the NPCC, thereby aiding BPA's efforts to mitigate and recover fish affected by FCRPS.	Would meet this purpose to the greatest extent. Modifications proposed to Lookingglass Hatchery would better accommodate the Catherine Creek and Upper Grande Ronde (includes Lookingglass Creek), and Imnaha components of the hatchery fish production program and transfer Lostine stock responsibilities to additional facilities on natal stream for full implementation of the LSRCP.	Would not meet this purpose. Lookingglass Hatchery would continue to be relied upon, despite a review that found it could not meet program goals even with substantial modifications. The No Action Alternative could also result in a system failure at Lookingglass Hatchery and complete loss of a year's production of one or more of the stocks currently reared there.
Aid in BPA's fulfillment of mitigation and recovery goals outlined in the Biological Opinion of NOAA Fisheries on operation of the FCRPS.	Would meet this purpose to the greatest extent. The modernization and improvement of existing facilities, and construction of certain new facilities, provide the potential for restoration and prevention of extinction of spring/summer chinook. The Proposed Action would support the recovery goals for operation of the FCRPS.	Would not meet this purpose. Existing facilities would continue to be relied upon to support the conservation and recovery program for the chinook in Northeast Oregon. Current disease risks and other problems, insufficiencies, and limitations associated with the existing situation would continue. Lostine and Imnaha chinook stocks would continue to be incubated and reared away from their natal waters, except for the temporary rearing facility on the Lostine River.
Achieve economic efficiencies by integrating management of fish production programs and facilities.	Would meet this purpose. Implementation of this project supports integration and coordination of LSRCP, BPA, NPCC, NPT, CTUIR, and ODFW hatchery management interests and expenditures.	Coordination and economic efficiency are constrained by the limitations of the existing hatchery facilities to meet LSRCP mitigation goals or the conservation and recovery objectives for ESA-listed species shared by the fishery managers.
Be consistent with pertinent laws, relevant plans and programs, and tribal objectives for fishery management and harvest.	Would meet this purpose to the greatest extent, particularly related to mitigation and recovery of ESA-listed species.	Would not be inconsistent with any laws, relevant plans and programs, or tribal objectives, but would not further any objectives contained therein.

Table 1-3. Comparison of Facilities Associated with Proposed Action and No Action Alternative

Facilities	Proposed Action	No Action Alternative
Number of Sites Involved	5 Sites[2] Lookingglass Hatchery Lostine Adult Collection Facility, including the Lostine Adult Collection Weir Lostine River Hatchery Acrow Panel Bridge Site Imnaha Satellite Facility	4 Sites Lookingglass Hatchery Lostine Adult Collection Weir, included as part of the Lostine Adult Collection Facility site Lostine Acclimation & Rearing Imnaha Satellite Facility
Approximate Acres Occupied	Lookingglass Hatchery (11) Lostine Adult Collection Facility, including the Lostine Adult Collection Weir (3) Lostine River Hatchery (6) Acrow Panel Bridge Site (0) Imnaha Satellite Facility (6)	Lookingglass Hatchery (11) Lostine Adult Collection Weir, included as part of the Lostine Adult Collection Facility site (1) Lostine Acclimation & Rearing (1) Imnaha Satellite Facility (6)
Number of Sites Improved	2 Sites Lookingglass Hatchery Imnaha Satellite Facility	None
Number of New Sites	2 Sites Lostine Adult Collection Facility Lostine River Hatchery	None

[2] Acrow Panel Bridge Site is included in Final EIS for analysis of bridge removal. The Proposed Action no longer includes fish hatchery facilities at this site.

Table 1-4. Summary of Environmental Consequences of Alternatives

Environmental Resource	Proposed Action*	No Action Alternative
3.2 Fisheries		
Targeted spring/summer chinook	Site disturbances and channel alterations would create minor localized impacts that would not affect species population viability. Water withdrawals during operation of facilities would reduce habitat in the immediate reach of each diversion, but would not affect species population viability. No impacts to individuals or populations are expected from discharges at the proposed facilities. Individuals and the population would benefit from improved passage as well as adult attraction and collection facilities. The population would benefit from improved broodstock collection and holding facilities. Incubation and rearing practices resulting from the proposed facilities would increase population viability and benefit the species in the long-term. Fish health maintenance activities would benefit individuals and the population by reducing disease potential.	Risks to hatchery production needed to maintain population viability would increase in the long-term because of the inadequacy of current facilities.
• Non-targeted chinook	Site disturbances and channel alterations would create minor localized impacts that would not affect species population viability. Water withdrawals during operation of facilities would reduce habitat in the immediate reach of each diversion, but would not affect species population viability. No impacts to individuals or populations are expected from discharges at proposed facilities. Some individuals may experience short-term stress from installation of weirs, ladders, and traps within the Lostine River. Improved upstream and downstream passage in both subbasins would benefit populations. Broodstock collection and maintenance are not expected to impact non-targeted chinook population viability. Incubation and rearing practices at the proposed facilities would have no impact on non-targeted chinook. Fish health maintenance activities would benefit individuals and the population by reducing disease potential.	No change.

Environmental Resource	Proposed Action*	No Action Alternative
• Other salmonids	Site disturbances and channel alterations would create minor localized impacts that would not affect species population viability. Water withdrawals during operation of facilities would reduce habitat in the immediate reach of each diversion, but would not affect species viability. No impacts to individuals or populations are expected from discharges at proposed facilities. Some individuals may experience short-term stress from installation of weirs, ladders, and traps within the Lostine River. Improved upstream and downstream passage in both subbasins would benefit populations. Broodstock collection and maintenance are not expected to impact population viability of other salmonids. Incubation and rearing practices at the proposed facilities would have no impact on other salmonids. Fish health maintenance activities would benefit individuals and the population by reducing disease potential.	No change.
• Non-salmonids	Site disturbances and channel alterations would create minor localized impacts that would not affect species viability. Water withdrawals during operation of facilities would reduce habitat in the immediate reach of each diversion, but would not affect species viability. No impacts to individuals or populations are expected from discharges at proposed facilities. Some individuals may experience short-term stress from installation of weirs, ladders, and traps within the Lostine River. Improved upstream and downstream passage in both subbasins would benefit populations. Broodstock collection and maintenance are not expected to impact population viability. Incubation and rearing practices at the proposed facilities would have no impact on non-salmonids. Fish health maintenance activities would have no impact on non-salmonids.	No change.

Environmental Resource	Proposed Action*	No Action Alternative
3.3 Wildlife		
• ESA species	No state or federally listed species are known to nest or breed at project sites. Bald eagle roosts or potential roosts have been documented at or near all sites except ISF. Tree removal at LRH and LACF may reduce the number of potential roost sites.	No change.
• Other species	Temporary displacement during construction activities (noise and presence of humans) would be the primary consequence to big game and other wildlife species that use project sites.	No change.
3.4 Plants and Wetlands		
• ESA species	No state or federally listed plant species are known to occur at any project sites.	No change.
• Other native species	Varying amounts of native vegetation would be disturbed or displaced by facility structures. All sites will be replanted with native species. Some loss of riparian habitat is anticipated at LACF and LRH.	No change.
• Non-native species	All facilities will be maintained to discourage non-native, invasive, and weed species.	No change.
• Wetlands	LACF and LRH – Net loss of minor amount of wetlands (less than ½ acre combined). Mitigation – Conduct formal wetland delineations and implement compensatory wetland mitigation as required in consultation with regulatory agencies.	No change.
3.5 Geology		
• Approximate acres temporarily disturbed and permanently altered	LGH – incidental disturbance within existing facility (total existing facility about 11 acres). LACF – 2 acres (total site about 3 acres). LRH – 5 acres temporarily, 3 acres permanently, altered (total site about 6 acres). APBS – 0 acres occupied after bridge removed. ISF – < ½ acre within existing facility (total existing facility about 6 acres).	LGH – No change. LACF – No change. LRH – No change. APBS – No change. ISF – No change.
• Slope/bank stability	Stability unchanged.	Stability unchanged.
• Erosion	Short-term, localized erosion during construction.	Erosion potential unchanged.

Environmental Resource	Proposed Action*	No Action Alternative
3.6 Hydrology		
• Water quality	Localized temporary construction-related runoff and sedimentation within applicable standards.	Water quality unchanged.
• Water quantity	LRH – occasional short-term reduced flows along hatchery reach in extremely dry or cold periods (up to 50 percent reduction during extreme low flows; during those times, river and well water would be pumped back to the intake location). ISF – similar to LRH, but shorter duration and extent; minor flow regime alteration during periods of extremely low flows.	Water quantity unchanged.
• Flow restrictions / floodplains	LACF and LRH – localized flow restriction, concentration, and scouring. APBS – slight improvement with removal of bridge and bridge abutments. ISF – slight improvement with new weir.	Flows unchanged.
3.7 Wild and Scenic Rivers		
• Imnaha River	Instream structures at ISF would slightly constrict natural river flow and decrease vegetation; slight improvement with bridge and abutment removal at APBS and new weir at ISF; likely improvement over time to fisheries ORV, as well as lifestyle and recreation ORVs.	No change to Imnaha flow conditions; forego bridge removal at APBS and slightly improved replacement structures at ISF; and forgo future improvement to fisheries ORV and related recreation and lifestyle ORVs.
• Lostine River	Not likely to invade area or unreasonably diminish values of Wild and Scenic designation.	No change.
• Grande Ronde River	Not likely to invade area or unreasonably diminish values of Wild and Scenic designation.	No change.
3.8 Cultural Resources	No effect. If evidence of cultural materials is found later, work or activity would be halted until the site could be assessed.	No effect.
3.9 Aesthetics (Visual Quality)	LGH – no effect on overall visual character. LACF – limited effect on overall visual character. LRH – limited effect; visible to nearby residents. APBS – slight improvement on visual character and views from Road 551. ISF – limited effect on overall visual character.	LGH – No change. LACF – No change. LRH – No change. APBS – No change. ISF – No change.

Environmental Resource	Proposed Action*	No Action Alternative
3.10 Land Use, Recreation and Transportation		
• Land Use	Facilities consistent with local zoning as applicable, permitted outright or as conditional use; ISF on Forest Service land, would require reissuing special use permit.	No change.
• Recreation	No effect on recreation, except possible long-term benefit if chinook stocks sufficiently recover to enhance viewing and fishing.	No change.
• Transportation	Short-term traffic increase during construction. LACF – improve trout farm bridge and parking. LRH – pave Granger Road.	No change.
3.11 Socioeconomics	No change to population; some increase to employment, especially during construction; and some benefit to local economy if chinook recover and stimulate recreation or fishing.	No change; potential for some adverse effect on local economy if salmon stocks continue to decline.
3.12 Air Quality	Short-term increase in particulates during construction; no long-term effect.	No change.
3.13 Noise	LGH – temporary increase in area noise levels during construction; long-term potential to decrease noise levels at facility with new buildings and equipment. LACF – temporary increase in area noise levels during construction. LRH – temporary increase in area noise levels during construction; long-term noise associated with traffic to the facility and additional residence. APBS – temporary increase in area noise levels during bridge removal. ISF – temporary increase in area noise levels during construction.	No change at any of the sites.
3.14 Public Health and Safety	Potential minor increased demand for public services (fire, hospital, etc.) and increased traffic during construction.	No change at any of the sites.

*Proposed Action
LGH = Lookingglass Hatchery
LACF = Lostine Adult Collection Facility
LRH = Lostine River Hatchery
APBS = Acrow Panel Bridge Site
ISF = Imnaha Satellite Facility

1.10 Summary of Mitigation Measures

The Proposed Action would be, in large part, self-mitigating due to the inclusion of best management practices, conservation measures, and special design considerations. As discussed in the Draft EIS and project Biological Assessment, these measures are included as components of the Proposed Action, and would be requirements placed on contractors during construction of the facilities. Additional measures may be included as the result of further consultation and coordination with regulatory agencies and in the pursuit of any applicable permits and approvals, which may be implemented during facility construction and operation.

Construction Measures — Specific measures to be taken during (or prior to) construction would include:

Fish

- Monitoring the Imnaha and Lostine Rivers (through visual observation) for delays to upstream or downstream migrating fish during instream activities.

- Completing all in-water work during instream work windows as stipulated by ODFW for the protection of salmonids and other species and in compliance with the conditions of the Joint Permit to be issued by the U.S. Army Corps of Engineers (USACE) and the Oregon Department of Environmental Quality (DEQ).

Wildlife

- Leaving snags (dead trees) and perch trees (trees with broken tops or limbs) in place, when safe to do so, to provide wildlife habitat.

Plants and Wetlands

- Conducting formal wetland delineations at the Lostine River Hatchery and Lostine Adult Collection Facility sites and implementing any compensatory wetland mitigation based upon the outcome of those delineations and applicable regulations.

- Implementing weed control measures as required by local weed management authority.

Soils and Erosion

- Limiting the disturbance of riparian and other vegetation to the minimum amount necessary to achieve construction objectives to minimize habitat alteration and limit the effects of erosion and sedimentation. Re-establishing native vegetation in temporarily disturbed sites.

- Developing a grading plan and a temporary erosion and sedimentation control plan prior to site preparation to minimize disturbed areas and erosion.

- Identifying clearing limits on all construction drawings, and fencing with silt fences or orange construction fencing prior to the initiation of staging or construction activities to clearly define the clearing limits and protect non-project areas from vehicle intrusion.

- Constructing temporary sediment control ponds (settling basins) as a first step in grading before any additional soil disturbance occurs.

- Placing sedimentation and erosion control measures, such as silt fencing and straw bales, and covering exposed soils with plastic sheeting, jute matting, or mulching to minimize erosion and prevent sediments from entering waterways and wetland habitats.

- Protecting all exposed areas that must remain bare for more than 30 days between July 1 and October 31 with straw mulch, plastic covering, or other materials to prevent erosion.

Water Quality

- Using synthetic hydraulic oil in all heavy equipment to be operated in or near surface water and performing all equipment maintenance outside of riparian areas.

- Using plastic sheeting or other containment methods to prevent dust, slurry, and other wastes from concrete cutting activities from entering the river.

- Designating and constructing on-site, temporary concrete washout facilities, if needed, with sufficient volume to contain all liquid and concrete waste generated.

Cultural Resources

- Monitoring soil disturbing activities for evidence of cultural resources.

Air Quality

- Watering Granger Road during construction in dry weather and paving Granger Road at the termination of project construction activities to protect air quality (by reducing fugitive dust).

Noise

- Limiting Lostine River Hatchery construction activities to between 8 a.m. and 5 p.m., Monday through Friday (except during instream work windows [normally July 15 – August 15] when work would occur for up to 12 hours per day, 6 days per week) to reduce construction-related noise impact on nearby residents.

Public Health and Safety

- Implementing fire prevention measures.
- Posting safety signs around construction sites and access roads as needed.
- Implementing traffic control measures where public traffic might be impeded.

Operational Measures — Specific measures to be taken during facility operations would include:

Fish

- Monitoring the Imnaha and Lostine Rivers (through visual observation) for delays to upstream or downstream migrating fish during fish trapping activities.

- Monitoring the weirs (through visual observation) to verify successful fish passage during facility operation.

- Minimizing handling of non-target fish species, particularly bull trout, and observing fish conditions during hatchery operations. Releasing all non-target species from the trap and allowing them to continue upstream within 24 hours of trapping.

- Notifying the Snake River Office of the USFWS immediately if injured or dead bull trout are observed in weirs or near hatchery facilities, and discussing the need to modify operations to take all reasonable and prudent measures to avoid harm to bull trout.

- Inspecting weirs and ladders for accumulation of debris during migrational periods and taking action to clear debris buildup.

- Pumping back water at the Lostine River Hatchery during low flow periods to ensure a minimum of 12 cfs or 50 percent of the total flow through the bypass reach whichever is greater.

- Implementing other measures during program implementation to monitor the overall success of the spring/summer chinook recovery program (as discussed in Hesse and Harbeck 2004).

Plants

- Implementing ongoing weed management at all sites.

Water Quality

- Conducting water quality monitoring as specified by National Pollutant Discharge Elimination System (NPDES) permits.

- Monitoring Lostine River flows (through gages and/or real-time U.S. Geological Survey [USGS] data) and pumping back hatchery water (and supplemental well water, if needed) to ensure a minimum of 12 cfs or 50 percent of the total flow, whichever is higher, through the bypass reach of the Lostine River.

Visual Quality

- Planting and maintaining native species for facility landscaping and to screen structures from public view.

- Constructing and maintaining buildings that incorporate materials, colors, and architectural styles reflective of local character.

- Shielding exterior lighting to direct light downward, not off-site.

1.11 Cumulative Impacts

1.11.1 Cumulative Construction Impacts

Because the Forest Service manages the Lostine and Imnaha River corridors as Wild and Scenic Rivers, development and land use activities are limited and restricted within and around the Proposed Action sites. Construction of the Proposed Action facilities is expected to result in low environmental impact to the facility sites, in the area (Wallowa and Union Counties) and in the region (Northeast Oregon and adjacent areas of Washington and Idaho). Cumulative environmental impacts related to construction are also expected to be low on the site-specific, local, and regional scale due to the limited amount of concurrent development. Building permits anticipated during the time of project construction would be primarily for private residences. An unrelated potential project to rehabilitate the poorly functioning dam at Wallowa Lake may occur concurrently with project construction, but would not be expected to result in significant cumulative impacts.

1.11.2 Cumulative Operational Impacts

Cumulative, long-term impacts (5 to 25 years) associated with the Proposed Action and project operations are expected to be low, except in the case of target and non-target fish species, where cumulative impacts associated with other fish habitat and facility improvement projects are expected to be beneficial on the site-specific, local, and regional scale. The cumulative impact of the Proposed Action and ongoing efforts in Wallowa County (Wallowa County/NPT Salmon Habitat Recovery and Multi-Species Strategy), Union County (Grande Ronde Basin Model Watershed Program), and through the LSRCP are expected to be beneficial to the recovery of spring/summer chinook salmon populations. Chapter 3.2.4 of the Draft EIS contains additional information regarding the cumulative impacts on fisheries. Consideration of issues related to cumulative impacts of the hatchery production program is outside the scope of this EIS.

Chapter 2: Revisions to Draft EIS

Chapter 2 includes excerpts from the Draft EIS that have been edited to correct minor errors or oversights, incorporate design refinements, and provide updates regarding the EIS process, consultation, and public involvement activities. Many of the changes reflect the decision to not construct the Imnaha Final Rearing Facility and to accomplish the production program at the four other sites. Changes are identified by page number with added text shown by underline and deleted text shown by ~~strikethrough~~. Changes are presented in the context of the full paragraph in which they occur in the Draft EIS.

Executive Summary

On page ES-2 (second paragraph):

The Proposed Action consists of five sites and facilities described in Section 1.6 ~~2.1~~ of the Final EIS. Figure 1-1 ~~ES-1~~ of the Final EIS provides an overview of the Proposed Action's area and the geographic relationship of sites and facilities.

- Lookingglass Hatchery – Modifications to this existing facility are proposed to better accommodate Catherine Creek and Upper Grande Ronde (includes Lookingglass Creek) components of the production program and to transfer Lostine River ~~other~~ stock responsibilities to a facility ~~facilities~~ on the natal stream~~s~~. Lookingglass Hatchery is also proposed to accommodate final incubation, early rearing, and final rearing for about half of the Imnaha River stock.

- Lostine Adult Collection Facility – A new facility is proposed for collecting adult spring/summer chinook for spawning at the Lostine River Hatchery during higher flows.

- Lostine River Hatchery – A new facility is proposed to accommodate the Lostine River component of the chinook production program by incubating and rearing chinook near their natal waters. The new facility would also accommodate incubation and early to final stages of rearing of Imnaha stock.

- ~~Imnaha Final Rearing Facility – A new facility is proposed to provide final rearing for year-old chinook in natal waters before final acclimation and release at the Imnaha Satellite Facility.~~

- Acrow Panel Bridge Site – The proposal is to remove the existing Acrow panel bridge across the Imnaha River for use at the Lostine Adult Collection Facility and to rehabilitate areas disturbed by bridge removal.

- Imnaha Satellite Facility – Modifications to the existing adult collection and acclimation facility are proposed to allow more efficient collection of broodstock over a greater range of spring flows and to allow for improved short-term adult holding~~, spawning, and incubation before~~ prior to transport for spawning at Lostine River Hatchery. Improvements to the existing juvenile acclimation pond are also proposed to allow for final rearing at preferred densities prior to release.

On page ES-4:

Replace Figure ES-1 with Final EIS, Figure 1-1.

On page ES-5:

Replace Table ES-1 with Final EIS, Table 1-4.

2.1 Revisions to Chapter 1 of Draft EIS

On page 1-2:

Replace Section 1.3: Decisions to be Made and Responsible Officials with Final EIS, Section 1.3: Decisions to be Made and Responsible Officials.

On page 1-4:

Replace Figure 1-1 with Final EIS, Figure 1-1.

On page 1-6:

Supplement Section 1.5: Public Scoping and Key Issues with Final EIS, Section 1.4: Summary of Public Involvement, Consultation, and Coordination.

2.2 Revisions to Chapter 2 of Draft EIS

On pages 2-1 – 2-3:

2.1 Proposed Action

The Proposed Action is to modify and modernize existing hatchery facilities and construct ~~three~~ auxiliary hatchery facilities to aid native spring/summer chinook conservation and recovery in Northeast Oregon (see map, Figure 1-1 ~~2-1~~).

The five sites and facilities involved are:

- Lookingglass Hatchery – modifications are proposed to better accommodate the Catherine Creek and Upper Grande Ronde (includes Lookingglass Creek) components of the hatchery fish production program and transfer Lostine River ~~other~~ stock responsibilities to a facility ~~facilities~~ on the **natal** stream~~s~~. Lookingglass Hatchery is also proposed to accommodate final incubation, early rearing, and final rearing for half of the Imnaha River stock. Lookingglass Hatchery was designed and built for production of two stocks of fish. The current program of hatchery production requires that Lookingglass Hatchery accommodate eight program components and five different fish stocks with lower density rearing objectives.

- Lostine Adult Collection Facility – a new facility is proposed for collecting adult spring/summer chinook during higher flows for spawning at the Lostine River Hatchery. Currently, fisheries managers use a collapsible panel weir ~~portable **picket weir**~~ on the Lostine River near its confluence with the Wallowa River to collect adult spring/summer chinook for hatchery spawning. That existing weir cannot be operated during the higher spring flows typical during chinook migration.

- Lostine River Hatchery – a new facility is proposed to accommodate the Lostine component of the ~~hatchery~~ chinook production program by incubating and rearing chinook near their natal waters. The new facility would also accommodate incubation and early to final stages of rearing of Imnaha stock.

- ~~Imnaha Final Rearing Facility – a new facility is proposed to provide final (fall to early spring) rearing for year-old chinook in their natal waters prior to final acclimation and release at the Imnaha Satellite Facility.~~

- Acrow Panel Bridge Site – The proposal is to remove the existing Acrow panel bridge across the Imnaha River for use at the Lostine Adult Collection Facility and to rehabilitate areas disturbed by bridge removal.

- Imnaha Satellite Facility – modifications are proposed to the existing adult collection and acclimation facility to allow more efficient collection of broodstock over a greater range of spring flows and to allow for improved short-term adult holding~~, spawning, and incubation~~ prior to transport for spawning at Lostine River Hatchery. Improvements to the existing juvenile acclimation pond are also proposed to allow for final rearing at preferred densities prior to release.

As recommended in the Master Plan, facilities would be designed and constructed to meet the low density rearing, volitional release, and other criteria of Natural Rearing and Enhancement System (**NATURES)** to the extent feasible (Ashe et al. 2000). Instream structures would meet applicable NOAA Fisheries and USFWS design requirements. Construction would be staged to accommodate existing project operations and reduce impacts on fish production at each facility.

Instream work would be performed in compliance with applicable regulations and permits. Any instream work would occur behind temporary **cofferdams** or other water diversions appropriately placed to route water around work areas. Portable pumps would be used to help keep work areas dry. Pump discharge would be routed through settling basins prior to discharge back into any rivers. Instream work would only occur during ODFW's **instream work window**, normally ~~July 1 to July 31 for the Lostine River and~~ between July 15 ~~to~~ and August 15 for the Lostine and Imnaha Rivers, or as otherwise specified by the appropriate regulatory agency(s). No instream work would occur in Lookingglass Creek as part of this Proposed Action.

Facility design and construction would meet all other environmental requirements and would incorporate best management practices such as erosion control, waste management, dust control, weed management, fire prevention, and work hour and noise considerations. The Proposed Action would comply with the federal Clean Water Act's (**CWA**) National Pollutant Discharge Elimination System (**NPDES**) requirements and would incorporate sensitive site design measures such as retaining riparian vegetation, landscaping with native plants, erecting buildings reflective of local character, and shielding facility lighting. See Table 4-1 for environmental permits and approvals required at each site.

It is anticipated that spring/summer chinook would be collected yearly for about 20 to 25 years, or until adult replacement rates for the naturally spawned population suggest that the population is naturally sustainable (Ashe et al. 2000). The expected duration of the hatchery program would be dependent on changes outside hatchery operations (i.e., the hatchery program may operate over a longer period of time if other factors limiting population recovery are not mitigated or otherwise controlled, or the hatchery program may operate over a shorter period of time if other limiting factors are reduced). The decision to phase out or remove hatchery facilities would be made at the program level and in the context of other chinook recovery efforts.

On pages 2-3 – 2-11:

2.1.1 Grande Ronde Facilities

Replace entire Grande Ronde Facilities section (including Figures 2-2 – 2-5) with Final EIS, Section 1.6.1: Grande Ronde Facilities.

On pages 2-11 – 2-17:

2.1.2 Imnaha Facilities

Replace entire Imnaha Facilities section (including Figures 2-6 – 2-8) with Final EIS, Section 1.6.2: Imnaha Facilities.

On pages 2-17 – 2-18:

Replace Section 2.3: Alternatives Eliminated from Detailed Study with Final EIS, Section 1.8: Alternatives Eliminated from Detailed Study.

On page 2-18:

Replace Section 2.4: Comparison of Alternatives with Final EIS, Section 1.9: Comparison of Alternatives and Summary of Potential Impacts.

On page 2-20:

Replace Table 2-2: Comparison of Proposed Action and No Action Alternative to the Stated Purposes of Taking Action with Final EIS, Table 1-2: Comparison of Proposed Action and No Action Alternative to the Stated Purposes of Taking Action.

On page 2-21:

Replace Table 2-3: Comparison of Facilities Associated with Proposed Action and No Action Alternative with Final EIS, Table 1-3: Comparison of Facilities Associated with Proposed Action and No Action Alternative.

On page 2-22 – 2-26:

Replace Table 2-4 Summary of Environmental Consequences of Alternatives with Final EIS, Table 1-4: Summary of Environmental Consequences of Alternatives.

2.3 Revisions to Chapter 3 of Draft EIS

On page 3-2 (second paragraph):

Both the Grande Ronde and Imnaha subbasins continue to support fisheries that were an important part of the regional economy and regional tribal cultures (James 1984; Wallowa County and NPT 1999; Ashe et al. 2000). The ~~Draft~~ Biological Assessment prepared for the project and incorporated in its entirety by reference (~~in process~~ FishPro/HDR 2004a) presents more detailed information on fish species in the subbasins, including historic and present distribution and abundance. The sections that follow present an overview of existing conditions in the subbasins and analyze potential project impacts.

On page 3-12:

~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site and Imnaha Satellite Facility — Currently, most spring/summer chinook within the Imnaha subbasin spawn in the mainstem Imnaha from the Blue Hole to Crazyman Creek. These sites are upstream and downstream, respectively, of the existing Imnaha Satellite Facility. Some individuals have been observed spawning as far upstream as the lower reaches of the South Fork and as far downstream as Freezeout Creek (Witty 1964-1990).

On pages 3-15 – 3-16:

Lookingglass Hatchery — Currently, Lookingglass Hatchery (shown in Figures 2-2 and 3.9-1) rears stock from Grande Ronde River, Catherine Creek (includes Lookingglass Creek), the Lostine River and the Imnaha River. Under the proposed program, production would remain the same for Catherine Creek and Grande Ronde stocks, but the Lostine stock would no longer be transferred to Lookingglass for spawning. About one-half ~~Some portion~~ of the Imnaha stock ~~may continue to~~ would be reared at Lookingglass under the "spread the risk" approach to offset a facility-wide disease or system failure, should it occur~~, but the majority would be reared elsewhere~~.

With the implementation of the Proposed Action, and transfer of Lostine River stocks to the Lostine River Hatchery, the number of smolts reared at Lookingglass Hatchery would decrease, providing more rearing space and better rearing densities~~, and ability to meet NATURES criteria~~. Overall impacts of the proposed improvements at Lookingglass Hatchery are beneficial to spring/summer chinook with no impact to low impact to water quality, quantity and other species.

Site Disturbances
Modifications to existing facilities at Lookingglass Hatchery (hatchery building improvements and construction, and upgrades to power supply, ~~and new raceways,~~ as previously described) would involve additions to existing facilities or internal changes to existing structures, including improvements inside the hatchery building, one new stand-by generator, replacing one existing stand-by generator, adding bird netting to existing raceways, and upgrading internal electrical supplies and equipment. ~~would involve upland work that would take place where ground has previously been disturbed within the existing site boundary. Construction of three raceways against the toe of a banked hill east of the existing raceways would entail excavation, which would result in the removal of some herbaceous vegetation. The removed soil would be used elsewhere on-site.~~

~~These modifications would disturb the ground and increase the amount of impervious surface area at the site. Silt erosion control devices would be used during construction of the bay pole building. Construction activities would occur away from the creek bank and any increase in sediment due to upland~~

~~site disturbance would be minimal and temporary and is not expected to exceed the creek's sediment load capacity.~~

~~An additional power line would be installed on existing poles along the access road adjacent to the creek, and may result in temporary disturbance to the normal activity of salmonid and resident fish individuals within the creek, both adjacent to and downstream from the site. This activity is not likely to impact population viability.~~

Improvements ~~Upland construction~~ at the facility would be scheduled around facility operations to minimize hatchery fish disturbance.

On pages 3-16 (seventh full paragraph):

Broodstock Collection and Maintenance, Adult Holding and Spawning, Incubation and Rearing, Fish Health Management and Methods and Magnitude of Release: The Lookingglass Hatchery is an existing facility that has been in operation since 1982. Methods of broodstock collection, adult holding and spawning, incubation and rearing practices, and release methods are described in the HGMP for Grande Ronde River Spring/summer Chinook Program (ODFW 2002). Modifications to the existing facility would not result in additional impacts to spring/summer chinook populations. The modifications would generally benefit the target species by allowing the implementation of practices that are reflective of NATURES criteria. (NATURES criteria were developed by a design team of federal, state, tribal, and non-governmental agencies and organizations. The system incorporates hatchery reform recommendations consistent with NOAA's Conceptual Framework for conservation hatchery strategies for Pacific Salmonids).

On page 3-17 (first full paragraph):

As the design process proceeds, the hatchery managers (tribal and agency project sponsors) would continue to monitor other facilities, which have implemented NATURES criteria and take advantage of the experience and findings at these facilities. The facility would be designed to meet the intent of NATURES and would meet the criteria when feasible as determined by hatchery managers.

Lostine Adult Collection Facility — Modifications to existing facilities and construction of new structures at the Lostine Adult Collection Facility (Figures 2-3 and 3.9-2) would involve mostly instream and riverbank work that would have physical impacts related to channel alterations to improve the fish ladder passage system. About 2 acres would be cleared and graded on the west bank for temporary construction staging and permanent fish ladder access.

Site Disturbances
Site disturbances would result in the removal or disturbance of about ~~300~~ 360 feet of riparian vegetation on the west bank of the Lostine Adult Collection Facility site and placement of fill and riprap to construct a levee. Existing side channels that occur west of the proposed levee site would be routed under the levee (with french drains) for continued discharge into the Lostine River. A temporary access road to the levee site may also be required.

On page 3-17 (last paragraph):

Channel Alterations
Instream work to remove portions of an existing fish ladder; install a hydraulic velocity barrier and fish ladder, trap and hopper; place large rocks for channel protection; and replace the existing bridge and abutments would result in alterations to the existing channel. All instream work would take place in one construction season during ODFW's instream work window of ~~July 1 – July 31~~ July 15 – August 15.

On page 3-20:

Lostine River Hatchery — The proposed Lostine River Hatchery (Figures 2-4 and 3.9-3) would be a multiple-function facility designed to hold and spawn Lostine River spring/summer chinook, and to incubate eggs and rear juveniles through final rearing and release into the wild. Along with the proposed adult collection facility downstream, this hatchery would have all the elements needed to successfully support the Lostine River spring/summer chinook component of the hatchery fish production program. The Lostine River Hatchery would be designed to hold not only the Lostine River broodstock, but also the Imnaha River broodstock for spawning and incubation to **eyed egg** stage. The Lostine River Hatchery would also hold one-half (245,000) of the Imnaha River spring/summer chinook program from incubation to final rearing. The remainder of the Imnaha River stock would be reared at Lookingglass Hatchery. The Lostine River Hatchery would include housing for permanent staff. ~~fully support the Lostine River spring/summer chinook program by holding 250,000 Lostine River smolts from spawning through final rearing and release. Additionally, the hatchery would be designed to hold 100 percent of the Imnaha River spring/summer chinook program (490,000) from incubation to early stages of final rearing in September. For the initial years of the program, a portion of the Imnaha stock may be reared at Lookingglass. The facility would be designed so that the Imnaha stock would be reared at the Lostine River Hatchery once the facility has been successfully operational.~~ See Table 3.2-7 for timing details for the proposed program. ~~One benefit of the use of a hatchery on the Lostine is decreased hauling time for fish transported from Lookingglass. Under the current program, fish are transported four times with an estimated transport time of 14 hours. The fish are moved at critical life stages such as adults and as unfertilized eggs where higher rates of mortality have been observed. With the proposed program and the new facilities, the fish would be transported three times with an estimated transport time of five hours. The adults would be trapped, held, and spawned at the Imnaha Satellite Facility. Incubation to **eyed egg** stage prior to transport to the Lostine Hatchery would also occur. The length of transport time is significantly reduced since the fish are not moved outside Wallowa County.~~

On page 3-20: Edit Table 3.2-7, as shown in Table 2-1:

Table 2-1. Lostine River Hatchery Conventional Broodstock Program for Lostine and Imnaha River Stocks (Operated Year-Round).

Lostine Stock		Imnaha Stock	
Life Stage	**Time Period**	**Life Stage**	**Time Period**
Adults ~~Fish~~ collected at Lostine Adult Collection Facility	High flow collection from ~~May~~ April – August 1 Low flow collection ~~15~~ from July 15 – October 1	Fish collected and held ~~and spawned~~ at Imnaha Satellite Facility	June - September
Lostine adults transferred, held, and spawned at Lostine River Hatchery	~~May~~ April – October 1	~~Transport of~~ Adults collected at Imnaha Satellite ~~eyed eggs~~ transferred to Lostine River Hatchery for spawning	June – October 1 ~~October - November~~
Incubation of Lostine stock eggs	August – February	Incubation of eggs from Imnaha stock to eyed-stage ~~and early rearing~~ at Lostine River Hatchery	September – November ~~November - April~~
Final Rearing of Lostine stock	April (year 1) – April (year 2)	~~Intermediate rearing~~ Transfer of half of Imnaha eyed eggs from Lostine River Hatchery to Lookingglass Hatchery	~~April – September (year 2)~~ Dependent on incubation water temperatures (approximately November)
~~Acclimation and~~ Release of Lostine stock	April (year 2)	Rearing of half of Imnaha stock juveniles at Lostine River Hatchery and half at Lookingglass Hatchery	April (year 1) – March (year 2)
		Transfer of smolts to ~~Imnaha Final Rearing Facility for final rearing prior to release from~~ Imnaha Satellite Facility for acclimation and release	~~September (year 2)~~ March – April (year 2)

On page 3-21:

Channel Alterations/Water Intake and Discharge Structures
The Lostine River channel would be affected by the installation and placement of a surface water supply intake weir diversion structure and a fish ladder and outfall structure and riprap as described in Section 2.1.1. Construction and installation of in-water structures would take place over two seasons during ODFW's instream work window of July 15 – August 15. ~~July 1 – July 31~~. During the first season, the intake structure, fish ladder and associated pipeline would be installed. In the second instream work season, the weir would be constructed.

On page 3-22:

Hatchery Operations and Management
Water Gains and Losses: The Lostine River Hatchery would be in operation year-round. Surface water requirements for the facility are shown in Table 3.2-8. An additional 5 cfs would be diverted from the river through the fish ladder (for 60 feet) to provide sufficient attraction flow. Diversion of surface water from the intake to the outfall structure would take place over a linear distance of ~~2,800~~ 3,200 feet. For an average year, there appears to be adequate flow in the Lostine to accommodate hatchery demands, while leaving no less than ~~75~~ 65 percent of the flow in the river. However, during dry and/or cold years, water demand of the hatchery may be as much as 50 ~~to 60~~ percent of the total flow in the river. ~~Instream Flow Incremental Methodology (**IFIM**) studies have indicated that at low flow, summer conditions (September), the minimum hatchery flow requirement is 11.5 cfs, which represents about 22 percent of the average flow in September and 50 percent of the September low flow (Montgomery Watson Harza 2001a). This amount of diversion is necessary to support the hatchery during low flow periods and could potentially result in a decrease in the amount of instream habitat available.~~ In September, when spring/summer chinook spawning does occur, the average flow near the proposed hatchery location is 50.2 cfs. Recommended withdrawals of 17.8 cfs would result in minimum flows of 32.4 cfs through the bypass reach. It is unlikely that the withdrawal would negatively affect chinook on a watershed scale since it constitutes only 14 percent of a small reach of spawning habitat over two weeks (R2 Resources 2002 and FishPro/HDR 2004a).

Rearing juvenile anadromous salmonids, particularly steelhead and chinook, and resident species may use the reach during low flow periods and may therefore be affected by withdrawals. ~~It is not likely that anadromous adults would be migrating upstream or downstream during September.~~ Several bull trout redds have been observed within the diversion reach from late-September to mid-October and could be affected by low flows (Sausen 2004 and Sankovich 200~~2~~4, personal communication). Although prime chinook spawning habitat occurs just downstream of the proposed hatchery, where intake water would be returned to the river, local spawning habitat extends into the diversion reach (Zollman 2002b, personal communication; McMillen 2002, personal communication). Therefore, spawning chinook and their redds could potentially be affected by low flow. Juvenile bull trout and rapid turnaround spawners may out-migrate in September, but would likely remain higher upstream until Lostine River temperatures drop. Adult steelhead would be in the Snake River or arriving in the lower Grande Ronde during September ~~(for overwintering)~~ and would not likely be in the Lostine during that low flow period.

Low flows in the winter months are also a concern, since freezing temperatures and a lack of runoff can drop the river stage to 25 cfs or less. During these periods, water consumption at the hatchery can be reduced because fish activity and growth is near zero due to the cold water temperatures. To meet instream flow requirements for the bypass reach, the ~~minimum~~ low flow water budget shown in Table 3.2-8 would be implemented in low flow years and/or hatchery effluent would be pumped back to the hatchery intake to supplement instream flows in the Lostine River. Freezing at this section of the Lostine River is an existing limiting factor for salmonid use during winter months.

On page 3-23: Replace Table 3.2-8 with Table 2-2:

Table 2-2. Surface Water Low Flow and Normal Flow Strategies, Mean Monthly Streamflow, and Historic Low Flows (cfs) for the Lostine River Hatchery.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Low flow strategy[1]	15.0	15.0	14.2	7.5	0.7	0.0	15.0	15.0	15.0	15.0	15.0	15.0
Normal flow strategy[2]	15.0	15.0	15.0	7.5	2.8	2.8	17.8	17.8	17.8	15.0	15.0	15.0
Mean Monthly Streamflows[3]	49.8	47.5	55.3	162	513	788	383	86.2	50.2	56.4	64.3	58.7
Historic Low Flow (year)[4]	15.0 ('37)	14.8 ('37)	16.3 ('55)	35.7 ('75)	203 ('77)	332 ('26)	59.7 ('77)	30.6 ('31)	23.0 ('31)	22.8 ('88)	14.7 ('36)	15.3 ('36)

[1]Low flow strategy: minimum water required to maintain fish during low river stages. This strategy would be employed when facility use exceeds 50% of instream flow (due to lower than average instream water availability) or when facility needs reduce instream flow to less than 12 cfs in extreme drought years.

[2]Normal Flow Strategy: provides an improved rearing/holding environment through higher turnover rates during normal instream flow years.

[3]Source: USGS 2003. USGS Gage No. 13330000 on the Lostine River near Lostine, Oregon, water years 1912 - 2002.

[4]Year of occurrence.

On page 3-23 (first paragraph):

In order to minimize instream impacts during low flow conditions within the bypassed river reach, a pump station would be installed to ~~pump~~ return ~~the~~ hatchery effluent ~~back~~, along with supplemental well water, to the intake. The pumped flow would be introduced at the bottom of the fish ladder to return river water near the point of diversion. The pump station has been sized so that, when low flow management strategies are implemented, it could transport the entire diverted flow back to the intake location. To provide adequate fish habitat and passage a minimum river depth of 0.8 feet would be needed. An instream flow of about 10 cfs is required (R2 Resources 1998) to achieve this depth, but to ensure passage 20 percent more would be added to maintain a desired minimum flow of 12 cfs. These strategies would ensure that, at a minimum, a flow of 12 cfs or 50 percent of the total river flow, whichever is higher, would be maintained through the diversion reach. Therefore, with implementation of the pumpback system, facility water use ~~flow alterations~~ would not likely affect the viability of any fish population currently present, near or downstream of the Lostine River Hatchery at any time.

On page 3-23 (last paragraph):

Water discharged from the Lostine River Hatchery could be cooler than the receiving river water if chillers are used to maintain incubation and early rearing temperatures in the hatchery below-ambient temperatures. When well water is used it would also be cooler. Water temperature would increase only a fraction of a degree (0.072 Fahrenheit) during pumpback, and discharged water would still be slightly cooler than river water (Beasely 2004, personnel communication). Water released would mix rapidly with the river water downstream of the facility. Temperature changes would therefore be minor and ~~are not expected to~~ would not impact fish species.

On page 3-24 (start third paragraph):

During spring runoff, the weir would be submerged or level with the water surface, allowing fish to pass directly upstream or downstream over the weir. During periods of extreme low flow, the weir may block or delay passage of migrating fish. As previously discussed, summer low flow occurs in September and

may impact spawning bull trout and chinook, although impacts would be mitigated through implementation of the hatchery water pumpback system~~, when most migrating salmonids have passed the Lostine River Hatchery site~~. Winter low flow periods, occurring primarily in February, may delay adult steelhead migration if low flow continues into March and April. However, steelhead begin to move upstream in response to higher flows, and would not likely be impacted by winter low flows. Downstream migrants, such as steelhead kelts, rapid-turnaround bull trout spawners and bull trout sub-adults, may collect at the weir as they search for passage. Spring/summer chinook yearlings generally move downstream in early summer, and passage is not likely to be affected. Visual m~~M~~onitoring of the weir by fish biologists would be conducted in low flow periods to observe passage conditions. Corrective measures to encourage the survival of naturally reproducing adults would be applied should passage problems occur with operation of the weir. Corrective measures could include reducing the amount of water diverted into the intake (*i.e.* ~~minimum, acceptable~~ low flow strategies as opposed to the ~~preferred~~ normal flow strategy), which is part of the Proposed Action. Other measures, not specifically identified as part of the P~~p~~roposed A~~a~~ction may include physical movement of migrants passed the weir.

Although lamprey are considered to be extirpated from the Lostine, reintroduction efforts may eventually be successful in returning them to the system. The ~~pool-and-weir~~ fish ladder would be designed to accommodate lamprey passage. Such designs could incorporate rounded corners within the structure to allow for safe passage of the species.

Broodstock Collection and Maintenance: During high flows, a~~A~~dult spring/summer chinook salmon (Lostine River stock) to be ~~reared~~ spawned at the Lostine River Hatchery would be trapped at the Lostine Adult Collection Facility, approximately four miles downstream.~~, and~~ During low flows, adults would be collected at the existing ~~seasonal picket~~ collapsible panel weir in the lower Lostine. Imnaha River stock would be trapped at the Imnaha Satellite Facility. Care would be taken to collect individuals from throughout the spawning run to represent a full genetic complement of individuals within the run. This would preclude a potentially large contribution to subsequent generations from a small segment of the parent population.

On page 3-25:

Adult Holding and Spawning: Spawning fish in a hatchery entails risks that may affect natural populations. Typical pre-spawning mortality under the current program is almost 20 percent (Ashe et al. 2000). Under the current program, adults collected ~~at~~ from the Lostine River are transported to the Lookingglass Hatchery, which is more than five times the distance of the proposed Lostine River Hatchery. Imnaha River stock are also currently transported to Lookingglass Hatchery. Holding and spawning of collected adults at the Lostine River Hatchery would likely result in less stress on transported fish. Therefore, the proposed Lostine River Hatchery would likely benefit fish that are currently trapped at the Lostine River and, to a lesser extent, fish trapped at the Imnaha River. Although individual mortalities may occur, overall abundance of spring/summer chinook is expected to increase ~~by~~ through implementation of the supplementation program. Following adult transfer and spawning at the Lostine River Hatchery, about one-half of the eggs of the Imnaha River stock would be transported to Lookingglass Hatchery at the eyed stage.

On pages 3-25 – 3-26:

Methods and Magnitude of Release: The magnitude and methods of release of hatchery fish affect the frequency and kinds of interactions between hatchery and wild fish. The timing of hatchery releases would consider the availability of local resources so as to avoid overwhelming the available rearing habitat and resources. Spring/summer chinook fry releases would be scheduled for times when food and

temperature conditions favor rapid growth and emigration. Spring/summer chinook presmolts would also be released near the end of the growing season to minimize competition with wild fish.

The Lostine River Hatchery would use the volitional release strategy where ~~fish~~ Lostine juveniles would be released directly from their rearing containers into the Lostine River. The use of the volitional release strategy assumes that fish would exit the rearing units over an extended period of time, thus spreading their impact on natural biota over time. To minimize competition between wild and hatchery stocks, smolts from the Lostine River Hatchery may also be transported upstream of the facility and scatter-point released directly into the river. This method would minimize competition within the immediate area of the hatchery by reducing the density and loading of the system in the immediate vicinity of the hatchery. Less fish means less competition for resources, including space, food and cover. Also, release of smolting fish reduces in-river residency time, as these fish are cued into actively migrating.

The impact on the spring/summer chinook populations is likely to be beneficial as this recovery project intends to increase the population status and trends over time. Impacts to other species of fish, including other salmonids, may occur through natural competition if the supplementation program returns enough spring/summer chinook to allow them to once again become the most prevalent inhabitant of the river system.

Juveniles of the Imnaha River stock (half reared at the Lostine River Hatchery and half at Lookingglass Hatchery) would be transported back to the Imnaha Satellite Facility in March for volitional release.

On pages 3-26 – 3-28: Edit Table 3.2-9 as shown in Table 2-3:

Table 2-3. Summary Results of Impacts for NEOH Program Proposed Action Components within the Imnaha Subbasin, including the ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site and the Imnaha Satellite Facility.

Construction/ Operational Component	Fish Category			
	Targeted spring/ summer chinook	**Non-Targeted chinook**	**Other salmonids**	**Non-salmonids**
Siting and Construction of Facilities				
Site Disturbances	Impacts due to upland and in-water site disturbances from construction would have similar impacts to all fish species that may be present. Construction site disturbances are not anticipated to negatively affect population viability on a watershed scale. However, impacts to individuals may occur as a result of construction activities. • Sedimentation due to construction may impact water quality. Impacts would be temporary and short-term. • Increased impervious surface area may result in increased runoff. Impacts would be long-term but limited in spatial scale to the immediate receiving waters. • Construction noise may disturb individuals, causing them to disperse from the site. Impacts would be temporary and short-term. • Removal of riparian habitat may result in decreased shading habitat, which may displace individuals. Impacts would be long-term but limited in spatial scale.			

Construction/ Operational Component	Fish Category			
	Targeted spring/ summer chinook	**Non-Targeted chinook**	**Other salmonids**	**Non-salmonids**
Channel Alterations	Impacts due to instream construction activities would have similar impacts to all fish species that may be present. Placement of permanent instream structures would result in a permanent loss of small amounts of instream and riparian habitat. • Cofferdams would alter instream flow upstream and downstream of the structure. Alterations may affect utilization of the area by fish species, including migrating salmonids. Cofferdam placement would directly reduce instream habitat available in the immediate vicinity of the construction site. Impacts would be short-term and limited in spatial scale to the site and construction impact areas. • Increased human presence and activity may disturb fish species and cause them to disperse from the immediate construction area. Impacts would be short-term and limited in spatial scale to the site and construction areas. • ~~Placement of~~ Modifications to the Satellite intake, ~~outfall,~~ and installation of the weir~~s, ladders and riprap structures~~ would alter or remove instream habitat, causing individuals to seek other available rearing, holding or migratory habitat. Impacts would be long-term, but limited in spatial scale and are not anticipated to affect population viability.			
Facility Operations and Management				
Construction/ Operational Component	**Targeted spring/ summer chinook**	**Non-Targeted chinook**	**Other salmonids**	**Non-salmonids**
Water Gains and Losses	• Although water diversions would be non-consumptive, all species may be affected by ~~withdrawals~~ reduced flow within the diversion reach. Withdrawals would reduce instream habitat availability and may result in decreased utilization within the diversion reach during peak diversions and instream low-flow conditions. ~~To protect in-stream habitat minimum or acceptable flow strategies have been developed for the facilities.~~ • These impacts would be long-term but limited to the immediate diversion reaches. Withdrawals may affect individuals but are not anticipated to affect the population viability on a watershed scale as post-diversion flows are adequate to allow passage of species.			
Water Quality	• All discharged organic waste materials or chemical therapeutants would meet applicable state and federal standards. The potential for impacts due to these discharges is therefore low. • Water temperature of discharge water would be at ambient temperature. No impact to individuals or populations is anticipated to occur.			
Fish Traps, Ladders, and Weirs	Individuals and the population would benefit from improved adult attraction and collection facilities at the Imnaha Satellite Facility. Reduction in delay time to enter the fish ladder is anticipated. Fall back, and forced spawning below the weir are anticipated to be reduced. Effects would be long-term.	• Installation of the new ~~Chiwawa~~ Imnaha Satellite Facility weir is anticipated to benefit non-target species compared with existing conditions (No Action alternative). • Improved upstream and downstream passage during weir operation is anticipated. • Impacts would be long-term and limited spatially to the upper Imnaha River.		

Construction/ Operational Component	Fish Category			
	Targeted spring/ summer chinook	**Non-Targeted chinook**	**Other salmonids**	**Non-salmonids**
Broodstock Collection and Maintenance	Spring chinook individuals and the population would benefit from improved broodstock collection and holding facilities. A reduction in stress and pre-spawning mortality from that obtainable with the existing operational program and facilities is anticipated. Effects would be long-term.	• Non-target individuals may be affected by broodstock collection via handling, which may cause stress to individuals. This is an existing condition that would be improved with the implementation of the Proposed Action. • Impacts to population viability over the long-term are not anticipated.		
~~Incubation and~~ Rearing Practices	~~Incubation facilities at the Imnaha Satellite Facility are anticipated to improve egg survival.~~ Decreased acclimation rearing densities ~~and reduced hauling trips/time~~ would be beneficial for NEOH spring chinook over the long-term~~. It is anticipated that increases to survival and homing to natal streams.~~	No impact	No impact	No impact
Fish Health Maintenance	• Intensive fish health monitoring strategies would benefit all salmonids and result in less potential for the spread of disease. • Decreased acclimation rearing densities would benefit individuals by reducing the potential for the spread of disease within the hatchery population and, in turn, wild salmonid populations.			No impact

On pages 3-28 – 3-33:

Replace entire **Imnaha Final Rearing Facility** section with the following:

Acrow Panel Bridge Site – Proposed activity at this site would involve removal of the existing Acrow steel panel bridge and associated concrete abutments and rehabilitation of the site. The panel bridge would be transported to and installed at the Lostine Adult Collection Facility.

Site Disturbances
Riparian vegetation removal would be limited to the area immediately surrounding the bridge abutments. Best management practices would be used to minimize sedimentation during work. All disturbed areas would be revegetated with native species.

Channel Alterations/Water Intake and Discharge Structures
Instream work within the Imnaha River channel would include access for cutting away existing concrete bridge abutments. All instream work would occur during ODFW's instream work window (July 15 – August 15).

Hatchery Operations and Management
There are no hatchery operations proposed for the Acrow Panel Bridge Site.

On page 3-33 (start fifth paragraph):

~~Some smolts may continue to be reared at Lookingglass Hatchery according to the Current Production Program (**CPP**). However, the majority of Imnaha stock would be incubated at the Satellite Facility~~. All ~~Eyed eggs~~ collected Imnaha River broodstock would be transferred from the Imnaha Satellite Facility to the proposed Lostine River Hatchery for spawning~~further incubation, early and intermediate rearing~~. Eggs would be incubated to the eyed stage, then half of the Imnaha River eggs would be transferred to Lookingglass Hatchery to continue incubation and rearing. The remaining half of the Imnaha eggs would continue to be held at the Lostine River Hatchery through final rearing. In March, all Imnaha River yearlings, including those reared at Lookingglass and those reared at the Lostine River Hatchery ~~Final rearing would occur at the proposed Imnaha Final Rearing Facility, and upon completion, smolts~~ would be transferred to the Imnaha Satellite Facility for acclimation and volitional release.

The proposed modifications to the Imnaha Satellite Facility would result in impacts to the aquatic environment due to site disturbances and channel alterations for modifications or additions of instream structures including a new ~~Chiwawa~~ hydraulically operated weir, an auxiliary water supply line that discharges through a diffuser at the base of the existing ~~new~~ fish ladder~~ and ladder entrance~~, and an expanded screened intake. The existing intake structure's screen is currently out of compliance with ~~the 1996 NMFS~~ NOAA Fisheries juvenile screening criteria.~~ and would be brought into compliance through this project.~~ Proposed modifications to the existing intake would include a new screening system that is NOAA Fisheries compliant.

On page 3-34: Edit Table 3.2-12 as shown in Table 2-4:

Table 2-4. Imnaha Satellite Facility, Existing and Proposed Programs for Conventional Broodstock (Operated March – November).

Existing		Proposed	
Life Stage	**Time Period**	**Life Stage**	**Time Period**
Fish collected at Imnaha Satellite	June – September	Adult fish collected and held at Imnaha Satellite	May – October 1
Adults transported to Lookingglass Hatchery: and then held, spawned, incubated and reared	September – April (year 2)	Adults transferred to the Lostine River Hatchery for holding and spawning ~~remain at Satellite for holding and spawning~~	May – October 1
Returned to Imnaha Satellite for acclimation and release	April (year 2)	~~Incubation to~~ Imnaha eggs incubated to eyed stage	August – November (approximate; eyed development is dependent upon incubation water temperature)
		Transfer of half of eyed eggs to ~~Lostine River~~ Lookingglass Hatchery (half would remain at Lostine)	October - November
		Incubation and ~~early to intermediate~~ rearing of half of Imnaha stock at Lostine River Hatchery; half at Lookingglass Hatchery	November – ~~September~~ March (year 2)
		Transport of smolts from both the Lookingglass and Lostine Hatcheries to the Imnaha Satellite ~~and final rearing at Imnaha Final Rearing~~ Facility	~~September~~ March (year 2)
		~~Return to~~ Acclimation and release at Imnaha Satellite ~~for acclimation and release~~	March – mid April (year 2)

On page 3-34 – 3-35:

Site Disturbances
Upland construction includes expansion of the adult fish trap and holding areas; addition of a new water supply line; installation of an auxiliary water supply line near the fish ladder; ~~pre-settling basin, incubation room, and formalin treatment system; and extension of a new power supply line six miles to the site~~ enlarging an existing acclimation pond; installation of a rock sluice; and modifying an existing septic drainfield.

The construction of the new facility structures would take place within the existing site boundary. Construction would remove about seven ornamental trees that have been planted on the existing lawn. The 650-foot surface water supply pipeline would be installed under a gravel road that currently covers the existing intake pipeline. ~~The additional power supply would initiate from the Pallete Ranch, located about six miles downstream from the site. The power supply line is proposed to be buried under and along the existing access road Forest Service Road number 3955.~~ These activities would disturb ground and add about ~~one quarter of an~~ 0.12 acre of impervious surface to the site, which may lead to increased or rerouted erosion and sediment carried into the river. Increased runoff during construction is expected to be short-lived. Also, the Proposed Action includes erosion control devices such as silt fences, hay bales and other typical best management practices for erosion control.

Installation of the ~~power supply line and the~~ additional surface water pipeline would not disturb riparian vegetation. Most construction activities would occur away from the river, and where appropriate, areas would be revegetated upon completion. The removal of about seven ornamental trees would not impact riparian shading or fish habitat because the trees are not immediately adjacent to the river and do not currently provide shading habitat. Runoff from construction activities would be contained away from the river, and sedimentation would be minor.

On page 3-35:

Channel Alterations/Water Intake and Discharge Structures
Instream disturbances would include the expansion of the existing water intake structure and upgrade to its screens (to meet NOAA Fisheries criteria); installation of a hydraulically operated weir and fish barrier; and construction of a new ~~fish ladder along side the existing ladder~~ diffuser and water supply line to supplement attraction flow. All instream work would be conducted during ODFW's instream work window of July 15 – August 15.

On page 3-35 (fifth full paragraph):

Construction of instream structures would temporarily delay migrant fish passage. Adult chinook ~~begin entering the Satellite Facility on or around May 23 (Lund 2003, personal communication) and~~ generally spawn immediately adjacent to the construction area beginning in mid-August. Construction activities would, therefore, interrupt migration and spawning of those adult spring/summer chinook that are not needed for broodstock and are passed upstream for natural spawning. Juveniles that may rear in the area could be impacted. Spring/summer chinook are not generally known to spawn in this reach before mid-August (Zollman 2002a, personal communication; Smith, 2002, personal communication), but potential early spawners, however unlikely, could be impacted during construction.

On page 3-36 (start second paragraph):

The ~~p~~Proposed ~~a~~Action would replace the existing weirs with a ~~Chiwawa~~ hydraulically operated weir on the existing concrete sill. Installation would require ~~the addition~~ modification of concrete abutment walls on both riverbanks. Construction would take place within the area already impacted by the existing weir and concrete sill. Because spring/summer chinook spawners could be present at the time of instream work, a portable picket weir would be installed slightly downstream to direct adults into the fish ladder for collection or upstream passage. A cofferdam ~~Sandbags~~ would be used to dewater the weir construction area, one side of the river at a time. The placement of ~~sandbags~~ the cofferdam and the temporary picket weir has the potential to create minor sedimentation and affect fish habitat if river hydraulics are influenced.

~~A new fish ladder would be installed alongside the existing ladder coinciding with the weir installation. Riprap would stabilize the ladder at the river entrance, and a minor amount of riparian vegetation would be impacted. The existing ladder would remain to increase water flow and fish attraction to the new ladder.~~ An auxiliary-water supply pipeline intended to augment the attraction flow within the existing fish ladder would be installed behind an existing concrete wall, beside the fish ladder. Construction timing would coincide with the weir installation. Because the auxiliary supply line would be installed behind the concrete wall, the existing fish ladder would operate during construction.

Construction of ~~the weir and ladder~~ in-water structures during the current ODFW instream work window may impact the passage of adult spring/summer chinook, potentially stressing individuals. Monitoring by fisheries biologists during construction would take place to observe passage conditions and determine if additional physical passage upstream or downstream of the construction area is necessary. Also, during their monitoring fisheries biologists would consider the need to use any alternate instream work windows to lessen impacts to spring/summer chinook.

On page 3-36:

Hatchery Operations and Management
Water Gains and Losses: Due to icing on the Imnaha during the winter and worker access difficulties, the Satellite Facility would only ~~operate~~ have fish on station from March through ~~November~~ September. Table 3.2-13 shows the maximum surface water withdrawals for the facility in comparison to the instream flows. Combining existing and proposed surface water withdrawals, ~~a~~ no more than about ~~21~~ 9.6 cfs would be diverted from the river for juvenile acclimation and release (March – April); no more than about 6 cfs would be diverted for adult bypass in May – September; and about 20.3 cfs more would be diverted for adult collection, holding and spawning (~~May 15~~ June – September ~~30~~).

~~An additional about six cfs would be required during adult collection to operate the adult recovery by-pass pipeline system.~~ During adult collection, a second separate intake is operated at a location about 800 feet downstream from the existing surface water intake (about 130 feet upstream from the existing picket fish barrier). This intake feeds a fish return channel with a maximum water right of six cfs and is operated only when adults are migrating. The intake diverts water into a channel with a 21-inch flow return pipe extending from the fish recovery area to a discharge location just upstream from the fish barrier. When adult sorting occurs at the adult trapping and holding facility, those adults and native fish not selected for broodstock are placed in a 12-inch PVC return tube and routed to the fish recovery area. From this area, the fish would hold until recovered, then swim volitionally back to the Imnaha River and on upstream.

On page 3-37: Edit Table 3.2-13 as shown in Table 2-5:

Table 2-5. Maximum Surface Water Requirements and Mean Monthly Stream Gage Flow for the Imnaha Satellite Facility (cfs).

	Mar	Apr ~~15~~	May ~~15~~	Jun	July	Aug	Sept
Rearing and adult holding requirements[2]	~~20.3~~ 9.6	~~20.3~~ 9.6	~~26.3~~ 6[2]	26.3.~~[2]~~	26.3[2]	26.3[2]	26.3[2]
Mean monthly streamflows	92.0	341	804	859	453	150	87.1

[1] Source: USGS 2003. USGS gage located above Gumboot Creek, upstream of facility, water years 1944 - 1953.
[2] Includes six cfs for adult recovery bypass line during adult collection activities.

On page 3-38:

Fish Traps, Ladders and Weirs: Operation of the ~~new~~ attraction-improved fish ladder would likely benefit targeted and non-targeted spring/summer chinook through improved attraction to the ladder and less migratory delay. The current ladder entrance does not allow for efficient collection or passage, often resulting in downstream spawning of chinook that would normally spawn further upstream. ~~The new ladder would be equipped with about a 12-inch wide opening to allow for increased attraction flow near the Chiwawa weir.~~ No additional impacts to species that currently use the ladder are anticipated.

When in operation, the ~~Chiwawa~~ weir would provide the flexibility to lower individual panels to allow downstream steelhead kelts and bull trout passage. The existing picket weir does not have these capabilities. When not in operation, the new ~~Chiwawa~~ weir would be designed to lie flat under the water to allow downstream passage. A section on the west abutment would also be placed at a slightly lower elevation to support both upstream and downstream fish passage by providing a deep channel for migration. This type of barrier also operates effectively during high flow events, thus allowing better fish collection and passage than the current weir systems in place at the Satellite Facility.

For targeted spring/summer chinook, the weir would be designed to route fish to the base of the fish ladder, facilitating safer and more efficient adult collection. Although no adverse impacts are anticipated during operations due to adequate year-round flow,~~Vigilant~~ visual monitoring of fish collection and instream structures would take place, especially during periods of low flow, to ensure that listed species are not negatively impacted by the upgraded structures.

On page 3-38:

Broodstock Collection and Maintenance: The Imnaha Satellite Facility ~~is an existing facility that~~ has been in operation since ~~1984~~ 1988. Methods of broodstock collection~~,~~ and adult holding ~~and spawning, incubation and rearing practices,~~ and release methods are described in the HGMP for LSRCP Imnaha Spring/summer Chinook Program (ODFW 2002). The genetic risks associated with use and maintenance of broodstock have been previously discussed in the Lostine River Hatchery section.

On page 3-39:

Adult Holding and Spawning: As discussed within the proposed Lostine River Hatchery section, holding and spawning of fish may result in pre-spawning stress and potential mortalities of chinook or other species that enter the facility. Currently, fish collected at the Imnaha Satellite Facility are transported to Lookingglass for spawning. This transfer causes mortalities and additional stress on fish that are already stressed due to being held. The amount of stress that collected fish encounter would be reduced if ~~fish~~ the

broodstock were ~~held and~~ spawned at the ~~Satellite Facility~~ closer Lostine River Hatchery, as proposed. Although individuals may die, the mortality rate under the proposed program is anticipated to be less than that of the existing holding and transport program, and would be within an acceptable level as determined through program permitting.

Incubation and Rearing Practices: Incubation and rearing would occur at the proposed Lostine River Hatchery and at the Lookingglass Hatchery. ~~Imnaha Satellite Facility, or at another appropriate facility, until eggs are eyed. Spring/summer chinook eyed eggs would then be transferred from incubation units to appropriate rearing facilities. Final rearing would occur at the proposed Imnaha Final Rearing Facility.~~ All Imnaha fish would be returned to the Imnaha Satellite Facility for acclimation and release. Because of the use of techniques to maintain wild-type characteristics among hatchery fish, the impact on spring/summer chinook and other fish populations is expected to be minimal.

On page 3-39 (start on last paragraph) – 3-40:

A portion of the production may be direct stream released in small groups farther upstream of the ~~acclimation~~ Imnaha Satellite F~~f~~acility, or ~~the acclimation facility may acclimate~~ different release groups may be acclimated sequentially. This release method would take place over a period of several weeks to allow the biological impact of the smolts entering the Imnaha to be spread over time.

On page 3-40 – 3-41:

3.2.4.3 Harvest ~~and Poaching~~

In recent years (1992, 1993, 2001, 2002, 2003), the only spring chinook fishery that has occurred in the Grande Ronde basin is for the (unlisted, non-native) Rapid River stock in Lookingglass Creek (Ashe 2004, personal communication). ~~Harvest is authorized and regulated by ODFW with a Section 10(a) consultation. Presently, there is no harvest of spring chinook or bull trout in all tributaries, although catch and release fishing is allowed for bull trout within the Imnaha River. Only adipose fin-clipped steelhead may be taken in the Northeast zone (ODFW 2002).~~ No bull trout harvest is allowed, and only adipose fin-clipped steelhead can be taken. Within both Lookingglass Creek and the Lostine River, angling is restricted to artificial lures and flies for all species~~. Additionally,~~ and all angling opportunities are closed 200 feet downstream from a hatchery water intake (ODFW 2003). ~~In all tributaries of the Northeast zone, all trout, salmon and steelhead that are released must be unharmed and must not be removed from the water. Also protected within this zone are margined sculpin. These activities in conjunction with the Proposed Action cumulatively would not likely affect these fish species in the region.~~

Spring chinook harvest in the Imnaha is authorized by NOAA Fisheries (under the ESA tribal 4[d] rule) and regulated by ODFW and NPT. ODFW regulates the sport fishery and NPT regulates the tribal fishery. ODFW prohibits all non-hatchery chinook sport fishing within the Imnaha basin (ODFW 2003). In 1998, the NPT and ODFW cooperatively developed a management agreement for Imnaha River broodstock allocation and harvest of adults by setting adult escapement goals (Ashe et al. 2000). This agreement is outlined in Table 3.2-15. ODFW and NPT have developed an Imnaha River Spring Chinook Harvest and Management Plan annually since 2001 to forecast the adult return and determine appropriate level of harvest, which is shared equally between the state and the tribe (Ashe 2004, personal communication). ~~During 1992 and 1993, in Lookingglass Creek tribal members harvested 173 and 110 Rapid River (non-native) stock chinook returning to Lookingglass Hatchery. There is little information to describe current tribal harvest in the Lostine River.~~ ODFW also restricts bull trout fishing to the Imnaha River, and allows only adipose fin-clipped steelhead to be taken throughout the basin (ODFW 2003).

Table 3.2-15. NPT and ODFW Harvest Management Guidelines. *(no change)*

Escapement Level	Harvest for Tribal Ceremonial Use	Harvest for Tribal Subsistence	Recreational Harvest
<300 for 2 consecutive years	*	*	No
51-700	Yes	*	No
>700	Yes	Yes	*

* Decision made on case-by-case basis

These activities when considered together with the Proposed Action cumulatively would not likely affect fish species.

On page 3-42:

3.2.5.4 ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site

Under the ~~n~~No ~~a~~Action ~~a~~Alternative, the ~~Imnaha Final Rearing Facility~~ existing Acrow (steel panel) bridge and associated concrete abutments would remain at the site, and no short-term, construction-related impacts would occur. ~~not be constructed and therefore, construction and operation of instream features would not impact existing fish resources Final rearing of Imnaha stock smolts would not take place in natal waters at the Imnaha Final Rearing Facility and long-distance hauling stress on juveniles would continue. It is expected that Imnaha chinook runs, currently reared at Lookingglass and released at the Imnaha Satellite Facility, would increase, but at a slower rate than if the Imnaha Final Rearing Facility were not used for final rearing, due to the limited space and water available at Lookingglass Hatchery.~~ The bridge would remain a part of the visual landscape and the bridge abutments would continue to armor a small stretch of river bank.

On page 3-49:

~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site — The ~~proposed Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site is located within the lower Imnaha subbasin, at an elevation of about 1,995 feet (Figures 2-6 and 3.9-4). Site topography is relatively flat and the river channel at this location is well-defined. Currently the site is used for cattle grazing, and the central portion of the site is devoid of woody vegetation and is dominated by introduced pasture grasses and weedy forbs. A narrow fringe of riparian vegetation, dominated by water birch, black cottonwood, willows, hawthorn and mountain alder remains along the river corridor. Ponderosa pine and black cottonwood are the primary overstory species found on the Imnaha River Road (east) side of the river. No significant springs, seeps or wetland areas were noted in the project area, except for a very narrow fringe along the river channel.

On page 3-51:

3.3.3.1 Lookingglass Hatchery

Proposed modifications to the existing hatchery would occur within the existing, developed area. Construction would result in minor new ground disturbance and would not increase the amount of impervious surface area currently present at the site ~~(less than ¼ acre)~~. Temporary erosion and sedimentation impacts to riparian habitat would be minimal based on the limited amount of ~~new~~ construction, distance ~~of excavation~~ from Lookingglass Creek, amount and location of existing pavement and associated slopes, and implementation of best management construction practices.

On page 3-52:

3.3.3.2 Lostine Adult Collection Facility

Installation of the flow velocity barrier would require construction of concrete abutment walls and the removal of up to 20 feet of the river bank, including associated riparian vegetation. Placement of fill and riprap for construction of the flood-proofing levee would displace existing riparian habitat along another ~~300~~ 360 feet of the river channel. Construction of the proposed levee would also isolate small side channels and associated wetlands that occur on the west bank of the river. Although Columbia spotted frogs have not been documented at the site, impacts to potential habitat would occur as a result of site clearing, grading and filling and from potential changes to the existing hydrologic regime subsequent to construction of the west bank levee. Use of the riparian zone at the site for travel, dispersal, cover, foraging, resting and nesting by all local species would be temporarily impaired during construction.

Jackhammer use and other construction noise would produce noise levels that are likely to temporarily disturb wildlife occurring within a mile of the site. Temporary displacement of some individuals may occur. The high noise level activities would occur in July, during the instream work window. Noise impacts to wintering bald eagles that may use the area would be avoided by this construction timing. Removal of several large, dominant trees (black cottonwood and ponderosa pine) may limit long-term opportunities for bald eagle roosting in the immediate vicinity. Removal of potential perch trees would occur on both sides of the river; including from about ~~300~~ 360 feet of the west bank and from about 20 to 50 feet of the east bank. However, the majority of canopy trees would remain in place on the east bank.

On page 3-52:

3.3.3.3 Lostine River Hatchery

Construction of the proposed facilities would result in about ~~three~~ two acres of new impervious surface at the site. Numerous large trees, primarily grand fir, Englemann spruce, and black cottonwood, would be removed, as would a small number of diseased trees, snags and downed wood. Two small aspen stands occur at this site, and although impacts to these stands would be avoided to the extent possible and new aspen would be planted, some trees would be removed. Installation of the intake, screens, fish ladder and conveyance pipeline would result in the removal of about 100 feet of the riverbank and associated riparian habitat. Localized impacts would result from construction and stabilization of the outfall structure, which would require excavation of approximately 150 cubic yards of river bank material and placement of about 35 cubic yards of cobbles for stabilization of the structure.

On pages 3-53 – 3-54:

3.3.3.4 ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site

The Acrow panel bridge proposed for use at the Lostine Adult Collection Facility currently spans the lower Imnaha River at RM 26 and provides access to 10 acres of agricultural land, referred to as Marks Ranch. A crane would be used at this site to remove the bridge panels; the concrete abutments would be cut out of the stream bed. No trees (including snags or perch trees) are expected to be removed, although activities may require removal of a few shrubs. Disturbance would be minor and riparian areas would be revegetated with native plants. The entire removal would likely take less than one week and would be performed during ODFW's instream work window (July 15 – August 15). ~~The proposed Imnaha Final Rearing Facility would be staffed year-round, and operated from September through March. Proposed facilities include a residence, shop and bunkhouse; raceways, intake and outfall structures; well, pipelines~~

~~and septic system; access road and power; and relocation of an existing bridge. Prior to construction, up to three feet of rock fill would be placed on the lower end of the site. The vegetated riparian zone would be largely avoided. Construction of facilities would result in about three and one-half acres of new impervious surface at the six acre facility.~~

~~The existing bridge would be relocated about 200 feet upstream of its current location, to a stable rock bar. A small number of trees and at least one snag would be removed due to placement of the bridge abutments. Additional snags occur in close proximity to the proposed bridge location, however, and it is possible that one or more additional snags would be affected either directly by placement of the structure, or indirectly if adjacent snags (overhanging canopy) interfere with equipment operation for safe placement of the panel bridge. Removal of large, dominant trees (black cottonwood and ponderosa pine) may limit opportunities for bald eagle roosting in the immediate vicinity. However, removal of snags and potential perch trees would be restricted to this location, and many others are available off-site.~~

~~Rock fracturing, drilling and excavation for installation of the intake structure and c~~Concrete cutting to dismantle the old bridge abutments would produce high, periodic noise levels that are likely to disturb wildlife within a mile or more of the site and alter normal behavior patterns. Temporary displacement of some individuals may occur. The highest noise level activities would primarily occur between July 15 and August 15, during the instream work window. Noise impacts to wintering bald eagles that may use the area would be avoided by this timing. No nesting territories are documented near the site (ONHP 2002). ~~Disturbance levels resulting from remaining construction activities would likely be reduced, due to the lower noise levels generated, but may also cause temporary displacement of local wildlife.~~

~~The ability of many Imnaha subbasin riparian zones to support wildlife and provide aquatic habitat has been reduced by roads and livestock grazing. Exclusion of cattle from the riparian zone and supplemental planting of native species at the proposed Imnaha Final Rearing Facility would, i~~In the long-term, removal of the bridge and abutments would improve the functioning condition of the riparian habitat along this stream segment.~~ Some long-term adverse wildlife impact is expected at this site due to the loss of a small amount of riparian habitat, increased human access and human-related disturbances, and disturbance to potential bald eagle roosting habitat outside of the critical wintering period.~~

On page 3-54:

3.3.3.5 Imnaha Satellite Facility

The improved Imnaha Satellite Facility would operate from March through October 1 ~~November~~ with one full-time operator on-site during that period. Construction of all new structures would be within the area of existing development. The construction work window would extend from late April to early November due to the remote location and high snow fall at the site. ~~The new acclimation pond, settling basin, modifications to the adult holding, and other miscellaneous site improvements would be constructed from June through November.~~ All instream work would occur from July 15 to August 15.

Proposed site improvements would disturb ground and add a small amount (~~one-quarter~~ 0.12 acres) of new impervious surface to the site. Construction noise and activity disturbances may alter the behavior and individual distribution of certain wildlife within the area, but these impacts are short-lived and are not expected to affect long-term use, abundance and distribution of wildlife in the area. Construction would not occur in the bald eagle wintering period and no nesting territories have been documented in the vicinity.

On page 3-60:

~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site — The ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site is ~~proposed~~ located on ~~about ten acres of~~ private land within the lower Imnaha subbasin, where Ponderosa pine communities grade into grassland communities (Figures 2-6 and 3.9-4). The site and surrounding areas are characterized by open, dry grassland communities while riparian areas are dominated by shrub and forest communities. ~~The site has long been used for grazing livestock. Evidence of an old homestead is apparent at the southeast end of the cleared pasture, where remnants of an orchard are found. The central portion of the site has no woody vegetation and is dominated by introduced pasture grasses and weedy forbs. Species include tall fescue, cheatgrass, orchard grass, timothy, meadow foxtail, ryegrass, clover, dandelion, English plantain, prickly lettuce, and yarrow. The Nez Perce Biocontrol Center survey identified the following invasive non-natives: common bugloss, Canada thistle, cheatgrass, bull thistle, common mullein, white horehound, and white campion (Nez Perce Biocontrol Center 2001). Species that were noted, but less common, include teasel and black medic.~~

A narrow fringe of wetland and riparian vegetation exists along the river corridor at the site. Common species include water birch, black cottonwood, willows, hawthorn, mountain alder, wild rose, snowberry, common mullein, horsetail and white campion. Ponderosa pine and black cottonwood are the primary overstory species found. Vegetation along the abandoned irrigation ditch (proposed pipeline location) is similar in nature to the riparian vegetation common throughout the area – dominant woody species include water birch, hawthorn, red-osier dogwood, mock orange, mallow ninebark, rose, chokecherry and plum.

~~Where the steep, rocky canyon walls and the river meet at the southern (upstream) portion of the property (proposed intake location), riparian vegetation is less disturbed and has greater diversity. Species found in this area include Rocky Mountain maple, chokecherry, blue elderberry, mock orange, currant, poison ivy, blackcap, mountain sweet-cicely, stinging nettle, buttercup and horsemint.~~

On page 3-61:

3.4.3.1 Lookingglass Hatchery

The site is an existing fish production facility. All proposed improvements would occur within the existing, developed area and involve additions to existing facilities or internal changes to existing structures. ~~The raceways and storage building are proposed where native vegetation has been largely replaced with ornamental or invasive plant species.~~ No direct impacts to the riparian zone, or other native habitats, are expected. ~~Few, if any,~~ No trees would be removed.

On pages 3-61 – 3-62

3.4.3.2 Lostine Adult Collection Facility

Construction of a flood-proofing levee would result in the removal of about ~~300~~ 360 feet of riparian vegetation on the west bank of the Lostine River. Adjacent plant communities would be disturbed by equipment staging, the temporary access road and operation of equipment during construction of the levee. Construction of a concrete wall and the removal of about 20 to 50 feet of the river bank (to install the flow velocity barrier) would result in the removal of associated riparian vegetation.

Direct and indirect wetland impacts would occur as a result of proposed clearing, grading and filling for construction of the fish ladder, access and loading driveway. A net loss of about ~~12,000 to 15,000~~ 11,000 to 16,000 square feet (about .25 to .37 acres) of wetland area would result from installation of proposed project components, primarily in the vicinity of the parking area and the levee. Long-term, indirect impacts may also occur as a result of potential changes to the hydrologic regime of the site due to levee construction and proposed french drains. These impacts are not quantifiable at this time, but could involve changes to site plant composition (resulting from changes to the wetland water situation) and associated impacts to site wildlife (particularly amphibians). The Proposed Action includes a commitment to conduct a formal wetland delineation and to implement any compensatory wetland mitigation based on the outcome of the delineation and applicable regulations.

On page 3-62:

3.4.3.4 ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site

Most of the project activity is immediately adjacent to the bridge and its abutments. Riparian vegetation removal at this location would be minor, and the site would be revegetated with native species when bridge removal is complete. ~~proposed in the center of the site, which currently lacks woody vegetation and is dominated by introduced pasture shrubs, grasses and weedy forbs. Removal of native vegetation is primarily limited to the intake structure and intake pipeline corridor (about 1000 feet, most of which is along an existing road), outfall structure (less than 20 feet) new bridge abutments (about 40 feet on each side of the river) and in the corridor for a new power line (about 300 feet). However, a small number of mature trees and at least one snag would be removed from the proposed bridge relocation site. Additional snags occur in close proximity to the proposed bridge location, however, and it is possible that more than one snag would be removed for the structure or to allow for safe equipment operation during structure placement. Where possible, the riparian zone would be replanted with native vegetation.~~

~~Exclusion of cattle from the riparian area and planting disturbed areas with native species would encourage more diverse riparian vegetation along the riverbank. Weed control at the project site would also encourage reestablishment of native vegetation after disturbance during site work.~~

On pages 3-62 – 3-63:

3.4.3.5 Imnaha Satellite Facility

Most construction activities at this existing facility would occur in areas devoid of native vegetation or in areas that are maintained as lawn and landscaping. ~~For example, no vegetation would be removed to install a new power line in the existing roadbed.~~ About seven young trees planted as ornamental landscaping would be removed. The new intake structure may result in minor incidental impacts to riparian vegetation as a result of brush clearing, excavation, and placement of structures and associated riprap. ~~A minor amount of woody riparian vegetation may be removed or disturbed where the new fish ladder would be installed adjacent to the existing ladder. Riprap would be used at this location to stabilize the ladder at the river entrance.~~

On page 3-65:

~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site — The ~~proposed Imnaha Final Rearing Facility~~ Acrow Panel Bridge S~~s~~ite (Figures 2-6 and 3.9-4) is located ~~in~~ adjacent to a pasture about 1,200 feet downstream of an outcrop of Imnaha River Basalt. The Imnaha River bends at this location to flow around the bedrock outcrop. Such basalt outcrops and steep cliffs characterize this segment of the river. The alluvial soils are a mixture of angular gravel, cobbles and boulders in a silty and sandy matrix. The site is well drained, and groundwater is not evident at or near the surface. Talus (rock fragments that collect at the base of the cliff from which they derive) is evident in the fan that forms the bench above and upstream of the pasture area, which characterizes the bulk of the site. The erosion potential at the site is moderate.

On pages 3-65 – 3-66:

3.5.3.1 Lookingglass Hatchery

~~Soil and rock would be excavated from the base of the rock slope in order to construct the new raceways at Lookingglass Hatchery. Surface weathering of the bedrock and joint fractures could weaken the rock and cause the slope to fail. Such failures would most likely occur if excavation encroached into the toe (base) of the slope, reducing slope equilibrium leading to localized failures and rockfalls. Slope failures caused by excavation and grading would tend to be relatively small and unlikely to cause extensive damage or injury. Slope instability would be addressed through a geologic assessment as part of project design and by establishing and maintaining adequate setbacks from unstable slopes. Slopes would also be revegetated and/or seeded with erosion control mix as feasible. With these design provisions and construction measures, there would be no impact to slope stability.~~

~~Soil erosion would be a concern during construction, especially during initial site grading, when bare soil would be exposed.~~ Precipitation, stormwater runoff and wind on exposed soils would cause erosion during construction; however, the erosion potential would be low due to the rocky nature of the site and extremely limited extent of site work. In addition, the Proposed Action's best management practices (such as minimizing the extent of exposed or disturbed soil, installing sediment traps such as silt fences or hay bales, monitoring construction activities, and revegetating disturbed areas with native species) would largely control erosion during and ~~following~~ after construction. Erosion would be of limited duration and extent and ~~would not be a concern beyond construction. The total area temporarily disturbed would be less than one acre and those areas~~ would be within areas previously disturbed during initial hatchery construction and/or rock quarry activities.

On page 3-67 (first paragraph):

Hatchery construction would require clearing about five acres of upland pasture and adjacent woodlands. The site would be graded and filled with about 5,000 to ~~10,000~~ 6,000 cubic yards of rock from a nearby quarry to level the site and to provide flood protection. Soil erosion would be a concern during construction, especially during initial site grading, when bare soil would be exposed. Precipitation, stormwater runoff and wind on exposed soils would erode loose, fine-grained material. Soils would also be compacted through concentrated vehicle traffic and building activities. Soil compaction would decrease the natural permeability of soil and also contribute to accelerated runoff and erosion. The Proposed Action's best management practices (such as minimizing the extent of exposed or disturbed soil, installing sediment traps such as silt fences or hay bales, monitoring construction activities, and revegetating disturbed areas with native species) would largely control erosion during and following construction. The planned dewatering of instream work areas would reduce the amount of erosion within

the river, but would not eliminate it entirely. Riverbanks at the Lostine River Hatchery site are low and over-bank flood channels exist on both banks at the proposed intake structure. Site soils here are pervious, which could complicate channel dewatering and require extra effort and attention to keep the channel work areas dry. With these measures, erosion would be of limited duration and extent and would not be a concern beyond construction. About five acres of the six-acre site would be temporarily disturbed and about three acres would be permanently altered.

3.5.3.4 ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site

~~Construction of~~ Activity at the ~~proposed Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site would involve ~~relocating~~ removing the bridge and bridge abutments from the site. ~~and constructing an intake and two outfall structures. All of these activities have the potential to reduce slope stability and cause minor failure of the riverbank. While the slope is steep in the area of the intake structure, most of the bank in that location is rock outcrop and less likely to fail. The risk of instability is greatest during construction and could be a longer-term concern without proper design and monitoring. Proper facility design, construction methods (such as adequately compacting fill, and appropriately placing the structures and riprap) and construction monitoring would prevent bank failure.~~ Any disturbed, unarmored part of the riverbank would be revegetated with native species to stabilize the riverbank and improve the appearance of the area after removal of these structures. ~~With these methods, there would be no decrease in riverbank stability or increase in risk to people or property.~~

~~Construction of the Imnaha Final Rearing Facility would require clearing about six acres of upland pasture and raising the lower portions of the site with up to three feet of rock fill to protect it from some flooding. Soil erosion would be a concern during construction, especially during initial site grading, when bare soil would be exposed. Precipitation, stormwater runoff and wind on exposed soils would erode loose, fine-grained material. Soils would also be compacted through concentrated vehicle traffic and building activities. Soil compaction would decrease the natural permeability of soil and also contribute to accelerated runoff and erosion.~~ The Proposed Action's best management practices (such as minimizing the extent of exposed or disturbed soil, installing sediment traps such as silt fences or hay bales, monitoring construction activities, and revegetating disturbed areas with native species) would largely control erosion during and after construction. ~~The planned dewatering of instream work areas would reduce the amount of erosion within the river, but would not eliminate it entirely. With these measures, erosion would be of limited duration and extent and would not be a concern beyond construction. Most of the six acres occupied by the facility would be temporarily disturbed and about three acres would be permanently altered.~~

On pages 3-67 – 3-68:

3.5.3.5 Imnaha Satellite Facility

Modifications to the Imnaha Satellite Facility would involve constructing a new intake~~, fish ladder~~ and weir. All of these activities have the potential to reduce slope stability and cause minor failure of the riverbank. The risk of instability is greatest during construction and could be a longer-term concern without proper design and monitoring. Proper facility design, construction methods (such as adequately compacting fill, and appropriately placing the structures and riprap) and construction monitoring would prevent bank failure. Any disturbed, unarmored part of the riverbank would be revegetated with native species. With these methods, there would be no decrease in riverbank stability or increase in risk to people or property.

Modifications to the Imnaha Satellite Facility would involve disturbance of less than one acre of land, much of which was previously altered during earlier construction. Soil erosion would be a concern during construction, especially during initial site grading, when bare soil would be exposed. Precipitation, stormwater runoff and wind on exposed soils would erode loose, fine-grained material. The Proposed Action's best management practices (such as minimizing the extent of exposed or disturbed soil, installing sediment traps such as silt fences or hay bales, monitoring construction activities, and revegetating disturbed areas with native species) would largely control erosion during and following construction. The planned dewatering of instream work areas would reduce the amount of erosion within the river, but would not eliminate it entirely. With these measures, erosion would be of limited duration and extent and would not be a concern beyond construction. Less than one-quarter acre would be temporarily disturbed and permanently altered by the facility modifications.

On page 3-71 (fourth full paragraph)

Groundwater exploration wells were drilled at the site between December 1998 and ~~January 1999~~ December 2000 (Montgomery Watson 1999b and 2001). Aquifer pumping tests were conducted to determine well production and potential affect on other domestic supply wells in the area. Hatchery wells were determined to have a combined optimal production rate of 1,350 gpm. Montgomery Watson concluded that desired groundwater production levels for the hatchery could be sustained and regulated without affecting production in nearby domestic wells. ~~Production potential from one groundwater well was estimated between 1200 gpm. Production can apparently be sustained for long-term pumping without affecting nearby domestic wells. Another groundwater production well at the site, which has not yet been developed for testing, may produce up to 100 gpm (Montgomery Watson 1999b).~~

On page 3-72:

~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site — The ~~proposed Imnaha Final Rearing Facility~~ Acrow Panel Bridge S~~s~~ite (Figures 2-6, 2-7 and 3.9-4) is located on a flat, bedrock outcrop at a bend on the west side of the Imnaha River approximately six miles upstream of the town of Imnaha. Plateau and canyon terrain with incised basalt bedrock and steep cliffs characterize this segment of river. The gradient and the presence of bedrock limit the formation of broad floodplains. Although high flood-stage flows are typically contained within the river channel, floodwater can overtop the banks causing minor flooding. The 500-year storm event in 1996-97 caused flooding of less than one foot on the south quarter of the site (Montgomery Watson Harza 2001a). At the northern portion of the site, the turn in the Upper Imnaha River Road has been reconstructed with engineered fill slopes to support the roadway. The toe of the slope reaches the river's edge and is protected with riprap. Currently, the small-vehicle bridge to the site has abutments that constrict river flow at flood stage.

On page 3-74:

3.6.3.3 Lostine River Hatchery

The proposed Lostine River Hatchery and its access would be constructed adjacent to the Lostine River, largely outside its ~~within its active 50- to~~ 100-year floodplain as mapped by FEMA (Figure 2-1, Final EIS). Peak flows generated during spring runoff or a major 100-year+ storm event may be diverted or impacted by the presence of instream hatchery structures ~~development~~ which could change the flood dynamics at or below the site. Montgomery Watson conducted a preliminary hydraulic analysis in 2000. The results of that analysis indicated that these facilities would not change the river cross section or cause flooding. A more refined hydraulic analysis would be conducted as part of final design (McMillen 2004,

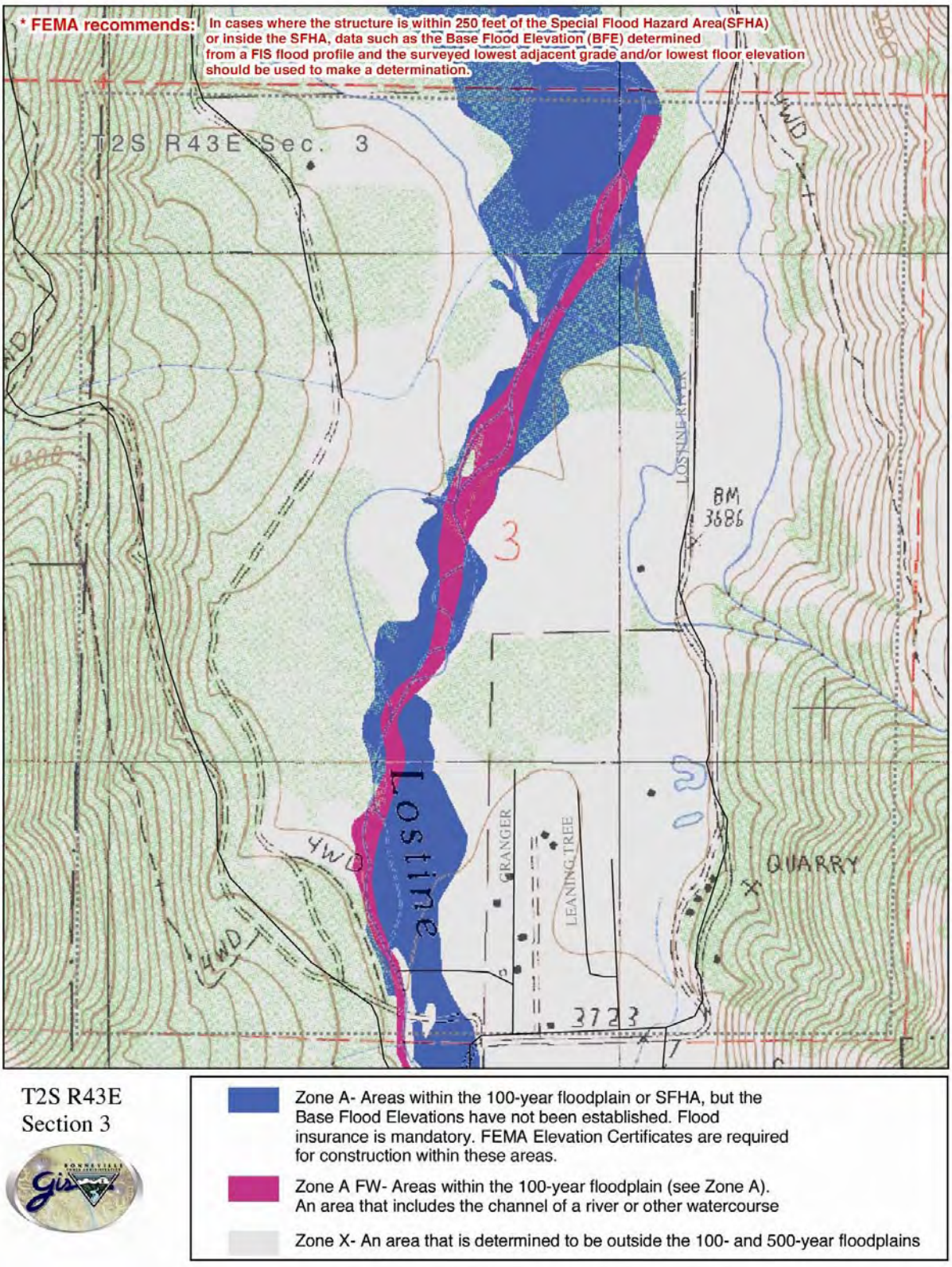


Figure 2-1
Lostine River Hatchery Site —
FEMA Map: 100-Year Floodplain

personal communication). The Lostine River reached its fifth highest flow on record in 1999 and resulted in massive flooding in the watershed (BPA 2001). The hatchery site reportedly did not flood during the 1999 event. Still, proposed placement of fill and construction of the hatchery could alter flood flows and impede the natural movement of floodwaters during flood events larger than the one in 1999. Given past trends excessive flooding of the site would likely be infrequent, but if it occurred excessive flooding could damage equipment and structures, cause localized erosion and sedimentation, alter large flood flows and change local **morphology**. ~~Locating the facilities within the active floodplain would have an adverse impact, but past flood events at the proposed site indicate that~~ Based on the location of most of the facilities outside the 100-year floodplain and the results of the preliminary hydraulic analysis, the likelihood of increased flooding is low.

The location of ~~I~~ instream structures such as the hatchery intake, fish ladder, and weir would be located in a wide section of the river and, as such, would not change the river cross section or cause flooding. ~~would reduce natural channel area, impede flow, and disrupt the natural flow regime at the site. C~~ However, these changes ~~to the natural flow~~ could cause localized, continued bank erosion and occasional limited flooding in the immediate vicinity. ~~Installing the Obermeyer gate and intake structure would exacerbate the existing river constriction caused by the bridge abutments and further reduce the natural channel area. This would lead to increased flooding risks (*i.e.*, flood height and frequency) just upstream from the intake structure. It would also result in more rapid bank erosion rates both upstream and downstream of the bridge.~~ The proposed outfall structure would be installed downstream of the hatchery facility within a small side channel, so it would not likely impede or alter river flow.

On page 3-75 (start first paragraph):

Hatchery water would come from the Lostine River and groundwater wells. Water use would be non-consumptive, meaning that all water used would be treated and returned to the Lostine River. Diversion of surface water from the intake to the outfall structure would take place over a linear distance of about ~~2,800~~ 3,200 feet ~~or about a half-mile reach~~ of the river upstream from the outfall at the hatchery site. Average monthly flows on record (from 1912 to 1999) range from about 48 to 64 cfs between September and March and for April through August flows range from 90 to 800 cfs. For an average year, there appears to be adequate flow in the Lostine to accommodate hatchery demands, while leaving no less than ~~75~~ 65 percent of the flow in the river. However, during dry and/or cold years, water demand of the hatchery may be as much as 50 ~~or 60~~ percent of the total flow in the river. ~~IFIM studies have indicated that at low flow, summer conditions (September), the minimum hatchery flow requirement is 11.5 cfs, which represents about 22 percent of the average flow in September and 50 percent of the September low flow (Montgomery Watson Harza 2001a). This amount of diversion is necessary to support the hatchery during low flow periods. (Montgomery Watson Harza 2001b).~~

In order to minimize instream impacts during low flow conditions within the bypassed river reach, a pump station would be installed to pump the hatchery effluent back, along with supplemental well water, to the intake. The pumpback system and/or implementation of a low flow strategy to divert less river water) would be employed to ensure that a minimum of 50 percent of the total flow or 12 cfs remains in the Lostine River through the diversion reach, whichever is greater. The pumped flow would be introduced at the bottom of the fish ladder to return river water near the point of diversion. The pump station would be sized so that when low flow management strategies are implemented, the pump could transport the ~~entire~~ diverted flow back to the intake location. Because of the pumped return strategy, even during extreme conditions, impacts to flows would be short-term and limited to the ~~one-half mile~~ 3,200-foot reach of the river immediately upstream from the hatchery (Montgomery Watson Harza 2001b). According to engineering estimates, ~~W~~water temperature ~~chance is not anticipated under the Proposed~~

~~Action.~~ increases for water pumped back to the intake would be about 0.072 degrees Fahrenheit under the highest expected soil surface temperatures (Beasley 2004, personal communication).

Groundwater used at the hatchery would come from three on-site wells. These wells have a combined production rate of up to 1,350 gpm. Aquifer pumping tests conducted at the site resulted in a calculated drawdown rate of 1.5 feet in the nearest domestic well (the well at the BPA-owned house in the Lostine subdivision) after 10 weeks of continuous pumping (Montgomery Watson 2001). According to Montgomery Watson (2001), simultaneous, continuous pumping of the three hatchery wells would only be required for about 2 to 3 months per year under normal hatchery operations. Montgomery Watson concluded that desired groundwater production levels for the hatchery could be sustained and regulated without affecting production in nearby domestic wells.

On pages 3-75 – 3-76:

3.6.3.4 ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site

The ~~proposed Imnaha Final Rearing Facility and bridge would be constructed~~ Acrow Panel Bridge Site is adjacent to the Imnaha River within the 100- to 500-year floodplain. The site is on a low-lying, flat basalt bedrock shelf covered by alluvial sediments. ~~The site is only partially flooded during extreme runoff events such as a 100- to 500-year flood.~~

Data from the USGS Imnaha gage five miles downstream of the site indicate that river stage can increase substantially and sometimes double during a 100- to 500-year storm event as it did on January 1, 1997 (USGS 2003). While estimating infrequent flood events involves considerable uncertainty, and the available data are not directly transferable, the data suggest that a similar increase could occur at the ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge S~~s~~ite. ~~However, during large storm events such as the one on January 1, 1997, the site does not typically flood. When it does flood, waters are typically less than one foot deep and confined to the lowest portion of the site (Montgomery Watson Harza 2001a).~~

~~The proposed project design would place two to three feet of fill over the low side of the site to raise it above the current projected 100-year floodplain. This would reduce flood potential by keeping most major flood events from overtopping the west bank and inundating the proposed facility. A 500-year flood event could potentially inundate the site, disrupt facility operations, overwhelm onsite drainage systems and damage vulnerable equipment (i.e. electric pumps, controllers, raceways, etc).~~ Overall, however, flood impacts at the site would be reduced by the Proposed Action because it would consist of removing the panel bridge and bridge abutments. The Proposed Action would benefit river flow and restore river banks to a more natural condition in the immediate vicinity of the bridge by revegetating the area after removing the existing abutments that somewhat restrict flow. ~~For the river channel itself, fill placement on the site would restrict flows during temporary high water events, confining them to the active channel. This would result in higher water levels in the active channel and an increased potential for downstream flooding, scour, and erosion during extreme events such as 100- to 500-year floods.~~

~~The effects of the proposed intake and outfall structures on river flow, while adverse, would be very localized. The proposed intake structure, while it may affect localized flow patterns, would not represent a substantial flow impediment, would not change the overall flow regime or cause flooding. The proposed fish bypass outfall would have riprap flood protection on its upstream and downstream sides. The bypass outfall would be placed outside the main channel and would not impede or alter the typical flow regime. The main hatchery outfall would be armored with riprap and would only disrupt flow in its~~

~~immediate vicinity. While the new bridge abutments would slightly disrupt flow, they would be an improvement over the current situation.~~

Instream construction~~, excavation and grading, bridge construction and placement of fill~~ activities could introduce sediment or other construction-related contaminants to the Imnaha River over short periods of time resulting in localized temporary water quality effects. However, the Proposed Action includes best management practices to reduce sedimentation and contamination, as described in Chapter 2 and Section 3.5 of this EIS. ~~For example, instream construction of the intake structure, raw water pipeline, fish bypass, outfall structure, and bridge would employ temporary cofferdams or other water diversions appropriately placed to route water around instream work areas. Flow would remain in the channel, but be directed away from work areas. This would reduce potential sedimentation and portable pumps would be used to help keep work areas dry. Pump discharge would be routed through a sediment basin prior to discharge back into the Imnaha River.~~ With use of these best management practices, the Proposed Action is not expected to result in violations of water quality standards during or after construction, or cause any change to water temperatures. No long-term changes in water quality would be expected since structures are being removed from the site.

~~The proposed septic system would be designed and built according to applicable standards to prevent leaching of fecal coliform and other contaminants into the Imnaha River. The construction and operation of the proposed septic system would not result in water quality impacts that would exceed regulatory thresholds.~~

~~Water supply for this facility would be provided from the Imnaha River. Water use would be non-consumptive, meaning that all water withdrawn would be treated and returned to the river downstream of the facility. As described in Section 3.2.1 of this EIS, the maximum flow required for rearing at the Imnaha Final Rearing Facility is about 23 cfs, based on the preferred NATURES criteria flow scenario. This flow would be required for a short period of time between late-February through March yearly. In addition to the water required for rearing, about 10 cfs would be diverted through the intake to operate the fish screening and bypass pipeline. This diversion would take place over about the first 600 feet of the about 1,200 feet of diversion from the intake to the outfall.~~

~~Based on river flow measurements obtained from the USGS gage near the town of Imnaha, the required withdrawal would account for less than 25 percent of the total river flow for periods of average low flow. During below normal years, drought years or extremely cold years, when the flow is considerably below normal, the hatchery may demand up to 50 percent of the flow. However, based on historic Imnaha River gage data, years with extremely low flows are infrequent. The flow reductions would be localized to the reach of the river between the intake and the outfall and would be temporary due the water treatment and return strategy planned for the facility.~~

On pages 3-76 – 3-77:

3.6.3.5 Imnaha Satellite Facility

The proposed new fish barrier would benefit river flow by removing the existing barrier that currently restricts flows. The structure would provide improved flexibility for operation and maintenance and would also reduce the need for instream maintenance work. The new barrier combined with the more effective fish ladder ~~(along side the existing ladder)~~ would improve river flow and fish passage through the facility.

The existing intake structure would be enlarged to accommodate desired higher flow rates for the facility. The intake structure modification would add capacity to the current intake structure to provide the about 20 cfs needed for fish acclimation as described in Section 3.2.3.2 of this EIS. An additional about 6 cfs diversion is currently being used, and would continue to be required during adult collection, to operate the adult recovery by-pass pipeline system. This would be accomplished through use of a second separate intake operated about 800 feet downstream from the existing intake structure. During extremely low flow periods of early fall, these diversions could alter the river's natural flow regime in the immediate vicinity of the intake. However, since these diversions would be temporary and localized they are not expected to affect the overall flow of the river in the area.

On page 3-78 (fourth paragraph):

The ~~Imnaha Final Rearing Facility s~~ Acrow Panel Bridge Site and the Imnaha Satellite Facility are both located on the Imnaha Wild and Scenic River segment classified as Recreational.

On page 3-79:

3.7.1.2 Imnaha Wild and Scenic River Comprehensive Management Plan

As discussed above, the Imnaha River Wild and Scenic River Management Plan classifies the segment of ~~segment of~~ the river along which the ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site and Imnaha Satellite Facility are located as Recreational. The Management Plan also calls for five management actions: 1) District / HCNRA responsibilities; 2) motorized restriction on the scenic segment of the river; 3) education and monitoring program on scenic segment of the river; 4) fisheries projects; and 5) historic/prehistoric. The management action addressing fisheries projects is the only one that applies to the proposed project sites. This management action states:

On page 3-80 (last paragraph) and pages 3-80 – 3-84: Edit Table 3.7-1 as shown in Table 2-6:

Table 3.7-1 provides an overview of the effects of the Proposed Action on the ORVs of the Imnaha Wild and Scenic River. ~~In addition to the beneficial impacts to ORVs related to fisheries, two adverse impacts would occur with the Imnaha Final Rearing Facility: 1) the loss of riparian vegetation at the intake structure and bridge would adversely effect the vegetation / botanical ORV and 2) the loss of ten acres of cattle grazing land would adversely effect the tradition and lifestyle ORV.~~

Table 2-6. Effects of the Proposed Action on ORVs of the Imnaha Wild and Scenic River.

Outstandingly Remarkable Value	Effects of the Proposed Action
Scenic – There is great contrast and variety of landforms, vegetation, and color throughout the Imnaha subbasin. The pastoral setting of the predominately ranch-oriented middle section of the river evokes images of a classic western landscape. The middle section of the river, where the hatchery facilities are proposed, is classified as Recreational (U.S. Forest Service 1993a); river segment classifications of Wild, Scenic or Recreational are described in FSM 2354.41 Exhibit 01 and FSM 2354.42). A large, high voltage power line; the steep, dramatic bunch grass covered basalt layered canyon walls; the string of ranches, residences, pastures, and developed campgrounds; and the Imnaha River itself dominate the seen landscape and capture the typical visitor's attention.	Passing motorists on the Upper Imnaha River Road ~~could~~ would no longer catch a glimpse of the bridge~~, buildings, access road,~~ and ~~other~~ supporting structures at the ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site. ~~These features would not seem out of place in a setting where a mix of ranch houses, residences, barns, corrals, sheds, garages, and associated rural scene appurtenances are commonplace.~~ The Imnaha Satellite Facility would not be seen any differently than it is now except to the astute observer who could detect the proposed structural changes within the existing compound. ~~or occasional evidence of the buried power line in the road corridor. Neither site would be such a drastic contrast in architectural style, size or nature of development that it would dominate or greatly detract from the scenery in general. Both sites~~ The Imnaha Satellite Facility would be recognizable as ~~administrative facilities~~ a facility used for natural resource (fisheries) management. ~~The Imnaha Final Rearing Facility would be on the other side of the river from the Upper Imnaha River Road in what is now a small, privately owned livestock pasture. The proposed buildings would be wood-sided, bland colored, simple in architectural style, set back as far from the river as possible, and mostly screened from view by existing native riparian vegetation (including large trees) on both sides of the river and new supplemental native landscaping plantings around the site. The road and fish raceways would be mostly screened as well. The water intake and outlet structures would be obscured from view either by vegetation, water, riverbank angle, or strategic placement near boulders or other visual obstructions. The pipelines to the hatchery and outlets would be buried, and disturbed soil revegetated. Where that is not possible, the intake pipeline would be covered with mortar and cobbles so it would blend in with the background. Thus, n~~No change to the scenic ORV would occur as a result of the Proposed Action at the Imnaha Satellite Facility and a slight improvement would occur at the Acrow Panel Bridge Site ~~except right at the project site~~. The viewer's reaction to the change may be positive or negative depending on personal preference and beliefs and the intensity of reaction (positive or negative) likely would diminish over time as the viewer became more accustomed to the site. See also Section 3.9 of this EIS for more information on visual resource impacts of the Proposed Action.

Outstandingly Remarkable Value	Effects of the Proposed Action
Recreation – Located within the HCNRA, popular pursuits include hunting, fishing, sightseeing, horseback riding, hiking, snowmobiling, and camping. Dispersed camping and developed camping are the dominant use along the river within the Forest boundary. Other activities include picnicking, mushroom picking, photography, and cross-country skiing. Much of the river (>45%) is on private property including the bed and banks. In most cases, the recreational opportunities on private land are limited to sightseeing and photography from the Imnaha River Road. The Wild and Scenic Rivers Act does not change private land rights, so the recreational value should be tempered on private lands. Some recreational activities, although they may exist in the river corridor, were not determined to be part of the ORV. These include boating, rafting, recreational gold dredging, and recreational experiences associated with modern camping facilities.	Proposed modifications to the existing Imnaha Satellite Facility would not change any recreational opportunities around the site. ~~However, if the existing diesel generator is replaced by the proposed underground power line (buried in the road right-of-way), the noise levels from the Satellite Facility would decrease, which would provide a better experience for nearby forest visitors. Also, the proposed new communication line to the facility could aid in emergency situations and overall area management.~~ The proposed ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site is on private land far from any dispersed or developed recreation site managed for the public. Public recreation is limited to sightseeing and photography from the Upper Imnaha River Road. The ~~site of the Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site is not known as a particularly unique sightseeing opportunity or popular photo point. The proposed facility's effect on sightseeing is discussed above under Scenic ORV. Other recreational activities that were not determined to be part of the ORV do not occur at or near the proposed project sites. Thus, no degradation of the recreation ORV would occur as a result of the Proposed Action. See also Section 3.10 of this EIS for more information on recreational impacts of the Proposed Action.
Fisheries – This emphasizes the populations of the threatened ~~spring/summer and fall~~ Snake River chinook salmon, steelhead and bull trout, and their habitat. The river was historically an important producer of spring/summer chinook, however today's runs are probably a small fraction of historic runs.	One of the purposes of the Proposed Action is to provide adequate hatchery facilities to help in the conservation and recovery of ESA-listed anadromous spring/summer chinook salmon native to the Imnaha subbasin while not being detrimental to other species. Therefore, the Proposed Action should ultimately enhance the fisheries ORV, and other benefits associated with fisheries (recreation, quality of life, economics, etc.). In this situation, locating acclimation ~~and rearing~~ facilities where natal waters can be used is vitally important for returning chinook to those waters to spawn naturally as adults. ~~In addition, the proposed facilities allow future implementation of intense monitoring, evaluation and research of all aspects of the local fisheries and affected species, water conditions, and certain habitat requirements.~~ See also Section 3.2 of this EIS for more information on fisheries impacts of the Proposed Action.

Outstandingly Remarkable Value	Effects of the Proposed Action
Wildlife – This value pertains to wildlife populations and habitat in the Imnaha River corridor. It includes Rocky Mountain big horn sheep and a variety of other species including mule deer, elk, and black bear. ESA-protected and U.S. Forest Service sensitive species within the corridor are an important part of the ORV. The ability to view a variety of wildlife in the corridor is also important.	Site surveys suggest the Proposed Action would affect no ESA-protected or U.S. Forest Service sensitive species of wildlife. Although some temporary disturbance of wildlife could occur during construction, neither project site involves actions that would affect critical habitat or large enough amounts of common habitat to change the quantity, variety, use, or visibility of any wildlife in the river corridor. Scavengers of post-spawning chinook salmon (e.g., eagles, mammals, etc.) could be more seasonally prevalent in the area if the spring/summer chinook salmon runs improve. See also Section 3.3 of this EIS for more information on wildlife impacts of the Proposed Action.
Historic/Prehistoric – Nez Perce historic and prehistoric sites, as well as Euro-American historic sites, are included in this value.	No historic or prehistoric sites were detected during surveys of the proposed facility sites. Any sites uncovered later would be protected until they could be assessed for appropriate remediation. So, no effect on historic/prehistoric values is anticipated. See also Section 3.8 of this EIS for more information on impacts of the Proposed Action on historic and prehistoric sites.
Vegetation/Botanical – Emphasis is on the ESA-protected or U.S. Forest Service sensitive species of plants. Also included is the plant and ecosystem diversity that can be found in the Imnaha River corridor. The river corridor starts at 8,000 feet and descends to 950 feet. Most ecosystems found on the Wallowa-Whitman National Forest can be identified in the river corridor.	Site surveys indicate that the Proposed Action would not adversely affect any ESA-protected or U.S. Forest Service sensitive species of plants. The Proposed Action would not alter the general vegetative and ecological diversity in the Imnaha River corridor, though minor amounts of native and non-native vegetation would be removed where new facilities and utilities would be located. Replanting of native species and control of weeds at disturbed sites, and use of native shrubs and trees as visual screening of facilities would mostly offset the amount of native and non-native vegetation affected. Less than one acre of riparian vegetation and about one acre of upland native vegetation would be permanently lost as a result of the Proposed Action. See also Section 3.3 of this EIS for more information on vegetation impacts of the Proposed Action.

Outstandingly Remarkable Value	Effects of the Proposed Action
Traditional Value/Lifestyle Adaptation – This relates to the lifestyle that has evolved and is representative of the early Euro-American settlers within the Imnaha River corridor. This lifestyle is dominated by a ranching/farming tradition that has evolved over time. This lifestyle, as it relates to the river, is an extension of how the river corridor has been used for years, including the use by the NPT.	~~At the site proposed for the Imnaha Final Rearing Facility, cattle grazing would be discontinued on less than ten riverside acres. In a landscape where livestock ranching covers wide expanses of public and private land, the grazing could be easily moved to another, less sensitive site. The Proposed Action would be inconsequential to the continuation of the western ranching traditional value/lifestyle in the area.~~ ~~Because the Imnaha Satellite Facility already exists, n~~No change in traditional values or lifestyles would be expected due to the minor modifications proposed ~~there~~ at either the Acrow Panel Bridge Site or the Imnaha Satellite Facility. With integration of the Imnaha facilities with the other hatchery facilities in the Proposed Action, chinook salmon runs in the Imnaha River would likely improve over the current situation, thereby enhancing the traditional values and lifestyle pursuits related to their presence and abundance. This would be particularly important to the NPT and CTUIR. See also Section 3.8 of this EIS for more information on impacts of the Proposed Action to traditional values and lifestyle.

On page 3-84:

3.7.3.1 ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site

~~Because components of the proposed Imnaha Final Rearing Facility would be constructed and installed within the bed and banks of the Imnaha River and may affect the free flow of the Imnaha River (see Figures 2-6, 2-7 and 3.9-4), whether the free flow of the Imnaha Wild and Scenic River is substantially altered is an issue.~~ The Proposed Action would remove the existing bridge and bridge abutments at the ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site, which would eliminate a constriction to river flow~~. However, the installation of a replacement bridge upstream of the existing bridge would result in placing abutments that would also constrict the natural river flow. This constriction of the natural river flow would be slightly less than under current conditions~~ (see Section 3.6 of this EIS for more information on water flow impacts of the Proposed Action). ~~The final design of the replacement bridge would result in the bridge abutments being placed in locations that minimize effects on the free flow of the Imnaha River.~~ Thus, no adverse change to the free flowing condition of the Imnaha River is expected as a result of the bridge ~~replacement~~ and abutment removal, and flow conditions may actually be improved ~~because of the bridge replacement~~.

On page 3-85 (start second full paragraph):

During ~~construction of~~ activity at the ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site, best management practices would be implemented to suppress the effects of erosion and sedimentation. With these best management practices, ~~construction~~ demolition and other on-site activities would introduce only limited amounts of sediment for a short time into the river. Although adverse, the impact of these

activities ~~construction~~ on water quality would be localized, of short duration, and within state and federal regulatory standards ~~or CWA Section 404 permit parameters~~.

3.7.3.2 Imnaha Satellite Facility

Improvements to the existing intake structure ~~and weir~~, replacement of the existing weir, and ~~construction of a new fish ladder beside the existing~~ installation of a water supply pipeline and diffuser to improve attraction flows at the existing fish ladder, are the three components of the proposed Imnaha Satellite Facility that would take place within the bed and banks of the Imnaha River (Figures 2-8 and 3.9-5). The intake structure improvements, though small, would slightly impede or alter natural river flows and ~~is~~ are considered to be an adverse impact to the free flow of the river at that spot. Also, the additional water taken by the intake structure for hatchery operations would decrease the flow in the river channel between the intake and outfall for a distance of about ~~900~~ 1000 feet (see Sections 3.2 and 3.6 of this EIS), but the river would maintain its free flow appearance overall. The new ~~Chiwawa~~ hydraulically operated weir would replace an existing picket weir and would slightly improve the free flow of the river. Thus, the overall effect of this facility on river flows would be minimal.

On page 3-85:

3.7.5 Consequences of Taking No Action

The No Action Alternative would mean no change to the free flow, water quality, or Outstandingly Remarkable Values of any Wild and Scenic River. The opportunity to improve conditions in the Imnaha Wild and Scenic River by enhancing fish recovery with hatchery facilities, removing the access bridge at the ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site and replacing the weir at the Imnaha Satellite Facility would be foregone.

On page 3-87:

3.8.1.2 Surveys and Consultation

The NPT Cultural Resource Program Archaeologist surveyed the sites for cultural resources. These surveys consisted of pre-field background research and on-site surveys to identify any cultural materials present and to gauge the likelihood of the presence of unseen cultural materials. Test excavations (shovel-surveys) were performed at two sites (Lostine River Hatchery and ~~Imnaha Final Rearing Facility~~Acrow Panel Bridge Site) deemed by the Tribal Archaeologist to have the potential for undiscovered cultural resources due to vegetation limiting ground visibility, past agricultural activities and a likelihood of buried cultural deposits (NPT 2002).

On page 3-87 – 3-88:

3.8.3.1 Lookingglass Hatchery

Oregon Parks and Recreation Department records indicated no recorded cultural or historic sites near the Lookingglass Hatchery (Figures 2-2 and 3.9-1). During the on-site survey, no cultural materials were observed in the project area. Since no cultural materials were detected during surveys, and this is an existing facility and modifications would occur within areas already developed, no impacts to cultural resources are anticipated. On February 25, 2004, the Oregon State Historic Preservation Office documented their concurrence with BPA's determination that no historic properties would be affected by the Grande Ronde – Imnaha Spring Chinook Hatchery Project. However, c~~C~~onstruction activity would

be monitored by a person knowledgeable about cultural resources. If evidence of cultural materials is found, site work or activity would be halted until the site could be assessed. Notification of and consultation with the SHPO, NPT Cultural Resource Program and CTUIR would also occur as appropriate.

3.8.3.2 Lostine Adult Collection Facility

Oregon Parks and Recreation Department records indicated no recorded cultural or historic sites near the Lostine Adult Collection Facility (Figures 2-3 and 3.9-2). During the on-site survey, no cultural materials were observed in the project area. On February 25, 2004, the Oregon State Historic Preservation Office documented their concurrence with BPA's determination that no historic properties would be affected by the Grande Ronde – Imnaha Spring Chinook Hatchery Project. However, c~~C~~onstruction activity would be monitored by a person knowledgeable about cultural resources. If evidence of cultural materials is found, site work or activity would be halted until the site could be assessed. Notification of and consultation with the SHPO, NPT Cultural Resource Program and CTUIR would also occur as appropriate.

3.8.3.3 Lostine River Hatchery

Oregon Parks and Recreation Department records indicated no recorded cultural or historic sites near the Lostine River Hatchery (Figures 2-4 and 3.9-3). During the on-site survey, no cultural materials were observed in the project area. A site shovel-survey also showed no indication of cultural materials. So, no impacts to cultural resources are anticipated. On February 25, 2004, the Oregon State Historic Preservation Office documented their concurrence with BPA's determination that no historic properties would be affected by the Grande Ronde – Imnaha Spring Chinook Hatchery Project. However, construction activity would be monitored by a person knowledgeable about cultural resources, and if evidence of cultural materials is found, site work or activity would be halted until the site could be assessed. Notification of and consultation with the SHPO, NPT Cultural Resource Program and CTUIR would also occur if necessary and appropriate.

3.8.3.4 ~~Imnaha Final Rearing Facility~~Acrow Panel Bridge Site

Oregon Parks and Recreation Department records indicated only one cultural site in the area (35WA812), near the mouth of Dunlop and Thorn Creeks~~, located on the opposite side of the Imnaha River from the project area. No proposed new facilities (bridges, power lines, etc.) would be located near this site~~.

During the ~~on-site~~ survey conducted in the vicinity, an irrigation ditch was observed ~~on~~ to the southwest of the Acrow Panel Bridge. ~~edge of the project site within the area of potential effect (where site disturbance or construction is expected, Figure 2-6)~~. In addition to the irrigation ditch, an old homestead and orchard are known to exist in the project vicinity~~ outside of the area of potential effect~~. A site shovel-survey showed no indication of other cultural materials. Since the ditch, homestead and orchard would be avoided by project activities, no impacts to cultural resources are anticipated. On February 25, 2004, the Oregon State Historic Preservation Office documented their concurrence with BPA's determination that no historic properties would be affected by the Grande Ronde – Imnaha Spring Chinook Hatchery Project. However, ~~construction~~ activity would be monitored by a person knowledgeable about cultural resources. If evidence of cultural materials is found or impacts to known materials occur, site work or activity would be halted until the site could be assessed. Notification of and consultation with the SHPO, NPT Cultural Resource Program and CTUIR would also occur as appropriate.

3.8.3.5 Imnaha Satellite Facility

~~The NPT Archeologist is conducting a cultural resource review for the proposed powerline to be located under or along the Upper Imnaha River Road connecting the site to the existing PacifiCorp substation about six miles to the north. Though no sites are expected in the road corridor, if any are discovered during survey or installation of the line, they would be avoided by rerouting the line underground or taking it overhead to avoid further disturbance of the ground.~~ On February 25, 2004, the Oregon State Historic Preservation Office documented their concurrence with BPA's determination that no historic properties would be affected by the Grande Ronde – Imnaha Spring Chinook Hatchery Project. However, ~~All other~~ all construction activity would be monitored and if evidence of cultural materials is found, site work or activity would be halted and the Oregon SHPO, NPT Cultural Resource Program and CTUIR would be notified and consulted regarding more detailed investigation. Since no cultural materials were detected during the site survey, and this is an existing facility and modifications would occur within areas already developed, no new impacts to cultural resources are anticipated.

On page 3-89:

3.8.5 Consequences of Taking No Action

The No Action Alternative would have ~~the~~ no adverse impact on cultural or historic resources physically located on or in the ground at the sites. The No Action Alternative has the potential to adversely impact the salmon resources in the area due to continued stock declines if not augmented by the project.

On page 3-90 (fourth paragraph):

Public views of the site and existing facility are available from places along the Lostine River Road. However, as shown in Photos 6 and 8, views of much of the site from the roadway are partially or fully screened by relatively dense vegetation. The number of potentially affected viewers ~~is low due to light traffic volumes and the vegetation screening~~ is highest in the summer months, but then views would be partially or fully screened by vegetation.

On pages 3-90 (seventh paragraph) and 3-94 (first paragraph):

Public views of the site are available from the north end of Granger Road and the adjacent residential subdivision (Photo10). From further away on Granger Road and from the Lostine River Road, several hundred yards across the valley, vegetation screens views of the site (Photo 9). Photos 11 and 12 show views of the intake structure location as seen from the bridge where Lostine River Road crosses the river. In general, views of the intake structure location would be limited by intervening vegetation, except when viewed from a larger (higher) vehicle or when stopped on the bridge and looking directly up river.

On page 3-94:

3.9.1.3 Imnaha Subbasin

The Imnaha River watershed originates in the Wallowa Mountains with most of the watershed located in the pristine Eagle Cap Wilderness. The Imnaha River is a tributary of the Snake River and is designated Wild and Scenic. Steep canyon walls of layered basalt rim rock with scattered stands of conifers, riparian streamside vegetation and grassy slopes of native bunch grasses characterize the deep river canyon in lower reaches (*e.g.*, the ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site).

Many small creeks flow into the river from the ridge to the east dividing the Imnaha River and Hells Canyon. The Upper Imnaha River Road parallels the river for much of its length and a 230kV-transmission line follows the river in the vicinity of the proposed ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site and Imnaha Satellite Facility sites.

~~**Imnaha Final Rearing Facility**~~ **Acrow Panel Bridge Site** — Located approximately five miles south of the town of Imnaha, the ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site ~~site~~ (Figure 2-6) is situated on the west bank of the Imnaha River. This ~~ten-acre~~ site lies between the river and the base of steep basalt canyon walls that rise to elevations of over 6,000 feet. Native grasslands predominate on the open slopes adjacent to the bridge and pockets of forest and riparian vegetation are found along the river. Scattered rural residences, ranch buildings, and cleared pasture are found along the road north and south of the site. Photos 13 through 16 show views of the site (Figure 3.9-4).

The ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site ~~site primarily occupies~~ is adjacent to a large pasture of introduced weedy forbs situated at an elevation of about 2,000 feet. A narrow band of dense mature riparian vegetation, including willows and shrubs, lines the riverbank on the site (Photos 14 and 15). Site access is via the Upper Imnaha River Road ~~and across a private bridge~~. As shown in Photos 13 and 16, a non-continuous mix of riparian vegetation and conifers is found along the roadway. The site is currently undeveloped except for ~~a steel~~ the bridge ~~across the river, primitive access road, irrigation ditch and orchard~~. A rural ranch residence is located ~~across the river~~ east of the site. Photo 16 shows the view looking north from this residence. Partially screened foreground views of the ~~site~~ bridge are available from places along the adjacent Upper Imnaha River Road. The number of potentially affected viewers is low due to light traffic volumes, the speed of travel past the area, and the attraction of other scenic features.

On page 3-97:

3.9.1.4 Public Plans and Policies Pertinent to Aesthetics

The Land Use, Recreation and Transportation section of this EIS (Section 3.10) identifies the various land use plans or policies that are applicable to the Proposed Action. As outlined in that section, the Lookingglass Hatchery is within the area covered by Union County's land use plans. The other four sites are within the area covered by Wallowa County's land use plans. The Imnaha Satellite Facility is exempt from county regulations because it is a federal site. The two Lostine River sites and the ~~Imnaha Final Rearing Facility site~~ Acrow Panel Bridge Site may be reviewed by Wallowa County's Natural Resources Technical Advisory Committee (Black 2002).

Two of the sites, the Imnaha Satellite Facility and the ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site, are situated along the Imnaha River Wild and Scenic River corridor. The Imnaha Satellite Facility is located on land administered by the Wallowa-Whitman National Forest within the HCNRA. The ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site, while on private property, is located near Forest Service land (also within the HCNRA).

On page 3-98:

~~**Imnaha Final Rearing Facility**~~ **Acrow Panel Bridge Site** — In addition to the policies summarized for the two Lostine sites, the Timber Grazing designation also applies to the ~~Imnaha Final Rearing Facility s~~ Acrow Panel Bridge Site. Siting requirements for Timber Grazing development include minimum setbacks from adjoining properties, clustering near or among existing structures and siting buildings close to existing roads (Wallowa County 1988b).

On page 3-99 (list following third paragraph):

1.) Lostine Adult Collection Facility – View from Lostine River Road (Figure 3.9-6).
2.) Lostine River Hatchery – View from Granger Street (Figure 3.9-7).
3.) Lostine River Hatchery Intake – View from the Lostine River Road Bridge (Figure 3.9-8).
4.) ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site~~–~~ View from the Upper Imnaha River Road (Figure ~~3.9-9~~ 2-2, Final EIS).
5.) Imnaha Satellite Facility – View from the Upper Imnaha River Road (Figure 3.9-10).

3.9.3.1 Lookingglass Hatchery

Changes in the appearance of the Lookingglass Hatchery site (Figure 2-2) would be within the existing hatchery administrative site. ~~Many of t~~These modifications would involve changes to the interior of existing structures, interior equipment and the facility's electrical system. ~~The proposed modifications that would affect the site's outward appearance include a proposed 6-bay garage building, minor modifications to the existing fish production building, and the addition of three new raceways.~~ Minor amounts of excavation ~~w~~ could occur in conjunction with construction.

On page 3-105:

3.9.3.2 Lostine Adult Collection Facility

Changes in the appearance of the Lostine Adult Collection Facility site (Figure 2-3) would include partial removal of the existing concrete fish ladder and replacement with a new concrete fish ladder and weir structure. Riprap would also be installed on both sides of the riverbank south (upstream) of the new facility. The existing bridge would be replaced with the bridge removed from the Acrow Panel Bridge Site. Grading and vegetation removal would occur at the construction staging area and along the riverbank in the vicinity of the fish ladder and bridge. Figure 3.9-6 shows a "before" and an "after" view of the Lostine Adult Collection Facility site as seen from the Lostine River Road.

On page 3-105 (last paragraph):

The intake would include a new concrete fish ladder and intake structure topped with a small wood-sided building. A concrete weir structure would be constructed across the river at this location. During some periods the weir would be in a more noticeable raised position with water spilling over the top and a pool of water created upstream. The simulation also shows the removal of a small group of conifer trees on the riverbank. The simulation view depicted in Figure 3.9-8 would be seen by northbound roadway travelers for a few seconds at the river crossing. Except for a relatively brief glimpse, southbound travelers would not generally see the intake. The intake facilities would be visible to those stopped on the bridge (in the roadway) and looking upriver.

Existing view from Imnaha River Road looking south

Visual simulation of Acrow Panel Bridge Site (after bridge removed)

ENVIRONMENTAL VISION and Environmental Science Associates

Figure 2-2
Acrow Panel Bridge Site

On page 3-106:

3.9.3.4 ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site

The ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site (Figure 2-6) would include removal of the existing steel panel bridge and associated bridge abutments.~~three new buildings—a storage/shop building, a single-family residence, and a bunkhouse. These buildings would be wood-sided and located as far from the river as possible within the relatively level portion of the site. Additional facility components would include ten concrete raceways (long rectangular ponds), a concrete intake structure and a concrete outfall, and a cleaning waste basin. The existing access bridge across the Imnaha River would be relocated about 200 feet upstream. Project construction would involve clearing about six acres of pasture land and filling the northern section of the site up to three feet to raise the new facilities above the 100-year flood level. Most of the riparian vegetation would be retained and riparian vegetation would be replanted in the area where the existing bridge would be removed and where additional screening is desired.~~

Figure 3.9-9 shows "before" ~~and "after"~~ views of the ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge S~~s~~ite as seen from Imnaha River Road looking south. The "after" view is shown in Figure 2-2 of the Final EIS, which replaces the view in Figure 3.9-9 of the Draft EIS. As shown in the visual simulation, the surrounding landscape would remain unchanged except for the absence of the bridge.~~the storage building, fill bank, cleaning waste basin and relocation of the existing bridge would be partially visible from this viewpoint. The new facilities would generally be sited within the existing pasture and located to take advantage of screening provided by existing large woody vegetation. Due to vegetation screening, the facilities would be visible to the public intermittently and for a brief duration from limited sections of the roadway. The relocated bridge would be visible from the road and would be similar to the existing bridge in appearance and degree of visibility~~.

Although the site is located within a Wild and Scenic River corridor with a "retention" VQO, the designation does not apply to privately owned lands (U.S. Forest Service 1993a). However, bridge and abutment removal would be consistent with the "retention" VQO and enhance the visual quality of the area. ~~most of the on-site screening vegetation is being retained along the Imnaha River and an informal planting of native trees and shrubs would be strategically planted at the site, along the south side of the Imnaha River Road to screen facilities from roadway views. The buildings would exhibit a simple style, consistent with other buildings in the vicinity (*i.e.*, not starkly different). Exterior colors and materials would be chosen to blend with the surrounding natural landscape. All lighting would be directed on-site. Outdoor lighting would generally be directed downward.~~ No inconsistencies with the Wallow County Comprehensive Land Use Plan relative to visual quality are apparent.~~ Adherence to Wallowa County Land Development Ordinance Development Standards relative to visual concerns would be controlled by building permits.~~

On pages 3-106 – 3-107:

3.9.3.5 Imnaha Satellite Facility

The Imnaha Satellite Facility (Figure 2-7) modifications would include installing a new fish barrier across the river to replace an existing diversion weir, ~~installing a new~~ improving the existing fish ladder ~~next to the existing fish ladder~~, enlarging the existing fish holding and trapping areas, constructing a new ~~settling basin~~ rock sluice, and modifying the existing intake structure. ~~The existing spawning shelter would also be enlarged to accommodate a new incubation room. New powerlines would be buried in the Imnaha River Road.~~

Figure 3.9-10 shows a "before" and an "after" view of the Imnaha Satellite Facility site as seen from Imnaha River Road. As shown in the simulation, ~~the new fish ladder and addition to the spawning shelter~~ project work would be apparent but not particularly noticeable from the roadway. These effects would only be visible to the public from limited places along Imnaha River Road immediately adjacent to the site and from the visitor parking area. In general, as seen by the public, the facility's appearance with proposed changes would be very similar to its current appearance, except during and immediately after construction. Given the site's location within a Wild and Scenic River corridor and within a National Forest area with "retention" VQOs, the anticipated visual effects could represent an adverse visual effect. However, because views of the facility that would occur after that Proposed Action would not be substantially different from existing views, and because the existing facility is somewhat of a public attraction (it is open to visitors), the amount of change in visual quality is expected to be minor.

On pages 3-109 – 3-110:

3.10.1.4 ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site

The proposed ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge S~~s~~ite (Figure 2-6) is located about five miles south (upstream) of the town of Imnaha, Oregon. Joseph, Oregon is the closest city and is located approximately 40 miles away. ~~The proposed site is privately owned pasture, consisting of a large meadow located between steep canyon walls to the west and the Imnaha River to the east. Evidence of an old homestead is apparent on the south end of the meadow.~~ Mature willows and shrubs grow along the riverbank. The ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge S~~s~~ite is located within both the Imnaha Wild and Scenic River corridor (Section 3.7 of this EIS) and the HCNRA. However, the proposed site is private property. It is not available for public access or recreation use and does not appear to be used informally.

The Wallowa County Comprehensive Land Use Plan (Wallowa County 1988a), as outlined in Section 3.10.1.2, provides guidelines for facility development at the ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site. More specific guidance is provided by the Wallowa County Land Development Ordinance (Wallowa County 1988b).

The ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site and surrounding lands are zoned a combination of EFU and Timberland-Grazing or T/G (Jones 2002, personal communication). The EFU zone provides areas for continuation of existing commercial agricultural activities. The EFU zone only allows those new uses that are compatible with agricultural activities. ~~The propagation, cultivation, maintenance, and harvesting of aquatic species are conditionally permitted pursuant to the County's Public Hearing Review process.~~ The T/G zone consists of areas for commercial farm and forest activities and permits the establishment of new uses that are compatible with agricultural and forest activities. ~~Fish hatcheries and associated residences are permitted within the T/G zone.~~

The site is accessed via the Upper Imnaha River Road (County Road 551)~~ and a steel panel bridge across the river~~. The Upper Imnaha River Road parallels the river most of the way to the Imnaha Satellite Facility, becoming Forest Service Road 3955. The Upper Imnaha River Road is mostly unpaved, but in generally good condition. Traffic volumes are low. The road mainly provides local access to scattered ranches and residences and some access for hiking, camping, horseback riding and fishing within the Wallowa-Whitman National Forest, including access to HCNRA, Hells Canyon Wilderness, and other destinations. Trucks transporting livestock and ranch supplies are not uncommon.

On page 3-111 (sixth full paragraph):

The Proposed Action would affect existing roadways and traffic levels by temporarily increasing traffic during construction and slightly increasing traffic once the Lostine Adult Construction Facility becomes operational. The facility would see limited, seasonal use consistent with surrounding uses. Given the low daily traffic volumes in the vicinity of the site, the short duration of construction, and the low numbers of trips related to operations, the Proposed Action would cause only limited transportation impacts. The facility would improve access for the property owner, by replacing the bridge and providing parking and a turnaround. The Acrow panel bridge would be easily transported on County roads in manageable panels from the Imnaha River site. No special traffic provisions would be necessary.

On page 3-112 (second full paragraph):

The Proposed Action would affect existing roadways and traffic levels by temporarily increasing traffic during construction and slightly increasing traffic once the Lostine River Hatchery becomes operational. The Lostine River Hatchery would generate traffic from the on-site residents, one local employee and a weekly supply trip. Four full-time and two temporary workers would be employed at the Lostine River Hatchery (Zollman 2003, personal communication). For about three weeks in January, up to ~~five~~ eight additional round-trips per day would be generated by four to eight temporary workers hired to mark fish at the hatchery. Up to eight round trips are anticipated during normal hatchery operations with an additional 10-20 trips during special events such as repair work, smolt transfer, tagging, etc. (Zollman 2003, personal communication). The project includes watering Granger Road as necessary to reduce dust and paving the road following construction, which would permanently reduce dust and enhance local residential access. Section 3.12.3 of this EIS discusses potential air quality effects. Given the low daily traffic volumes in the vicinity of the site, the short duration of construction, the low numbers of trips related to operations, and the planned road improvements, the Proposed Action would cause only limited transportation impacts.

On page 3-112:

3.10.3.4 ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site

~~The proposed Imnaha Final Rearing Facility would be a conditionally permitted land use under the Wallowa County zoning regulations and would be subject to the County's Hearing Review process. The proposed facility would be generally compatible with surrounding agricultural and residential uses and the adjacent Upper Imnaha River Road. The facility would be a new land use at this location and would convert pasture along the river to fish production. Once operational, the level of activity at the facility would be limited and compatible with the residence and road across the river. Much of the facility would be screened from view by existing riparian vegetation, which would be retained. Design considerations discussed under Section 3.9 of this EIS would enhance compatibility and maintain visual integrity.~~

The ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site is not available for public recreation use and does not appear to be used informally. The proposed ~~facility would be~~ is located on private land within the Wild and Scenic River Corridor, which is designated for recreation. The provisions of the Imnaha River Wild and Scenic River Management Plan serve only as guidelines for private property (U.S. Forest Service 1993a). Section 3.7.3 of this EIS provides additional discussion of potential impacts to Wild and Scenic Rivers. Over the long run, the Proposed Action of bridge removal would ~~potentially enhance~~ have limited effect on recreational opportunities ~~if chinook stocks were recovered sufficiently to enhance viewing and salmon fishing~~ although removal of bridge abutments may have a slightly beneficial effect on the river channel.

The Proposed Action would affect existing roadways and traffic levels by temporarily increasing traffic during construction.~~and slightly increasing traffic once the Imnaha Final Rearing Facility becomes operational. The Imnaha Final Rearing Facility would generate a few daily trips associated with the residence and bunkhouse, but the number of trips would be similar to those generated by nearby residential and agricultural uses. Potential traffic hazards at the Imnaha Final Rearing Facility would be addressed by relocating the bridge and constructing a turning lane on the Upper Imnaha River Road to increase sight distance, allow passing and accommodate a wider turning radius for fish hauling trucks accessing the site.~~ The Acrow panel bridge would be easily transported on County roads in manageable panels from the site to either the Lostine Adult Collection Facility or other approved site. No special traffic provisions would be necessary. Given the low daily traffic volumes in the vicinity of the site~~,~~ and the short duration of construction, ~~the low numbers of trips related to operations, and the planned road and bridge improvements,~~ the Proposed Action would cause only limited transportation impacts.

On page 3-113:

3.10.3.5 Imnaha Satellite Facility

The existing Imnaha Satellite Facility is located on Forest Service land, within the boundaries of the Wallowa-Whitman National Forest and is subject to the goals and policies of the Forest Plan, the HCNRA Comprehensive Management Plan Draft EIS (U.S. Forest Service 1999), and the Imnaha River Wild and Scenic River Management Plan (U.S. Forest Service 1993a). The existing facility operates under a Special Use Permit from the Forest Service, which would be amended to allow the modifications in a manner consistent with the Forest Plan. ~~A separate Special Use Permit would be required for the new powerline that would run underground about six miles along the Upper Imnaha River Road.~~

On page 3-120 (first full paragraph):

The proposed ~~Imnaha Final Rearing Facility bridge~~ Acrow Panel Bridge Site is about 300 feet from the nearest residence. ~~The facility residence and a shop would be about 500 feet and 750 feet, respectfully, from this residence and separated from the residence by the Upper Imnaha River Road and the Imnaha River.~~ Road and river noise and some nearby farming and ranching activities are the noises typical of this area.

On page 3-121:

3.14.1 Affected Environment

The proposed new facilities and facility improvements are located in rural areas of Union and Wallowa Counties, having enhanced 911 services for dispatch of emergency response for fire, police, ambulance and other emergency services. The Lookingglass Hatchery and Imnaha Satellite Facility are both outside of local, rural fire districts and dispatch of nearest available fire-fighting forces would be coordinated through the Northeast Oregon Interagency Fire Center near La Grande. Emergency fire services for the Lostine Adult Collection Facility, Lostine River Hatchery and the ~~Imnaha Final Rearing Facility~~ Acrow Panel Bridge Site would be provided by the nearest Rural Fire District, or coordinated through the Interagency Fire Center if local forces were unable to respond.

On page 3-122 (fifth and sixth paragraphs):

The Proposed Action would permanently alter less than about 10 acres of land in the region by adding facilities, roads, pipelines and various impervious surfaces. The Proposed Action would result in the irretrievable loss of about ~~15,000 to 20,000~~ 14,000 to 21,000 square feet of existing wetlands at the Lostine River Hatchery and the Lostine Adult Collection Facility. These are irretrievable losses rather than irreversible since these wetlands could be restored in the future. Similarly, the Proposed Action would result in some initial irretrievable loss of habitat at each site. These are irretrievable losses rather than irreversible since most lost habitat would be restored over time through replanting and regrowth of vegetation.

The Proposed Action would result in a small amount~~s~~ of land irretrievably lost to livestock grazing at the Lostine River Hatchery ~~and the Imnaha Final Rearing Facility~~. This is an ~~These would be~~ irretrievable rather than irreversible loss~~es~~ because changes in management direction or the use of ~~facilities~~ this facility could allow livestock grazing in the future at ~~these~~ this site~~s~~.

On page 3-123 (second paragraph):

Similarly, the nature of hatchery operations often involves diversions of water from nearby rivers or streams. The Proposed Action's operations would require diversion of water from the Lostine and Imnaha Rivers at the Lostine River Hatchery~~, Imnaha Final Rearing Facility,~~ and Imnaha Satellite Facility sites. Generally, these localized and temporary water diversions would have only minor impacts on river flows. The Proposed Action includes strategies to pump and replace diverted water at the Lostine River Hatchery under extremely low flow conditions. However, during extremely dry or cold periods the diversion could have adverse temporary impacts to flows and potentially to some individual fish in the diverted river reaches. These are adverse impacts that cannot be avoided.

2.4 Revisions to Chapter 4 of Draft EIS

On page 4-3 (seventh paragraph):

At the Lostine Adult Collection Facility, proposed clearing, grading and filling for the fish ladder, access driveway and parking area would cause a net loss of about ~~12,000 to 15,000~~ 11,000 to 16,000 square feet of wetlands. Long-term, indirect impacts may also occur as a result of potential changes to the hydrologic regime of the site due to levee construction and proposed french drains. These impacts are not currently quantifiable, but would involve changes to plant composition (resulting from changes to the wetland water supply.

On page 4-6, add new text.

4.7.8 Consultation and Coordination with Indian Tribal Governments

Executive Order 13175 sets forth principles and criteria for federal agencies when formulating and implementing policies that have tribal implications, including respecting tribal self-government and sovereignty, and having processes to ensure meaningful and timely input by tribal officials. As the lead federal agency involved in this proposed project, BPA has routinely met with representatives of the NPT and CTUIR since project inception to assure that tribal treaty rights and interests were acknowledged, discussed, and incorporated into the project. This has been done primarily, through BPA and tribal

meetings and activities as NEOH co-managers. As co-managers, the NPT and CTUIR are leaders and decision-makers in setting project direction.

2.5 Revisions to Chapter 5 of Draft EIS

On page 5-2:

Reviewers

Beasley, Chris. Fisheries Scientist/FishPro-HDR.

McMillen, Mort. Design Engineer/FishPro-HDR.

2.6 Revisions to Chapter 6 of Draft EIS

On pages 6-2 – 6-3:

Acrow Panel Bridge – A type (brand name) of bridge made of steel panels.

Co-managers – The Nez Perce Tribe, the Confederated Tribes of the Umatilla Indian Reservation, and the Oregon Department of Fish and Wildlife who, together, manage the spring/summer chinook conservation and recovery program in Northeast Oregon.

2.7 Revisions to Chapter 7 of Draft EIS

On pages 7-1 – 7-10:

Ashe, B. 2004. Nez Perce Tribe. Personal communication (electronic mail to Jan Mulder, Environmental Science Associates, dated June 14, 2004).

Beasley, C. 2004. Fisheries Scientist, FishPro, Inc. Personal communication (electronic mail to Mickey Carter, BPA, dated April 15, 2004).

Fish/Pro/HDR. 2004a. Northeast Oregon Hatchery Program – Grande Ronde-Imnaha Spring Chinook Hatchery Project Biological Assessment. May 2004.

FishPro/HDR. 2004b. Northeast Oregon Hatchery Project -- Step 2 Submittal Revised Preliminary Design Report. April 2004.

Grassel, S. 2003. WSRA Determination Summary for Imnaha and Lostine Facilities – NEOH Core Team Responses, November 17, 2003.

Grassel, S. 2004. Nez Perce Tribe. Personal communication (electronic mails to Jan Mulder, Environmental Science Associates, dated May 18, 2004).

Hesse, R.A. and J.R. Harbeck. 2004. Monitoring and Evaluation Plan for Northeast Oregon Hatchery Imnaha and Grande Ronde Subbasin Spring Chinook Salmon -- Final Draft for ISRP Review. March, 2004.

Kuck, T. 2003. Hydrologist, Baker Field Office, Bureau of Land Management. Personal communication (electronic mail to Jan Mulder, Environmental Science Associates, dated December 17, 2003).

McMillen, M. 2003. Design Engineer, FishPro/HDR. Personal communication (electronic mail to Shaun Grassel, Nez Perce Tribe, dated July 31, 2003).

McMillen, M. 2004. Design Engineer, FishPro/HDR. Personal communication (telephone conversation with Jan Mulder, Environmental Science Associates on May 17, 2004).

Montgomery Watson. 2001. Lostine Site Production Well Supplemental Installation and Testing. February 2001.

R2 Resources (R2 Resource Consultants). 1998. Lostine River Instream Flow Study Final Report. Prepared for the Nez Perce Tribe and the Oregon Department of Fish and Game. R2 Resource Consultants, Inc., Redmond, WA.

R2 Resources (R2 Resource Consultants). 2002. Supplemental Lostine River Instream Flow Study Technical Memorandum. Prepared for Montgomery Watson Harza. R2 Resource Consultants, Inc., Redmond, WA.

Sancovich, P. 2004. Fisheries Research Biologist, USFWS. Personal communication (conversation with Becky Holloway, Biologist, FishPro/HDR. on April 13, 2004).

Vergari, C. 2004. Oregon Parks and Recreation Department. Personal communication (electronic mail to Jan Mulder, Environmental Science Associates, dated January 21, 2004).

Zimmerman, B. 2004. CTUIR. Personal communication (electronic mail to and telephone conversation with Jan Mulder, Environmental Science Associates on May 18, 2004).

Zollman, R. 2003. Aquaculture Manager, Nez Perce Tribe. Personal communication (electronic mail to Shaun Grassel, Nez Perce Tribe, dated September 12, 2003).

Chapter 3: Comments on Draft EIS and Responses

In May 2003, BPA sent the Draft EIS to agencies, groups, individuals, and libraries for public review and comment on the Proposed Action and alternatives. BPA held four public meetings during the 45 day public review period, which ended on July 7, 2003. These public meetings were held in La Grande, Oregon (June 9, 2003); Enterprise, Oregon (June 10, 2003); Imnaha, Oregon (June 11, 2003); and Lostine, Oregon (June 12, 2003).

BPA recorded and numbered all written correspondence, including letters, comment sheets, electronic mail, and forms that were received during the public review period. BPA recorded and numbered all letters and other comments in the order in which they were received, starting with 001 and ending with 020. Within each comment letter, or record, BPA assigned a separate code (01, 02, 03, etc.) to each comment within the record to facilitate development and tracking of responses. This chapter contains the coded comment documents, presented in order of receipt, followed by responses to those comments.

The information presented in this Final EIS was developed, in part, as a result of these letters and comments.

JUN 1 3 2003

Kuehn, Ginny - DM-7

From: Fred Brockman [fred.brockman@gte.net]
Sent: Thursday, June 12, 2003 10:42 PM
To: BPA Public Involvement
Subject: Grande Ronde and Imnaha Spring Chinook Project

My wife and I are writing to express our concerns about the Grande Ronde and Imnaha Spring Chinook Project. We own property in the High Lostine subdivision, just above the location for the planned Lostine Hatchery. I have printed and read the draft EIS and the NE Oregon Hatchery Project, Spring Chinook Master Plan. I am responding by e-mail because I was not able to attend today's meeting in the Lower Lostine subdivision due to work commitments that interfered with my plan to attend the meeting. I am a supporter of the Nez Perce Tribe and a supporter of enhancing salmon in Wallowa County and the Northwest but have two grave concerns that I do not see addressed in these two documents.

1. Has the hydrology of the area been characterized to show removal of water by the Hatchery wells is from a shallower aquifer unconnected to the High Lostine subdivision well (and to the Lower Lostine subdivision). We have a groundwater permit from the State. Who will insure the huge amounts of groundwater that is pumped (relative to what we pump) will not impact the High Lostine's well? The Tribes, the State ODFW, federal agencies? Page 2-10 of the draft EIS says "Three new groundwater wells would provide up to 1200 gallons per minute to the facility". Page 3-71 of the same document says Production can apparently be sustained for long-term pumping without affecting nearby domestic wells." My hydrology PhD friends say this latter statement is misleading to possibly blatantly false unless a tracer test over weeks to months was performed concomitant with pumping of the new wells. Second, a pump test alone of a few hours or days will NOT say anything about the potential for long-term pumping to impact nearby dometic wells, unless the new wells and the domestic wells are intimately connected. I am strongly opposed to the Hatchery unless we have written and legally accepted assurance from the Nez Perce, the State, or BPA that either (a) provides strong scientific proof that our water source is not connected to or influence by withdrawals from the new wells, or (b) protects the productivity of our water source or agrees to replace it if it is substantially degraded. I am of the opinion that the tribes and agencies are being non-responsible and exploitive if they do not address this issue. 001-01
2. I am sure there are scientific reasons that this particular location on the South Fork was selected as the best location. However, I question the extent to which the sociological and public relation considerations entered the equation. I suspect noone or almost noone wants the hatchery in their backyard. But it is obvious that a location as little as one-half to ¾ mile further downriver would greatly minimize the number of directly affected people. It would also greatly minimize the number of visitors and local people and that have to see the weir, pond, intake structure, and fish ladder that will be in the direct foreground of the view from the Lostine River bridge. The paragraph at the 001-02

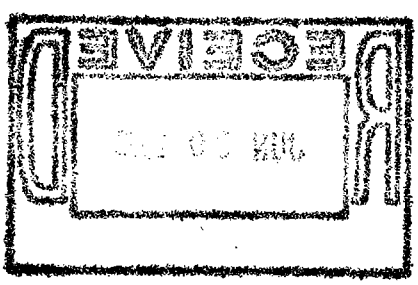
bottom of page 3-105 of the draft EIS unfairly minimizes, in our view, the impact of the weir, pond, intake structure, and fish ladder on the river view from the bridge. Cars travel slowly over this bridge, people look upriver and downriver at the views, and sometimes stop to do so. While northbound travelers may see the structures "for a few seconds at the river crossing", a few seconds is all it takes to make a lasting impression and remembrance. Second, I disagree that "Except for a relatively brief glimpse, southbound travelers would not generally see the intake [structure]". Most would almost certainly see the structure and those that look at the river will certainly see the weir, the pond, and the fish ladder. Again, a glimpse it all it takes to make a lasting impression and remembrance. Wouldn't it make sense to have a somewhat less optimal scientifically-selected location that would greatly mitigate the number of directly affected people, and preserve the view of the river that only 1 mile further upstream is a Wild and Scenic River? Even though it has no such designation at the bridge, visitors want to see a river that looks like a Wild and Scenic River when they know it is designated as such one mile further upriver. In summary I see no evidence that sociological and public relation considerations for siting the hatchery entered the equation, and I strongly feel they should. 001-02 (con't.)

Until these concerns are addressed to my satisfaction I will not support the Lostine Hatchery. I understand these concerns may have been addressed and I do not have the documents or reports; please send me the documents or reports if they have been addressed. 001-03

Sincerely, Fred and Donna Brockman

1805 West 37th Avenue

Kennewick, WA 99337



001-01

As referenced in the Draft EIS (Section 3.6.1.1), several groundwater wells were drilled at the proposed Lostine Hatchery site – the Lostine North Well, Lostine South Well, Primary Production Well, and South Observation Well. Information from these wells, and other sources, was used to characterize the area's geology, hydrogeology, and aquifer characteristics through aquifer testing. The results of aquifer testing were summarized in the Draft EIS and presented in detail in two associated technical reports prepared by Montgomery Watson (Report of Lostine Site Production Wells Installation and Testing, February 1999, and Lostine Site Production Wells Supplemental Installation and Testing, February 2001). The purpose of the Montgomery Watson studies was to identify a sustainable supply of good quality, disease-free water for the proposed hatchery.

To determine well production potential and to measure the effect of proposed hatchery groundwater withdrawals, Montgomery Watson conducted aquifer pumping tests in 1999 and 2000/2001. Both sets of tests showed consistent results, although slightly different groups of wells were used. Both sets of tests consisted of standard, step-rate tests (pumping at different rates for short periods of time) to evaluate well efficiency and capacity and to determine optimal pumping rates for the longer, constant-rate tests. In January 1999, the Lostine South Well was pumped at a constant rate of about 400 gpm for 70 hours while water levels were measured in the Lostine South Well and in the Hayward's well in the Lostine subdivision (about 1,500 feet south of the Lostine South Well). Maximum drawdown measured in the Hayward Well was a few inches (0.20 feet) and the well water level recovered quickly after pumping of the Lostine South Well stopped (97 percent recovery in 160 minutes). Montgomery Watson calculated a "worse case" drawdown of about 0.6 feet in the Hayward Well after 2 years of continuous 400 gpm pumping of the Lostine South Well ("worse case" because continuous pumping of site wells is not proposed).

In January 2001, Montgomery Watson conducted a 25-hour constant-rate test in the Lostine North Well, and a 14-day constant-rate test in the hatchery site Primary Production Well. For each of the constant-rate tests, water levels were monitored in three other wells including the South Observation Well (installed near the Lostine subdivision). As in the 1999 test, drawdown in the observation well was minimal (a maximum of about 6 inches) and the water level recovered quickly after pumping stopped. Montgomery Watson calculated that, if all three site supply wells were pumped simultaneously at optimal flow rates, the combined drawdown in the nearest domestic well would be about 1.5 feet after 10 weeks of continuous pumping and approximately 2 feet after 2 years of continuous pumping (for comparison, measurements showed approximately 112 feet of standing water in the Hayward well). Continuous pumping was used to conservatively estimate drawdown because simultaneous, continuous pumping of the three wells would be required for only 2 to 3 months per year under normal hatchery operations and would typically occur during the months of May and June when river levels would be at their highest (FishPro/HDR 2004b), rather than in January when the aquifer pumping tests were conducted and river levels are relatively low. Montgomery Watson concluded that desired groundwater production levels for the hatchery could be sustained and regulated without affecting production in nearby domestic wells.

001-02

As stated in the Draft EIS (Section 2.3), Section 1.8 of the Final EIS, and the NEOH Master Plan (Ashe et al. 2000), several other potential sites in the Imnaha and Grande Ronde Subbasins were evaluated, but dropped from further consideration due to a variety of reasons, including inadequate water supply or quality, lack of available space, inadequate power supply, and/or unavailability for acquisition. One suitable site was identified on the Lostine River, downstream of the proposed Lostine River Hatchery site. This site, at the Strathearn Ranch (Grande Ronde Subbasin site 22, Draft EIS, Table 1-1), met the project requirements, but the owner ultimately decided not to make the property available. Project team members also investigated, and eliminated from further consideration, possible sites on the west side of the Lostine River. The one feasible west-side site was dropped from further consideration because it would require substantially more site development (road improvements, bridge replacement, a powerline across the river, and extensive site clearing and grading); have a potentially

greater impact to adjacent landowners (immediately adjacent to one residence and requiring several other residents to drive through hatchery facilities to access their property); and result in more disruption and potential impact to the natural environment (McMillen 2003, personal communication).

Section 3.9.3.3 of the Draft EIS discusses the consequences of the Proposed Action relative to visual quality issues at the Lostine River Hatchery. The intake structure would be visible to northbound travelers on the Lostine River Road for a few seconds at the river crossing. Southbound travelers may catch a glimpse of the intake structure, but for the most part, it would be screened by existing vegetation. These proposed structures would be located about 1 mile below the portion of the Lostine River designated as a Wild and Scenic River.

001-03

The file of supporting documentation for this project is quite extensive and includes thousands of pages and about 150 different documents and records (refer to the references cited in the Draft EIS, Chapter 7, and Final EIS, Chapter 2). Although summaries of the results and findings of most of these materials are incorporated into this EIS, all materials cited are available to the public through BPA. To acquire any of these documents, please contact BPA to request specific materials.

Wallowa County Public Works
619 Marr Pond Lane
Enterprise, Oregon 97828

JUN 2 0 2003

Solid Waste Department | Road Department | Vegetation Department | Parks Department

Russ McMartin
Director of Public Works

Telephone 541-426-3332
Fax 541-426-2074

Subject: Grande Ronde – Imnaha Spring Chinook Hatchery Project
Draft Environmental Impact Statement

Questions:

I. Lostine River Hatchery

A. Burying a 24-inch and 18-inch pipeline alongside Lostine River Road (County Road 551)

1. Minimum depth of the top of pipe needs to be 48 inches below the bar pit.
2. Will this pipe be in county right way?
3. Will the pipeline disturb the existing road?
4. What is your plan to maintain traffic on the Lostine River Road during construction of the pipeline?
5. The hatchery will pay for any future road repairs due to the pipe line. 002-01
6. When the pipeline crosses the county road the asphalt will be damaged. After compaction and settling a full-width asphalt overlay patch will be put on to return the road to a smooth ride condition.
7. The edge of septic drain field is on the old channel gravel bar and within 100 ft. of the Lostine River. Will DEQ issue a permit for a drain field so close to the river?
8. May require our own construction inspector and compensation.

II. Imnaha Final Rearing Facility

A. Septic system below the berm at approximately river level. Will DEQ issue a septic permit for this? 002-02

B. House pasture well

1. Will this pipe be in the county right of way? Currently there is a telephone and fiber optic line in the right of way.
2. How will you maintain traffic on the county road during construction?
3. Minimum depth of the top of pipe will be 48 inches below the bar pit. 002-03
4. The hatchery will pay for any future road repairs due to the pipe line.
5. Will need an easement permit from the hatchery to the county road.
6. Need easement permit for new power line crossing county road.

7. County turn out area - design and construction to be approved by Director of Public Works.
8. May required our own construction inspector and compensation.

002-03 (con't.)

III. Imnaha Satellite Facility

A. Bringing a buried power line about six miles from substation.

1. County Road 727 extends to the Imnaha River Woods intersection.
2. Telephone and fiber optic lines already exist in right of way.
3. How will traffic be maintained?
4. There is about one mile of asphalt paving in this section. How will it be affected?
    a. If a trench is cut the repair will be a full-width overlay.
5. Depth of power line will be 48 inches below the bar pit.
6. Will you put a telephone line in the same trench?
7. Wallowa County and the Forest Service have an agreement that as soon as the Forest Service brings the section of road from Gumboot to Imnaha River Woods up to county standards the county will take over the maintenance of this section.
9. May require our own construction inspector and compensation.
10. Wallowa County has plowed the snow from the Pallette Place to the Imnaha Satellite Facility under a contract

002-04

Russ McMartin

002-01

Comment acknowledged; project infrastructure would be designed and built in compliance with all applicable local, state, and federal rules, regulations, and ordinances and at project cost. Although federal facilities are normally exempt from local standards, the project would be designed and built in accordance with County standards when feasible given project needs and budget. The pipeline would be within an existing County right-of-way and would not impact the traveled surface, except where the pipeline crosses the road. During construction, traffic would be managed by signs and/or flaggers, as needed. Pipeline work may be subject to inspection by the County. The site drain field would be designed and permitted in conformance with applicable local and state standards.

002-02

The Imnaha Final Rearing Facility is no longer proposed for construction (see Section 1.5 in the Final EIS). After further study, the project co-managers devised a way to use the other proposed facilities to accommodate the functions intended for the Imnaha Final Rearing Facility. The activity proposed at this site is limited to removal of an existing Acrow (steel panel) bridge and concrete bridge abutments. The bridge panels would be reinstalled at the Lostine Adult Collection Facility and the concrete bridge abutments would be hauled off-site for disposal.

002-03

See response to 002-02.

002-04

Bringing a buried powerline 6 miles from a substation to the Imnaha Satellite Facility is no longer part of the Northeast Oregon Hatchery Project. Power would continue to be provided by generators housed in existing buildings.

003

JUN 2 0 2003

GRANDE RONDE – IMNAHA SPRING CHINOOK PROJECT DEIS

Please mail your comments by July 7, 2003

COMMENTS:

On the adequacy of the Environmental Impact Statement:

On the merits of the different alternatives:

I live on Granger Road & would like to see the paved road done first, as we live very close to the road and already the dust is very bad. Thank you. D. Loebel

003-01

Preferred ways to mitigate concerns or effects:

Other:

I think Rick Jollman and the different entities that were at this meeting were Great. I thank them for being able to "hold their cool" while they were being attacked by the locals.

003-02

Name Donna Loebel

Address 64855 Granger Rd, Lostine

Phone/E-Mail Address (optional) londie50@hotmail.com

003-01

Granger Road would be paved after construction activities to prolong the life of the paved surface. During construction, dust abatement on Granger Road would be accomplished with frequent watering. If watering should prove ineffective, other means of dust control would be considered.

003-02

Comment acknowledged; thank you. Several other attendees of the Lostine public meeting submitted written comments as well. See below. The issues expressed at the meeting appear to be contained within those written comments, and the project planning team has considered them and attempted to respond to them fairly and objectively.

JUN 2 7 2003

WALLOWA COUNTY PLANNING DEPARTMENT
WALLOWA COUNTY COURTHOUSE
101 S. River St. Rm. B-1
Enterprise, OR 97828
541-426-4543 x24, Fax: 541-426-6046, depplan@co.wallowa.or.us

Comments on BPA's Draft EIS for the Grande Ronde - Imnaha Spring Chinook Hatchery Program

Overall Bonneville has done a good job of listening to the concerns expressed at its neighborhood meetings and has incorporated these concerns into its draft EIS. 004-01

Concerns expressed by the Planning department have been that the hatcheries be good neighbors and keep a low profile. This is especially important with the Lostine facility due to its proximity to Pat's South Fork Subdivision and Lostine River Acres. Both the Lostine and Imnaha Rivers are important County assets.

On page 3-98 the draft EIS addresses Plans and Policies Pertinent to Aesthetics such as protecting rural character and open space. On page 3-120and 2-11 the draft EIS addresses methods to reduce long term noise and noise produced by construction. 004-02

Larger buildings such as dwellings, bunkhouses, shops, etc will be wood sided with metal roofs and will use colors that will blend in with the surroundings. Lights will be non-glare, shielded and directed on site. Tree removal will be minimized. Additional trees will be planted. (pages 2-13, 3-105, 3-106)

And, as required by all Wallowa County Zone Permits, page 4-5 states that all buildings will comply with State Building Codes and all facilities will meet DEQ regulations. Additionally, the facilities will abide by established water rights as administered by the State of Oregon.

The draft EIS also recognizes the process required to permit the facilities in Wallowa County on page 4-4. Whereas the propagation, cultivation, maintenance and harvesting of aquatic species is an outright use in both Exclusive Farm Use and Timber/Grazing, the facilities, including dwellings, must be permitted. As the accessory dwellings called for in the draft EIS are conditional uses and would require a public hearing, Bonneville must apply for and receive conditional land use permit approval. The Planning Commission, at public hearing, will review the entire Wallowa County portion of the project (Lostine and Imnaha). The hearing will be preceded by a review of the project by the Wallowa County Natural Resources Technical Advisory Committee. The draft EIS, WCNRTAC review, and associated comments will be entered into the record. 004-03

cc: Bill Oliver, Planning Director
Mike Hayward, Chairman of the Board of Commissioners
Bruce Dunn, John Williams, Co-chair, Wallowa County Natural Resources Technical Advisory Committee
Mickey Carter, BPA Environmental Protection Specialist
BPA Hatchery file

C:\data\BPAHatcheries\CommentsOnDraftEIS062303.wpd

004-01

Comment acknowledged; thank you. BPA and project co-managers believe that public involvement in the environmental analysis process is crucial for making sound decisions.

004-02

Comment acknowledged; it is the intent of the project co-managers to be good neighbors within the community. The project design and operation would comply with applicable local, state, and federal rules, regulations, and ordinances.

004-03

Project co-managers would seek any applicable permits or approvals from Wallowa County prior to project implementation. Although federal facilities are normally exempt from local standards, the project would be designed and built in accordance with County standards when feasible given project needs and budget.

GRANDE RONDE- IMNAHA SPRING CHINOOK PROJECT DEIS

COMMENTS:

On the adequacy of the Environmental Impact Statement:

A phase out of hatchery operations has not been adequately addressed. The duration of operations should be considered with prevention of genetic bottle necking emphasized. 005-01

Kendrick Moholt
67075 Lostine River Road
Lostine, OR 97857
(541) 569-2350

005-01

As discussed in Section 2.2 of the Final EIS, phase out of the hatchery facilities is not reasonably foreseeable. It is anticipated that spring/summer chinook would be collected yearly for approximately 20 to 25 years, or until adult replacement rates for the naturally spawned population suggest that the population is naturally sustainable (Master Plan, Ashe et al. 2000). The expected duration of the hatchery program would be dependent on changes outside of hatchery operations (i.e., the hatchery program may operate over a longer period of time if other factors limiting population recovery are not mitigated or otherwise controlled, or the hatchery program may operate over a shorter period of time if other limiting factors are reduced). In either case, analysis of hatchery removal would be a programmatic decision, depending on the success of the overall recovery effort, of which the Proposed Action is a component.

As discussed in Section 1.6 of the Draft EIS and Section 1.1 of the Final EIS that describes project scope, programmatic issues, such as management of genetic integrity, are outside the scope of this hatchery facility-related EIS. However, genetic considerations are integrated into the fish production program through measures that would be taken to assure genetic variety of populations, including: collecting broodstock from across the entire returning adult run using a sliding scale that incorporates both wild and hatchery fish as broodstock based on the total number of returning adults; selecting healthy broodstock irrespective of size (i.e. not selecting only the biggest fish); and allowing hatchery broodstock to spawn naturally above the weir, with the resulting offspring considered wild fish.

GRANDE RONDE- IMNAHA SPRING CHINOOK PROJECT DEIS

COMMENTS:

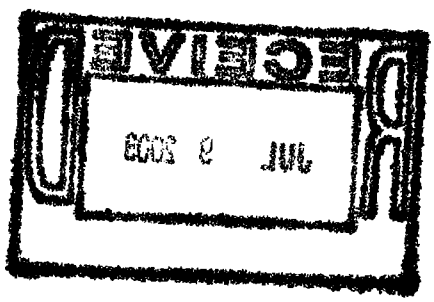
On the adequacy of the Environmental Impact Statement:

Mitigation for the loss of wetlands and riparian vegetation due to the construction of a 300 foot levee along the west bank of the Lostine River at the Lostine Adult Collection Facility has not been adequately addressed. This three to five foot high levee is to be made of rock and soil. 006-01

Sedimentation problem due to adding loose soil to the bank have not been addressed. 006-02

The aesthetic impact of the 300 foot levee is not adequately addressed. A statement on page 3-90 of the DEIS claims traffic on the road is light. To the contrary, this road is the most heavily used access to the Eagle Cap Wilderness Area. It can be assumed that individuals visiting the wilderness area are concerned with the natural aesthetics of the wild and scenic river. 006-03

Kendrick Moholt
67075 Lostine River Road
Lostine, OR 97857
(541) 569-2350



006-01

As described in Sections 4.5.2, 4.5.4 and 4.7.2 of the Draft EIS, the project includes a commitment to conduct formal wetland delineations at the proposed Lostine Adult Collection Facility and the Lostine River Hatchery and to implement any compensatory mitigation based on the outcome of the delineations and applicable regulations. Any necessary mitigation plan(s) would be developed for the loss of wetlands as part of the permitting process through the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act. Areas disturbed by construction, including riparian areas, would be revegetated by native species and managed to prevent the spread of non-native and weed species.

006-02

The potential for site-specific erosion and how to avoid it would be addressed in detailed facility design and erosion and sediment control specifications prepared as part of project construction documents during the final design phase of the project. The project design would include measures to avoid long-term erosion related to the placement of in-water structures as well as temporary, construction-related erosion. Best management practices specified in construction documents would be in accordance with Oregon Department of Transportation's Erosion and Sediment Control Specification 0280. Best management practices would, most likely, be included as conditions of the various permits required for the project. All permit conditions would be followed.

006-03

The text on page 3-90 of the Draft EIS was revised to clarify that the number of potentially affected viewers would be highest during the summer (during periods of the most tourist/recreational use). Although, vegetative screening would also be the greatest during the summer (see Final EIS, Chapter 2.2). Figure 3.9-6 in the Draft EIS shows the existing view from Lostine River Road and a visual simulation of the proposed facilities in the same location. Section 3.9.3.2 (page 3-105) of the Draft EIS explains that several of the new facilities would be screened from public view by the existing vegetation along the roadway and that passing motorists would only have a brief view when traveling northbound. Given the current facilities in the area, and the proposed changes and additions, the project would not substantially alter the area's existing visual character.

GRANDE RONDE – IMNAHA SPRING CHINOOK PROJECT DEIS

JUL 14 2003

Please mail your comments by July 7, 2003

COMMENTS: Lostine River Hatchery

On the adequacy of the Environmental Impact Statement:

~~On the merits of the different alternatives~~:

We are very concerned about the possibility of your wells lowering the water table and therefore loosing the water in our well We need some guarantee that this won't happen. 007-01

~~Preferred ways to mitigate concerns or effects~~:

We are concerned about the erosion problems you say will occure down stream from your dam. In section 3.6.3.3 Lostine River Hatchery 007-02

Other:

You need to aquire a right of way from Ruth Shuman accroks a piece of private property where Granger Rd joins the County Road 007-03

Name Ruth Shuman
Address P.O. Box 96 Lostine, OR 97857
Phone/E-Mail Address (optional)

007-01

As referenced in the Draft EIS (Section 3.6.1.1), several groundwater wells were drilled at the proposed Lostine Hatchery site – the Lostine North Well, Lostine South Well, Primary Production Well, and South Observation Well. Information from these wells, and other sources, was used to characterize the area's geology, hydrogeology, and aquifer characteristics through aquifer testing. The results of aquifer testing were summarized in the Draft EIS and presented in detail in two associated technical reports prepared by Montgomery Watson (Report of Lostine Site Production Wells Installation and Testing, February 1999, and Lostine Site Production Wells Supplemental Installation and Testing, February 2001). The purpose of the Montgomery Watson studies was to identify a sustainable supply of good quality, disease-free water for the proposed hatchery.

To determine well production potential and to measure the effect of proposed hatchery groundwater withdrawals, Montgomery Watson conducted aquifer pumping tests in 1999 and 2000/2001. Both sets of tests showed consistent results, although slightly different groups of wells were used. Both sets of tests consisted of standard, step-rate tests (pumping at different rates for short periods of time) to evaluate well efficiency and capacity and to determine optimal pumping rates for the longer, constant-rate tests. In January 1999, the Lostine South Well was pumped at a constant rate of about 400 gpm for 70 hours while water levels were measured in the Lostine South Well and in the Hayward's well in the Lostine subdivision (about 1,500 feet south of the Lostine South Well). Maximum drawdown measured in the Hayward Well was a few inches (0.20 feet) and the well water level recovered quickly after pumping of the Lostine South Well stopped (97 percent recovery in 160 minutes). Montgomery Watson calculated a "worse case" drawdown of about 0.6 feet in the Hayward Well after 2 years of continuous 400 gpm pumping of the Lostine South Well ("worse case" because continuous pumping of site wells is not proposed).

In January 2001, Montgomery Watson conducted a 25-hour constant-rate test in the Lostine North Well, and a 14-day constant-rate test in the hatchery site Primary Production Well. For each of the constant-rate tests, water levels were monitored in three other wells including the South Observation Well (installed near the Lostine subdivision). As in the 1999 test, drawdown in the observation well was minimal (a maximum of about 6 inches) and the water level recovered quickly after pumping stopped. Montgomery Watson calculated that, if all three site supply wells were pumped simultaneously at optimal flow rates, the combined drawdown in the nearest domestic well would be about 1.5 feet after 10 weeks of continuous pumping and approximately 2 feet after 2 years of continuous pumping (for comparison, measurements showed approximately 112 feet of standing water in the Hayward well). Continuous pumping was used to conservatively estimate drawdown because simultaneous, continuous pumping of the three wells would be required for only 2 to 3 months per year under normal hatchery operations and would typically occur during the months of May and June when river levels would be at their highest (FishPro/HDR 2004b), rather than in January when the aquifer pumping tests were conducted and river levels are relatively low. Montgomery Watson concluded that desired groundwater production levels for the hatchery could be sustained and regulated without affecting production in nearby domestic wells.

007-02

The potential for site-specific erosion and how to avoid it would be addressed in detailed facility design and erosion and sediment control specifications prepared as part of project construction documents during the final design phase of the project. The project design would include measures to avoid long-term erosion related to the placement of in-water structures as well as temporary, construction-related erosion. Some localized and increased bank erosion typically occurs when placing structures in an active river system. Proper project design and construction would reduce this erosion as much as possible. Therefore, project design documents would clearly show proper placement for hatchery structures; define areas of clearing and grubbing; specify locations of silt fences; and provide details for sedimentation ponds, access road preparation and maintenance, and any other permanent or temporary erosion control measures. Best management practices specified in construction documents would be in accordance with Oregon Department of Transportation's Erosion and Sediment Control

Specification 0280. Best management practices would, most likely, be included as conditions of the various permits required for the project. All permit conditions would be followed.

007-03

Thank you for the notification regarding site access. If the project proceeds to final design phase, access rights would be investigated and negotiated as necessary. Permission to access the site across private property would be sought if access via public right-of-way or easement is not possible.

JUL 1 4 2003

GRANDE RONDE – IMNAHA SPRING CHINOOK PROJECT DEIS

Please mail your comments by July 7, 2003

COMMENTS:

On the adequacy of the Environmental Impact Statement:

Impact to local residents has been mismanaged by the report and would have a greater impact than stated due to traffic, noise, dust, danger to animals (our dog was run over by a fish hatchery truck) – These elements would also effect local deer and other wild life – There is also local concern 008-01

On the merits of the different alternatives:

regarding water taken by wells that negatively impact available water to land owners – Someone needs to address why McClain's land has dried out and reassure, with fact, that water availability will not be impacted 008-02

Preferred ways to mitigate concerns or effects:

Also – there are concerns about log jams at the water intake weir + coffer dams 008-03

The size of the water pipe taking water from the river is larger than the pipe to return the water to the river – (one person's concern) 008-04

Other:

We are generally in favor of the hatchery if it will, indeed, return Native Salmon to the river – If the concerns of local residents are addressed openly and honestly than I believe it can be a positive experience – 008-05

Name Christina Geyer + Chris Geyer

Address 64705 Lostine River Rd

Phone/E-Mail Address (optional) ccgeyer@eoni.com

008-01

Sections 3.2 through 3.17 of the Draft EIS describe the anticipated impacts to the natural and built environment as a result of the proposed project, including construction, operation, and cumulative effects on wildlife (Section 3.3), transportation (Section 3.10), air quality (Section 3.12), noise (Section 3.13), and public safety (Section 3.14). Although the proposed Lostine River Hatchery has the greatest potential to affect local residents given its proximity to homes and the current undeveloped nature of the site, it is the intent of the hatchery co-managers to be good neighbors within the community. Therefore, the proposed project includes use of best management practices, activities, and other measures such as shielding facility lights, planting of screening vegetation, controlling site dust, using building materials of colors and types to blend with existing structures, and limiting hours of construction to minimize impacts on people as well as the natural environment (plants, wildlife, water quality, etc.).

Section 3.10.3 of the Draft EIS, as revised for the Final EIS (Section 2.3), includes a discussion of the potential traffic impacts on nearby roads and residents. Traffic would increase at all sites temporarily during construction. At the Lostine River Hatchery, long-term impacts to traffic would be associated with the on-site residences, local employees, supply trips, and fish transport trips. For about 3 weeks in January, five to eight additional round-trips per day would be made by temporary workers employed at the hatchery (Zollman 2003, personnel communication). The number of trips to and from the hatchery and associated impacts on neighbors would be about the same whether the hatchery was located on the proposed site or across the river.

008-02

As referenced in the Draft EIS (Section 3.6.1.1), several groundwater wells were drilled at the proposed Lostine Hatchery site – the Lostine North Well, Lostine South Well, Primary Production Well, and South Observation Well. Information from these wells, and other sources, was used to characterize the area's geology, hydrogeology, and aquifer characteristics through aquifer testing. The results of aquifer testing were summarized in the Draft EIS and presented in detail in two associated technical reports prepared by Montgomery Watson (Report of Lostine Site Production Wells Installation and Testing, February 1999, and Lostine Site Production Wells Supplemental Installation and Testing, February 2001). The purpose of the Montgomery Watson studies was to identify a sustainable supply of good-quality, disease-free water for the proposed hatchery.

Montgomery Watson calculated that, if all three site supply wells were pumped simultaneously at optimal flow rates, the combined drawdown in the nearest domestic well would be about 1.5 feet after 10 weeks of continuous pumping and approximately 2 feet after 2 years of continuous pumping (for comparison, measurements showed approximately 112 feet of standing water in the Hayward well). Continuous pumping was used to conservatively estimate drawdown because simultaneous, continuous pumping of the three wells would be required for only 2 to 3 months per year under normal hatchery operations and would typically occur during the months of May and June when river levels would be at their highest (FishPro/HDR 2004b), rather than in January when the aquifer pumping tests were conducted and river levels are relatively low. Montgomery Watson concluded that desired groundwater production levels for the hatchery could be sustained and regulated without affecting production in nearby domestic wells.

The exact cause of the McClain's land drying out is not known. Contributing factors may include several years of drought and the drainage structures placed in the field directly below the pond, which now drain previously backed-up surface water (water that could have been "feeding" the pond). The three supply wells drilled at the proposed Lostine River Hatchery site (Lostine North Well, Lostine South Well, and the Primary Production Well) have not been pumped since aquifer testing was last performed in January 2001, and it is unlikely that these wells could be associated with any recent changes in surface water or groundwater levels or supply.

Future production from Lostine River Hatchery wells would have some impact on adjacent, hydraulically connected surface and groundwater during periods of pumping (McMillen 2004, personal communication).

However, if this project is approved for funding, the Northeast Oregon Hatchery co-managers would apply for water rights permits from the Oregon Water Resources Department for all surface water and groundwater withdrawals (see Table 4.7-1 in the Draft EIS), a process which includes public review of the application, and possible additional testing and assessment of effects of withdrawals on other nearby water users.

008-03

A log boom would be placed to protect the hatchery intake structure from logs and other debris. The pneumatically-controlled weir would minimize log build up and would be deflated when not in use. The weir would also deflate automatically if debris or high run-off caused surface water levels to rise to a predetermined level (set to avoid water backing up onto adjacent property). The weir would also be monitored for build up of debris, especially during periods of fish migration and, if necessary, hatchery operators would remove and properly dispose of such debris.

008-04

Although the return pipe would be smaller than the intake pipe, it would be capable of delivering the same volume of water back to the river.

008-05

Comment acknowledged; your support of the proposed project is appreciated. It is hoped that this environmental review process and future facility planning efforts would continue to foster mutual understanding and positive results for the project sponsors and the local community.

JUL 1 4 2003

United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
500 NE Multnomah Street, Suite 356
Portland, Oregon 97232-2036

IN REPLY REFER TO:

ER03/486

July 3, 2003

Mr. Mickey Carter
Bonneville Power Administration
Communications - DM-7
P.O. Box 12999
Portland, Oregon 97212

Dear Mr. Carter,

The Department of the Interior (Department) has reviewed the Draft Environmental Impact Statement (DEIS) for the Bonneville Power Administration, Grande Ronde - Imnaha Spring Chinook Hatchery Project, Northeast Oregon, Wallowa and Union Counties, Oregon. The Department offers the following for use in developing the Final Environmental Impact Statement (FEIS):

Pages 3-74 and 3-75: The DEIS describes constrictions of the river channel resulting from implementation of the proposed action at the Lostine River Hatchery (page 3-74, paragraph 2) and at the Imnaha Final Rearing Facility (page 3-75, paragraph 4 and 5); however, the document describes increased flooding potential in a generalized and qualitative manner, and only in terms of impacts to facility structures. The Department recommends that the FEIS include a hydraulic analysis which quantitatively describes and/or maps the extent of potential flooding and addresses impacts to fishery structures and infrastructure, as well as impacts to the environment beyond the fishery boundaries. We also recommend the analysis include predicted height and extent of flood waters, and the potential for flooding to modify or damage the stream channel, or scour the supports for the small-vehicle bridge. Should you have any questions regarding this recommendation, please contact Mr. James Devine with the U.S. Geological Survey's National Center in Reston, Virginia, at (703)648-6832. 009-01

Assistance with consultation that may be necessary under Section 7 of the Endangered Species Act can be obtained through Mr. Gary Miller, U.S. Fish and Wildlife Service, LaGrande Field Office, LaGrande, Oregon, (541)962-8584.

We appreciate the opportunity to comment.

Sincerely,

for Preston Sleeger
Regional Environmental Officer

009-01

As shown in Figure 2-1 of the Final EIS (excerpted from a Federal Emergency Management Agency Map), most of the proposed Lostine River Hatchery facilities would be located outside the 100-year floodplain of the Lostine River. The intake, weir, and fish ladder would be located within the floodplain in a wide section of the river. Montgomery Watson conducted a preliminary hydraulic analysis of the river and proposed facilities in 2000 to determine water surface profiles through the project reach. The results of that analysis indicated that proposed hatchery facilities would not change the river cross section or cause flooding. A more refined hydraulic analysis would be conducted as part of the final hatchery design process (McMillen 2004, personal communication).

The Imnaha Final Rearing Facility is no longer proposed for construction (see Section 1.5 in the Final EIS). The activity proposed at this site is limited to removal of an existing Acrow (steel panel) bridge and concrete bridge abutments. The bridge panels would be reinstalled at the Lostine Adult Collection Facility and the concrete bridge abutments would be hauled off-site for disposal. Removing the bridge and its concrete abutments would slightly reduce channel constriction at this location.

010

JUNE 30, 2003

JUL 1 4 2003

GRANDE RONDE – IMNAHA SPRING CHINOOK PROJECT DEIS

Please mail your comments by July 7, 2003

COMMENTS:

On the adequacy of the Environmental Impact Statement:

I AM GREATLY CONCERNED ABOUT MY WATER BEING NEGATIVELY IMPACTED. 010-01

THE NOISE pollution — 010-02

THE Light pollution — 010-03

On the merits of the different alternatives:

LOCATE THIS PROJECT AWAY from ANY DENSELY SETTLED ~~DIST~~ AREA, & DO AWAY WITH OUR COLLECTIVE ANGER ☺ 010-04

Preferred ways to mitigate concerns or effects:

RUN A TEST DRAWDOWN WHEN THE RIVER IS AT IT'S LOWEST AND PUT GAUGES ON ALL OUR WELLS/SPRINGS OVER A PERIOD of AT LEAST 2 OR 3 WEEKS. 010-05

Other: THIS TYPE of COMMERCIAL PROJECT SHOULD NEVER BE IN THE MIDDLE of A ~~—~~ RESIDENTIAL AREA ☺ 010-06

THRU THE "POW WOW" & OTHER POSATIVE REPRESENTATION of the NEZ PERCE WERE "ARE/WERE" MAKING INROADS TO UNDERSTANDING & ACCEPTING OUR INDIAN BROTHERS. NOW ALL I HEAR IS ANGER & PREJUDICE DIRECTED AGAINST "THE INDIANS" & THE PROPERTY OWNERS THAT ARE "COLLECTING THEIR 30 PIECES OF SILVER" – REMINDS ME OF THE GOOD OLD DAYS OF THE ~~BIBLE~~ LOSS

Name MARY KAY HOWEY

Address 64989 LOSTINE RIV. RD., LOSTINE, OR 97857

Phone/E-Mail Address (optional) _____

010-07

010-01

As referenced in the Draft EIS (Section 3.6.1.1), several groundwater wells were drilled at the proposed Lostine Hatchery site – the Lostine North Well, Lostine South Well, Primary Production Well, and South Observation Well. Information from these wells, and other sources, was used to characterize the area's geology, hydrogeology, and aquifer characteristics through aquifer testing. The results of aquifer testing were summarized in the Draft EIS and presented in detail in two associated technical reports prepared by Montgomery Watson (Report of Lostine Site Production Wells Installation and Testing, February 1999, and Lostine Site Production Wells Supplemental Installation and Testing, February 2001). The purpose of the Montgomery Watson studies was to identify a sustainable supply of good quality, disease-free water for the proposed hatchery.

To determine well production potential and to measure the effect of proposed hatchery groundwater withdrawals, Montgomery Watson conducted aquifer pumping tests in 1999 and 2000/2001. Both sets of tests showed consistent results, although slightly different groups of wells were used. Both sets of tests consisted of standard, step-rate tests (pumping at different rates for short periods of time) to evaluate well efficiency and capacity and to determine optimal pumping rates for the longer, constant-rate tests. In January 1999, the Lostine South Well was pumped at a constant rate of about 400 gpm for 70 hours while water levels were measured in the Lostine South Well and in the Hayward's well in the Lostine subdivision (about 1,500 feet south of the Lostine South Well). Maximum drawdown measured in the Hayward Well was a few inches (0.20 feet) and the well water level recovered quickly after pumping of the Lostine South Well stopped (97 percent recovery in 160 minutes). Montgomery Watson calculated a "worse case" drawdown of about 0.6 feet in the Hayward Well after 2 years of continuous 400 gpm pumping of the Lostine South Well ("worse case" because continuous pumping of site wells is not proposed).

In January 2001, Montgomery Watson conducted a 25-hour constant-rate test in the Lostine North Well, and a 14-day constant-rate test in the hatchery site Primary Production Well. For each of the constant-rate tests, water levels were monitored in three other wells including the South Observation Well (installed near the Lostine subdivision). As in the 1999 test, drawdown in the observation well was minimal (a maximum of about 6 inches) and the water level recovered quickly after pumping stopped. Montgomery Watson calculated that, if all three site supply wells were pumped simultaneously at optimal flow rates, the combined drawdown in the nearest domestic well would be about 1.5 feet after 10 weeks of continuous pumping and approximately 2 feet after 2 years of continuous pumping (for comparison, measurements showed approximately 112 feet of standing water in the Hayward well). Continuous pumping was used to conservatively estimate drawdown because simultaneous, continuous pumping of the three wells would be required for only 2 to 3 months per year under normal hatchery operations and would typically occur during the months of May and June when river levels would be at their highest (FishPro/HDR 2004b), rather than in January when the aquifer pumping tests were conducted and river levels are relatively low. Montgomery Watson concluded that desired groundwater production levels for the hatchery could be sustained and regulated without affecting production in nearby domestic wells.

010-02

Sections 3.2 through 3.17 of the Draft EIS describe the anticipated impacts to the natural and built environment as a result of the proposed project, including construction, operation, and cumulative effects of noise (Section 3.13). Although the proposed Lostine River Hatchery has the greatest potential to affect local residents given its proximity to homes and the current undeveloped nature of the site, it is the intent of hatchery co-managers to be good neighbors within the community. Therefore, the proposed project includes use of best management practices, activities, and other measures to avoid prolonged incidents of loud or excessive noise during construction and operation. During construction, noise-generating activities would be controlled by limiting the hours of construction. Measures to avoid loud or excessive noise during facility operations would include enclosing pumps and generators within buildings, and locating new facilities as far away as feasible from nearby residences.

010-03

See response 010-02. Section 3.9.3 of the Draft EIS presents a range of actions that would be taken to control light emitted from new facilities, including installation of downward directed, non-glare light fixtures and screening of new lighting with buildings and vegetation, where possible.

010-04

As discussed in Section 4.7.1 of the Draft EIS, both Union County and Wallowa County zoning allow for hatchery facilities in the areas proposed. All applicable permits for the proposed structures would be obtained prior to project construction.

As stated in the Draft EIS (Section 2.3), Section 1.8 of the Final EIS, and the NEOH Master Plan (Ashe et al. 2000), several other potential sites in the Imnaha and Grande Ronde Subbasins were evaluated, but dropped from further consideration due to a variety of reasons, including inadequate water supply or quality, lack of available space, inadequate power supply, and/or unavailability for acquisition. One suitable site was identified on the Lostine River, downstream of the proposed Lostine River Hatchery site. This site, at the Strathearn Ranch (Grande Ronde Subbasin site 22, Draft EIS, Table 1-1), met the project requirements, but the owner ultimately decided not to make the property available. Project team members also investigated, and eliminated from further consideration, possible sites on the west side of the Lostine River. The one feasible west-side site was dropped from further consideration because it would require substantially more site development (road improvements, bridge replacement, a powerline across the river, and extensive site clearing and grading); have a potentially greater impact to adjacent landowners (immediately adjacent to one residence and requiring several other residents to drive through hatchery facilities to access their property); and result in more disruption and potential impact to the natural environment (McMillen 2003, personal communication).

010-05

See response 010-01; aquifer pumping tests were conducted in January 1999, December 2000, and January 2001. According to U.S. Geological Survey stream gauging data, the lowest mean monthly streamflows in the Lostine River occur in January and February.

Also, if this project is approved for funding, the hatchery co-managers would apply for water rights permits from the Oregon Water Resources Department for all surface water and groundwater withdrawals (see Table 4.7-1 in the Draft EIS), a process which includes public review of the application, and possible additional testing and assessment of the potential effects of withdrawals on other nearby water users.

010-06

The Northeast Oregon Hatchery project is not a commercial project, that is, no direct economic benefit would come to any of the project's sponsors or hatchery co-managers. This project is intended to help in the conservation and recovery of an important and threatened salmon species. Although the facilities would have a few "industrial appearing" components (concrete raceways, cleaning basin, operations building, and pumping station), the Lostine River Hatchery and other proposed facilities would be constructed of materials consistent with other buildings in the vicinity and trees and vegetation would be used, where possible, to screen facilities from adjacent public and private properties (as described in Draft EIS Section 3.9.3). Also, please see response 010-04.

010-07

As described in Section 1.3 of the Final EIS, BPA is the lead agency for purposes of National Environmental Policy Act (NEPA) compliance, but several other agencies and tribes have worked closely with the BPA to develop the Proposed Action described in this EIS. The Nez Perce Tribe and the Confederated Tribes

of the Umatilla Indian Reservation are co-managers (along with the Oregon Department of Fish and Wildlife) of the spring/summer chinook conservation and recovery program in Northeast Oregon, and are the primary cooperating agencies for this EIS. The U.S. Fish and Wildlife Service, NOAA Fisheries, Forest Service, and other managers of habitat, fisheries, and hatcheries in Northeast Oregon were consulted during the development of the Proposed Action and this EIS. These tribes and agencies, as well as other local, state, and federal agencies and many local landowners are committed to working together to help in the protection, mitigation, conservation, and recovery of an important and threatened salmon species. It is unfortunate that, in light of the purpose and need for the project and the extensive cooperation involved in its planning, others may not support its intentions or its partners.

Grande Ronde-Imnaha Spring Chinook Project DEIS

On the adequacy of the EIS: I believe the study on the water issue is biased. From the beginning, after the first well was drilled, I complained that a small pond on our property had been affected. On page 3-23 the EIS states "Operation of the prime production well may impact a nearby pond, a discharge stream channel and a side channel during low flows, but this channel is not used as spawning habitat. A seven day test of the prime production well has shown no drawdown from the Lostine River." On page 3-71 the EIS states "Production can apparently be sustained for long term pumping without affecting nearby domestic wells." Neither of those statements address my complaint of the ground water being affected. On page 3-62 the EIS states "about 3,000 - 5,000 square feet of wetland area would be lost at the outfall and primary production well locations." My concern is with the ground water table that has already been altered, overtime and the loss of the wetland our adjacent property will in time, also involve changes to plant composition. I believe the damage to the aquifer has already been done. On page 3-123 the EIS states "the Proposed action may yet result in adverse impacts to wetlands that cannot be avoided." I believe at the rate they expect to pump water for the hatchery, the water once fed by the subterranean

011-01

could be lost forever. 011-01 (con't.)

At the "BPA" open house on June 12th 2003 local landowners outrage showed they do not feel like this is a suitable location for the Lostine River Substation. 011-02
A commercial enterprise will never be environmentally friendly in a rural residential area.

Jan E. McLain 6-27-03
PO Box 63
Lostine OR 97857

011-01

As referenced in the Draft EIS (Section 3.6.1.1), several groundwater wells were drilled at the proposed Lostine Hatchery site – the Lostine North Well, Lostine South Well, Primary Production Well, and South Observation Well. Information from these wells, and other sources, was used to characterize the area's geology, hydrogeology, and aquifer characteristics through aquifer testing. The results of aquifer testing were summarized in the Draft EIS and presented in detail in two associated technical reports prepared by Montgomery Watson (Report of Lostine Site Production Wells Installation and Testing, February 1999, and Lostine Site Production Wells Supplemental Installation and Testing, February 2001). The purpose of the Montgomery Watson studies was to identify a sustainable supply of good quality, disease-free water for the proposed hatchery.

To determine well production potential and to measure the effect of proposed hatchery groundwater withdrawals, Montgomery Watson conducted aquifer pumping tests in 1999 and 2000/2001. Both sets of tests showed consistent results, although slightly different groups of wells were used. Both sets of tests consisted of standard, step-rate tests (pumping at different rates for short periods of time) to evaluate well efficiency and capacity and to determine optimal pumping rates for the longer, constant-rate tests. In January 1999, the Lostine South Well was pumped at a constant rate of about 400 gpm for 70 hours while water levels were measured in the Lostine South Well and in the Hayward's well in the Lostine subdivision (about 1,500 feet south of the Lostine South Well). Maximum drawdown measured in the Hayward Well was a few inches (0.20 feet) and the well water level recovered quickly after pumping of the Lostine South Well stopped (97 percent recovery in 160 minutes). Montgomery Watson calculated a "worse case" drawdown of about 0.6 feet in the Hayward Well after 2 years of continuous 400 gpm pumping of the Lostine South Well ("worse case" because continuous pumping of site wells is not proposed).

In January 2001, Montgomery Watson conducted a 25-hour constant-rate test in the Lostine North Well, and a 14-day constant-rate test in the hatchery site Primary Production Well. For each of the constant-rate tests, water levels were monitored in three other wells including the South Observation Well (installed near the Lostine subdivision). As in the 1999 test, drawdown in the observation well was minimal (a maximum of about 6 inches) and the water level recovered quickly after pumping stopped. Montgomery Watson calculated that, if all three site supply wells were pumped simultaneously at optimal flow rates, the combined drawdown in the nearest domestic well would be about 1.5 feet after 10 weeks of continuous pumping and approximately 2 feet after 2 years of continuous pumping (for comparison, measurements showed approximately 112 feet of standing water in the Hayward well). Continuous pumping was used to conservatively estimate drawdown because simultaneous, continuous pumping of the three wells would be required for only 2 to 3 months per year under normal hatchery operations and would typically occur during the months of May and June when river levels would be at their highest (FishPro/HDR 2004b), rather than in January when the aquifer pumping tests were conducted and river levels are relatively low. Montgomery Watson concluded that desired groundwater production levels for the hatchery could be sustained and regulated without affecting production in nearby domestic wells.

Montgomery Watson studies also indicate that there is a hydraulic connection between the aquifer tapped by the site wells and the Lostine River and that water stage in the river has an influence on water levels in site wells. The final design phase of the project would likely include additional aquifer pumping tests across a range of river conditions to refine water withdrawal plans to be implemented during hatchery operations (McMillen 2004, personal communication).

Also, if this project is approved for funding, the hatchery co-managers would apply for water rights permits from the Oregon Water Resources Department for all surface water and groundwater withdrawals (see Table 4.7-1 in the Draft EIS), a process which includes public review of the application, and possible additional testing and assessment of the potential effects of withdrawals on other nearby water users.

What has happened with ground water levels at and around the Lostine River Hatchery site (the existing situation) was not a topic of specific investigation carried out in support of this EIS. Contributing factors may include (among others) several years of drought which affects river flow and ground water levels, and the placement of drainage structures in the field directly below the pond (i.e., these drainage structures now drain previously backed-up surface water that could have been "feeding" the pond). The three supply wells drilled at the proposed Lostine River Hatchery site (Lostine North Well, Lostine South Well, and the Primary Production Well) have not been pumped since aquifer testing was last performed in January 2001, and it is improbable that these wells could be associated with any recent changes in surface water or groundwater levels or supply. Although it is probable that pumping from the wells during times of low river flow (which could affect groundwater recharge rate) could impact groundwater levels, pumping is planned to occur during May and June when flows are typically at their highest (FishPro/HDR 2004b). So, no discernable affect to adjacent groundwater and dependent vegetation is anticipated to result from pumping the wells.

Plant communities do change with changes in site water availability or supply. The adverse impacts to wetlands referred to on page 3-123 of the Draft EIS, however, refer to losses due to direct disturbance during construction and facility placement, not due to any anticipated changes in site hydrology. As discussed in the Draft EIS (Section 3.4.3.3), wetlands at the proposed Lostine River Hatchery would be directly affected by construction of the outfall and access road and piping in the vicinity of the primary production well. As described in Sections 4.5.2, 4.5.4 and 4.7.2 of the Draft EIS, the project includes a commitment to conduct formal wetland delineations at the proposed Lostine Adult Collection Facility and the Lostine River Hatchery and to implement any compensatory mitigation based on the outcome of the delineations and applicable regulations. Any necessary mitigation plan(s) would be developed for the loss of wetlands as part of the permitting process through the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act.

011-02

The Northeast Oregon Hatchery project is not a commercial project, that is, no direct economic benefit would come to any of the project's sponsors or hatchery co-managers. This project is intended to help in the conservation and recovery of an important and threatened salmon species. As discussed in Section 4.7.1 of the Draft EIS, both Union County and Wallowa County zoning allow for hatchery facilities in the areas proposed. All applicable permits would be obtained for the project prior to construction.

As stated in the Draft EIS (Section 2.3), Section 1.8 of the Final EIS, and the NEOH Master Plan (Ashe et al. 2000), several other potential sites in the Imnaha and Grande Ronde Subbasins were evaluated, but dropped from further consideration due to a variety of reasons, including inadequate water supply or quality, lack of available space, inadequate power supply, and/or unavailability for acquisition. One suitable site was identified on the Lostine River, downstream of the proposed Lostine River Hatchery site. This site, at the Strathearn Ranch (Grande Ronde Subbasin site 22, Draft EIS, Table 1-1), met the project requirements, but the owner ultimately decided not to make the property available. Project team members also investigated, and eliminated from further consideration, possible sites on the west side of the Lostine River. The one feasible west-side site was dropped from further consideration because it would require substantially more site development (road improvements, bridge replacement, a powerline across the river, and extensive site clearing and grading); have a potentially greater impact to adjacent landowners (immediately adjacent to one residence and requiring several other residents to drive through hatchery facilities to access their property); and result in more disruption and potential impact to the natural environment (McMillen 2003, personal communication).

JUL 1 4 2003

United States Department of Agriculture | Forest Service | Pacific Northwest Region
333 SW First Avenue (97204)
PO Box 3623
Portland, OR 97208-3623
503-808-2468

File Code: 2350
Date: July 7, 2003

Ms. Therese B. Lamb
Acting Vice-President for Environment, Fish, Wildlife
Bonneville Power Administration
P.O. Box 3612
Portland, OR 97208-3621

Dear Ms. Lamb:

Thank you for the opportunity for my staff to discuss Forest Service participation in the Grande Ronde – Imnaha Spring Chinook Hatchery Project with Bonneville Power Administration (BPA) Fish and Wildlife staff, Nancy Weintraub, Mickey Carter and Kenneth Kirkman (June 26). As a result of this meeting, the Forest Service agreed to:

- Respond to the *Northeast Oregon Hatchery Program, Grande Ronde -- Imnaha Spring Chinook Hatchery Project, Draft Environmental Impact Statement* (May 2003) (NEOH DEIS) within the public comment period.
- Prepare a determination under Section 7(a) of the Wild and Scenic Rivers Act (WSRA) by August 11 for three affected wild and scenic rivers (WSR) -- Grande Ronde, Imnaha, and Lostine.

BPA agreed to:

- Make staff readily available to facilitate development of my determination.
- Address concerns identified by the Forest Service in response to the NEOH DEIS and through subsequent WSRA Section 7(a) determination in the Final Environmental Impact Statement and Record of Decision. 012-01

Although our request for funding for Forest Service participation is unresolved, resource specialists in my office have done sufficient review of the NEOH DEIS to more fully detail our principal concerns. These concerns were identified early in the planning process and have been consistently noted in informal and formal coordination between our agencies. As the federal river administrator for portions of the Grande Ronde, Lostine, and Imnaha WSRs I am responsible to protect and enhance their values, and to evaluate and determine the potential harmful effects of proposed water resources projects.

I describe my concerns in two parts, reflecting the applicable standard of Section 7(a):

- Direct and adverse effects to the values of the Imnaha WSR and,
- Invade or unreasonably diminish scenery, recreation, fish or wildlife values of the Grande Ronde and Lostine WSRs.

Direct and Adverse Effects Standard (Imnaha WSR)

The WSRA prohibits any federal agency from assisting in the construction of any water resources project located within a designated river corridor determined by the river-administering agency to have a direct and adverse effect on the values for which the river was added to the National System. These values are the river's free-flowing condition, water quality and its outstandingly remarkable values (ORVs). 012-01 (con't.)

Free-flowing is defined in Section 16(b) of the WSRA as "existing or flowing in natural condition without impoundment, diversion, straightening, rip-rapping, or other modification of the waterway." At the existing Satellite facility, proposed construction within the riverbed and its banks includes an additional water intake structure, new fish ladder, and modification of the existing weir, and riprap associated with each. At the new Final Rearing facility, in-channel construction includes intake and outfall structures and associated riprap, and relocation of an existing bridge. 012-02

In addition to potential effects to the river's free-flowing condition, I also have concerns relative to two of the river's ORVs -- scenery and fish. It appears that with proposed mitigation, and subsequent review by the Wallowa-Whitman National Forest Landscape Architect, the facilities can be designed to maintain the scenic integrity of the two sites. Relative to fish, my concerns are threefold: passage, habitat effects, and genetic/competitive interaction. 012-03

Fish Passage --- Information in the NEOH DEIS is inadequate to ascertain the extent of delay and handling of non-target fish and non-selected wild spring Chinook when the weir/trap is in operation. It is also unclear whether volitional passage is assured for all species at all life stages when the trap is not in operation. Flow diversion, particularly at the Imnaha Final Rearing facility, appears to create conditions impeding migration of adult bull trout, summer steelhead and other species/life stages under some flow conditions. Additional information is needed relative to monitoring of passage in the diversion reach and how flows will be augmented, if necessary. Therefore, the extent of impact on these at-risk populations cannot be determined. 012-04

Habitat Effects -- Riparian, floodplain and in-stream habitat features at several locations on both project areas will be altered by construction and subsequent channel adjustments due to created/removed structures and fill. The total extent of change to channel conditions is difficult to determine with the information provided. There appear to be opportunities to mitigate the localized impacts of aquatic and riparian habitat disturbance, simplification or loss on the project sites, but any additional habitat improvements integrated into project design are not apparent. 012-05

If valid State water rights are established for flow diversion to both projects, there remains a concern with the impacts of flow reduction on fish habitat. Seasonal removal of between 12-50 percent of flow along 1200 feet at the Final Rearing site and doubling of the existing flow diversion at the Satellite facility will reduce the quantity and quality of aquatic habitat in these reaches. The NEOH DEIS does not quantify impact or identify mitigative measures.

Genetic/Competitive Interactions -- Hatchery/supplementation programs pose risk to wild populations from both interbreeding and competitive interactions. These risks, plus 012-06

recommendations for addressing these risks, are thoroughly discussed in the Independent Scientific Advisory Board (ISAB) Review of Salmon and Steelhead Supplementation, June 2003. The report recommends "explicit experimental design" for supplementation projects, coupled with monitoring and assessment program. Details for risk management for the NEOH project as a whole, or specifically for the Imnaha, are not included in the DEIS. Clarification is needed on how all risks of supplementation identified by ISAB (Independent Science Advisory Board), ISRP (Independent Science Review Panel), NWPPC (Northwest Power Planning Council), and others, are addressed. Monitoring measures designed to ensure protection of wild populations needs to be more explicit. 012-06 (con't.)

Invade or Unreasonably Diminish Standard (Grande Ronde and Lostine WSRs)

Modifications are proposed to the existing Lookingglass Hatchery, located approximately two miles from the upper terminus of the Grande Ronde WSR. Two new facilities are proposed on the Lostine WSR -- a hatchery and adult collection facility, approximately one and five miles, respectively, below the lower terminus of the designated portion of the river. At neither of these sites are any project-related facilities proposed within the designated river corridors; therefore, they do not invade the designated river areas.

This standard also requires the Forest Service to consider whether there is any diminution to the scenery, recreation, fish or wildlife values within the designated rivers. I have not identified any effect from the Lookingglass facility and Lostine facilities to the scenery, recreation or wildlife within the designated rivers. These facilities have the potential to affect the fish resource in the designated portions of the rivers as described with my detailed concerns about the Imnaha facilities. 012-07

With additional information relative to my concerns, it may be possible for the Forest Service to recommend measures to eliminate adverse effects. The WSRA does not, however, allow for me to balance the perceived benefits of a water resources project with adverse effects. Congress has reserved that authority:

> "No department or agency of the United States shall recommend authorization of any water resources project that would have a direct and adverse effect on the values for which such river was established, as determined by the Secretary charged with its administration, or request appropriations to begin construction of any such project, whether heretofore or hereafter authorized, without advising the Secretary of the Interior or the Secretary of Agriculture, as the case may be, in writing of its intention to do so at least 60 days in advance, and without specifically reporting to the Congress in writing of its intention so to do at the time it makes its recommendation or request in what respect construction of such project would be in conflict with the purposes of the Act and would affect the component and the values to be protected by it under this Act."

To expedite a meaningful sharing of information, I encourage you to organize and facilitate an on-site meeting of key technical staff to discuss these concerns. An on-site meeting will clarify my interpretation of existing information and also identify additional information necessary for me to make my finding under Section 7(a), and for the Forest Supervisor to make her decision 012-08

relative to issuance of a new special-use permit for the modified Imnaha Satellite facility. I also intend to coordinate my review with other fish managing agencies and the tribes to more fully understand the project proposals. My agency's contacts continue to be Susan Sater (Regional Office, 503-808-2449) and Tom Glassford (Wallowa-Whitman National Forest, Eagle Cap Ranger District, 541-426-5537). Bob Rock is the contact regarding specific fisheries information (Wallowa-Whitman National Forest, 541-523-1242). I appreciate your interest in working together to best meet our mutual interests and protect the values of these WSRs.

012-08 (con't.)

Sincerely,

LINDA GOODMAN
Regional Forester

cc:
Dave Johnson, NezPerce Tribal Fisheries POB #365, Lapwai, ID 83540
Becky Ashe, NPT Project Leader NezPerce Tribe, POB #365, Lapwai, ID 83540
Dan Herrig, LSCRP Coordinator, USFWS, LSRCP Office, 1387 South Vinnell Way, Suite 343, Boise ID 83709
Deb Martin, NMFS Fishery Biologist, Hatchery, Snake River Office, 10215 West Emerald Street, Boise, ID 83709
Gary Miller, USFWS, La Grande Field Office, 3502 Highway 20, La Grande, WA 97805
Randy Tweton, USFWS, La Grande Field Office, 3502 Highway 20, La Grande, WA 97805
RLM - Susan Sater
NR - Jeff Uebel, Alan G Christensen
W-W NF/Eagle Cap RD - Tom Glassford
W-W NF - Robert W Rock

012-01

Comment acknowledged. BPA and the Forest Service will work to address Wild and Scenic River Act (WSRA) issues as the Forest Service reviews this EIS and prepares a WSRA Section 7(a) determination. Once BPA receives the WSRA Section 7 (a) determination, BPA will issue a Record of Decision documenting whether to proceed with final design and project implementation.

012-02

A new fish ladder is no longer proposed at the Imnaha Satellite Facility (see Section 1.6 in the Final EIS). After further study, co-managers developed a way to improve existing fish ladder function (by using additional attraction water), thereby reducing the amount of in-water work proposed at this facility.

The Imnaha Final Rearing Facility is no longer proposed for construction (see Section 1.5 in the Final EIS). After further study, the project co-managers devised a way to use the other proposed facilities to accommodate the functions intended for the Imnaha Final Rearing Facility. The activity proposed at this site is limited to removal of an existing Acrow (steel panel) bridge and concrete bridge abutments and restoration of areas affected by this activity. The bridge panels would be reinstalled at the Lostine Adult Collection Facility and the bridge abutments would be hauled off-site for disposal.

012-03

Since the Imnaha Final Rearing Facility is no longer proposed for construction, the activity proposed at this site is limited to removal of an existing Acrow panel bridge and concrete bridge abutments, and restoration of areas affected by this activity to a less developed and more natural appearing scenic condition.

Through its authority under the WSRA and its discretion to re-authorize the existing Special Use Permit for the Imnaha Satellite Facility, the Forest Service would decide if proposed changes would be congruent with the existing visual character of the site. A preliminary assessment provided in Forest Service comment 020-15 seems to suggest that proposed modifications would not be noticeable to most visitors.

Refer to responses 12-04, -05, and -06 relative to Forest Service concerns regarding fish passage, habitat effects, and genetic/competitive interaction.

012-04

As discussed in the Draft EIS Section 3.2.3.2 (as amended in the Final EIS Section 2.3) and Biological Assessment Section 4.2 (previously provided to the Forest Service), the proposed Imnaha Satellite Facility weir replacement would be designed to efficiently and safely accommodate migrating fish. The replacement weir would have a clear bar spacing of 1-1/4 inches, which would allow juvenile fish to pass directly through the weir when the weir is in operation (Grassel 2003). Also, when in operation, replacement weir panels could be lowered individually to allow downstream passage of steelhead kelts and bull trout (not possible with the existing weir at the site). When not in operation, the replacement weir would lie flat under the water to allow for easier downstream fish passage.

Replacement weir angle and the proposed increased attraction flow would lead migrating fish to the ladder (existing structure) entrance with minimal delay and would likely benefit target spring/summer chinook and other species through improved attraction to the fish ladder. Improved attraction would result in less migratory delay and a decreased likelihood of downstream spawning than under current conditions (due to insufficient attraction flow from the existing fish ladder, some chinook that would normally spawn farther upstream have spawned downstream of the existing facility). The final design of the replacement weir would be coordinated with NOAA Fisheries and U.S. Fish and Wildlife Service using published criteria.

As under current conditions, future operations would include daily monitoring and maintenance of the weir during the time the weir is being used to collect fish. During fish collection periods, staff would be stationed at the site 24 hours a day, 7 days a week. Non-target fish would be held on-site for no more than 24 hours. All non-target fish would be observed without anesthesia and allowed to pass above the weir.

The Imnaha Final Rearing Facility is no longer proposed for construction. See response 012-02.

012-05

Section 3.2.3.2 of the Draft EIS summarizes the consequences of the Proposed Action on riparian, floodplain, and instream habitat features and flow diversion. Potential project impacts on the river channel are discussed in detail in the project Biological Assessment for all project facilities (Biological Assessment, Section 4.2.2, Channel Alterations subsections, previously provided to the Forest Service). At the Imnaha Satellite Facility, erosion control methods such as rock placement and/or revegetation would be used to protect the river banks. The proposed project would maintain, as much as possible, the existing natural riparian zone of trees and shrubs along the bank of the Imnaha River, by containing construction and staging activities within identified work areas. Proposed instream structures would include an expanded surface water intake (with upgraded intake screens to meet NOAA Fisheries criteria) and a diffuser chamber and auxiliary water supply line to supplement attraction flow in the existing fish ladder. All instream work (including weir replacement) would require the use of a cofferdam and would be conducted during Oregon Department of Fish and Wildlife (ODFW) instream work windows. Prior to any project work, project proponents would consult with NOAA Fisheries and U.S. Fish and Wildlife Service, and these agencies must render a Biological Opinion on the likely impacts to ESA-listed species and their habitats which would include any reasonable and prudent measures necessary or appropriate to mitigate such impacts to their satisfaction.

Intake structure improvements would affect an area of river bed and bank about 30 feet long by 30 feet wide and require placement of about 100 cy of rock for bank stabilization. The auxiliary water supply line would be installed behind an existing concrete wall and require the placement of a small amount of rock to stabilize the pipeline entrance similar to the existing intake situation. Habitat disturbance would be minor, and suitable habitat for spawning and rearing occurs and would remain available in areas surrounding both of these sites.

As described in the project Biological Assessment (Section 4.2.2, pages 94-96), the habitat available for salmonids would be limited during periods of low river flow regardless of facility requirements. Even during periods of historic low flow, it appears that remaining instream habitat is adequate to support migration and chinook have been observed spawning successfully in 30 cfs and bull trout and steelhead can successfully migrate through 0.6 feet of water – conditions that would easily be maintained within the diversion reach, even during periods of extreme low flow (Zollman and Sankovich as cited in FishPro/HDR 2004a).

The Imnaha Final Rearing Facility is no longer proposed for construction. See response 012-02. After removal of the Acrow panel bridge, river banks would be revegetated where the bridge abutments were located and where any construction-related disturbance was evident.

012-06

The current chinook production program in the Imnaha River is authorized by NOAA Fisheries under Endangered Species Act (ESA) Section 10 Permit No. 1128. Details for risk management are not included in the scope of this EIS because this chinook production program is not a new undertaking. This EIS appropriately considers the anticipated effects associated with the modification of existing and proposed fish production facilities.

During the ESA Section 10 permit process, and prior to receiving Permit No. 1128, the production program received scientific scrutiny through NOAA Fisheries' peer and public review process. NOAA Fisheries determined that the direct take of these listed fish for hatchery broodstock, and the release of their progeny, would be beneficial to the Imnaha population (Delarm, NOAA Fisheries, personal communication, as cited in Ashe et al. 2000). Project performance standards were developed by hatchery co-managers and reviewed by the Northwest Power Planning and Conservation Council's Independent Scientific Review Panel and finalized as the Monitoring and Evaluation Plan for Northeast Oregon Hatchery Imnaha and Grande Ronde Subbasin Spring Chinook Salmon (Hesse and Harbeck 2004). Monitoring and evaluation elements of this plan would be applied to the production program and some may occur at the proposed facilities, and so they are incorporated by reference as supporting documentation for this EIS and Biological Assessment.

012-07

Comment acknowledged; as of the writing of this letter, the Forest Service believes that proposed facilities would not invade the areas of the Lostine or Grande Ronde Rivers designated under the Wild and Scenic Rivers Act and the Forest Service has not identified any effects to the scenery, recreation, or wildlife within the designated river reaches, but the Forest Service believes that potential effects to fisheries may remain. See Forest Service letter 020 and comments and responses 020-33 to 020-50 for further discussion on the topic of invade or unreasonably diminish standard of analysis for actions outside designated Wild and Scenic River corridors.

012-08

Since the Draft EIS was published in May 2003, numerous exchanges have occurred in writing, by e-mail, and on the telephone between the Forest Service, BPA, and hatchery co-managers (the Nez Perce Tribe particularly). In August 2003, BPA, the Nez Perce Tribe, and other agencies met with Forest Service representatives to tour the project sites and discuss Wild and Scenic River values. The Forest Service then compiled letter 020 which includes a preliminary WSRA report as further comment on the Draft EIS. An expanded group met at the Forest Service offices in Enterprise, Oregon, on November 17, 2003, for a more detailed exchange of information intended to address the perceived issues, uncertainties, and additional analysis needs identified in the preliminary WSRA report. The Forest Service is expected to issue a final WSRA Section 7(a) determination on this project upon review of this Final EIS, the Biological Assessment, and all other supplemental information made available prior to BPA issuing a Record of Decision whether to proceed with project final design and implementation.

Kuehn, Ginny - DM-7

From: june davis [grassjune@hotmail.com]
Sent: Monday, July 07, 2003 11:50 PM
To: Carter, Mickey A - KEC-4
Subject: proposed lostine facilities

Good evening: I am commenting on the DEIS for the fish hatchery programs on the grande ronde.

My name is June Colony, owner operator of Cool Waters, a Native Plant Nursery which specializes in restoring damaged landscapes and designing ripaian restoration plantings. My nursery and home is located less than 1 mile below the Lostine Trout Farm.

My irrigation ditch for the nursery, has a head-gate located just below the private bridge that your plan indicated would be replaced with a steel bridge with footings out of the river.

For 20 years, I have taken my kids swimming in the old lostine city water/ fish ladders which your adult capture facilities would be located. 013-01

I had helped two families secure land through the planning commission and build thier dream homes on that property which is located emmidiately aabove the 6-mile bridge where you plan to locate a water intake setup[for the fish hatchery.

I have lived in Lostine for 30 years, and have seen some horrendous flooding and equally horrendous channelizing of the lostine river..I am a local ciatizen who would be directly affected by your plans.

I have the following comments:

1. The 6 mile bridge has one of the nicests views upstreams for enjoying the natural and inspiring wild and scenic rivers for any local, or tourist passing by. The land owners adjacent to that section of this river love that wild river as it is. I strongly protest the siting of the water capturing facilities to the upstream side of that bridge because it will drastically change the character of that viewshed, and I suggest that these intake structures should be placed further upstream....perhaps on usfs lands, and away form the vistas or homes. 013-02

2. The old Lostine City water and fish ladder facilities lie in a very visable area to the road. The idea that there would be 300 feet of riprap and retaining wall is offensive. 013-03 I have spent much of my past 10 years using a method called "Bioengineering" to place plant materials as integral components of "rip rap" and I suggest that the plant materials needed for bioengineering be incorporated at the time of wall contraction. 013-04 All lighting shall be down directed and subdued and motors shall be muted. 013-05

3. Special consideration to the Thalwag or main flow of the river below the new fish dam shall be a potential change for the usage of our irrigation ditch headgate. Because during low flow, we often have to build a pushup dam to redirect our water into the headgate,I hope that we can figure a way to keep water flowing into our ditch..perhaps with an upstream bar that would deflect low flows over to my side of the river and into our headgate. 013-06

ALl facilites for hatcheries can be cold and sterile...it is my hope that there will be a lovely and green facility at the lostine...Bring the salmon home! 013-07

June Colony

013-01

Comment acknowledged; as a long-time resident very familiar with the proposed Lostine River sites, your interest in and efforts to comment on the proposed project is appreciated.

013-02

Section 3.9.3.3 of the Draft EIS discusses the expected consequences of the Proposed Action on visual quality near the Lostine River Hatchery, including the intake structure upstream of the Lostine River Road bridge. The intake structure would be visible to northbound travelers on the Lostine River Road for a few seconds at the river crossing. Southbound travelers may catch a glimpse of the intake structure, but for the most part, it would be screened by existing vegetation. These proposed structures are located approximately 1 mile below (downstream of) the portion of the Lostine River designated as a Wild and Scenic River.

To locate the intake structure farther upstream (if a technically feasible site could be found), would involve obtaining the land or easements, rights-of-way, or other rights of access from all landowners along the pipeline route. As stated in the Draft EIS (Section 2.3), Section 1.8 of the Final EIS, and the NEOH Master Plan (Ashe et al. 2000), several other potential sites for hatchery facilities in both the Imnaha and Grande Ronde Subbasins were evaluated, but dropped from further consideration due to a variety of reasons, including inadequate water supply or quality, lack of available space, inadequate power supply, and/or unavailability for acquisition. One suitable site was identified on the Lostine River, downstream of the currently proposed Lostine River Hatchery site. This site, at the Strathearn Ranch (Grande Ronde Subbasin site 22, Draft EIS, Table 1-1), met the project requirements, but the owner ultimately decided not to make the property available. Sites on the west side of the Lostine River were also investigated, and one other feasible site was discovered. This west-side site was dropped from further consideration because it would require substantially more site development; have a potentially greater impact to adjacent landowners; and result in more disruption and potential impact to the natural environment (McMillen 2003, personal communication).

013-03

Figure 3.9-6 in the Draft EIS shows the existing view from Lostine River Road and a visual simulation of the proposed facilities in the same location. Section 3.9.3.2 of the Draft EIS explains that several of the new facilities would be screened from public view by the existing vegetation along the roadway and that passing motorists would only have a brief view when traveling northbound. Given the current facilities in the area, the proposed changes and additions are not expected to substantially alter the area's existing visual quality.

013-04

The current proposal includes using native plants to revegetate and enhance the visual appearance of all project sites (see Draft EIS Sections 3.4.3 and 3.9.3). Although incorporation of bioengineering into bank and flood protection measures may be structurally feasible (McMillen 2004, personal communication), final project design (including the levee and other bank and flood protection measures) would be subject to consultation and permitting requirements of several resource agencies. At a minimum, the levee would be designed, constructed and, where possible, vegetated to blend in with the existing environment.

013-05

Sections 3.2 through 3.17 of the Draft EIS describe the anticipated impacts to the natural and built environment as a result of the proposed project, including construction, operation, and cumulative effects of visual quality (Section 3.9) and noise (Section 3.13). All project lighting would be shielded and directed downward.

The proposed project includes use of best management practices, activities, and other measures to avoid prolonged incidents of loud or excessive noise during construction and operation. During construction, noise-generating activities at sites near residences would be controlled by limiting the hours of construction. Measures to avoid loud or excessive noise during facility operations would include muffling and/or enclosing pumps, generators, and other potentially noise equipment within buildings, and locating new facilities as far away as feasible from nearby residences.

013-06

The proposed spillway for the Lostine Adult Collection facility would function much like the exiting sills, in that flow would back up behind the structure and spill evenly across the channel. Downstream flow would continue in the main river channel and would be unchanged at the irrigation ditch headgate (McMillen 2004, personal communication).

013-07

Comment acknowledged; the design of the Lostine River Hatchery, and other proposed facilities, include shielding facility lights, planting native vegetation, and using building materials of colors and types to blend with existing structures to minimize visual impacts, while serving to help the conservation and recovery of an important salmon species.

Kuehn, Ginny - DM-7

From: Curt Mattson [cmattson@oregontrail.net]

Sent: Monday, July 07, 2003 1:05 PM

To: BPA Public Involvement

Subject: Grande Ronde - Imnaha spring chinook hatchery program (DOE/EIS - 0340)

I would like to comment in support of the proposed hatchery program. It is currently imperative to pursue this program in order to meet the mandate to recover these endangered fish runs. The habitat recovery strategies have failed to recover the runs and have only succeeded in making some agencies and individuals feel good. There must be a strategy to actively increase the number of native fish returning to these streams. This program is really already in place and showing promising results. The fish are currently reared in several facilities, and must be transported from native waters to the facilities, then back. There is surely some rate of mortality with each move and these fish are much too valuable to be subjected to the risks associated with the current procedures. Placing the program into entirely native waters is the best alternative. 014-01

A hatchery program may not be the most desirable solution in the eyes of all involved, but until downstream survival is greatly enhanced these fish runs stand little chance of self-recovery. Without production assistance they will continue to dwindle, they do not have the luxury of time. There are volumes of data and countless dollars spent on habitat and land use restrictions with relatively little to show but pretty streams with no more returning salmon, it is time to try something that just might work.

The tribes should be commended on their leadership in pursuing this project, and their active strategies for recovering fish runs should be wholeheartedly supported and continued. They have perhaps made more progress in the short time they have been involved than agencies who had the lead in the past. 014-02

Curtis Mattson
Enterprise, OR

014-01

Comment acknowledged; thank you, your support of the proposed project is appreciated. Hatchery co-managers view this on-going fish production program as essential for conservation and recovery of spring/summer chinook populations in local, native waters of Northeastern Oregon.

014-02

Comment acknowledged; thank you. The Nez Perce Tribe and the Confederated Tribes of the Umatilla Indian Reservation have been instrumental in developing this project with the other partners.

Oregon
Theodore R. Kulongoski, Governor

Department of Environmental Quality
Eastern Region
700 SE Emigrant
Suite 330
Pendleton, OR 97801
(541) 276-4063 Voice/TTY
FAX (541) 278-0168

July 7, 2003

Mickey Carter
Bonneville Power Administration
PO Box 3621, KEC-4
Portland, OR 97208-3621

Re: WQ-Wallowa County General File
Department Comments on the *Grande Ronde-Imnaha Spring Chinook Hatchery Project Draft Environmental Impact Statement*

Dear Mr. Carter:

The Department reviewed the *Grande Ronde-Imnaha Spring Chinook Hatchery Project Draft Environmental Impact Statement* with respect to water quality concerns. We submit the following comments on the draft document.

This is a timely discussion since the Department is currently developing water quality goals called Total Maximum Daily Loads (TMDLs) for the Lower Grande Ronde, Wallowa and Imnaha River subbasins. The Lower Grande Ronde, Imnaha and Wallowa subbasins are currently included on a list of Oregon surface waters that do not meet water quality standards. The pollutant parameters of concern in these subbasins are: temperature, sediment, bacteria, pH, and dissolved oxygen. The additional hatchery, acclimation facilities and upsizing of the Lookingglass hatchery are potential sources for increased temperature, solids, nutrients, pH, biochemical oxygen demand, and ammonia in down stream surface water. Of particular concern is temperature, the most widespread pollutant in these subbasins. The added acclimation and hatchery basins create new sources of unshaded water that when heated by solar radiation can contribute to increased water temperatures downstream of the facilities. It is important that these projects are constructed using appropriate treatment technologies and that they operate using best management practices to minimize their effects. 015-01

As the Draft Environmental Impact Statement indicates, the proposed facilities will need to acquire appropriate sanitary and process wastewater discharge permits. Some of the proposed facilities may not meet the fish-production criteria for a NPDES permit. This does not imply that these facilities lack the potential to impact water quality. 015-02

Thank you for the opportunity to comment. If you have any questions, please call me at 541-278-4623.

Sincerely,

Paul Daniello

Paul Daniello
Water Quality Specialist
Eastern Region

c Mitch Wolgamott, ODEQ-Pendleton
Elizabeth Hutchison, ODEQ-Pendleton (electronic copy)

015-01

Section 3.6.3 of the Draft EIS acknowledges that proposed facilities would employ best management practices and treatment technologies to meet regulatory requirements to protect water quality. Sections 3.2.3 and 3.6.3 of the Draft EIS (as revised in Section 2.3 of the Final EIS) also state that temperature changes due to facility operation would be minor and localized, and not expected to impact fish or exceed water quality standards. Other parameters of concern, discussed in more detail in Section 4.2.2 of the Biological Assessment (Water Quality subsections), are not expected to result in any exceedences of applicable water quality criteria as a result of project construction or operation.

015-02

Comment acknowledged; all applicable state, local, and/or federal permits would be acquired prior to project implementation. As discussed in the Draft EIS (Section 3.6), facility design and operations would include best management practices to protect water quality.

JUL 1 4 2003

WALLOWA COUNTY NATURAL RESOURCE ADVISORY COMMITTEE
Wallowa County Board of Commissioners
101 S. River Street * Enterprise, Oregon 97828
(541) 426-4543 Ext. 11 * (541) 426-0582 - fax

ADAPTIVE WATERSHED MANAGEMENT

Based on hope
Instead of fear

*

On solutions
Instead of conflict

*

On education
Instead of litigation

*

On science
Rather than emotion

*

On employing
Human resources rather
Than destroying them

July 7, 2003

To: Communications
Bonneville Power Administration-DM-7
Box 12999
Portland, OR 97212

Comment@BPA.gov

From: Bruce H. Dunn, Chairman
Wallowa County Natural Resources Advisory Committee
101 S River St
Enterprise, OR 97828

Subject:: Grande Ronde- Imnaha Spring Chinook Hatchery Project

The Wallowa County Natural Resource Advisory Committee, Wallowa County, Oregon requests that this information regarding the proposed EIS for Grande Ronde- Imnaha Spring Chinook Hatchery Project entered into the official record. As the appointed advisory committee for the elected representatives for a rural county in Oregon, our committee is extremely interested in the economic, social, and cultural well-being of the citizens of Wallowa County. Approximately 65 percent of our 2 million acre county is under public ownership. Therefore, all management decisions on natural resources affect the citizens of Wallowa County.

Wallowa County has a long history of proactive efforts to comply with the Endangered Species Act and subsequent listings of the Snake River Chinook, Snake River Steelhead and the Bull Trout. The Wallowa County Court and the Nez Perce Tribe had the foresight to recognize the need to engage the local community in habitat enhancement prior to the listing of the Chinook Salmon as threatened under the Endangered Species Act in 1992. Their solution was to take a pro-active approach in creating a plan that would result in resource management and use that would again stimulate our economy. The Wallowa County-Nez Perce Salmon Habitat Recovery Plan covers all lands in Wallowa County, Oregon. The Salmon Plan is a voluntary plan that offers, potential solutions to the identified problems in each watershed. The county has also created the Natural Resource Advisory Committee that meets regularly, including a technical committee that is available to all in Wallowa County. 016-01

In general we support the development of hatcheries to support the Salmon recovery program of the Lower Grande Ronde stocks of Spring/Summer Chinook Salmon. Upon studying the Environmental Impact Statement we have some concerns.

On page 2-10 "Water requirements for the Lostine River Hatchery" it states that three new ground water wells would provide up to 1200 gallons per minute to the facility..." 016-02

Comment: Since the test was only done for 48 hours what effect could the removal of this much water have on the underground aquifer and the domestic water supply in the Lostine area.

016-02 (con't.)

On page 2-10 "Water requirements for the Lostine River Hatchery" it states with average river conditions, no more than about 25% of the flow would be needed for the proposed hatchery."

Comment: What's the adjudicated water rights priority date for the hatchery water. We are concerned that this use not have any priority over existing water rights.

016-03

Please consider the suggested changes carefully, so that together we can continue the work necessary to preserve the custom, culture, and economic stability of Wallowa County and our natural resources.

If you have any questions or would like to discuss these comments further, please call the Wallowa County Natural Resource Advisory Committee 426-4588 or the OSU Extension Office 426-3143.

016-01

Comment acknowledged; the support of the Wallowa County Natural Resource Advisory Committee for the conservation and recovery of chinook is appreciated.

016-02

As referenced in the Draft EIS (Section 3.6.1.1), several groundwater wells were drilled at the proposed Lostine Hatchery site – the Lostine North Well, Lostine South Well, Primary Production Well, and South Observation Well. Information from these wells, and other sources, was used to characterize the area's geology, hydrogeology, and aquifer characteristics through aquifer testing. The results of aquifer testing were summarized in the Draft EIS and presented in detail in two associated technical reports prepared by Montgomery Watson (Report of Lostine Site Production Wells Installation and Testing, February 1999, and Lostine Site Production Wells Supplemental Installation and Testing, February 2001). The purpose of the Montgomery Watson studies was to identify a sustainable supply of good-quality, disease-free water for the proposed hatchery.

To determine well production potential and to measure the effect of proposed hatchery groundwater withdrawals, Montgomery Watson conducted aquifer pumping tests in 1999 and 2000/2001. Both sets of tests showed consistent results, although slightly different groups of wells were used. Both sets of tests consisted of standard, step-rate tests (pumping at different rates for short periods of time) to evaluate well efficiency and capacity and to determine optimal pumping rates for the longer, constant-rate tests. In January 1999, the Lostine South Well was pumped at a constant rate of about 400 gpm for 70 hours while water levels were measured in the Lostine South Well and in the Hayward's well in the Lostine subdivision (about 1,500 feet south of the Lostine South Well). Maximum drawdown measured in the Hayward Well was a few inches (0.20 feet) and the well water level recovered quickly after pumping of the Lostine South Well stopped (97 percent recovery in 160 minutes). Montgomery Watson calculated a "worse case" drawdown of about 0.6 feet in the Hayward Well after 2 years of continuous 400 gpm pumping of the Lostine South Well ("worse case" because continuous pumping of site wells is not proposed).

In January 2001, Montgomery Watson conducted a 25-hour constant-rate test in the Lostine North Well, and a 14-day constant-rate test in the hatchery site Primary Production Well. For each of the constant-rate tests, water levels were monitored in three other wells including the South Observation Well (installed near the Lostine subdivision). As in the 1999 test, drawdown in the observation well was minimal (a maximum of about 6 inches) and the water level recovered quickly after pumping stopped. Montgomery Watson calculated that, if all three site supply wells were pumped simultaneously at optimal flow rates, the combined drawdown in the nearest domestic well would be about 1.5 feet after 10 weeks of continuous pumping and approximately 2 feet after 2 years of continuous pumping (for comparison, measurements showed approximately 112 feet of standing water in the Hayward well). Continuous pumping was used to conservatively estimate drawdown because simultaneous, continuous pumping of the three wells would be required for only 2 to 3 months per year under normal hatchery operations and would typically occur during the months of May and June when river levels would be at their highest (FishPro/HDR 2004b), rather than in January when the aquifer pumping tests were conducted and river levels are relatively low. Montgomery Watson concluded that desired groundwater production levels for the hatchery could be sustained and regulated without affecting production in nearby domestic wells.

Note, also, that Draft EIS Sections 2.1.1.3 and 3.6.1.1 were revised in the Final EIS to state that new groundwater wells would provide up to 1,350 gpm to the proposed Lostine River Hatchery.

016-03

Currently, no water rights have been obtained for the proposed Lostine River Hatchery. If this project is approved for funding of final design and implementation, project co-managers would apply for water rights permits from the Oregon Water Resources Department for all proposed surface water and groundwater withdrawals (see Draft EIS, Table 4.7-1). Applications for water rights are subject to public review and appeal prior to approval by the State and, possibly, requirements for additional testing and assessment of the potential effects of proposed withdrawals on other water users.

017

GRANDE RONDE – IMNAHA SPRING CHINOOK PROJECT DEIS

Please mail your comments by July 7, 2003

COMMENTS:

On the adequacy of the Environmental Impact Statement:

TOO MUCH $ SPENT TO TRY + ESTABLISH A HATCHERY WHERE IT IS NOT WANTED OR NEEDED. 017-01

On the merits of the different alternatives:

GO ELSEWHERE

Preferred ways to mitigate concerns or effects:

GO DOWN STREAM ! LEAVE THE LOSTINE RIVER AND AREA AS IT IS ! 017-02

Other:

STRONGLY OPPOSED TO THIS PROPOSAL ON THE LOSTINE RIVER.
WE ARE PROPERTY OWNERS ON THIS RIVER AND DO NOT WANT THIS HATCHERY. PLS GO ELSEWHERE.

Name DOUGLAS M. BRAGG
Address 1903 LINDA LANE, LA GRANDE, OR 97850
Phone/E-Mail Address (optional) 541-962-8787

017-01

As discussed in Section 1.2 of the Final EIS, Purpose and Need for the Proposed Action, this project is intended to help in the protection, mitigation, and recovery of an important and threatened salmon species. Project planning, design, objectives, and funding continue to undergo close scrutiny by BPA, the Northwest Power and Conservation Council, and the Independent Science Review Panel relative to the potential gains/benefits to threatened chinook populations. Comments received on the Draft EIS are a part of that review. Although several comments from residents in the vicinity of the proposed Lostine River Hatchery indicate that the site is not their preference, others, including the landowner, favor the location. The site's biological, hydrological, and physical aspects contribute to its desirability for its intended function as well.

017-02

As stated in the Draft EIS (Section 2.3), Section 1.8 of the Final EIS, and the NEOH Master Plan (Ashe et al. 2000), several other potential sites in the Imnaha and Grande Ronde Subbasins were evaluated, but dropped from further consideration due to a variety of reasons, including inadequate water supply or quality, lack of available space, inadequate power supply, and/or unavailability for acquisition. One suitable site was identified on the Lostine River, downstream of the proposed Lostine River Hatchery site. This site, at the Strathearn Ranch (Grande Ronde Subbasin site 22, Draft EIS, Table 1-1), met the project requirements, but the owner ultimately decided not to make the property available. Project team members also investigated, and eliminated from further consideration, possible sites on the west side of the Lostine River. One feasible west-side site was identified, but dropped from further consideration because it would require substantially more site development (road improvements, bridge replacement, a powerline across the river, and extensive site clearing and grading); have a potentially greater impact to adjacent landowners (immediately adjacent to one residence and requiring several other residents to drive through hatchery facilities to access their property); and result in more disruption and potential impact to the natural environment (McMillen 2003, personal communication).

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

July 10, 2003

Reply To
Attn Of: ECO-088

01-085-BPA

Mickey Carter, Environmental Project Manager
Department of Energy
Bonneville Power Administration - DM-7
P.O. Box 12999
Portland, OR 97212

Dear Mr. Carter:

The U.S. Environmental Protection Agency (EPA) has reviewed the draft Environmental Impact Statement (EIS) for the proposed **Grande Ronde - Imnaha Spring Chinook Hatchery Project** (CEQ #030238) in accordance with our responsibilities under the National Environmental Policy Act and Section 309 of the Clean Air Act. The draft EIS proposes modifications to two existing hatcheries and the construction of three new hatchery facilities on Lookingglass Creek and the Lostine and Imnaha Rivers. In addition to the no action alternative, the EIS identifies one action alternative. 018-01

We have assigned a rating of LO (Lack of Objections) to the draft EIS. This rating and a summary of our comments will be published in the *Federal Register*. A copy of the rating system used in conducting our review is enclosed for your reference.

While we have no environmental concerns, U.S. EPA has identified additional information discussed below that we recommend be included in the final EIS.

Purpose and Need

The EIS states that the modernization and augmentation of hatchery facilities is needed to increase the success of mitigation efforts and to halt the decline of spring/summer chinook runs. The EIS states that the purposes for the project are:

- providing adequate, contemporary hatchery facilities in the Grande Ronde and Imnaha subbasins and thus, further the implementation of the Lower Snake River Compensation Plan's hatchery fish production program.
- coordinate operations at existing hatchery facilities with the Fish and Wildlife Program of the Northwest Power and Conservation Council, thereby aiding Bonneville Power Administration's (BPA) efforts to mitigate and recover anadromous fish affected by the Federal Colombia River Power System. 018-02
- Aid in BPA's fulfillment of mitigation and recovery goals outlined in the Biological Opinion from National Oceanographic and Atmospheric Administration (NOAA) Fisheries on operation of the Federal Columbia River Power System.

- Achieve economic efficiencies by integration management of fish production programs and facilities.
- Be consistent with the requirements of pertinent federal laws, regulations and executive orders, and other relevant plans and programs.
- Support the Nez Perce Tribe's goal to restore anadromous fish populations and enhance the Tribe's opportunities to exercise treaty fishing rights.

Clearly, the overarching need for this project is the mitigation and recovery of the Snake River spring/summer chinook salmon stocks in the Grande Ronde and Imnaha Rivers. What is not made clear in the EIS is the actions taken and decisions that were made that led to the conclusion that this hatchery project is necessary for the mitigation and recovery of these salmon stocks. In particular, the EIS should address how the project meets BPA's responsibilities under the Northwest Power Act and the Federal Columbia River Power System Biological Opinion. In addition, the EIS should provide a detailed overview of the decisions that were made in the BPA's Business Plan, Lower Snake River Compensation Plan, Wildlife Mitigation Program, Watershed Management Program and Fish and Wildlife Program Implementation Plan that lead to the need for hatchery facilities in the Grande Ronde and Imnaha subbasins. This should include how this hatchery project will relate to efforts being taken to mitigate and recover Snake River spring/summer chinook salmon stocks through habitat restoration, harvest limitations, and hydroelectric power operations. 018-02 (con't.)

Cumulative Impacts

The Affected Environment and Environmental Consequences section of the EIS discusses the cumulative impacts the project will have on various environmental and social parameters. In most cases these discussions are limited to site specific impacts and in a few cases, impacts at the watershed scale. While the magnitude of some of the project's impacts makes it appropriate to limit the discussion to the site specific scale, other impacts can have watershed, subbasin and possibly basin scale impacts. Impacts as the result of removing riparian canopy, increasing impervious surface, and withdrawing water, can extend beyond the site specific scale. Therefore, the EIS should evaluate and discuss cumulative impacts at all the appropriate scales. In addition, when the discussion on cumulative impacts is limited to the site specific scale, the EIS should provide clear justification for doing so. 018-03

Broodstock Collection and Maintenance, Adult Holding and Spawning, Incubation and Rearing, Fish Health Management and Methods and Magnitude of Release

The EIS states that broodstock collection and maintenance, adult holding and spawning, incubation and rearing, fish health management and methods and magnitude of fish release will comply with Natural Rearing and Enhancement System (NATURES) criteria. The NATURES criteria provides for low-density rearing, natural photoperiods, limited human contact, automatic feeding with natural diet training, structures that mimic natural cover and flow regimes and volitional releases. NOAA's Conceptual Framework for Conservation Hatchery Strategies for Pacific Salmonids (1999) recommends similar criteria which are consistent with recommendations proposed in the National Marine Fisheries Service Snake River Salmon 018-04

Recovery Plan. The EIS should discuss how the NATURES criteria conform to the recommendations prescribed in NOAA's Conceptual Framework for Conservation Hatchery Strategies for Pacific Salmonids and provide justification for those instances where NOAA's criteria are not incorporated into the project's facilities development, maintenance and operation. 018-04 (con't.)

Measures of Success and Future Facilities' Plans

The proposed project has been designed to capitalize on the most current information available for the mitigation and recovery of the Snake River spring/summer chinook salmon stocks in the Grande Ronde and Imnaha Rivers. The EIS does not discuss what measures will be utilized to evaluate the project's success, what mechanisms will be implemented to improve success and what will happen if the facilities become obsolete because the Snake River spring/summer chinook salmon stocks in the Grande Ronde and Imnaha Rivers are restored to historic levels. The EIS should develop a process for evaluating the success of the project that includes mechanisms for improvements. In addition, the EIS should describe potential uses of the facilities or a plan for their removal if the project is successful in restoring spring/summer chinook salmon stocks. 018-05

Consultation with Native American Tribes

The Nez Perce Tribe and the Confederated Tribes of the Umatilla Indian Reservation are cooperating agencies for this EIS and are co-managers with the Oregon Department of Fish and Wildlife of the spring/summer chinook conservation and recovery program in Northeast Oregon. While the EIS describes some of the roles the Nez Perce Tribe and the Confederated Tribes of the Umatilla Indian Reservation play in this project, it does not provide any specifics regarding the consultation with these tribes. The EIS needs to assure that treaty rights, and privileges are addressed appropriately, consistent with Executive Order (EO) 13175 (*Consultation and Coordination with Indian Tribal Governments).* Documentation of these consultations should be included in the EIS. 018-06

If you have any questions or need additional information regarding these comments, please feel free to contact me at (206) 553-6911 or Mike Letourneau of my staff at (206) 553-6382.

Sincerely,

Judith Leckrone Lee

Judith Leckrone Lee, Manager
Geographic Unit

Enclosure

U.S. Environmental Protection Agency Rating System for Draft Environmental Impact Statements Definitions and Follow-Up Action*

Environmental Impact of the Action

LO – Lack of Objections

The U.S. Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC – Environmental Concerns

EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO – Environmental Objections

EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU – Environmentally Unsatisfactory

EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 – Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 – Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 – Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.

018-01

Comment acknowledged; the U.S. EPA has assigned a rating of LO (lack of objection) to the Draft EIS.

018-02

The Northeast Oregon Hatchery Master Plan (Ashe et al. 2000), incorporated by reference in this EIS, documents the process and rationale for using hatcheries to aid the conservation and recovery of chinook salmon in Northeast Oregon. Hatchery fish production programs have been operating in the area since 1984. Section 1.2 of the Final EIS summarizes the purpose and need for the program, which is generally, to help in the protection, mitigation, and recovery of a threatened salmon species. Table 1-2 of the Draft EIS also lists relevant laws, plans, treaties, and other guidance that the Proposed Action would serve to support, including the Nez Perce Tribe Treaty of 1855, Snake River Proposed Recovery Plan, Lower Snake River Fish and Wildlife Compensation Plan, Imnaha and Grande Ronde River Subbasin Plans, and the Interior Columbia Basin Ecosystem Management Program.

018-03

The majority of impacts expected to result from the Proposed Action would be limited in time (during project construction) and scale (localized to the immediate vicinity of the project). Final EIS text was added to clarify issues of scale (see Final EIS Section 1.11 and Table 1-4).

Due to the Forest Service management of the Lostine and Imnaha River corridors as Wild and Scenic Rivers, development and land use activities are limited and restricted within and around the corridors and the Proposed Action sites; and therefore, limited cumulative effects are expected. No change in water diversion, fish habitat or effluent discharge are expected from review of local county building permits granted for other activities in the vicinity of project sites (primarily for residential development), although on-going salmon/habitat recovery projects within the Grande Ronde Model Watershed Program in Union County may potentially result in cumulative benefits to listed species and their habitats. Similarly, projects in Wallow County to rehabilitate a poorly functioning dam at Wallow Lake, recover salmonids under the Wallow County/NPT Salmon Habitat Recovery and Multi-Species Strategy, and various watershed action plans are anticipated to have beneficial, cumulative impacts on listed species and critical habitats which would be enhanced by the Proposed Action.

018-04

See Final EIS (Sections 1.6 and 2.3) for clarification of how NATURES criteria are incorporated into the Proposed Action (and criteria conformance with the recommendations in NOAA's Conceptual Framework for Conservation Hatchery Strategies for Pacific Salmonids).

018-05

As discussed in Section 2.2 of the Final EIS, phase out of the hatchery facilities is not reasonably foreseeable. It is anticipated that spring/summer chinook would be collected yearly for approximately 20 to 25 years, or until adult replacement rates for the naturally spawned population suggest that the population is naturally sustainable (Ashe et al. 2000). The expected duration of the hatchery program would be dependent on changes outside of hatchery operations (i.e., the hatchery program may operate over a longer period of time if other factors limiting population recovery are not mitigated or otherwise controlled, or the hatchery program may operate over a shorter period of time if other limiting factors are reduced). In either case, analysis of hatchery removal would be a programmatic decision, depending on the success of the overall recovery effort, of which the Proposed Action is a component.

Overall production program success is a pre-existing goal under the Lower Snake River Compensation Plan and the conservation/recovery objectives of the ESA permitting program. Project-specific performance standards were developed by project co-managers and reviewed by the Independent Scientific Review Panel (ISRP) and finalized as the Monitoring and Evaluation Plan for Northeast Oregon Hatchery Imnaha and Grande Ronde Subbasin Spring Chinook Salmon (Hesse and Harbeck 2004). The ISRP completed its review of this plan on May 18, 2004 and responded "…that this document is an excellent working draft of a stand-alone M&E Plan for the NEOH hatchery Imnaha and Grande Ronde subbasin spring chinook salmon program." The ISRP also further complimented the authors "….for being among the first to bring the modern EMAP [Environmental Monitoring and Assessment Program] probabilistic sampling procedures into the Columbia Basin." Monitoring and evaluation elements of this plan would be applied to the proposed project and are incorporated into the Final EIS and Biological Assessment by reference.

018-06

The Nez Perce Tribe and the Confederated Tribes of the Umatilla Indian Reservation, along with the ODFW, are the co-managers of the fisheries resources in Northeast Oregon. Efforts to date have been primarily technical with fisheries staff from both Tribes elevating higher-level decisions to tribal leadership (Grassel 2004, personal communication). As part of the next round of project review (Step 2 submittal), the Northwest Power and Conservation Council has asked the co-managers to submit concurrence letters, which the Tribes have agreed to do (Zimmerman 2004, personnel communication). BPA is responsible for assuring compliance with Executive Order 13175, and text was added to the Final EIS (Section 2.4) to more clearly explain this. BPA has been consulting with the tribes in an on-going, iterative fashion from the beginning of the project and, therefore, has been fully consistent with Executive Order 13175.

Mary Kay Howey
64989 Lostine Riv. Rd.
Lostine, OR 97857

JUL 2 8 2003

Petition to Move Lostine River Fish Hatchery

We the undersigned believe that the proposed fish hatchery on the Lostine River should be moved to the west side of the river rather than keep it on the east side as it is now proposed.

The residents that live along Grainger Road and on the Lostine River Rd. would be negatively impacted by traffic and noise, and if the hatchery were established on the West side of the river this impact would be greatly deminished as there are fewer residents on that side. The west side is ideal for the purposes of a hatchery, whereas the east side is not.

019-01

Signature	Address	Phone
John J Dulin	First 64870	569-2384
Cynthia B. Dulin	64870 First St PO Box 145	569-2384
Rhea M Courtney	64801 Grainger Rd Lostine Or	569-2482
Mary L White	65028 Grainger Rd	569-2405
Shawna Courtney	64801 Grainger Rd	569-2482
Cindy E Ellis	65028 Grainger Rd	569-2405
Thomas Ellis	65028 Grainger Rd	569-2405
Mary T. Hayward	64859 Grainger Rd	541-569-2494
	64860 Grainger Rd	541 564-9840
Lois M Jones	64869 Grainger Rd	541-564-9840
Mary V Bundy	65049 Leaning Tree Rd	541-569-2236
Lee H Bundy		
Barbara Halverson	64910 First Rd	541 569 2457
Ruth Shuman	64732 Lostine River Rd	Box 96
Alden Shuman	64732 Lostine River RD	Box 96
Lowell D Armen	64422 Linn Rd	
	64427 Tamarack Rd	569-2428
Frances M. Cherry	66616 Lostine River Rd	569-2257

JUL 2 8 2003

Signature	Address	Phone
Randy & Nancy	64646 Lostine River Rd Lostine Or.	569-[illegible]
Chris Seyer	64705 Lostine River Rd	569-5190
Christine Seyer	64705 Lostine River Rd.	569-5190
Michael J. McLain	65080 Lostine River Rd	569-2235
Jan E. McLain	65080 Lostine River Rd PO Box 63	569-2235
Mary Kay Haney	64989 L.R.R. 97857	569-2245
Corey Norton	65048 Lostine River RD	569 2004
Ralph Simmons	65048 Lostine River Rd	569 2004
Bill Williams	65048 Lostine River RD	969-7390
Betsy Williams	65048 Lostine River RD	969-7396
Lonnie J. Cannon	LOSTINE	
[illegible]	Lostine River Rd	503709 5466
Sharon Weishoff	Lostine River Rd	569-5156
Roger Weishoff	" " " " "	
Jack Rath	Tamarack Road	
Carrie Virden	Tamarack Road	
Barry DeVaneen	Tamarack Road Lostine, Or.	569-2040
Sheila DeVaneen	Tamarack Road - Lostine	569-2040
Doug Cross	Tamarack Road - Lostine	569-2040
Gayle Ogg	64191 Tamarack Rd, Lostine	
[illegible]	Lostine River Rd	Cell (503) 709-5466
Fred Cook	64443 Lostine River Rd	569 2484
Bert Cook	64443 Lostine River Rd	569-2484
Irene Jones	PO Box 84 78688 Wenaha Ln Lostine, Or	569-2479
Larry Jones		

JUL 2 8 2003

Petition to Move Lostine River Fish Hatchery

We the undersigned believe that the proposed fish hatchery on the Lostine River should be moved to the west side of the river rather than keep it on the east side as it is now proposed.

The residents that live along Grainger Road and on the Lostine River Rd. would be negatively impacted by traffic and noise, and if the hatchery were established on the West side of the river this impact would be greatly deminished as there are fewer residents on that side. The west side is ideal for the purposes of a hatchery, whereas the east side is not.

Signature	Address	Phone
Donna Loeb	64855 Grainger Rd	569-23c
Jim Cantant	64446 Lostine R Rd	569-20[illegible]
Polly Cantant	64446 Lostine R Rd	569-2015

WITH THE EXCEPTION OF THREE PARTIES ALL PERSONS CONTACTED SIGNED THIS PETITION.

CC: WALLOWA COUNTY PLANNING DEPT
NEZ PERCE TRIBE, SHANNON GLOSSER
BONNEVILLE POWER ADMIN, MICKEY CARTER
NEPA, CAROL BERGSTROM, DIRECTOR

CONTACT PERSONS: JOHN DULEN, JAN McLAIN, MARY KAY HO[illegible]

019-01

As stated in the Draft EIS (Section 2.3), Section 1.8 of the Final EIS, and the NEOH Master Plan (Ashe et al. 2000), several other potential sites in the Imnaha and Grande Ronde Subbasins were evaluated, but dropped from further consideration due to a variety of reasons, including inadequate water supply or quality, lack of available space, inadequate power supply, and/or unavailability for acquisition. One suitable site was identified on the Lostine River, downstream of the proposed Lostine River Hatchery site. This site, at the Strathearn Ranch (Grande Ronde Subbasin site 22, Draft EIS, Table 1-1), met the project requirements, but the owner ultimately decided not to make the property available. Project team members also investigated, and eliminated from further consideration, possible sites on the west side of the Lostine River. The one feasible west-side site was identified, but dropped from further consideration because it would require substantially more site development (road improvements, bridge replacement, a powerline across the river, and extensive site clearing and grading); have a potentially greater impact to adjacent landowners (immediately adjacent to one residence and requiring several other residents to drive through hatchery facilities to access their property); and result in more disruption and potential impact to the natural environment (McMillen 2003, personal communication).

Sections 3.2 through 3.17 of the Draft EIS describe the anticipated impacts to the natural and built environment as a result of the proposed project, including construction, operation, and cumulative effects of traffic (Section 3.10) and noise (Section 3.13). Section 3.10.3 of the Draft EIS, as revised for the Final EIS, includes a discussion of the potential traffic impacts on nearby roads and residents. Traffic would increase at all sites temporarily during construction. At the Lostine River Hatchery, long-term impacts to traffic would be associated with the on-site residences, local employees, supply trips, and fish transport trips. For about 3 weeks in January, five to eight additional round-trips per day would be made by temporary workers employed at the hatchery (Zollman 2003, personnel communication). The number of trips to and from the hatchery and associated impacts on neighbors would be about the same whether the hatchery was located on the proposed site or across the river.

Although the proposed Lostine River Hatchery has the greatest potential to affect local residents given its proximity to homes and the current undeveloped nature of the site, it is the intent of hatchery co-managers to be good neighbors within the community. Therefore, the proposed project includes use of best management practices, activities, and other measures to avoid prolonged incidents of loud or excessive noise during construction and operation. During construction, noise-generating activities would be controlled by limiting the hours of construction. Measures to avoid loud or excessive noise during facility operations would include enclosing pumps and generators within buildings, and locating new facilities as far away as feasible from nearby residences.

AUG 2 8 2003

United States Department of Agriculture | Forest Service | Pacific Northwest Region
333 SW First Avenue (97204)
PO Box 3623
Portland, OR 97208-3623
503-808-2468

File Code: 2350
Date: August 26, 2003

Ms. Therese B. Lamb
Acting Vice-President for Environment, Fish, Wildlife
Bonneville Power Administration
P.O. Box 3621
Portland, OR 97208-3621

Dear Ms. Lamb:

Enclosed is my determination under Section 7(a) of the Wild and Scenic Rivers Act (WSRA) for the Northeast Oregon Hatchery Project. My review is based on the *Draft Environmental Impact Statement Prepared for the Northeast Oregon Hatchery Project Grande Ronde Spring Chinook Project* (NEOH DEIS), May 2003. My determination presumes that water rights are secured for the Imnaha and other facilities. The WSRA Section 7 determination is preliminary, based on the information in the NEOH DEIS. I will make a final determination in response to the NEOH Final Environmental Impact Statement (NEOH FEIS).

Following the NEOH FEIS, the Forest Supervisor of the Wallowa-Whitman National Forest will make a separate decision on whether to issue a special use permit for the Imnaha Satellite Facility modifications, which are located on National Forest lands. 020-01

I evaluated proposed project facilities in the Imnaha Wild and Scenic River (WSR) as to whether their construction and/or operation resulted in "direct and adverse effects" on the river's free-flowing condition, water quality, and outstandingly remarkable values, as directed by the language of Section 7(a) of the WSRA. I considered the effects of proposed project facilities below the Lostine WSR and on Lookingglass Creek (tributary to Grande Ronde WSR) as to their effects within the designated river corridors and specific to scenery, recreation, fish or wildlife values, also as directed by language in Section 7(a) of the WSRA. I will not summarize my determination in this cover letter, but do want to draw attention to two significant concerns identified in my determination.

Based on information in the NEOH DEIS, my principal concern is the Imnaha Final Rearing Facility's effects to the river's free-flowing condition due to proposed in-channel structures and to in-channel effects resulting from floodplain protection fill. It is my preliminary finding that the free-flowing condition of the Imnaha WSR would be directly and adversely affected by the Imnaha Final Rearing Facility as proposed. The WSRA protection of free-flow is a fundamental protection afforded by the statute. New construction such as the Imnaha Final Rearing Facility in the floodplain of the river will be difficult to reconcile with protection of the Imnaha WSR's free-flow. Construction and water diversion from a new facility will also create entirely new impacts to in-stream and riparian fish habitat, and the new facility will increase transport and handling stress on juvenile fish. Although it may be possible to alter the facilities design and operation to avoid adverse effects, I also ask that you reconsider the need for this part of the NEOH proposal. 020-02

I am unable to make a finding regarding the effect of the proposed action on fish and fish habitat for the Imnaha and Lostine WSR's as part of my preliminary determination. This is because the NEOH DEIS provides insufficient information and analysis to complete my analysis of effects to fish and fish habitat. I also anticipate that the recent recommendations (June 2003) of the Independent Science Advisory Board will be incorporated into design and operation of the proposed facilities, and will be reflected in the NEOH FEIS. The specific additional information and analysis needed for my determination are summarized in my determination and are discussed in detail in the enclosed *Wild and Scenic Rivers Act Section 7(a) Report, NEOH DEIS.* The *Wild and Scenic Rivers Act Section 7(a) Report, NEOH DEIS*, also identifies other concerns and suggested mitigations to better protect the outstandingly remarkable values of the Imnaha WSR. Please consider this report as the Forest Service comment on the NEOH DEIS. 020-03

I appreciate your extension of time for my review of the NEOH DEIS. The NEOH DEIS goals for restoration of natural production of spring Chinook are also goals for stewardship of these WSR's. I am committed to efforts to restore natural production of spring Chinook in a manner that protects this species, nontarget fish species, other WSR-related values, and values of surrounding National Forest System lands. I look forward to collaboration with BPA, other Federal and state agencies, and the Nez Perce Tribe on these shared goals. 020-04

Sincerely,

/s/
LINDA GOODMAN
Regional Forester

Enclosures

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Wild and Scenic Rivers Act
Section 7(a) Report
Draft Environmental Impact Statement
Prepared for the Northeast Oregon Hatchery Project
Grande Ronde Spring Chinook Project
August 26, 2003

This Section 7(a) report provides the basis for evaluation of the Northeast Oregon Hatchery project proposals within the Imnaha Wild and Scenic River (WSR) corridor under the "direct and adverse effects" standard and, for the portions of the project located proximate to the Lostine and Grande Ronde WSRs, under the "invade the area or unreasonably diminish" standard. It is presented in three parts:

- Projects Within the Imnaha WSR Corridor
- Projects Below the Lostine WSR
- Project Above the Grande Ronde WSR

020-05

The report is based on the description of the effects in the *Draft Environmental Impact Statement Prepared for the Northeast Oregon Hatchery Project Grande Ronde Spring Chinook Project* (NEOH DEIS) and Forest Service staff knowledge. The majority of the discussion relies on evaluation in the NEOH DEIS. Additional evaluation is provided by Forest Service specialists, based on local knowledge and other sources of information as parenthetically referenced.

Projects Within the Imnaha WSR
Final Rearing Facility
Satellite Facility

Evaluation under the "Direct and Adverse Effects" Standard
Free-flowing Condition
Water Quality
Outstandingly Remarkable Values

Imnaha Final Rearing Facility

The following discussion is focused on those components of the Imnaha Final Rearing Facility that affect the river's free-flowing condition and are therefore water resources projects subject to Section 7(a). Project proposals are evaluated as to their effect on the river's free-flowing condition, water quality, and outstandingly remarkable values (ORV). A detailed project description is provided in the introduction of the *Wild and Scenic Rivers Act Preliminary Section 7 (a) Determination.*

Components of the Imnaha Final Rearing Facility that are or appear to be within the ordinary high water mark of the river include:

- A water intake structure, associated excavation of rock abutment, and 50 feet of the pipeline from the intake to the hatchery
- A fish bypass pipeline, outfall and riprap, and associated pool
- An outfall structure and 200 cubic yards of associated riprap
- Concrete abutments for a new bridge, associated riprap, and removal of old bridge abutments

The proposal also includes placement of flood-protection fill to keep the river from overtopping its west bank during high water events (NEOH DEIS 3-75). Fill placement is described as "upland of riparian vegetation" (NEOH DEIS 3-29). The extent (dimension) of this activity is unclear, as is its location relative to the river's bed and banks. However, based on the description provided in the NEOH DEIS, this fill will affect the river's ability to access its floodplain in the project area, and downstream from the project is likely to result in flooding, scour and erosion. It is considered in this analysis. 020-06

Refer to Figure 2.6 (NEOH DEIS page 2-12, also reproduced in *Wild and Scenic Rivers Act Preliminary Section 7(a) Determination*) for a detailed drawing of the proposal.

Description of Effects to Within-Channel Conditions

Position of the proposed activity relative to streambed and stream banks

Water intake, excavation of rock abutment, and associated pipeline:
"The intake structure would be located on the west bank of the river, about 1,200 feet upstream of the proposed outfall site. Installation of the structure would require the excavation of an existing rock abutment and the use of a fill cofferdam and two dewatering pumps. The pumps would discharge water through a sediment pond located within the upland meadow prior to being discharged back to the Imnaha River downstream of the construction area. The cofferdam is proposed for installation from the end of the existing irrigation channel and access road to about 50 feet upstream of the intake location. The river would be diverted to the east bank. Construction equipment would be driven across the pasture from the existing bridge to the cofferdam area via a temporary access road" (NEOH DEIS 3-29).

Note: The NEOH DEIS states the distance between intake and outfall at 1200 (DEIS 3-29) and 1900 feet (NEOH DEIS 3-84), respectively.

"The first section (about 50 feet) of the surface water diversion pipeline would be imbedded below the water surface into the west bank via trenching, then mortared with rocks to mimic natural substrate. The remaining sections of the pipeline would be installed within an existing irrigation ditch, requiring the removal of some non-riparian vegetation. Installation of this pipeline could result in temporary increases in sediment, but erosion control devices would be in place to minimize sedimentation and contain it within the cofferdam area" (NEOH DEIS 3-29). See also Figure 2-6 (NEOH DEIS 2-12).

Fish bypass pipeline, outfall and riprap, and associated pool:
"The intake fish screen would be placed on the upland portion of the site, about 600 feet downstream from the intake. Fish that entered the intake would be returned to the river via a fish bypass pipeline that originates at the screen site. A majority of the fish bypass pipeline construction would take place on the upland portion of the site. The outfall for the bypass line would be located on the west bank as close to the river surface as possible. To aid in returning fish to the river at the bypass outfall, a pool would be excavated at the base of the outfall. Fish may collect within this pool for short periods of time, but would eventually continue their migration" (NEOH DEIS 3-30). The fish bypass outfall "would have riprap flood protection on its upstream and downstream sides. The bypass outfall would be placed outside the main channel..." (NEOH DEIS 3-75). See also Figure 2-6.

020-06 (con't.)

Project outfall and riprap:
"The cast-in-place concrete outfall structure would be constructed concurrently with the intake. A small cofferdam and dewatering system would be used to install the outfall. The structure would require 200 cubic yards of riprap flood protection on the upstream and downstream sides of the bank" (NEOH DEIS 3-30). See also Figure 2-6 (NEOH DEIS 2-12).

Concrete abutments for a new bridge and removal of old bridge abutments:
"The existing bridge, which is located about three feet lower than the 100-year flood elevation, would be relocated upstream to an area above the 100-year floodplain. Concrete abutments would be placed bankside of the normal flow levels to minimize the need for dewatering. Abutments would likely impact a small amount of riparian vegetation and shading. Disturbed areas of the temporary bridge location would be revegetated" (NEOH DEIS 3-30). "The site is a low-lying, flat basalt bedrock shelf covered by alluvial sediments. The site is only partially flooded during extreme runoff events such as a 100- to 500-year flood" (NEOH DEIS 3-75). See also Figure 2-6.

Flood-protection fill:
"To protect the site from flooding, approximately three feet of fill would be placed on the upland side of riparian vegetation. Erosion control devices would be used during site raising to minimize sedimentation. The sites would be revegetated with native species, where appropriate, upon completion of construction" (NEOH DEIS 3-29). This fill will be placed "over the low side of the site to raise it above the current projected 100-year

floodplain. This would reduce flood potential by keeping most major flood events from overtopping the west bank and inundating the proposed facility. A 500-year flood event could potentially inundate the site, disrupt facility operations, overwhelm onsite drainage systems and damage vulnerable equipment (i.e. electric pumps, controllers, raceways, etc)" (NEOH DEIS 3-75).

Changes in active channel location, geometry, slope, and/or form

"The intake structure, although small, could slightly impede or alter natural river flows and thus is considered to be a minor adverse effect to free flow of the river. In addition, when water is taken through the facilities for hatchery operations, the flow in the river channel would be reduced between the intake and outfall, but the river would maintain its free flow appearance overall" (NEOH DEIS 3-84).

"The proposed fish bypass outfall would have riprap flood protection on its upstream and downstream sides. The bypass outfall would be placed outside the main channel and would not impede or alter the typical flow regime" (NEOH DEIS 3-75). The NEOH DEIS does not describe the size of the planned in-channel excavation for the fish bypass pool, how will it be maintained, or potential effects to the channel.

"The main hatchery outfall would be armored with riprap and would only disrupt flow in its immediate vicinity" (NEOH DEIS 3-75).

020-06 (con't.)

"The proposed action would remove the existing bridge abutments at the Imnaha Final Rearing Facility, which would eliminate a constriction to river flow. However, the installation of a replacement bridge upstream of the existing bridge would result in placing abutments that would also constrict the natural river flow. This constriction of the natural river flow would be slightly less than under current conditions. The final design of the replacement bridge would result in the bridge abutments being placed in locations that minimize effects on the free flow of the Imnaha River" (NEOH DEIS 3-84).

"While the new bridge abutments would slightly disrupt flow, they would be an improvement over the current situation" (NEOH DEIS 3-75). The NEOH DEIS is not specific as to where the new bridge abutments will be located relative to bankfull flows.

Relative to flood-protection fill, "fill placement on the site would restrict flows during temporary high water events, confining them to the active channel. This would result in higher water levels in the active channel and an increased potential for downstream flooding, scour, and erosion during more extreme events such as 100- to 500-year floods" (NEOH DEIS 3-75).

Relevant water quality parameters

"Instream construction, excavation and grading, bridge construction and placement of fill at the Imnaha Final Rearing Facility could introduce sediment or other construction-related contaminants to the Imnaha River over short periods of time resulting in localized temporary water quality effects. Flow would remain in the channel, but be directed away

from work areas. Pump discharge would be routed through a sediment basin prior to discharge back into the Imnaha River" (NEOH DEIS 3-76).

Operation of the facility will also result in less water in the project area (between intake and outfall). The amount varies on the water-year but is estimated at "less than 25 percent of the total river flow for periods of average low flow" ranging to up to 50 percent "during below-normal" years (NEOH DEIS 3-76). A permanent reduction of flow in the area between the intake and outfall will occur during the periods of diversion and increase temperature of the reach.

The NEOH DEIS (3-32) also mentions monitoring of the physical properties and chemical constituents in the hatchery effluent in order to insure compliance with water quality standards. No explanation is provided for how this will be done, or of how water quality standards will be met.

Navigation of the river

Above the town of Imnaha, including the project area, river flows are too low to accommodate boating.

Riparian, Floodplain and Upland Effects

020-06 (con't.)

Vegetation composition, age structure, quantity, or vigor

"Removal of riparian habitat is expected to be limited to the area of the intake pipeline, outfall and bridge abutments. The amount of riparian habitat affected by this removal is about 1600 square feet, which is negligible and would not affect total shading habitat available. Riparian zones would be replanted with native vegetation. The land use change from a cattle pasture would encourage the reestablishment of more diverse native riparian vegetation along the riverbank and decrease some sedimentation" (NEOH DEIS 3-30).

Relevant soil properties

"The upland infrastructure required to develop the site into a final rearing facility includes a headbox, raceways, water supply well, shop, residence, and ancillary support facilities. Construction of the proposed facilities would occur on undeveloped pastureland that is currently grazed by cattle. Construction would add about three acres of impervious surfaces to the site, which may lead to increased or rerouted runoff and sediment carried into the river. Increased runoff is expected to be temporary and is not anticipated to exceed a stream's ability to carry sediment away from the site. Associated best management practices to reduce sedimentation are part of the Proposed Action" (NEOH DEIS 3-29). Given the areas of newly created impervious surfaces, increased runoff would appear to be permanent.

Relevant floodplain properties

The armoring (riprap) associated with the fish bypass outfall and project outfall will accelerate the river's flow in a localized area, potentially decreasing bank stability and increasing erosion in areas of redirected flow. The flood-protection fill is designed to limit the river access to its floodplain during high water events and may, in such events, result in downstream scour or erosion.

Effects to Existing Hydrologic or Biologic Processes Due to Changes in On-Site Conditions

The project will affect the amount of water in the project area (between intake and outfall).

"The water budget has been designed to adjust the facilities water requirements based on instream flow from year to year, as shown in Table 3.2-11. The 'preferred NATURES' criteria provide an improved rearing/holding environment through the use of higher pond turnover (complete exchange of pond water) rates. The "acceptable NATURES" water strategy, provides an adequate rearing environment, but reduces the amount of water withdrawal and thus reduces turnover rates. The maximum flow required for rearing at the Imnaha Final Rearing Facility is about 23 cfs, based on the 'preferred' NATURES criteria flow scenario. This flow would be required for a short period of time (late February through March) during the transition period of rearing when smolts are on hand. Water use would be non-consumptive; all water withdrawn would be returned to the Imnaha River" (NEOH DEIS 3-31).

020-06 (con't.)

"In addition to the water required for rearing, about 10 cfs would be diverted through the intake to operate the fish screening and bypass pipeline. This diversion would take place over the first 600 feet of the total 1,200 feet of diversion from the intake to the outfall. The total diversion at peak usage, therefore, would be about 33 cfs (March) for about 600 feet, and about 23 cfs for the remaining 600 feet to the outfall. During critical low flow years, this water diversion scenario could negatively impact habitat use when the maximum diversion is desired at the facility. Implementation of the "acceptable" rearing criteria surface water withdrawals would then occur" (NEOH DEIS 3-31).

"Peak water diversion in February and March, and withdrawals during low-flow periods (September –October) may adversely affect fish passage through the diversion reach at the Imnaha Final Rearing Facility. The majority of migrating bull trout would be in cooler, upstream waters in September and would move downstream in the late fall when low flow would not impact outmigration. Rapid turn-around bull trout spawners may encounter low flow conditions, depending on water temperatures during each season. Steelhead do not occupy the mid-Imnaha in the fall and winter, but begin upstream migration in early spring (March – April). Early steelhead migrants may be present during the final stages of operation at the Imnaha Final Rearing Facility, when the maximum amount of surface water is diverted (about 33 cfs from intake to fish bypass; then about 23 cfs from bypass to outfall). Therefore, delays to migrating steelhead may

occur if flows are low during this period. Monitoring would be performed to determine the affect on passage of migrating salmonids. If passage problems are observed, program changes would occur. These may include reducing the required amount of water at facilities to allow for more instream flow, or physical passage of species upstream" (NEOH DEIS 3-32).

"The Imnaha Final Rearing Facility would begin operation during spring/summer Chinook spawning in September when water levels are low; however, most spawning occurs upstream of the facility. If spawning habitat is negatively impacted due to diversion during periods of low flow, modifications to the water management strategy would be implemented. The "acceptable" water strategy, which reduces the amount of water withdrawal could be used if impacts to spawners, caused by low flows, are observed" (NEOH DEIS 3-32).

"Rearing juvenile Chinook and resident fish may be affected by water diversion, but impacts would occur over a brief period of time and are not expected to affect long-term population trends or individual distribution" (NEOH DEIS 3-32).

"Hatchery water would flow constantly through the facility from September through March during final rearing of smolts, and so would not be subject to excessive heating or exacerbate the July to August normal heating which caused the Imnaha River to be listed as water quality limited by OR DEQ. Water temperature changes at the facility, if any, would be temporary, localized and minor. Any such changes are not anticipated to disrupt the behavior or distribution of individual fish adjacent to or downstream of the site" (NEOH DEIS 3-76).

020-06 (con't.)

Magnitude and Spatial Extent of Potential Off-Site Changes

Likely changes from this project proposal include scour and erosion from flood-protection fill and armoring of fish bypass outfall and project outfall. These effects will occur within the project area but are also predicted to occur downstream. The most significant changes are anticipated at high flow events, when the river's access to its floodplain is limited by flood-protection fill.

Duration of Effects

Effects from construction activities will be temporary and localized. Long-term project effects such as erosion from armored fish bypass outfall and project outfall, downstream flooding, scour and erosion resulting from flood-protection fill, and reduced water flow from intake to outfall during portions of the year will persist for the life of the project.

Effects to Outstandingly Remarkable Values

The Imnaha WSR's outstandingly remarkable values (ORV) are its scenery, recreation, fisheries, wildlife, vegetation/botany, history/prehistory, and traditional use/lifestyle adaptation. Each ORV is described through four subsections:

- ORV Description
- Management Goals from the Imnaha WSR Management Plan (Imnaha RMP)
- Discussion in NEOH DEIS
- Description of Project Effects

Scenery

ORV Description—The Imnaha River is recognized for its scenic qualities. The designated WSR traverses the climatic spectrum from glaciated mountains and alpine meadows at over 8,000 feet in elevation, to a rattlesnake and cactus environment at 1,000 feet in elevation at the mouth of the river. The Imnaha River corridor provides one of the greatest contrasts in landforms, vegetation, color, and climate of any WSR component in the inland Northwest. The pastoral setting of the predominately ranch-oriented middle section of the river evokes images of a classical western landscape.

Scenery Management Goals from the Imnaha RMP—The visual quality objective (VQO) within the wild river corridor is preservation; the recreational and scenic river corridor VQO is retention. The desired future condition is a natural appearing landscape with a minimum amount of nonconforming visual impacts. As riparian vegetation screening of altered areas increases, the scenic condition of the corridor should improve. New development will be designed to blend with the natural character of the landscape and will conform to the rustic nature of the area. The wild section should remain unchanged with native and natural vegetation predominating. The private land would retain its pastoral setting of western farms and ranches.

020-06 (con't.)

Discussion in NEOH DEIS (3-106)—"The Imnaha Final Rearing Facility would include three new buildings – a storage/shop building, a single-family residence, and a bunkhouse. These buildings would be wood-sided and located as far from the river as possible within the relatively level portion of the site. Additional facility components would include ten concrete raceways (long rectangular ponds), a concrete intake structure and a concrete outfall, and a cleaning waste basin. The existing access bridge across the Imnaha River would be relocated about 200 feet upstream. Project construction would involve clearing about six acres of pasture land and filling the northern section of the site up to three feet to raise the new facilities above the 100-year flood level. Most of the riparian vegetation would be retained and riparian vegetation would be replanted in the area where the existing bridge would be removed and where additional screening is desired."

Figure 3.9-9 in the NEOH DEIS (page 3-103) shows "before" and "after" views of the Imnaha Final Rearing Facility site as seen from Imnaha River Road looking south. As shown in the NEOH DEIS visual simulation, the storage building, fill bank, cleaning waste basin and relocation of the existing bridge would be partially visible from this viewpoint. The new facilities would generally be sited within the existing pasture and located to take advantage of screening provided by existing large woody vegetation. Due to vegetation screening, the facilities would be visible to the public intermittently and for a brief duration from limited sections of the roadway. The relocated bridge would be

visible from the road and would be similar to the existing bridge in appearance and degree of visibility."

"Although the site is located within a Wild and Scenic River corridor with a "retention" visual quality objective (VQO), the designation does not apply to privately owned lands (U.S. Forest Service 1993a). However, most of the on-site screening vegetation is being retained along the Imnaha River and an informal planting of native trees and shrubs would be strategically planted at the site, along the south side of the Imnaha River Road to screen facilities from roadway views. The buildings would exhibit a simple style, consistent with other buildings in the vicinity (*i.e.*, not starkly different). Exterior colors and materials would be chosen to blend with the surrounding natural landscape. All lighting would be directed on-site. Outdoor lighting would generally be directed downward." (NEOH DEIS 3-106)

"No inconsistencies with the Wallowa County Comprehensive Land Use Plan relative to visual quality are apparent. Adherence to Wallowa County Land Development Ordinance Development Standards relative to visual concerns would be controlled by building permits." (NEOH DEIS 3-106)

Description of Project Effects—The WSRA does not provide for direct regulation of scenic values on private land within the WSR corridor; however, regulation is possible through the Hells Canyon National Recreation Area (HCNRA) Private Land Use Regulations. The goal of the Imnaha RMP is to work cooperatively with private landowners to achieve conservation of scenic values. In this case, collaboration with BPA on design of the facilities would provide significant improvements. A primary goal of this collaboration would be to avoid an industrial appearance that is common with fish hatcheries.

020-06 (con't.)

The HCNRA Private Land Use Regulations govern the appearance of structures by requiring all new structures be screened and/or constructed of materials that blend with the natural environment. In addition, all new utility lines are to be placed underground. The regulations are part of the approval criteria used by the Wallowa County Planning Department in review of building permit applications.

The proposed facility affects a relatively small area (less than 10 acres), and it is largely screened from most viewpoints. The project does not dominate the scenery, and the area will generally retain its existing appearance. However, there are undesirable effects to scenery that could easily be mitigated to greatly improve the project. Specific improvements could include:

- Design the row of low buildings noticeable from the Imnaha River Road in an architectural style that blends with existing structures in the surrounding Imnaha Canyon
- Design the new bridge in a style similar to farmlands bridges in the area.
- Design structures such as fencing, gates, railings, signs, etc., to be similar to farmland structures of the same type in the area
- Place all new utility lines underground

Recreation

ORV Description—The Imnaha River is recognized nationally for its recreational opportunities. Opportunities to camp, fish, hunt, view wildlife, enjoy outstanding scenery and solitude, and have a pleasurable vacation are perhaps unsurpassed in the Inland Northwest. These recreational opportunities are enhanced as they are nestled between the beautiful Wallowa Mountains and the awe-inspiring Hells Canyon of the Snake River. Another important attribute of the Imnaha River is the year-round access and opportunities that are available.

Recreation Management Goals from the Imnaha RMP—The wild segment of the river is semi-primitive/nonmorotized recreation opportunity spectrum (ROS) class from Indian Crossing to the Eagle Cap Wilderness. The ROS class within the wilderness is primitive. The ROS class of the scenic segment of the river is a semi-primitive/motorized, with limited motorized use present as a limited exception to the class. The recreational segment is a combination of rural ROS class on private land and roaded natural ROS class on public lands. In general, the roaded natural ROS class ranges from a more developed setting (Pallette Ranch to approximately Ollokot Campground) and then changes to a less developed and more rustic roaded natural ROS as you leave the vicinity of Ollokot Campground and approach Indian Crossing. Generally, the Imnaha River provides a continuum of ROS classes from a rural setting and more developed roaded natural setting to a less developed and more rustic roaded natural setting, then to semi-primitive setting and finally to a primitive wilderness ROS class.

020-06
(con't.)

Discussion in NEOH DEIS (3-82)—"The proposed Imnaha Final Rearing Facility is on private land far from any dispersed or developed recreation site managed for the public. Public recreation is limited to sightseeing and photography from the Upper Imnaha River Road. The site of the Imnaha Final Rearing Facility is not known as a particularly unique sightseeing opportunity or popular photo point. The proposed facility's effect on sightseeing is discussed above under Scenic ORV."

Description of Project Effects—The project will have limited effects to recreation. The mitigation proposed in the discussion of scenery will protect the recreation setting of the river corridor. The construction of this facility may create recreation use by visitors traveling on the Imnaha River Road, a part of the Hells Canyon Scenic Byway. The BPA should consider the appropriateness of including interpretation at this site (e.g. interpretive signs, parking, restrooms).

Fisheries

ORV Description— Both fish populations and habitat are ORVs. Bull trout, which are indicators of high-quality, clean and cold-water habitat, are well represented in the Imnaha with a healthy population. The Imnaha River contains an unusual run of larger and older Snake River system spring Chinook salmon. The fact that both Imnaha salmon and steelhead production objectives (under fish population management plans by tribal, state, and federal co-managers) rely upon native stocks also makes this river system

uniquely important. The river habitat of the Imnaha has not been significantly affected by human use and therefore is probably not too dissimilar from what it was prior to historic settlement. Land and water uses have had a minimal impact on water quantity and quality. There is one major irrigation withdrawal from the Imnaha drainage in Big Sheep Creek where 162.6 cfs are removed from the system and diverted to the Wallowa Valley.

Fisheries Management Goals from the Imnaha WSR RMP—The goal is for stable streambanks, excellent water quality, habitat complexity, natural levels of woody debris, and increased woody debris amounts from Neil Creek to Evergreen Campground. The population of anadromous fish, bull trout, and other native fish will be at or near the carrying capacity of the habitat potential. Many elements of the desired future condition are present in the Imnaha River. Maintaining these conditions is the major task required to achieve the desired future condition.

On National Forest System (NFS) lands, a riparian habitat conservation zone has been established to meet PACFISH (USDA Forest Service, 1994b) direction. This management zone is intended to protect fish habitat and water quality. All ground disturbing or vegetation disturbing activities within the zone must be designed to have no adverse impact on fish habitat or water quality. Any maintenance or reconstruction of existing developments would have to apply this standard and guideline.

020-06 (con't.)

Discussion in NEOH DEIS—For a description of specific habitat impacts, refer to the description of project effects relative to free-flow (Within-Channel Conditions; Riparian, Floodplain and Upland Effects; Effects to Hydrologic or Biologic Processes Due to Changes in On-Site Conditions; Magnitude and Spatial Extent of Potential Off-Site Changes; and Duration of Effects), in addition to the following description.

Description of Project Effects to Fish Populations

Fish Populations—Resident and fluvial (migratory) forms of bull trout occur in the Imnaha Subbasin (USDA 2000). The Imnaha River bull trout population is considered at "low risk" of extinction (Buchanan et al. 1997). Annual escapement of naturally reproducing steelhead has declined in the past three decades, although recent estimates have increased, ranging from 300 to 1,000 adults (Bryson, et al. 2001). Spring/summer Chinook returns of naturally reproducing fish declined to less than 150 individuals in the early to late 1990s (Oregon Department of Fish and Wildlife (ODFW) 1998). This escapement data led to a determination to supplement the natural population of spring Chinook.

Facility Construction—The construction of this facility will temporarily displace fish, affect migration, and remove available habitat. Placement of cofferdams during construction of intake and project outfall will alter stream flow upstream and downstream of the structures and directly reduce instream habitat. Significant amounts of sediment will be added to the river, although the effects of this sediment will be short-term and are not expected to last much beyond the construction period. Associated best management

practices to reduce sedimentation are part of the Proposed Action; however, no specifics are provided.

Information in the NEOH DEIS is insufficient to evaluate the degree of impact to migrating and resident fish. Fluvial bull trout migration occurs from May through July (J. Harbeck, NPT, pers. comm. 8/11/03). Some fluvial bull trout are migrating toward the upper Imnaha during the instream work window (July 15 to August 15). The increased sediment, reduced available habitat, and the human presence and noise associated with construction activities will have a negative effect on individuals making this migration. Construction impacts could affect reproductive success for fluvial bull trout in the one-year construction period.

Monitoring during construction activities is mentioned in the NEOH DEIS (3-30), but is not explained in enough detail to understand what will be done or how changes in construction activities would be made based on the monitoring.

Facility Operation—Peak water diversions in February and March, and withdrawals during low-flow periods (September-October) may adversely affect fish passage through the diversion reach. Post-spawning downstream migration of some fluvial bull trout will likely be affected by low flow conditions in the 1900-foot section between the intake and project outfall. Early adult steelhead migrants may be present during the final stages of rearing operations, when the maximum amount of surface water is diverted (about 33 cfs from intake to fish bypass, and then about 23 cfs from bypass to project outfall). Delays to migrating steelhead may occur if flows are low during this period. Potential effects could lead to spawning failure of individuals in this at-risk population.

020-06 (con't.)

The NEOH DEIS states that monitoring would be performed to determine the affect on passage of migrating salmonids (3-32), and, if passage problems are observed, program changes would occur. The NEOH DEIS does not, however, specify how this monitoring will be done, the timing or recurrence of monitoring, or what specific responses would be employed if fish passage problems are detected.

Rearing juvenile salmonids will likely be negatively effected within the 1900-foot diversion section of the Imnaha River between the intake and project outfall due to seasonal reductions in stream flow. Habitat availability and utilization will be reduced in this reach for the life of the facility (see "Facility Operation" below). Some negative effects will also occur due to loss of rearing habitat resulting from construction of the intake and outfall structures and associated riprap.

Supplementation—Natural production of anadromous and resident salmonids is an inherent part of the fisheries ORV of the Imnaha and Lostine WSRs, and protection of natural production is provided in WSR management direction for both WSRs. Specifically, fisheries habitat management direction for these rivers reflects the goal of protecting and retaining natural production. This NEOH supplementation program is intended to conserve and recover the at-risk spring/summer Chinook populations in these two river systems. However, there are significant risks and concerns associated with

operation of this type of conservation hatchery/supplementation program. These risks/concerns have been outlined by the Northwest Power and Conservation Council Independent Science Advisory Board (ISAB) in their June 2003 "Review of Salmon and Steelhead Supplementation". One of the primary conclusions of the review is: "*Supplementation can reduce the natural spawning fitness component in the integrated populations and this reduction in natural spawning fitness will persist in the natural spawning populations for some number of generations after the termination of supplementation.*" Because of this uncertainty, the ISAB recommended the following research and monitoring steps:

- Establish and monitor performance standards for each project for natural-origin and hatchery-origin adult abundance and per capita production rates.
- Conduct all supplementation projects with explicit experimental designs to reduce uncertainty and contain supplementation risks. Establish reference populations, adequate monitoring and objective means to assess when supplementation should be terminated (due to either success or failure).

In its review of this NEOH project proposal, the Independent Scientific Review Panel (ISRP 2001-12C) found that "*The project still lacks a detailed or focused M&E plan...This is not a sound scientific approach and defers the importance of gathering information to evaluate benefit (or costs) to fish and wildlife of construction and operation of the proposed facilities for the Spring Chinook program. This program is inherently experimental and its actions potentially influence many other populations and interests in the region. It appears that the project proponents have made not significant progress in developing M&E plans. This response is inadequate and greater attention to assessment objective, experimental design, and data management is required...*"

020-06 (con't.)

There is little evidence in the NEOH DEIS that these monitoring and evaluation elements have been built into the NEOH project design. To demonstrate adequate protection of the natural-production of fish in these WSR, the NEOH FEIS and record of decision should clearly display how the recommendations of the ISAB and IASRP have been built into the NEOH project design and operations. Without an explicit plan for monitoring and evaluation of trends in natural production to demonstrate success or failure of the supplementation program to protect natural production and to identify any expected triggers for modification of the supplementation program, further risks to the already at-risk natural spawning population appears significant.

Description of Project Effects to Fish Habitat

Facility Construction—The construction of this facility will temporarily remove available habitat for migrating and rearing salmonids as more fully described above (*Summary of effects by species).*

Facility Operation—A loss of available rearing habitat is expected in the length of channel between the intake and project outfall. Lower flows will leave less available habitat. Loss of riparian vegetation is also likely in the 1900 feet between the intake and

project outfall due to the reduced flows in the summer growing season. This impact is especially important for juvenile salmonids that tend to stay in the margins of the river. Localized loss in available habitat and riparian vegetation will also occur where riprap replaces native bank materials and where the intake and project outfall structures are located.

Monitoring of Chinook spawning habitat during operation of the facility is implied (NEOH DEIS 3-32), stating that if spawning habitat is negatively impacted by water diversion, modifications to the water management strategy would be implemented. The monitoring is not defined, nor are possible changes to water management strategies.

Water quality may be affected by the project, and monitoring of water quality is not well described. Refer to previous discussion of *Relevant Water Quality Parameters.*

Summary of effects by species

Bull Trout—The Imnaha River bull trout population is healthy and considered at "low risk" of extinction (Buchanan, et al.1997). Resident and fluvial (migratory) bull trout occur in the Imnaha subbasin. There are no current estimates on size of the Imnaha River bull trout population. The primary effects from proposed construction and operation of NEOH facilities would be on the fluvial form of this population, which migrates past both the proposed Final Rearing Facility and the existing Satellite Facility enroute to spawning areas in the upper Imnaha River. Most migrating adults would be upstream of both facilities prior to the opening of the instream work window. Construction activities would have minimal and short-term effect on Imnaha bull trout. Facility operation of both facilities would have more impact. Decreased flows in the 1900 foot section affected by the withdrawals at the Final Rearing Facility could have some negative impact on migrating fish. However, since most bull trout would have migrated past the facility prior to low flows, this impact is not expected to be substantial. Operation of the Satellite Facility would have a far greater impact on migrating bull trout. The facility would start operations approximately a month earlier than it does currently. All bull trout passing through the facility would be kept in a holding pool until being hand-placed into a pipe leading back to the river. The affects to bull trout from the stresses of this procedure are hard to quantify, but the risk of pre-spawning mortality is increased significantly. Additional detail on monitoring of fish migration and the measures to ensure successful fish passage should be added to document that this issue has been adequately addressed at both facilities.

020-06 (con't.)

Steelhead—The Imnaha River steelhead population appears recovering. Based on spawning counts and counts at the Lower Granite dam, populations have been on an upward trend since 1995 (Brad Smith, ODFW, pers. comm.). Effects on steelhead in the Imnaha River from proposed construction and operation of NEOH facilities are expected to be limited on spawning adults. The timing and location of steelhead spawning does not coincide with the construction work or operation of proposed NEOH facilities. Returning adults migrate up the Imnaha River during high flows in early spring, prior to the instream work window. Spawning occurs primarily in the tributary streams. Kelts

returning downstream may encounter a delay in migration when the weir is in operation at the Satellite Facility. Panels of the weir can be lowered to allow downstream migrating adults to pass through, although it is not clear what monitoring would be in place to trigger this action or how monitoring would trigger this action. This delay would not have a significant impact on the Imnaha River steelhead population. The primary effect to Imnaha River steelhead would be on rearing juveniles. Although juvenile steelhead emerge and begin rearing within tributary streams, it is likely that some rearing takes place in the Imnaha River. Construction activities will displace rearing fish, and some habitat loss will result from placement of riprap. At low flows there will be a net loss in rearing habitat in the 1900 feet between the intake and outfall of the Final Rearing Facility, due to the effect of water withdrawals. The same habitat loss would occur, although to a lesser extent, at the Satellite Facility. There are approximately 397 miles of steelhead spawning and rearing habitat within the subbasin (USDA 2003). Construction and operation of the proposed facilities would decrease habitat quantity and quality within approximately 0.25% of the subbasin rearing habitat. Although the effect on steelhead is expected to be incremental, it is not consistent with WSR management direction for protection and maintenance of fish habitat or Northwest Power and Conservation Council (NPCC)/BPA tributary habitat restoration. There appears to be opportunities to build habitat enhancing features into the facility design. Measures should be incorporated to mitigate habitat loss and displayed in the DEOH FEIS.

020-06 (con't.)

Chinook—The Chinook salmon population within the Imnaha River has been on an improving trend since 1995 (Brad Smith, ODFW, pers. comm.). Although the hatchery facilities are designed to improve Chinook salmon populations within the Imnaha River, there are some negative effects to the wild population. Spring/summer Chinook are not known to spawn in the reach of the Imnaha River containing the proposed Final Rearing Facility (J. Harbeck, NPT, pers. comm.). However, spawning does take place below and above the Satellite Facility. All adults passing the Satellite Facility are held for a period up to 24 hours in the holding facility, anesthetized, weighed, and measured (R. Zollman, NPT, pers. comm.). Fish allowed to pass upstream of the facility are put into a pipe leading to a covered recovery pond, from which they can swim into the river once recovered. This process can have a negative effect on adult Chinook, and likely results in an increase in pre-spawning mortality. Juvenile Chinook rear in the Imnaha River and the lower reaches of major tributaries (USDA 2003). Proposed construction activities at both facilities would displace rearing fish, and some habitat loss will result from placement of riprap. At low flows there will be a net loss in rearing habitat in the 1900 feet between the intake and outfall of the Final Rearing Facility, due to the effect of water withdrawals. The same habitat loss would occur, although to a lesser extent, at the Satellite Facility. There is currently 130.6 miles of spring/summer Chinook salmon rearing habitat in the Imnaha Subbasin (USDA 2003). The proposed facilities would impact a portion of habitat within approximately 0.76% of the subbasin rearing habitat, an incremental impact, however this impact is not consistent with WSR management direction for protection and maintenance of fish habitat and should be mitigated (see steelhead discussion above). The overall effect to the Imnaha River spring/summer Chinook integrated population from the proposed facilities would be to increase it, however, negative effects are anticipated to naturally spawning wild individuals.

Indiscriminate release of excess hatchery broodstock, unmarked fry and presmolts may complicate monitoring and recovery of the independent populations identified by the Interior Columbia Basin Technical Recovery Team in the Imnaha and Grande Ronde (see http://www.nwfsc.noaa.gov/trt/trt_columbia.htm). Operational plans for maintenance of these independent populations (especially Imnaha/Big Sheep Creek stocks) should be included in the NEOH FEIS.

Wildlife

ORV Description—The wildlife habitat and population diversity of the Imnaha River canyon offers unparalleled opportunity for sport and viewing. The wildlife of the Imnaha is one of the contributing factors to the designation of the Hells Canyon National Recreation Area. Both wildlife populations and habitat are ORVs.

Wildlife Management Goals from the Imnaha RMP—The desired future is an increase and then stable population of bighorn sheep within the lower Imnaha River corridor. Over time, quality habitat is maintained or increased for all wildlife. No reduction in wildlife or proposed, endangered, threatened, or sensitive species habitat or population.

Discussion in NEOH DEIS (3-53, 3-54): "Prior to construction, up to three feet of rock fill would be placed on the lower end of the site. The vegetated riparian zone would be largely avoided. Construction of facilities would result in about three and one-half acres of new impervious surface at the six-acre facility."

020-06 (con't.)

"The existing bridge would be relocated about 200 feet upstream of its current location, to a stable rock bar. A small number of trees and at least one snag would be removed due to placement of the bridge abutments. Additional snags occur in close proximity to the proposed bridge location, however, and it is possible that one or more additional snags would be affected either directly by placement of the structure, or indirectly if adjacent snags (overhanging canopy) interfere with equipment operation for safe placement of the panel bridge. Removal of large, dominant trees (black cottonwood and ponderosa pine) may limit opportunities for bald eagle roosting in the immediate vicinity. However, removal of snags and potential perch trees would be restricted to this location, and many others are available off-site."

"Rock fracturing, drilling and excavation for installation of the intake structure and concrete cutting to dismantle the old bridge abutments would produce high, periodic noise levels that are likely to disturb wildlife within a mile or more of the site and alter normal behavior patterns. Temporary displacement of some individuals may occur. The highest noise level activities would primarily occur between July 15 and August 15, during the instream work window. Noise impacts to wintering bald eagles that may use the area would be avoided by this timing. No nesting territories are documented near the site (ONHP 2002). Disturbance levels resulting from remaining construction activities would likely be reduced, due to the lower noise levels generated, but may also cause temporary displacement of local wildlife."

"The ability of many Imnaha subbasin riparian zones to support wildlife and provide aquatic habitat has been reduced by roads and livestock grazing. Exclusion of cattle from the riparian zone and supplemental planting of native species at the proposed Imnaha Final Rearing Facility would, in the long-term, improve the functioning condition of the riparian habitat along this stream segment. Some long-term adverse wildlife impact is expected at this site from the loss of a small amount of riparian habitat where structures would be placed, increased human access and human-related disturbances, and disturbance to potential bald eagle roosting habitat outside of the critical wintering period."

Description of Project Effects—The project will not affect bighorn sheep, a particular concern for management within the river corridor, and will have little effect to the river's wildlife habitat.

The effects discussion in the NEOH DEIS is, however, unclear as to whether displaced species would find ample replacement habitat in the immediate area or if adjacent habitat is limited and dispersing species would encounter stresses such as predation. The NEOH DEIS effects discussion for listed species should be clarified. Without the information provided by consultation, it is difficult to make conclusions regarding effects to listed species.

020-06 (con't.)

Vegetation/Botany

ORV Description—The Imnaha River drainage contains no less than thirteen rare and/or endemic plant species. Unique plant communities are found within the lower reaches of the river as well as those upper reaches of the river where limestone is abundant. The Imnaha is unique in that all of the plant species or communities mentioned are found within this one drainage. This points to the great diversity of vegetation along the Imnaha and the range of elevation and geomorphologic features.

Vegetation/Botany Management Goals from the Imnaha RMP—The desired future condition of the botanical resource will emphasize the maintenance and enhancement of the numerous plant species and communities that are found in the river corridor. All species that currently exist will continue to thrive and the occurrence of nonnative plants that compete with and displace native species will be reduced or eliminated. Special attention will be placed on those plant species or communities that are endangered, threatened, sensitive or otherwise unique. In some instances, management activities that are not compatible with these goals may be modified or curtailed.

Discussion in NEOH DEIS (3-62, 3-63): "Most of the project activity is proposed in the center of the site, which currently lacks woody vegetation and is dominated by introduced pasture shrubs, grasses and weedy forbs. Removal of native vegetation is primarily limited to the intake structure and intake pipeline corridor (about 1000 feet, most of which is along an existing road), outfall structure (less than 20 feet) new bridge abutments (about 40 feet on each side of the river) and in the corridor for a new power line (about 300 feet). However, a small number of mature trees and at least one snag

would be removed from the proposed bridge relocation site. Additional snags occur in close proximity to the proposed bridge location, however, and it is possible that more than one snag would be removed for the structure or to allow for safe equipment operation during structure placement. Where possible, the riparian zone would be replanted with native vegetation."

"Exclusion of cattle from the riparian area and planting disturbed areas with native species would encourage more diverse riparian vegetation along the riverbank. Weed control at the project site would also encourage reestablishment of native vegetation."

Description of Project Effects—Most activities proposed at the Imnaha Final Rearing Facility will occur on sites already disturbed by grazing. Therefore, in most areas affected by the proposal, unique habitats and native plant species and communities are not likely to be affected. The proposed project also contains provisions for eliminating encroachment of nonnative plants, which is important in the river corridor.

However, some of the riparian areas affected by the project may be largely undisturbed. The Imnaha RMP emphasizes that special attention will be placed on those plant species or communities considered to be endangered, threatened, sensitive or otherwise unique. The NEOH DEIS is unclear about whether or not endangered, threatened, sensitive, or otherwise unique species and communities are present in riparian areas that will be disturbed by the proposal and is also unclear about effects to them. Although the WSR Act does not provide for regulatory control of private lands, collaboration with BPA could greatly improve effects to the vegetation/botany of the riparian areas disturbed in this project. It should be possible, for example, to determine if there are endangered, threatened, sensitive or otherwise unique riparian plant species or communities present, in riparian areas that will be disturbed by the proposal and, if so, to develop mitigation measures.

020-06 (con't.)

The NEOH DEIS states that "weed control" will occur at the project site; however, specific as to measures are not defined. Given the threat of invasive weeds to the vegetation/botany ORV, the final project proposal would be improved by ensuring that construction equipment and all other project-related vehicles are free of invasive weed seeds. Additionally there should be prompt revegetation of disturbed areas and an invasive weed control plan.

History/Prehistory

ORV Description—Portions of the Imnaha River corridor that have been inventoried contain a dense concentration of sites, with many more sites yet to be discovered. Extrapolating from the known sites that are either named or eligible to the National Register of Historic Places, it appears the Imnaha River canyon contains a unique concentration of both historic and prehistoric sites. Both historic and prehistoric cultural resources are ORVs.

History/Prehistory Management Goals from the Imnaha RMP—Sites are protected until management actions can be determined. These actions may include data collection, mitigation, interpretation, education, or preservation. Selected sites would be used for public education and interpretation. All activities would be in coordination and cooperation with the Nez Perce Tribe.

Discussion from NEOH DEIS (3-88): "Oregon Parks and Recreation Department records indicated only one cultural site in the area (35WA812), near the mouth of Dunlop and Thorn Creeks, located on the opposite side of the Imnaha River from the project area. No proposed new facilities (bridges, power lines, etc.) would be located near this site."

"During the on-site survey, an irrigation ditch was observed on the southwest edge of the project site within the area of potential effect (where site disturbance or construction is expected, Figure 2-6). In addition to the irrigation ditch, an old homestead and orchard are known to exist in the project vicinity outside of the area of potential effect. A site shovel-survey showed no indication of other cultural materials. Since the ditch, homestead and orchard would be avoided by project activities, no impacts to cultural resources are anticipated. However, construction activity would be monitored by a person knowledgeable about cultural resources. If evidence of cultural materials is found or if impacts to known materials occur, site work or activity would be halted until the site could be assessed. Notification of and consultation with the SHPO, NPT Cultural Resource Program and CTUIR would also occur as appropriate."

020-06 (con't.)

Description of Project Effects—Based on pre-disturbance surveys, project construction will avoid known sites. On-site construction monitoring will mitigate the potential to affect any unknown sites.

Traditional Use, Lifestyle Adaptation

ORV Description—The uniqueness of traditional uses, derived from the river related climatic and geographic conditions, has suspended in time a part of history. Adding to the uniqueness of this traditional use in the Imnaha Valley is the reality that similar areas have ceased to provide this important land use or have modernized to a point that no longer represents traditional uses. The Nez Perce and later the Euro-Amreicans adapted to what the river corridor had to offer. Although the Nez Perce lifestyle is not evident in the Imnaha River, except through historical and prehistorical sites, the Euro-American traditional lifestyle is still very visible. The values and uniqueness of both the Imnaha River Valley and the local lifestyles are recognized nationally.

Management Plan Goals for Private Land from the RMP—The goal is to work cooperatively with private landowners to achieve consistency with the following:

- Conservation and continuance of forest/grazing land for forest/grazing uses and farmland for farm uses, retaining the pastoral or natural setting upon which those uses take place
- Maintenance and protection of the free-flowing nature of the river

- Conservation of scenic, wilderness, cultural, scientific, and other values contributing to the public benefit
- Preservation of all features believed to be biologically unique
- Protection and maintenance of fish and wildlife habitat
- Protection of archaeological and paleontologic sites
- Preservation of historic sites associated with and typifying the economic and social history of the region and the American west
- Continuation of traditional and existing uses and developments in a manner compatible with the WSR Act, and river management plan
- Provision for outdoor recreation use in so far as it is compatible with traditional and existing uses and can be accommodated within pastoral or natural settings

Discussion in NEOH DEIS (3-112, 3-113, 3-115, 3-116): "The proposed Imnaha Final Rearing Facility would be a conditionally permitted land use under the Wallowa County zoning regulations and would be subject to the County's Hearing Review process. The proposed facility would be generally compatible with surrounding agricultural and residential uses and the adjacent Upper Imnaha River Road. The facility would be a new land use at this location and would convert pasture along the river to fish production. Once operational, the level of activity at the facility would be limited and compatible with the residence and road across the river. Much of the facility would be screened from view by existing riparian vegetation, which would be retained. Design considerations discussed under Section 3.9 of this EIS would enhance compatibility and maintain visual integrity."

020-06 (con't.)

"The Proposed Action would affect existing roadways and traffic levels by temporarily increasing traffic during construction and slightly increasing traffic once the Imnaha Final Rearing Facility becomes operational. The Imnaha Final Rearing Facility would generate a few daily trips associated with the residence and bunkhouse, but the number of trips would be similar to those generated by nearby residential and agricultural uses. Potential traffic hazards at the Imnaha Final Rearing Facility would be addressed by relocating the bridge and constructing a turning lane on the Upper Imnaha River Road to increase sight distance, allow passing and accommodate a wider turning radius for fish hauling trucks accessing the site. Given the low daily traffic volumes in the vicinity of the site, the short duration of construction, the low numbers of trips related to operations, and the planned road and bridge improvements, the Proposed Action would cause only limited transportation impacts."

"Implementing the Proposed Action would not result in any group of people in the area, including racial, ethnic or economic groups bearing a disproportionately high share of population or employment impacts, quality of living changes or environmental consequences. "

"The Proposed Action would not result in measurable short- or long-term impacts to local population conditions. Most of the new full-time, seasonal and temporary workers would likely come from the local area as would most construction contractors and employees. A few very specialized labor requirements may be met with workers from elsewhere. If

most contractors and workers came from outside the region, the increase to area population may be noticeable given the slow growth or decline in population over the past ten years."

"Implementation of the Proposed Action would result in some additional employment opportunities in Wallowa and Union Counties. The construction phase of the Proposed Action would provide temporary employment for several dozen construction workers most of which would probably come from the local labor pool. Operation of the various proposed hatchery facilities would result in about three additional full-time employees (possibly from outside the area) and about ten additional seasonal employees (probably from within the local area). This relatively small increase in full-time and seasonal employment would result in only minimal increase in demand for support industries or government services. City tax revenues or expenses are not expected to change noticeably nor would overall regional economic productivity or cost of living be measurably changed. The direct impacts, while small, are expected to be beneficial in terms some increased employment and increased demand for goods and services."

020-06
(con't.)

"Implementation of the Proposed Action would result in an increase in the importance of the fisheries sector within the local economies of Wallowa and Union Counties. This could result in a slight increase in recreation and tourist activity within the two county area, resulting in benefits to both social culture and regional economic productivity."

Description of Project Effects—The project does not affect traditional use, lifestyle adaptation, particularly if the recommendations discussed under scenery are implemented.

Imnaha Satellite Facility

The following discussion is focused on those components of the Imnaha Satellite Facility that affect the river's free-flowing condition and are therefore water resources projects subject to Section 7(a). Project proposals are evaluated as to their effect on the river's free-flowing condition, water quality and outstandingly remarkable values. A detailed project description is provided in the introduction of the *Wild and Scenic Rivers Act Preliminary Section 7 (a) Determination.*

Components of the Imnaha Satellite Facility proposal that are or appear to be within the ordinary high water mark of the river include:

- Modifications to the water intake structure and an associated 100 feet of riprap upstream and in the immediate area of the intake
- A new fish weir on the existing weir's base, but with new concrete abutments upstream and downstream of the new weir on both sides of the river
- A new fish ladder and associated riprap adjacent to the existing fish ladder

Refer to Figure 2.8 (NEOH DEIS 2-16) for a detailed drawing of the proposal.

Description of Effects to Within-Channel Conditions

Position of the proposed activity relative to streambed and streambanks

Modifications to the water intake structure:
"Expansion of the intake structure and upgrades to the existing screen would require the use of a cofferdam and dewatering pumps. Installation would require disturbance of about 900 square feet of bed and bank upstream of the existing intake. The submersible dewatering pumps would route water through the existing intake pipeline to the existing raceway (that would be used as an on-site sediment basin) and through the outfall pipe that discharges water at the current fish ladder entrance. The construction area would be limited to the riprap portion of the banks and would not disturb riparian vegetation" (NEOH DEIS 3-35).

"About 100 cubic yards of riprap would be placed at and upstream of the intake to stabilize it. Riprap would be placed stream-side of existing vegetation so as not to impact riparian vegetation or shading" (NEOH DEIS 3-35).

New weir:
"The proposed action would replace the existing weirs with a Chiwawa weir on the existing concrete sill. Installation would require the addition of concrete abutment walls on both riverbanks. Construction would take place within the area already impacted by the existing weir and concrete sill. Because spring/summer Chinook spawners could be present at the time of instream work, a portable picket weir would be installed slightly downstream to direct adults into the fish ladder for collection or upstream passage. Sandbags would be used to dewater the weir construction area, one side of the river at a time" (NEOH DEIS 3-36).

New fish ladder:
"A new fish ladder would be installed alongside the existing ladder coinciding with the weir installation. Riprap would stabilize the ladder at the river entrance, and a minor amount of riparian vegetation would be impacted. The existing ladder would remain to increase water flow and fish attraction to the new ladder" (NEOH DEIS 3-36).

Changes in active channel location, geometry, slope, and/or form

The armoring (riprap) associated with the modified intake and bridge abutments will accelerate the river's flow in a localized area, potentially decreasing bank stability and increasing erosion in areas of redirected flow. The new concrete abutments extend into the channel, resulting in slightly more constriction of flow. The construction at both of these sites, however, is generally within the footprint of existing facilities and stabilization measures (riprap). Resulting change in channel structure is anticipated to be minor. 020-07

Relevant water quality parameters

"Water temperature changes are not anticipated as a result of the Imnaha Satellite proposal. Cold water fish are identified as a beneficial use under Section 303d of the Clean Water Act. Water quality at the facility is appropriate for fish culture use, although a chiller may be necessary for incubation due to high river temperatures during July to late August. Chilled water would likely be cooler than the receiving river water, but would mix rapidly after release downstream of the facility. Temperature changes would be minor and localized, and not expected to impact water quality or fish" (NEOH DEIS 3-77).

Navigation of the river

Above the town of Imnaha, including the project area, river flows are too low to accommodate boating. 020-08

Riparian, Floodplain and Upland Effects

Vegetation composition, age structure, quantity, or vigor

"Installation of the power supply line and the additional surface water pipeline would not disturb riparian vegetation" (NEOH DEIS 3-34). The riprap associated with the modified intake structure "would be placed streamside of existing vegetation so as not to impact riparian vegetation of shading" (NEOH DEIS 3-35). "A new fish ladder would be installed alongside the existing ladder coinciding with the weir installation. Riprap would stabilize the ladder at the river entrance, and a minor amount of riparian vegetation would be impacted" (NEOH DEIS 3-36).

Relevant soil properties

Various construction activities will disturb ground "and add about one-quarter of an acre of impervious surface to the site, which may lead to increased or rerouted erosion and sediment carried into the river. Increased runoff during construction is expected to be short-lived" (NEOH DEIS 3-34). 020-09

Relevant floodplain properties

The riprap associated with the modified water intake and the expanded concrete abutments of existing fish weir will redirect flows and may result in small areas of localized bank instability and increasing erosion. 020-10

Effects to Existing Hydrologic or Biologic Processes Due to Changes in On-Site Conditions

"Combining existing and proposed surface water withdrawals, no more than about 21 cfs would be diverted from the river for juvenile acclimation and release (March – April) and adult collection, holding and spawning (May 15 – September 30)" (NEOH DEIS 3-36).

"An additional six cfs would be required during adult collection to operate the adult recovery by-pass pipeline system. During adult collection, a second separate intake is operated at a location about 800 feet downstream from the existing surface water intake (about 130 feet upstream from the existing picket fish barrier). This intake feeds a fish return channel with a maximum water right of six cfs and is operated only when adults are migrating. The intake diverts water into a channel with a 21-inch flow return pipe extending from the fish recovery area to a discharge location just upstream from the fish barrier" (NEOH DEIS 3-36).

"The existing intake structure would be enlarged to accommodate desired higher flow rates for the facility. The intake structure modification would add capacity to the current intake structure to provide the about 20 cfs needed for fish acclimation as described in Section 3.2.3.2 of this EIS. An additional 6 cfs diversion would be required during adult collection to operate the adult recovery by-pass pipeline system. During extremely low flow periods of early fall, these diversions could alter the river's natural flow regime in the immediate vicinity of the intake. However, since these diversions would be temporary and localized they are not expected to affect the overall flow of the river in the area" (NEOH DEIS 3-77).

Note: The NEOH DEIS states the existing and proposed water withdrawal at 21 (DEIS 3-36) and 26 cfs (NEOH DEIS 2-17), respectively. 020-11

"Riprap around the intake may slightly alter the hydrology of the river in the area, potentially causing very minor, localized modifications to habitat use. Preservation of natural meanders would occur, where possible. Disturbed soils may create minor short-term sedimentation in the river during cofferdam removal" (NEOH DEIS 3-35).

"The placement of sandbags and the temporary picket weir during construction of the new weir has the potential to create minor sedimentation and affect fish habitat if river hydraulics are influenced" (NEOH DEIS 3-36).

"Construction of the weir and ladder during the current ODFW instream work window may impact the passage of adult spring/summer Chinook, potentially stressing individuals. Monitoring by fisheries biologists during construction would take place to observe passage conditions and determine if additional physical passage upstream or downstream of the construction area is necessary. Also, during their monitoring fisheries biologists would consider the need to use any alternate instream work windows to lessen impacts to spring/summer Chinook" (NEOH DEIS 3-36).

Magnitude and Spatial Extent of Potential Off-Site Changes

Likely changes from this project proposal include scour and erosion from armoring of modified intake and new concrete abutments of existing weir. These effects are anticipated to be limited to localized effects near the structures and within the project area. 020-12

Duration of Effects

Effects from construction activities will be temporary and localized. Long-term project effects such as erosion from armored modified intake and concrete abutments of existing weir will vary little from the existing situation. The reduced flow from additional water withdrawal will persist for the life of the project. 020-13

Effects to Outstandingly Remarkable Values

The Imnaha WSR's ORVs are its scenery, recreation, fisheries, wildlife, vegetation/botany, history/prehistory, and traditional use/lifestyle adaptation. Each ORV is described through four subsections: 020-14

- Significance of value (ORV Description)
- Management Goals from the Imnaha RMP
- Discussion in NEOH DEIS
- Description of Project Effects

Refer to discussion of Imnaha Rearing Facility for *ORV Description* and *Management Goals*.

Scenery

Discussion from NEOH DEIS

NEOH DEIS (3-106, 3-107)—"The Imnaha Satellite Facility (Figure 2-7) modifications would include installing a new fish barrier across the river to replace an existing diversion weir, installing a new fish ladder next to the existing fish ladder, enlarging the

fish holding area, constructing a new settling basin, and modifying the existing intake structure. The existing spawning shelter would also be enlarged to accommodate a new incubation room. New powerlines would be buried in the Imnaha River Road."

"Figure 3.9-10 (page 3-103) shows a "before" and an "after" view of the Imnaha Satellite Facility site as seen from Imnaha River Road. As shown in the simulation, the new fish ladder and addition to the spawning shelter would be apparent but not particularly noticeable from the roadway. These effects would only be visible to the public from limited places along Imnaha River Road immediately adjacent to the site and from the visitor parking area. In general, as seen by the public, the facility's appearance with proposed changes would be very similar to its current appearance, except during and immediately after construction. Given the site's location within a Wild and Scenic River corridor and within a National Forest area with "retention" VQOs, the anticipated visual effects could represent an adverse visual effect. However, because views of the facility that would occur after that Proposed Action would not be substantially different from existing views, and because the existing facility is somewhat of a public attraction (it is open to visitors), the amount of change in visual quality is expected to be minor."

Description of Project Effects—The appearance of the Imnaha Satellite Facility will be little changed from the existing appearance; the modifications would not be noticeable to most visitors. 020-15

Recreation

Discussion from NEOH DEIS (3-82)—"Proposed modifications to this facility would not change any recreational opportunities around the site. However, if the existing diesel generator is replaced by the proposed underground power line (buried in the road right-of-way), the noise levels from the Satellite Facility would decrease, which would provide a better experience for nearby forest visitors. Also, the proposed new communication line to the facility could aid in emergency situations and overall area management."

Description of Project Effects—The facility will appear unchanged to the recreationist after the short-term construction period. There will be positive effects from reduced noise due to replacement of the diesel generator by electrical power and improved emergency communications. To minimize potential impact on recreation use of the Imnaha River Road, placing underground power should occur prior to Memorial Day or after Labor Day. 020-16

Fisheries

Discussion in NEOH DEIS— For a description of specific habitat impacts, refer to the description of project effects relative to free-flow (Within-Channel Conditions; Riparian, Floodplain and Upland Effects; Effects to Hydrologic or Biologic Processes Due to Changes in On-Site Conditions; Magnitude and Spatial Extent of Potential Off-Site Changes; and Duration of Effects), in addition to the following description.

Description of Project Effects to Fish Populations
Refer to Imnaha Rearing Facility discussion *(Description of Project Effects to Fish Populations).* 020-017

Facility Construction --The construction of this facility will temporarily displace fish, affect migration, and remove available habitat. Placement of cofferdams will alter stream flow upstream and downstream of the structure and directly reduce instream habitat. Significant amounts of sediment will be added to the river. The effects of this sediment will be short-term and are not expected to last long beyond the construction period. Associated best management practices to reduce sedimentation are part of the Proposed Action; however, no specifics are provided. 020-18

Information in the NEOH DEIS is insufficient to evaluate the degree of impact to migrating and resident fish. Some fluvial bull trout and Chinook salmon are migrating to the upper Imnaha River during the ODFW instream work window of July 15 to August 15. Sediment reduced available habitat and the human presence and noise associated with construction activities will have a negative effect on migrating adults, as well as juveniles near the construction site. The weir and fish ladder appear to be constructed simultaneously, which is of special concern. The amount of this instream work (especially spanning the width of the Imnaha River) may have a significant negative impact on upstream migration of these fish. The extent of this impact cannot be determined with the information provided in the NEOH DEIS.

During the construction of the new weir, a portable picket weir would be installed slightly downstream to direct adults into the fish ladder for collection or upstream passage (NEOH DEIS 2-36). It is not clear how this will work particularly with the new ladder being installed simultaneously with the new weir. If fish are to be collected and moved around the construction site, there is a risk of pre-spawning mortality from handling and handling stress. The NEOH DEIS states that monitoring by fisheries biologists will take place during construction to observe passage conditions and determine if additional physical passage upstream or downstream of the construction area is necessary (NEOH DEIS 3-36). It also states that during monitoring fisheries biologists would consider the need to use any alternate instream work windows to lessen impacts to spring/summer Chinook. Other species are not mentioned. How the monitoring would be accomplished, and how additional passage would be provided is not discussed (refer to *Summary of effects by species* in the Imnaha Final Rearing Facility discussion). 020-19

Facility Operation—The new weir will be operated from June to September. This is a longer season than the existing weir is able to operate. More migrating wild spring/summer Chinook salmon will be intercepted. More migrating bull trout will also be intercepted, impacting a larger number of these fluvial fish than the current operation. The NEOH DEIS states that holding and spawning of fish may result in pre-spawning stress and potential mortalities of Chinook or other species that enter the facility (NEOH DEIS 3-39). All bull trout will presumably be held and handled prior to resuming their upstream migration. The increase in potential for pre-spawning mortality within the Imnaha River bull trout population is implied. However, the extent of the effect on this 020-20

population cannot be determined without more information (refer to *Summary of effects by species* in the Imnaha Final Rearing Facility discussion). 020-20 (con't.)

Instream migration of juvenile salmonids is not discussed in any detail in the NEOH DEIS. The current facility has been a passage barrier or impediment to migrating juveniles. The new facility would be in place for a longer period of the year, lengthening the period where juvenile movement may be impeded. It is not clear if juveniles can pass downstream volitionally when the new weir is in operation. 020-21

It is not clear how downstream migration of adult bull trout or steelhead kelts will be facilitated. More information on how monitoring will take place and how downstream passage will be promoted will be needed to estimate effects to downstream migrants. The NEOH DEIS (3-38) states that vigilant monitoring of fish collection and instream structures would take place, especially during periods of low flow, to insure that listed species are not negatively impacted by the upgraded structures. It is not clear how this monitoring will be done, or what measures could be taken if listed species are negatively impacted.

Improved attraction to the new ladder should decrease adult salmonid migratory delays. The existing fish ladder would remain in place to increase water flow and fish attraction to the new ladder (NEOH DEIS 3-36). In addition, the new ladder will be equipped with about a 12-inch wide opening to allow for increased attraction flow near the new weir (NEOH DEIS 3-38). The NEOH DEIS also states that the ladder entrance is currently too far downstream and fish cannot locate the entrance to the ladder easily, causing fish to drop back downstream, where they often spawn (NEOH DEIS 3-36). It is not clear how the new facility will deal with this issue, since the new ladder and weir locations are not proposed to change. 020-22

Rearing juvenile salmonids will likely be negatively effected within the section of the Imnaha River between the intake and outfall due to seasonal reductions in stream flow. Habitat availability and utilization will be seasonally reduced in this reach for the life of the facility (see "Facility Operation" below). Some negative effects will also occur due to loss of rearing habitat resulting from the intake and outfall structures and associated riprap. 020-23

Description of Project Effects to Fish Habitat

Facility Construction—The construction of this facility will temporarily remove available habitat for migrating and rearing salmonids as described above.

The design of the proposed fish ladder, trap, temporary holding and bypass facilities are not discussed. Effects on non-target fish from the installation of the ladder and associated facilities cannot be determined without additional information about design. 020-24

Facility Operation—A loss of available rearing habitat is expected in the length of channel between the intake and outfall. Lower flows will leave less available habitat. A 020-25

loss of riparian vegetation associated with construction of the intake and outfall structures is expected. Additional riparian vegetation loss is also expected in the area between the intake and outfall due to lower seasonal flows. This will result in a negative effect on rearing habitat, especially for juvenile salmonids that tend to stay in the margins of the river. A small loss in available habitat will also be realized where riprap replaces native bank materials. 020-25 (con't.)

The NEOH DEIS mentions that habitat loss will occur, but no reference is made to possible habitat improvements that would compensate for this habitat loss. 020-26

The release of 490,000 smolts into the upper Imnaha River, when added to the number of smolts produced naturally, likely exceeds the productive capacity of this river. Smolt production within the Imnaha River has been estimated through several different methods. Carmichael and Boyce (1986) estimated 245,260 smolts were produced from the adult escapement in 1957 (the year of peak redd counts), and consider that the carrying capacity for the subbasin. The NPCC Smolt Density Model estimates that the smolt capacity from Gumboot Creek down to Big Sheep Creek is 435,289. The number of smolts to be released in the river under this plan exceeds either of those numbers by a considerable amount. The direct and indirect effects on naturally produced juvenile salmonids in the Imnaha River from these released smolts cannot be evaluated without more discussion in the NEOH DEIS on this subject. When survival rates are high, as they have been the last couple years, there are high returns of hatchery adults. There is a concern of "swamping" natural production, especially in high return years. Smolt release numbers are scaled to brood stock availability. In terms of effects on natural production, smolt releases appear to be scaled backwards. That is, in higher return years, when there is more potential natural production, hatchery production is increased up to the 490,000 ceiling. Smolt releases should be examined in terms of protection of natural production, and scaled appropriately. 020-27

Refer also to Imnaha Rearing Facility, *Sumary of project effects by species.* 020-28

Wildlife

Discussion from NEOH DEIS (3-54)—"Proposed site improvements would disturb ground and add a small amount (one-quarter acre) of new impervious surface to the site. Construction noise and activity disturbances may alter the behavior and individual distribution of certain wildlife within the area, but these impacts are short-lived and are not expected to affect long-term use, abundance and distribution of wildlife in the area. Construction would not occur in the bald eagle wintering period and no nesting territories have been documented in the vicinity."

"The site is currently developed as a hatchery and proposed improvements would not expand the developed area or greatly increase the long-term level of human disturbance or activity over existing conditions. No snags or mature trees would be removed and the overall quality of wildlife habitat at this location would remain essentially unchanged from existing conditions."

Description of Project Effects— The project will not affect bighorn sheep, a particular concern for management within the river corridor, and will have little effect to the river's wildlife habitat.

The effects discussion in the NEOH DEIS is, however, unclear as to whether displaced species would find ample replacement habitat in the immediate area or if adjacent habitat is limited and dispersing species would encounter stresses such as predation. The NEOH DEIS effects discussion for listed species should be clarified. Without the information provided by consultation, it is difficult to make conclusions regarding effects to listed species. 020-29

Vegetation/Botany

Discussion from NEOH DEIS (3-62, 3-63)—"Most construction activities at this existing facility would occur in areas devoid of native vegetation or in areas that are maintained as lawn and landscaping. For example, no vegetation would be removed to install a new power line in the existing roadbed. About seven young trees planted as ornamental landscaping would be removed. The new intake structure may result in minor incidental impacts to riparian vegetation as a result of brush clearing, excavation, and placement of structures and associated riprap. A minor amount of woody riparian vegetation may be removed or disturbed where the new fish ladder would be installed adjacent to the existing ladder. Riprap would be used at this location to stabilize the ladder at the river entrance."

"Only very minor impacts to native vegetation is expected at this location as the site is already operated and maintained as a hatchery facility, and proposed improvements would be confined to the existing facility area. Native plants would be encouraged through revegetation and continuing weed control efforts."

Description of Project Effects—The proposed activities are limited to sites already disturbed by the existing facility; therefore, new effects to vegetation/botany are limited. 020-30

History/Prehistory

Discussion from NEOH DEIS (3-88)—"The NPT Archeologist is conducting a cultural resource review for the proposed powerline to be located under or along the Upper Imnaha River Road connecting the site to the existing PacifiCorp substation about six miles to the north. Though no sites are expected in the road corridor, if any are discovered during survey or installation of the line, they would be avoided by rerouting the line underground or taking it overhead to avoid further disturbance of the ground. All other construction activity would be monitored and if evidence of cultural materials is found, site work or activity would be halted and the Oregon SHPO, NPT Cultural Resource Program and CTUIR would be notified and consulted regarding more detailed investigation. Since no cultural materials were detected during the site survey, and this is

an existing facility and modifications would occur within areas already developed, no new impacts to cultural resources are anticipated."

Description of Project Effects—Based on pre-disturbance surveys, project construction will avoid known sites. On-site construction monitoring will mitigate the potential to affect any unknown sites. The Wallowa-Whitman National Forest archaeologist must be consulted as well as tribal archaeologists and the SHPO. 020-31

Traditional Use, Lifestyle Adaptation

Discussion from NEOH DEIS (3-113)—"The existing Imnaha Satellite Facility is located on Forest Service land, within the boundaries of the Wallowa-Whitman National Forest and is subject to the goals and policies of the Forest Plan, the HCNRA Comprehensive Management Plan Draft EIS (U.S. Forest Service 1999), and the Imnaha River Wild and Scenic River Management Plan (U.S. Forest Service 1993a). The existing facility operates under a Special Use Permit from the Forest Service, which would be amended to allow the modifications in a manner consistent with the Forest Plan. A separate Special Use Permit would be required for the new powerline that would run underground about six miles along the Upper Imnaha River Road."

"With the exception of a temporary increase in traffic during construction, traffic is not expected to change noticeably at the Imnaha Satellite Facility. Because of snow, operation and access would likely continue to be seasonal. Given the low daily traffic volumes in the vicinity of the site, the short duration of construction, and the low numbers of trips related to hatchery operations, the Proposed Action would cause only limited transportation impacts."

"Implementing the Proposed Action would not result in any group of people in the area, including racial, ethnic or economic groups bearing a disproportionately high share of population or employment impacts, quality of living changes or environmental consequences. "

"The Proposed Action would not result in measurable short- or long-term impacts to local population conditions. Most of the new full-time, seasonal and temporary workers would likely come from the local area as would most construction contractors and employees. A few very specialized labor requirements may be met with workers from elsewhere. If most contractors and workers came from outside the region, the increase to area population may be noticeable given the slow growth or decline in population over the past ten years."

"Implementation of the Proposed Action would result in some additional employment opportunities in Wallowa and Union Counties. The construction phase of the Proposed Action would provide temporary employment for several dozen construction workers most of which would probably come from the local labor pool. Operation of the various proposed hatchery facilities would result in about three additional full-time employees (possibly from outside the area) and about ten additional seasonal employees (probably

from within the local area). This relatively small increase in full-time and seasonal employment would result in only minimal increase in demand for support industries or government services. City tax revenues or expenses are not expected to change noticeably nor would overall regional economic productivity or cost of living be measurably changed. The direct impacts, while small, are expected to be beneficial in terms some increased employment and increased demand for goods and services."

"Implementation of the Proposed Action would result in an increase in the importance of the fisheries sector within the local economies of Wallowa and Union Counties. This could result in a slight increase in recreation and tourist activity within the two county area, resulting in benefits to both social culture and regional economic productivity."

Description of Project Effects—The project does not affect traditional use, lifestyle adaptation, particularly if the recommendations discussed under scenery are implemented.

020-32

Projects Below the Lostine WSR
Hatchery
Adult Collection Facility

Evaluation under the "Invade ... or Unreasonably Diminish Standard"
Invade the Designated River Area
Unreasonably Diminish its Scenery, Recreation, Fish or Wildlife Values

Lostine Hatchery and Adult Collection Facilities

The following discussion is focused on the potential effects of the Lostine Hatchery and Adult Collection facilities to invade the Lostine WSR or diminish its scenery, recreation, fish or wildlife values. This standard applies to a project proposal below, above or on a stream tributary to a designated WSR. The lower terminus of the Lostine WSR is about one mile upstream of the hatchery and about five miles above the Adult Collection Facility.

Invade the Lostine WSR

020-33

Neither project facility has the potential to invade the Lostine WSR.

Diminish Scenery, Recreation or Wildlife Values of Lostine WSR

020-34

Given the location of the proposed facilities, neither will affect the scenery, recreation or wildlife values of the Lostine WSR.

Diminish Fish Value of Lostine WSR

Fish Populations and Trend

Lostine River bull trout are mostly fluvial, migrating between the Grande Ronde, Wallowa and Lostine systems. The Lostine River bull trout population, as well as most of the population, in the Grande Ronde River system, is considered at a "moderate risk" of extinction (Ratliff and Howell 1992, Buchanan et al. 1997).

020-35

Steelhead are distributed throughout the Lostine River watershed in nearly all accessible streams (Nowak and Eddy 2001). Spawning surveys suggest a decline in spawning in the basin between 1968 and 1979. The 1980s showed a rebound, but counts steadily declined from 1988 to 2000. Spawning counts have rebounded in the last three years.

The Lostine River is a major spring/summer Chinook producing stream within the Grande Ronde system. A major component of the historic run was eliminated in the Lostine with irrigation water withdrawal (Neely et al. 1994). Escapement levels through the 1990s indicated Grande Ronde River spring Chinook salmon are in immediate danger of extinction (Ashe, et al. 2000). An upward trend has been observed in Lostine and Grande Ronde River redd counts since 1995 (Brad Smith, ODFW, pers. comm.).

Effects to Fish Populations from Lostine Hatchery

Project Description—A detailed project description is provided in the introduction of the *Wild and Scenic Rivers Act Preliminary Section 7(a) Determination.* The remainder of this discussion focuses on in-channel construction and hatchery operations that alter fish habitat and may affect fish populations. These construction activities include (NEOH DEIS 2-7, 2-8):

- Installing a water supply intake about one-half mile upstream of the proposed hatchery, just above where the Lostine River Road (County Road 551) crosses the Lostine River. The intake would include a fish screen and trash rack meeting current NOAA Fisheries criteria for such structures, and would require: installing an Obermeyer gate to raise the surface water elevation to provide sufficient flow to the intake; and constructing a pool and weir fish ladder to provide upstream and downstream fish passage at the intake.
- Installing a pump station and 18-inch pipeline to return hatchery water back upstream to the fish ladder at the intake. This water, primarily river water with some ground water, would restore flows in the Lostine River and help attract fish to the ladder for moving upstream and downstream.
- Constructing a concrete outfall downstream of the hatchery. Water from the hatchery's final rearing raceways and cleaning basin would be conveyed via a 24-inch pipe and released into the river through the partially submerged outfall.

Discussion in NEOH DEIS—"Construction activities at the Lostine River Hatchery such as site grading and excavation, and road paving would potentially deliver above-normal concentrations of fine-grained sediment and other contaminants to the Lostine River. Installation of the instream structures upstream of the main hatchery facilities would potentially contribute short-term "excess" sediment in the immediate vicinity of the installation work. However, the Proposed Action includes best management practices, and work would be conducted during summer low flow months and over two instream work seasons, spanning a maximum of two months each year. During the first season, a portion of the riverbank would be removed and the river water intake and fish ladder would be constructed. During the second season, the Obermeyer gate and intake pipeline would be installed. These short-term activities include dewatering and are not expected to result in violations of applicable standards" (NEOH DEIS 3-74). The instream work period is July 1-31 (NEOH DEIS 3-21).

"Upstream and downstream fish passage would be maintained during the instream work. Less than one-half acre of in-stream work area would be involved" (NEOH DEIS 2-11).

"The proposed Lostine River Hatchery and its access would be constructed adjacent to the Lostine River within its active 50- to 100-year floodplain. Peak flows generated during spring runoff or a major 100-year+ storm event may be diverted or impacted by the presence of hatchery development which could change the flood dynamics at or below the site. The Lostine River reached its fifth highest flow on record in 1999 and resulted in massive flooding in the watershed (BPA 2001). The hatchery site reportedly did not flood during the 1999 event. Still, proposed placement of fill and construction of

the hatchery could alter flood flows and impede the natural movement of floodwaters during flood events larger than the one in 1999. Given past trends, excessive flooding of the site would likely be infrequent, but if it occurred, excessive flooding could cause localized erosion and sedimentation, alter large flood flows and change local morphology. Locating the facilities within the active floodplain would have an adverse impact, but past flood events at the proposed site indicate that the likelihood of increased flooding is low" (NEOH DEIS 3-74).

"Instream structures at the Lostine River Hatchery, such as the hatchery intake, would reduce natural channel area, impede flow, and disrupt the natural flow regime at the site. Changes to the natural flow could cause localized, continued bank erosion and occasional flooding. Installing the Obermeyer gate and intake structure would exacerbate the existing river constriction caused by the bridge abutments and further reduce the natural channel area. This would lead to increased flooding risks (i.e., flood height and frequency) just upstream from the intake structure. It would also result in more rapid bank erosion rates both upstream and downstream of the bridge. The proposed outfall structure would be installed downstream of the hatchery facility within a small side channel, so it would not likely impede or alter river flow" (NEOH DEIS 3-74).

"Hatchery water would come from the Lostine River and groundwater wells. Water use would be non-consumptive, meaning that all water used would be treated and returned to the Lostine River. Diversion of surface water from the intake to the outfall structure would take place over a linear distance of about 2,800 feet or about a half-mile reach of the river upstream from the outfall at the hatchery site. Average monthly flows on record (from 1912 to 1999) range from about 48 to 64 cfs between September and March and for April through August flows range from 90 to 800 cfs. For an average year, there appears to be adequate flow in the Lostine to accommodate hatchery demands, while leaving no less than 75 percent of the flow in the river. However, during dry and/or cold years, water demand of the hatchery may be 50 or 60 percent of the total flow in the river. IFIM studies have indicated that at low flow, summer conditions (September), the minimum hatchery flow requirement is 11.5 cfs, which represents about 22 percent of the average flow in September and 50 percent of the September low flow (Montgomery Watson Harza 2001a). This amount of diversion is necessary to support the hatchery during low flow periods. (Montgomery Watson Harza 2001b)" (NEOH DEIS 3-75).

"Fill and riprap would be placed upstream and downstream within an existing meander side channel to protect the hatchery from flooding events that may cause bank erosion. The riprap would be placed stream-side of existing vegetation. In-channel habitat would be slightly altered, but original meanders would be maintained and riprap placement is not expected to affect instream flow or habitat use. About 100 to 150 feet upstream and downstream of the river bank adjacent to the most northern well would be riprapped for flood protection and erosion control. This portion of the bank is prone to erosion and riprap would stabilize the channel at that section. Riprap would be placed on top of weedy herbaceous vegetation that does not currently function as shading habitat" (NEOH DEIS 3-21).

"With average river conditions, no more than about 25 percent of the flow would be needed to support the Lostine River Hatchery. A maximum of about 15.3 cfs would be needed in mid-September to meet NATURES preferred criteria for all fish at the hatchery. Three new groundwater wells would provide up to 1,200 gallons per minute (gpm) to the facility" (NEOH DEIS 2-10).

"Rearing juvenile anadromous salmonids, particularly steelhead and Chinook, and resident species may use the reach during low flow periods and may therefore be affected by withdrawals. It is not likely that anadromous adults would be migrating upstream or downstream during September (Sankovich 2002, pers. comm.). Although prime Chinook spawning habitat occurs just downstream of the proposed hatchery, where intake water would be returned to the river, local spawning habitat extends into the diversion reach (Zollman 2002b, personal communication; McMillen 2002, personal communication). Therefore, spawning Chinook and their redds could potentially be affected by low flow. Juvenile bull trout and rapid turnaround spawners may out-migrate in September, but would likely remain higher upstream until Lostine River temperatures drop. Adult steelhead would be in the Snake River or arriving in the lower Grande Ronde during September (for overwintering) and would not likely be in the Lostine during that low flow period" (NEOH DEIS 3-22).

"Low flows in the winter months are also a concern, since freezing temperatures and a lack of runoff can drop the river stage to 25 cfs or less. During these periods, water consumption at the hatchery can be reduced because fish activity and growth is near zero due to the cold water temperatures. To meet instream flow requirements for the bypass reach, the minimum water budget shown in Table 3.2-8 would be implemented in low flow years and/or hatchery effluent would be pumped back to the hatchery intake to supplement instream flows in the Lostine River. Freezing at this section of the Lostine River is an existing limiting factor for salmonid use during winter months" (NEOH DEIS 3-22).

"In order to minimize instream impacts during low flow conditions within the bypassed river reach, a pump station would be installed to pump the hatchery effluent back, along with supplemental well water, to the intake. The pumped flow would be introduced at the bottom of the fish ladder to return river water near the point of diversion. The pump station would be sized so that when low flow management strategies are implemented, the pump could transport the entire diverted flow back to the intake location" (NEOH DEIS 3-23).

"Because of the pumped return strategy, even during extreme conditions, impacts to flows would be short-term and limited to the one half mile reach of the river immediately upstream from the hatchery (Montgomery Watson Harza 2001b). Water temperature change is not anticipated under the Proposed Action" (NEOH DEIS 3-75).

Description of Project Effects from Facility Construction—The construction of this facility will temporarily displace fish, affect migration, and remove available habitat. Significant amounts of sediment will be added to the river during construction activities. 020-36

Fish will be displaced and some mortality may occur. The effects of this sediment will be short-term and are not expected to last long beyond each construction period.

Bull trout migrate up the river from May through August (J. Harbeck, NPT, pers. comm. 8/11/2003). Spawning begins in September and takes place primarily upstream of Silver Creek, a tributary entering the Lostine River upstream of the proposed hatchery facility (USFWS 2002). Spring/summer Chinook generally enter the river around the first week of June and spawn between mid-August to late-September. Fry emerge from March to May, depending on water temperature, and tend to remain near emergence sites (Brad Smith, ODFW, pers. comm.) Subadults and adults move downriver in the fall, after adults have spawned, depending on river conditions (Brad Smith, ODFW, pers comm.). 020-36 (con't.)

Information in the NEOH DEIS is insufficient to evaluate the degree of impact to migrating and resident fish. Fluvial bull trout and Chinook salmon are migrating to the upper Lostine River during the ODFW instream work window. While passage will be provided for all fish during construction activities, the increased sediment, reduced available habitat, and the human presence and noise associated with construction activities will have a negative effect on individuals making this migration, as well as juveniles near the construction site. 020-37

Instream structures (intake, pool and weir fish ladder, pump station, concrete outfall) will alter the river's hydrology. The riprap of the river bank adjacent to the most northern well, and fill placed within an existing meander side channel to protect the hatchery from flooding events, will result in a loss of rearing habitat. The NEOH DEIS is not clear whether this side channel contains existing rearing habitat for juvenile salmonids. More information is needed to estimate effects to fish habitat and populations from these activities. 020-38

Description of Project Effects from Facility Operation—The gate and fish ladder will be permanent structures. Behavioral modification and changes in distribution of individual fish may occur due to changes in upstream and downstream hydrology. 020-39

This facility is located just upstream of prime spring/summer Chinook spawning grounds. Rearing of approximately 740,000 smolts in this facility would create a significant amount of chemical and effluent waste and raises a concern about contamination and disease being passed to naturally reproducing fish. Bull trout also spawn below the proposed facility site. More information is needed as to how water quality standards will be achieved. 020-40

Diversion of surface water from the intake to the outfall structure would take place over a linear distance of 2,800 feet. The decrease of instream flows, especially at low flow periods will have negative effects on juvenile rearing and fish passage. Chinook and/or bull trout redds may be dewatered during low flow periods. It is difficult to determine the extent of this effect without further information. 020-41

A loss of available rearing habitat is expected in the length of channel between the intake and outfall. Lower flows will leave less available habitat. A loss of riparian vegetation associated with the construction of the intake and outfall structures is expected. Additional riparian vegetation loss is also expected in the area between the intake and outfall due to the lower seasonal flows. This will result in a negative effect on rearing habitat, especially for juvenile salmonids that tend to stay in the margins of the river. A small loss in available habitat will also be realized where riprap replaces native bank materials.

020-42

Effects to Fish Populations from Lostine Adult Collection Facility

Project Description—A detailed project description is provided in the introduction of the *Wild and Scenic Rivers Act Preliminary Section 7 (a) Determination.* The remainder of this discussion focuses on in-channel construction that will alter fish habitat and may affect fish populations. These construction activities include (NEOH DEIS 2-5):

- Decommissioning the existing, deteriorating concrete fish ladder. The highest sill would be entirely removed; the other sills would be partially removed to the extent needed, and allowed to fill with stream gravels.
- Constructing a new concrete fish ladder and installing a modern fish-friendly weir structure (termed a hydraulic velocity barrier) for adult fish passage and Chinook collection.
- Protecting the river's west bank from damage during high flow conditions by constructing a soil and rock levee, about three to five feet high, extending about 300 feet upstream of the exit of the fish ladder. Existing vegetation would be removed for levee construction.
- Protecting/stabilizing the river channel by placing riprap or a concrete retaining wall along both banks about 100 feet upstream of the new facility.

Discussion in NEOH DEIS—"Best management practices to reduce sedimentation from construction activities are incorporated into the Proposed Action. However, construction activities at the Lostine Adult Collection Facility may still result in a temporary increase in sediment and runoff to the Lostine River. The anticipated amount of sedimentation would not alter the channel configuration or exceed the river's ability to carry sediment" (NEOH DEIS 3-17).

"Partial demolition of the existing fish ladder and construction of the new fish ladder would employ best management practices including operating in the State's instream work window, dewatering the area under construction and implementing erosion control measures... Even with such practices, a short-term decrease in water quality through inadvertent releases of sediment to the river is likely. Rain events would increase the risk of water quality degradation due to erosion of soils and stormwater runoff containing gasoline and oil from construction equipment. Construction activities would have an adverse, though short-term, impact on water quality and are not expected to result in any violations of water quality standards, or to cause a water quality temperature change" (NEOH DEIS 3-74).

"During construction of the velocity barrier, most of the river water would be routed through the new fish ladder (during operation, the ladder would pass most water during low flow periods in August and September; water would flow instream during higher flows). The proposed levee and velocity barrier would not affect the overall river hydrograph. (NEOH DEIS 3-18)

"Cofferdam placement and use of the new fish ladder for passage would result in a temporary reduction in available habitat for fish that reside within the river or that are migrating upstream or downstream during the construction period of the Lostine Adult Collection Facility. Diverted flow is not expected to affect water temperatures. Adult steelhead over winter in the Snake and lower Grande Ronde and migrate up the Lostine in March and April, while juveniles emigrate in late spring (Sankovich 2002, pers. comm.). While most adult steelhead would therefore not be impacted, potential kelt downstream migrants may be affected by construction activities. Rearing juvenile steelhead move up and down the Lostine at all times of the year, with pulses occurring in spring, outside of the construction window. Both adult and juvenile Chinook use the Lostine during summer months when instream work would occur. Adult bull trout are known to migrate up the Lostine in June through August, during the proposed instream work window. Smolt emigration occurs in late fall, and would not be impacted by instream construction. Delays to Chinook and bull trout passage may occur both upstream and downstream of the site due to the presence of the cofferdam and rerouting of river flow. Daily monitoring during construction activities would determine if salmonid passage, both upstream and downstream of the cofferdam, is impacted by activities. If adverse impacts to passage are observed, fish biologists would consult with federal and state fisheries managers to determine an appropriate action to assist in the passage of individuals. This may include manual transfer of fish to areas upstream or downstream of the construction area. Impacts would be temporary and would be limited to one instream work window" (NEOH DEIS 3-18).

"The proposed levee, composed of fill and riprap, would be constructed on the west bank of the river to protect the bank and site from damage during high flows and to minimize erosion. Construction of the levee would isolate small side channels returning to the Lostine in this area. French drains would convey river and on-site spring water to the Lostine River, but habitat for juvenile Chinook (and potentially bull trout) would be lost. The amount of habitat loss would not impact the populations of listed species within the watershed" (NEOH DEIS 3-18). About 300 feet of riparian vegetation will be removed or disturbed for levee construction (NEOH DEIS 3-17).

"Levee construction and riprap placement for the proposed Lostine Adult Collection facility would have an adverse effect on the floodplain and on water quality by increasing flow velocities and changing the flow regime through this river segment, but only during floods. Such changes would cause limited increased erosion and sediment load during flood events. During high flows, the levee and bank could fail causing scour and additional sedimentation. In such cases, downstream deposition of eroded, fine-grained sediments would degrade water quality by increasing turbidity and altering water chemistry *(i.e.,* temperature, Biological Oxygen Demand and pH). Lateral bank

protection would reduce the amount of water and sediment deposited on the adjacent floodplain, decreasing soil-forming sediments and nutrients" (NEOH DEIS 3-73).

"During operation of the Lostine Adult Collection Facility, no Lostine River water would be permanently diverted. Water losses and gains would remain the same as existing conditions after installation of the new fish ladder, levee and flow velocity barrier. However, during periods of low flow (September, near the end of operation), most river water would be diverted through the fish ladder. This could potentially impact species use at the reach as usable habitat would be altered for a short river segment, extending approximately 150 feet from the centerline of the entrance to the centerline of the release channel" (NEOH DEIS 3-18, 3-19).

Description of Project Effects from Facility Construction—The construction of this facility will temporarily displace fish, affect migration, and remove available habitat. Placement of cofferdams during ladder construction will alter stream flow upstream and downstream of the structures and directly reduce instream habitat. Significant amounts of sediment will be added to the river during construction activities. Fish will be displaced and some mortality may occur. The effects of this sediment will be short-term and are not expected to last long beyond each construction period.

Construction of a retaining wall on both sides of the river for approximately 100 feet above the new facility and a soil and rock levee, about three to five feet high, extending about 300 feet upstream of the exit of the fish ladder will negatively affect all salmonid fish during construction. This amount of instream work will result in mortality of some juveniles and permanently alter about 400 feet of fish habitat at the river's edge. 020-43

The loss of riparian vegetation will negatively impact rearing habitat, especially for juvenile salmonids that tend to stay in the margins of the river.

Information in the NEOH DEIS is insufficient to evaluate the degree of impact to migrating and resident fish. Fluvial bull trout and Chinook salmon are migrating to the upper Lostine River during the ODFW instream work window. While passage will be provided for all fish during construction activities, the increased sediment, reduced available habitat, and the human presence and noise associated with construction activities will have a negative effect on individuals making this migration, as well as juveniles near the construction site. 020-44

Description of Project Effects from Facility Operation—The weir and fish ladder will be permanent structures. Behavioral modification and changes in distribution of individual fish may occur due to changes in upstream and downstream hydrology. 020-45

All migrating fish will be required to pass through the fish ladder during upstream and downstream migration. When the facility is in operation all migrating fish would swim into the trap. They would remain in the trap for up to 24 hours. The NEOH DEIS does not say whether or not all fish would be handled in the process of allowing them to move upstream. More information would be required to estimate the effects to migrating non-target Chinook and bull trout. 020-46

Supplementation—Refer to discussion on supplementation for the proposed Imnaha facilities. 020-47

Summary of effects by species

Bull Trout—The Lostine River bull trout population is considered at "moderate risk" of extinction (Buchanan, et al. 1997). There are no current estimates on size of the Lostine River bull trout population. The primary effects from proposed construction and operation of NEOH facilities would be to the fluvial form of this population, who migrate past both the Adult Collection Facility and the proposed Hatchery Facility enroute to spawning areas in the upper Lostine River. Most migrating adults would be upstream of both facilities prior to the opening of the instream work window. Construction activities would have minimal and short-term effect on Lostine River bull trout. Operation of both facilities may have more impact. Some bull trout may spawn below the proposed Hatchery Facility in the area heavily used by Chinook salmon. Unanticipated or accidental effects to water quality from operation of the proposed Hatchery Facility (effluent and/or chemicals) could have a significant effect on incubating eggs or juveniles in this area. Decreased flows in the section affected by the withdrawals at the proposed Hatchery Facility could impact migrating fish. However, since most bull trout would have migrated past the facility prior to low flows, this impact is not expected to be substantial. Operation of the Adult Collection Facility would have a far greater impact on migrating bull trout. All bull trout passing through the facility are kept in a holding tank up to 24 hours before being weighed, measured, and hand-placed into a pipe leading back to the river. The effects on bull trout from the stresses of this procedure are hard to quantify, but the likelihood of pre-spawning mortality is increased. Loss of individual Lostine River bull trout may be significant in this at-risk population. Monitoring of spawning distribution and of population trends is desirable to help track positive or negative effects of the facility on the population. 020-48

Steelhead—The Lostine River steelhead population appears healthy. Based on spawning counts and counts at the Lower Granite dam, populations have been on an upward trend since 1995 (Brad Smith, ODFW, pers. comm.). Effects to steelhead in the Lostine River from proposed construction and operation of NEOH facilities are expected to be limited on spawning adults. The timing and location of steelhead spawning does not coincide with the construction work or operation of proposed NEOH facilities. Returning adults migrate up the Lostine River during high flows in early spring, prior to the instream work window. Spawning occurs primarily in the tributary streams. Kelts returning downstream may encounter a delay in migration when the wier is in operation at the Adult Collection Facility. A fish ladder is intended to allow downstream migrating adults through. Any delay would not have a significant impact on the Lostine River steelhead population. The primary effect to Lostine River steelhead would be on rearing juveniles. Although juvenile steelhead emerge and begin rearing within tributary streams, it is likely that some rearing takes place in the Lostine River. Construction activities will displace rearing fish, and some habitat loss will result from placement of riprap. At low flows there will be a net loss in rearing habitat in the area between the intake and outfall of the proposed Hatchery Facility, due to the effect of water withdrawals. The same habitat loss

would occur, although to a lesser extent, at the Adult Collection Facility. There are approximately 29.8 miles of steelhead spawning and rearing habitat within the subbasin (USDA 1998). The proposed facilities would diminish a portion of habitat within less than 3% of the subbasin rearing habitat. Overall the effect on the Lostine River steelhead population is not expected to be substantial.

Chinook—The Chinook salmon population within the Lostine River has been on an improving trend since 1995 (Brad Smith, ODFW, pers. comm.). Although the hatchery facilities are designed to improve Chinook salmon populations within the Lostine River, there are some negative effects on the wild population. Spring/summer Chinook are not known to spawn in the reach of the Lostine River containing the proposed Adult Collection Facility (J. Harbeck, NPT, pers. comm.). All adults passing the Adult Collection Facility are held for a period up to 24 hours in the holding tank, anesthetized, weighed, and measured (J. Harbeck, NPT, pers. comm.). Fish allowed to pass upstream of the facility are put into a pipe leading to the river where they recover prior to swimming upstream. This process can have a negative effect on adult Chinook, and likely results in an increase in pre-spawning mortality. Spawning does take place below and above the proposed Hatchery Facility. There is a heavily used spawning area below the proposed Hatchery Facility. Unanticipated or accidental effects to water quality from operation of the proposed Hatchery Facility (effluent and/or chemicals) could have a significant effect on incubating Chinook eggs and emerging individuals in this area. Chinook salmon migrating to spawn above the Hatchery Facility should pass the facility prior to low flows. Juvenile Chinook rear in the Lostine River and the lower reaches of major tributaries (USDA 2003). Proposed construction activities at both facilities would displace rearing fish, and some habitat loss will result from placement of riprap, especially in the side channel being blocked at the proposed Hatchery Facility. At low flows there will be a net loss in rearing habitat in the approximately one-half mile distance between the intake and outfall of the proposed Hatchery Facility, due to the effect of water withdrawals. Habitat loss would also occur at the Adult Collection Facility with the extensive riprap proposed in the new construction at that facility. There is approximately 25.6 miles of spring/summer Chinook salmon rearing habitat in the Lostine River Watershed (USDA 1994). The proposed facilities would decrease habitat within approximately 3% of the watershed's rearing habitat in an area of relatively high quality. The effect to the Lostine River spring/summer Chinook integrated population from the proposed facilities would be an overall increase, however, negative effects are anticipated on naturally spawning wild individuals. Some of these effects may be mitigated by improvements in passage or handling of fish, and design of in-channel components to improve fish habitat conditions.

020-48 (con't.)

Project Above the Grande Ronde WSR
Lookingglass Hatchery

Evaluation under the "Invade ... or Unreasonably Diminish Standard"
Invade the Designated River Area
Unreasonably Diminish its Scenery, Recreation, Fish or Wildlife Values

Lookingglass Hatchery

The following discussion is focused on the potential effects of the Lookingglas Hatchery to invade the Grande Ronde WSR or diminish its scenery, recreation, fish or wildlife values. This standard applies to a project proposal below, above or on a stream tributary to a designated WSR. The upper terminus of the Grande Ronde WSR is several miles downstream of the hatchery.

Invade the Grande Ronde WSR

020-49

Modifications of this hatchery will not invade the Grande Ronde WSR.

Diminish Scenery, Recreation, Fish, or Wildlife Values of Grande Ronde WSR

020-50

Given the location of the proposed facilities, it will not affect the scenery, recreation, fish or wildlife values of the Grande Ronde WSR.

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Zollman R. Nez Perce Tribal Fisheries Biologist, Enterprise, Oregon. 8/06/2003. Personal communication.

020-01

Comment acknowledged; the Forest Service will issue its final Wild and Scenic River Act determination after publication of this Final EIS, and the Wallowa-Whitman Forest Supervisor will make a separate decision whether or not to issue a special use permit for modifications of the Imnaha Satellite Facility located on National Forest lands.

020-02

The Imnaha Final Rearing Facility is no longer proposed for construction (see Section 1.2 in the Final EIS); see response 012-02. The activity proposed at this site is limited to removal of an existing Acrow (steel panel) bridge and concrete bridge abutments, and recovery of the affected ground to a more natural condition. The bridge panels would be reinstalled at the Lostine Adult Collection Facility and the concrete bridge abutments would be hauled off-site for disposal.

020-03

BPA believes that the information needed for the Forest Service to make a final determination under Section 7(a) of the WSRA is provided in this Final EIS, the Biological Assessment prepared for the project (previously provided to the Forest Service and incorporated by reference in its entirety into this EIS), other supporting documentation presented to the Forest Service, and in the responses to Forest Service comments 020-06 through 020-50 below.

020-04

Comment acknowledged; thank you. Forest Service collaboration in this effort for conservation and recovery of spring/summer chinook in Northeast Oregon is appreciated.

020-05

Comment noted; BPA acknowledges that the Forest Service report is based on the Draft EIS, knowledge of Forest Service staff, and other references as cited.

020-06

The Imnaha Final Rearing Facility is no longer proposed for construction (see responses 012-02 and 020-02). The Proposed Action should result in improvements to Wild and Scenic River values at this location of the Imnaha River.

020-07

Comment acknowledged; proposed modifications at the Imnaha Satellite Facility are anticipated to result in minor changes to channel structure.

020-08

Comment acknowledged; Imnaha River flows are too low for boating at proposed sites.

020-09

Comment acknowledged; construction of the Imnaha Satellite Facility would add about 0.12 acres of new impervious surface (see revised text in the Final EIS, Chapter 2) and increased runoff during construction of the facility is expected to be short-lived.

020-10

Comment acknowledged; construction of the Imnaha Satellite Facility could result in temporary, minor, and localized bank erosion.

020-11

Current facility withdrawals are about 6 cfs and occur from May through September. The Final EIS text has been revised (see Sections 1.6 and 2.3) to state that, under the proposed project, surface water withdrawals of 9.6 cfs would be diverted from the river annually for juvenile acclimation and release during March and April; about 6 cfs would be diverted for adult bypass (May through September); and an additional 20.3 cfs would be diverted during adult collection and holding (about June through September). No surface water withdrawals are anticipated from October through February.

020-12

Comment acknowledged; see response 020-10.

020-13

Comment acknowledged; see responses 020-10 and -11.

020-14

Comment acknowledged; Outstandingly Remarkable Values (ORVs) of the Imnaha Wild and Scenic River are addressed individually in the comments and responses that follow.

020-15

Comment acknowledged; modifications at the Imnaha Satellite Facility would not be noticeable to most visitors and the general appearance of the area would be little changed from existing conditions.

020-16

Bringing a buried powerline 6 miles from a substation to the Imnaha Satellite Facility is no longer part of the Proposed Action. Power would continue to be provided by existing on-site generators resulting in no change from the existing condition relative to noise or recreational opportunity.

020-17

Comment acknowledged. Among the purposes of the Proposed Action are conservation and recovery of ESA-listed spring/summer chinook.

Overall production program success is a pre-existing goal under the Lower Snake River Compensation Plan and the conservation/recovery objectives of the ESA permitting program. Project-specific performance standards were developed by project co-managers and reviewed by the Independent Scientific Review Panel (ISRP) and

finalized as the Monitoring and Evaluation Plan for Northeast Oregon Hatchery Imnaha and Grande Ronde Subbasin Spring Chinook Salmon (Hesse and Harbeck 2004). Monitoring and evaluation elements of this plan would be applied to the proposed project and are incorporated into the Final EIS and Biological Assessment by reference.

020-18

The potential for site-specific erosion and how to avoid it would be addressed in detailed facility design and erosion and sediment control specifications prepared as part of project construction documents during the final design phase of the project. The project design would include measures to avoid long-term erosion related to the placement of in-water structures as well as temporary, construction-related erosion (Draft EIS project description and Sections 3.2.3.2 and 3.5.3.5). Some localized and increased bank erosion typically occurs when placing structures in an active river system. Proper project design and construction would reduce this erosion as much as possible. Therefore, project design documents would clearly show proper placement for hatchery structures; define areas of clearing and grubbing; specify locations of silt fences; and provide details for sedimentation ponds, access road preparation and maintenance, and any other permanent or temporary erosion control measures. Best management practices specified in construction documents would be in accordance with Oregon Department of Transportation's Erosion and Sediment Control Specification 0280. Best management practices would, most likely, be included as conditions of the various permits required for the project. All permit conditions would be followed.

Construction noise and activities may alter the behavior and distribution of fish in the area (e.g., interrupt migration and spawning of those adult spring/summer chinook that are not needed for broodstock, impact juvenile chinook rearing, and delay bull trout migration), but these impacts are short-lived and are not expected to affect long-term use, passage, abundance, or distribution of fish (FishPro/HDR 2004a).

020-19

As described in this Final EIS (Section 1.6 and revisions to Draft EIS Section 3.2.3.2 in Chapter 2), instream work at the Imnaha Satellite Facility would include modifications of the surface water intake structure, installation of a replacement weir, and installation of a diffuser chamber an auxiliary water supply line. A new fish ladder is no longer proposed at this site. All instream work would take place behind a cofferdam and would be performed during instream work windows established by ODFW to minimize potential impacts, with primary consideration to threatened, endangered, and sensitive species. Instream work windows were established to avoid the most vulnerable life stages (typically juveniles). Therefore, limiting project work to the instream work window would minimize potential impacts to fish. Project permit applications would also be reviewed by NOAA Fisheries, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, Oregon Department of State Lands, and ODFW to ensure compliance with federal and state guidelines for instream construction and fish passage during construction.

As described in detail in the project Biological Assessment (Sections 4.2 and 5), in-water construction could temporarily delay migrant fish passage, including bull trout and spring/summer chinook not collected at downstream facilities (i.e., fish that were passed upstream for natural spawning). Adult Imnaha steelhead are early spring spawners, and would not likely be affected by proposed in-water work. Fisheries biologists would perform daily discrete bank surveys to determine if migrants were being delayed or otherwise stressed during in-water work periods and consult with regulatory agencies, if necessary, to minimize adverse effects on fish (project Biological Assessment, page 94).

020-20

The replacement weir proposed for the existing Imnaha Satellite Facility was specifically designed to efficiently and safely accommodate migrating fish, including bull trout; see response 012-04. As under current operations, no non-target fish (including bull trout) would be held for more than 24 hours. Typically during fish trapping, monitoring would occur much more frequently than once per 24-hour period. All non-target fish would be allowed to pass above the weir. The replacement weir will facilitate downstream migration of bull trout and will be a slight improvement over the existing situation.

020-21

The replacement weir would have a clear bar spacing of 1-1/4 inches, which would allow juvenile fish to pass directly through it when it is in operation (Grassel 2003). The final design of the weir would be coordinated with and approved by NOAA Fisheries and U.S. Fish and Wildlife Service. Juvenile fish passage should be improved over existing conditions (Biological Assessment Section 4.2.2).

020-22

Refer to response 012-04 and to Section 1.10 of the Final EIS for a summary of all project mitigation and monitoring. As stated in the Draft EIS (Section 3.2.3.2) and discussed in the project Biological Assessment (Section 4.2.2), the replacement weir would be designed to allow operators to raise and lower the weir (or individual weir panels) to guide migrating adults into the fish ladder and holding facility and to allow migrating kelts, adult bull trout, or chinook to move downstream over the weir. Juvenile fish would be able to pass through the spacing on the weir pickets. An auxiliary water supply pipeline, intended to augment the attraction flow of the existing fish ladder, would be installed behind an existing concrete wall beside the ladder. Improved attraction would result in less migratory delay and a decreased likelihood of downstream spawning than under current conditions (due to insufficient attraction flow from the existing fish ladder, some chinook that would normally spawn farther upstream have spawned downstream of the existing facility). Construction timing would coincide with the weir installation. Because the supply line would be installed behind the concrete wall, the existing fish ladder would operate during construction. The modified fish ladder and expanded adult holding area were designed to provide operational flexibility, improve fish passage both upstream and downstream, improve fish attraction, and improve operator safety in comparison to existing facilities. These improvements were designed in accordance with NOAA Fisheries criteria for adult collection and holding facilities.

020-23

As described in the project Biological Assessment (Section 4.2.2, pages 94-96), the habitat available for salmonids would be limited during periods of low river flow (i.e., drought conditions) regardless of facility requirements.

Seasonally, facility operation may reduce fish habitat and utilization, particularly for juvenile chinook that are known to occur in the immediate vicinity of the facility. The increase in the amount of water diverted from the intake to the outfall compared to existing conditions is not expected to affect juvenile bull trout use because low flows occur in September, when bull trout are likely upstream of the Imnaha Satellite Facility in cooler headwaters. Younger steelhead juveniles may move upstream and downstream within the Imnaha and its tributaries during summer and fall and could use the diversion reach for rearing. However, ample rearing habitat is available for all species upstream and downstream of the existing diversion reach and juveniles may migrate there during periods of extreme low flows.

Intake structure improvements would disturb an area of river bed and bank about 30 feet long by 30 feet wide and require placement of about 100 cy of riprap. The auxiliary water supply line would be installed behind an existing concrete wall and require the placement of minor amounts of riprap to stabilize the pipeline entrance.

Habitat disturbance would be minor, and suitable habitat for spawning and rearing is available and occurs in areas surrounding and adjacent to both of these sites. Any compensatory requirements for habitat loss would be determined at the time of project permitting, including reauthorization of the Forest Service Special Use Permit to allow the proposed facility improvements.

020-24

A new fish ladder is no longer proposed for the Imnaha Satellite Facility. Most other proposed facilities (water supply pipeline, septic drainfield, rock sluiceway, improvements to the holding area, and water supply lines) would be constructed behind existing facility walls and/or on uplands; thereby, avoiding instream activities and habitat effects. The replacement weir, proposed diffuser box to be placed at the base of the fish ladder, and modified water intake would all involve in-water work conducted during ODFW's instream work window. The proposed modifications would be an improvement to the existing facility and facility operations. The potential effects of construction, operation, and maintenance of the proposed facilities on fish are discussed in detail in the project Biological Assessment (Section 4.2.2 under the Imnaha Sites subsection, pages 92-98). Also see response 012-04.

020-25

Refer to response 020-23.

020-26

Refer to response 020-23. The intake location is in low quality, previously altered habitat with limited vegetation or in-water structure for fish. Habitat at the weir and ladder sites is of similar (low) quality due to existing facility components. At both the weir and the intake locales, the pools would be maintained, which provide an element of habitat diversity themselves. Although no mitigation is proposed to compensate for habitat losses, proposed improvements to the fish ladder, including improved attraction from the proposed auxiliary water supply, will facilitate upstream and downstream fish migration. Additional attraction water should alleviate most of the existing difficulties that fish currently have in locating the ladder entrance.

Additionally, the proposed hydraulically operated weir would provide the flexibility to lower individual panels to allow downstream passage of steelhead kelts and bull trout. When not in operation, the new weir would lie flat under the water to allow downstream passage. A section on the left abutment would also be placed at a slightly lower elevation to support both upstream and downstream fish passage by providing a deeper channel for migration. Any compensatory requirements for habitat loss would be determined at the time of project permitting, including reauthorization of the Forest Service Special Use Permit to allow the proposed facility improvements.

020-27

The Imnaha Conservation/Recovery Program is an existing and on-going program authorized by NOAA Fisheries Section 10 Permit No. 1128. As part of the permit process, the program received scientific scrutiny through NOAA Fisheries peer and public review. NOAA Fisheries determined that the direct take of these listed fish for hatchery broodstock, and the release of their progeny, would be beneficial to the Imnaha population (Delarm, NOAA Fisheries, personal communication as cited in Ashe et al. 2000). Smolt release under the existing production program would be expected to continue, as it has in the past, in accordance with all applicable permits and in consultation with NOAA Fisheries regardless of whether the proposed improvements at the Imnaha Satellite Facility were implemented.

Though the co-managers are unaware of scientific, peer-reviewed documentation of hatchery fish "swamping natural production" in the Imnaha River, they have provided a contingency by "scaling" broodstock collection from across the entire returning adult run using a sliding scale that incorporates both wild and hatchery fish as broodstock based on the total number of returning adults. The program also allows hatchery broodstock to spawn naturally above the weir in their natural environments, with the resulting offspring considered wild fish. The adult sliding scale is based on the premise that at low population levels the greatest risk to persistence is demographic. But at higher population levels genetic concerns take priority. Therefore, with the sliding scale, fewer constraints are placed on the number of hatchery adults spawning in nature when the population is low. As population levels increase, demographic risks decrease and, in response, greater constraints are placed on hatchery adults spawning in nature. Details of the adult sliding scale are discussed in the Section 10 Permit Applications submitted to NOAA Fisheries (ODFW 1998a and 1998b).

020-28

Refer to responses 020-22, -23, -26, and -27. As stated in this EIS and the project Biological Assessment, operation of the attraction-improved fish ladder and replacement weir would benefit target and non-target species through improved attraction to the ladder (resulting in less migratory delay) and better downstream passage for steelhead kelts and bull trout (with the capacity to lower individual weir panels). As under current operations, with facility improvements, the Imnaha Satellite Facility would be staffed 24 hours a day, seven days a week during fish trapping. The trap would be checked for fish several times a day, including at first daylight (Grassel 2003). Bull trout would not be held in the trap for weighing nor would they be handled unnecessarily. The proposed trapping period (May – October 1) is not likely to result in increased trapping of bull trout, since adults move upstream past the facility in June through August (FishPro/HDR 2004a).

020-29

Section 3.3.3 of the Draft EIS states that no substantial changes to state or federally listed species, big game, or their habitats (including elimination, disturbance, or enhancement of designated critical habit or primary travel routes) would occur as a result of project implementation at the Imnaha Satellite Facility.

020-30

Comment acknowledged; effects to vegetation and botany are limited to sites of existing facilities.

020-31

Construction would be monitored, and the Wallowa-Whitman National Forest archaeologist, tribal archaeologist, and the State Historic Preservation Office consulted, as appropriate.

020-32

Comment acknowledged; the recommendations to protect scenic values have been incorporated into project design.

020-33

Comment acknowledged; Lostine facilities would not invade the Lostine Wild and Scenic River.

020-34

Comment acknowledged; Lostine facilities would not unreasonably diminish the scenery, recreation, or wildlife values of the Lostine Wild and Scenic River.

020-35

Comment acknowledged; this information appears to be consistent with that used in development of this EIS.

020-36

The Draft EIS (Section 3.6.3) states that construction of the Lostine River Hatchery could potentially result in temporary, above-baseline levels of sediments in the river, but that sediment levels would likely be controlled and maintained at below the level of significance (below the level of water quality violation and/or waste discharge violation) through the use of erosion control measures and other best management practices. Refer to response 020-18.

020-37

As stated in the Draft EIS (Section 3.2.3.1), instream construction would take place over two seasons and all instream work would be performed during work windows established by ODFW. Instream work periods were established to avoid vulnerable life stages of key species, including chinook and bull trout. Therefore, limiting project work to the instream work window would minimize potential impacts to fish. Project permit applications would also be reviewed by NOAA Fisheries, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, Oregon Department of State Lands, and ODFW to ensure compliance with federal and state guidelines for instream construction and fish passage during construction.

The project Biological Assessment (Sections 4.2.2 and 5) provides additional detail on maintaining and monitoring fish passage during construction and which life stages would be expected to occur in the area during construction. As discussed in the Biological Assessment, passage of migrating adult bull trout and chinook may be temporarily delayed during instream work and fish that inhabit the local area would be temporarily displaced. Juvenile bull trout, however, would most likely be further upstream during site construction (avoiding the relatively warm water temperatures in this stretch of the river).

020-38

Potential project impacts on rearing habitat in the river channel are summarized in the Draft EIS (Section 3.2.3.1) and discussed in detail in the project Biological Assessment (Section 4.2.2, Channel Alterations subsections) for all project facilities. About 310 linear feet of fill and riprap would be placed stream-side of existing vegetation within the side channel floodproofing location. Although some herbaceous plants may be lost, the amount of riprap to be placed is relatively small.

Alteration of river hydrology due to placement of instream structures may occur, but on a very localized scale, and overall, only small amounts of fish habitat would be affected and river temperature, flow, and geomorphology would not be affected. Any modified fish behavior or distribution would be on an individual level (i.e., affected fish would likely relocate to areas adjacent to the site).

020-39

Comment acknowledged; see response 020-38.

020-40

Surface water quality issues are summarized in the Draft EIS (Section 3.2.3.1) and discussed in detail in the project Biological Assessment (Section 4.2.2, Water Quality subsections) for all project facilities. No change in water quality, other than potential temporary, construction-related impacts, would be associated with the Lostine facilities. Through the Environmental Protection Agency's NPDES permit process, Oregon has set limits for hatchery discharge water quality to ensure that receiving waters are not overloaded with potentially detrimental amounts of substances that may adversely affect the environment, including plants, animals, and water quality. Estimates of the concentration of total suspended solids in hatchery effluent were made based on the hatchery's preliminary production plan and this value was within the limitations of the general NPDES permit for aquaculture operations of the size of the proposed Lostine River Hatchery (Biological Assessment, Section 4.2.2). Once operational, the hatchery would be subject to NPDES monitoring and reporting requirements. Hatchery design includes a cleaning waste basin to settle, collect, and store solid wastes for proper disposal as well as best management practices for hatchery operations and chemical handling (Draft EIS, Sections 2.1.1.3 and 3.2.3.1).

020-41

Surface water requirements are summarized in the Draft EIS (Section 3.2.3.1) and discussed in detail in the project Biological Assessment (Section 4.2.2, Water Gains and Losses subsections) for all project facilities. Diversion of surface water from the intake to the outfall structure at the proposed Lostine River Hatchery would take place over a linear distance of about 3,200 feet (see Final EIS, Chapter 2). For an average year, there appears to be adequate flow in the Lostine River to accommodate all hatchery demands. Strategies that would be taken during drier and/or colder years to reduce or accommodate project water demand are discussed in the project Biological Assessment Section 4.2.2). These strategies were incorporated into project design to ensure that a flow of 12 cfs or 50 percent of the total river flow, whichever is higher, would be maintained through the diversion reach to provide adequate fish habitat and passage.

020-42

Refer to responses 020-40 and -41. As discussed in the Draft EIS (Section 3.2.3.1) and the project Biological Assessment (Section 4.2.2, Channel Alterations subsection), the amount of vegetation to be removed at the intake, outfall, and side-channel sites would be limited to the least extent possible. Riparian vegetation at the side channel floodproofing location is limited to low-growing shrubs and herbaceous vegetation, which do not provide significant shading benefits. About 310 linear feet of fill and riprap would be placed stream-side of existing vegetation within this side channel. Although some herbaceous plants may be lost, the amount of riprap to be placed is relatively small. At the intake and outfall locations, a limited number of trees may be removed. Reduction in shading or overhanging vegetation is anticipated to be minimal and fish would likely relocate to areas adjacent to the project site that have suitable riparian vegetation cover.

Also as discussed in the Draft EIS (Section 3.2.3.1) and the project Biological Assessment (Section 4.2.2, Water Gains and Losses subsection), for an average year, there appears to be adequate flow in the Lostine River to accommodate hatchery demands, while leaving no less than 65 percent of the flow in the river. To provide adequate fish habitat and passage, a minimum river depth of 0.8 feet would be maintained. Approximately 10 cfs is required (R2 Resources 2002) to achieve this depth, but to ensure passage, a 20 percent buffer would be added and a minimum flow of 12 cfs would be maintained. Section 4.2.2 of the Biological Assessment also explains that the water withdrawal would not adversely affect species on a watershed scale because only 14 percent of a small reach of spawning habitat would be affected for only 2 weeks each year. When average stream flows are at their lowest, no chinook, steelhead, or bull trout spawning occurs and juveniles, if present, would have sufficient water for rearing and migration.

020-43

The Draft EIS (Section 3.6.3) states that project construction could potentially result in temporary, above-baseline levels of sediments in the river, but that levels would likely be controlled and maintained to below the level of significance (below the level of water quality violation and/or waste discharge violation) through the use of erosion control measures and best management practices. Refer to response 020-18.

020-44

As discussed in the Draft EIS (Section 3.2.3.1) and the project Biological Assessment (Section 4.2.2, Channel Alterations subsection), the Lostine Adult Collection Facility would be constructed to maintain both upstream and downstream fish passage during construction and to improve fish passage conditions over the long term (i.e. provide better passage than under current conditions). The Oregon Department of State Lands and the U.S. Army Corps of Engineers would permit instream construction activities and all project work would be performed during instream work windows established by ODFW to minimize potential impacts to important fish, wildlife, and habitat, with primary consideration to threatened, endangered, or sensitive species. These instream work periods were established to avoid the vulnerable life stages of key species. Therefore, limiting work to the instream work window would minimize potential instream work impacts to fish at the population level.

020-45

Comment acknowledged; any modified fish behavior or distribution would be on an individual level (i.e., affected fish would likely relocate to areas adjacent to the site).

020-46

The replacement ladder and proposed weir for the existing Lostine Adult Collection Facility were specifically designed to efficiently and safely accommodate migrating fish, including bull trout. As summarized in the Draft EIS (Sections 2.1 and 3.2.3.1) and discussed in the project Biological Assessment (Section 4.2.2, Operation of Fish Traps, Ladders and Weirs subsection), construction of the ladder is anticipated to improve fish passage as compared to existing conditions. The Lostine Adult Collection Facility structures were designed to allow trapping of adult spring chinook broodstock during higher spring runoff conditions. The Lostine weir was specifically designed to efficiently and safely accommodate migrating fish and meet NOAA Fisheries design standards. Weir angle and attraction flow were designed to lead migrating fish into the trap with minimal delay. The fish ladder would be fitted with a removable trapping structure that would trap spring chinook salmon, steelhead, and larger trout; small fish (less than about 1-inch wide) would be able to swim volitionally through the ladder and move upstream from the weir. The spring chinook not selected for broodstock, and all non-target species, would be released from the trap and allowed to continue upstream within 24 hours of trapping. As under current operations, no non-target fish (including bull trout) would be held for more than 24 hours. Typically during fish trapping, monitoring would occur much more frequently than once per 24-hour period. All non-target fish would be allowed to pass above the weir. During non-trapping periods, the trapping structure would be removed from the fish ladder and the ladder would provide unrestricted fish passage.

020-47

Project performance standards were developed and reviewed by the Independent Scientific Review Panel and finalized as the Monitoring and Evaluation Plan for Northeast Oregon Hatchery Imnaha and Grande Ronde Subbasin Spring Chinook Salmon (Hesse and Harbeck 2004). The ISRP completed its review of this plan on May 18, 2004 and responded "…that this document is an excellent working draft of a stand-alone M&E Plan for the NEOH hatchery Imnaha and Grande Ronde subbasin spring chinook salmon program." The ISRP also further complimented the authors "….for being among the first to bring the modern EMAP [Environmental Monitoring and Assessment Program] probabilistic sampling procedures into the Columbia Basin." Monitoring and

evaluation elements of this plan would be applied to the currently permitted program and are incorporated into the Final EIS and Biological Assessment by reference as supporting documentation.

020-48

Comment acknowledged; refer to responses 020-40, -42, -44, and -46. As stated in the Draft EIS (Section 3.2.3.1) and project Biological Assessment (Section 4.2.2), reasonable and prudent measures to minimize harassment to species, and bull trout in particular, are taken (and would continue to be taken) at all existing and proposed NEOH facilities. These measures include minimal handling of bull trout, monitoring the trap, and observation of fish condition, particularly during trapping periods. As under current operations, if any bull trout appear to be injured or stressed, hatchery operators would continue to notify the Snake River Basin Office of the U.S. Fish and Wildlife Service. It is agreed that the overall affect on the Lostine River steelhead population is not expected to be substantial, but may be somewhat beneficial given proposed project improvements to fish passage. As documented in the project Biological Assessment, the minor amount of habitat lost is not anticipated to impact the populations of listed species, including spring/summer chinook, in the watershed.

020-49

Comment acknowledged; proposed work at the Lookingglass Hatchery would not invade the portion of the Grande Ronde River designated as Wild and Scenic. Also, the Bureau of Land Management was contacted (Kuck 2003, personnel communication) and concluded that they had no concerns related to this project and Wild and Scenic River status. The State of Oregon (Vergari 2004, personal communication) was also contacted and affirmed that Grande Ronde state-designated scenic waterway begins at the confluence with the Wallowa River and would not be affected by the proposed project.

020-50

Comment acknowledged; the proposed Lookingglass Hatchery improvements would not affect the scenery, recreation, fish, or wildlife values of the Grande Ronde Wild and Scenic River.

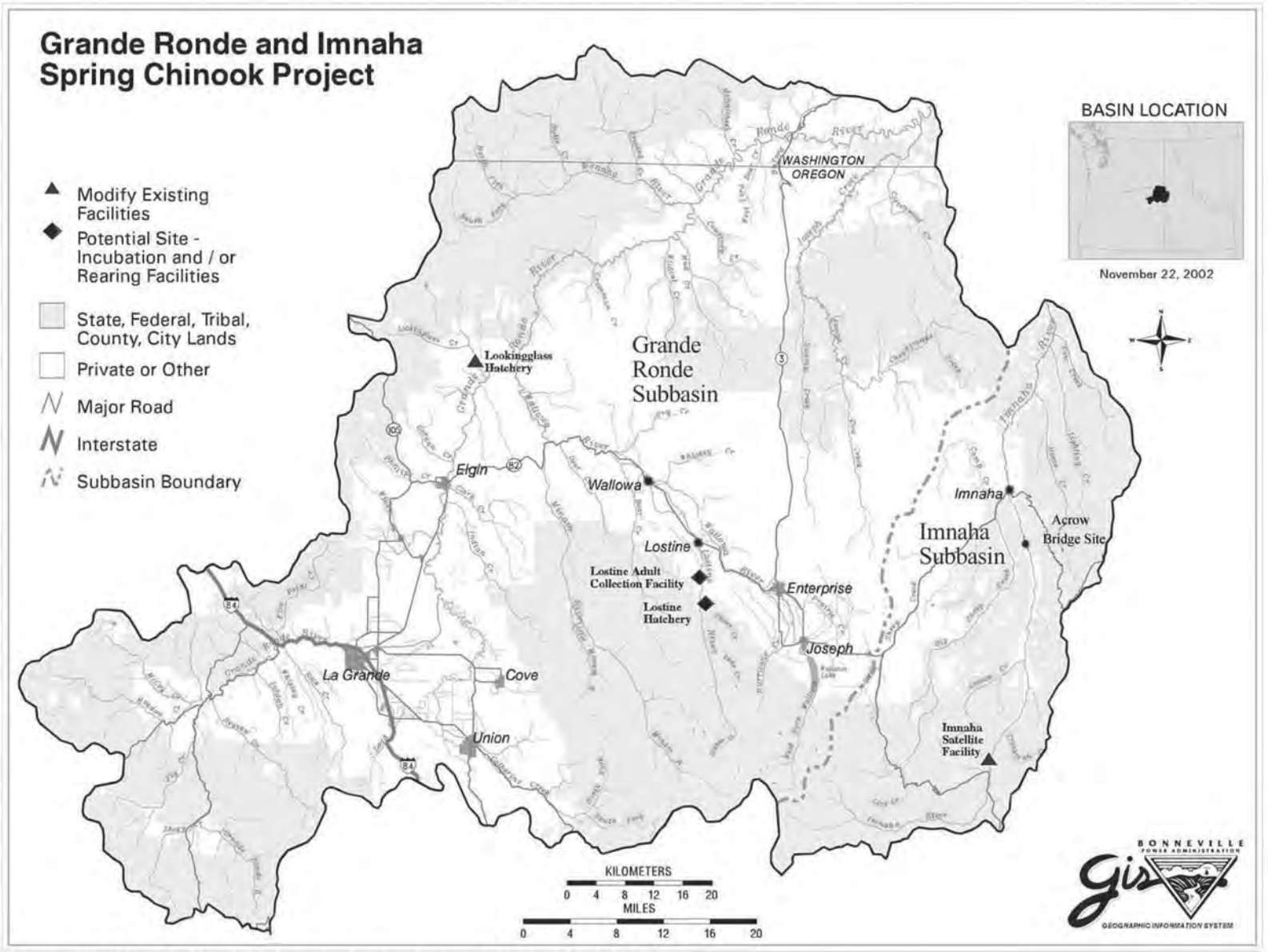
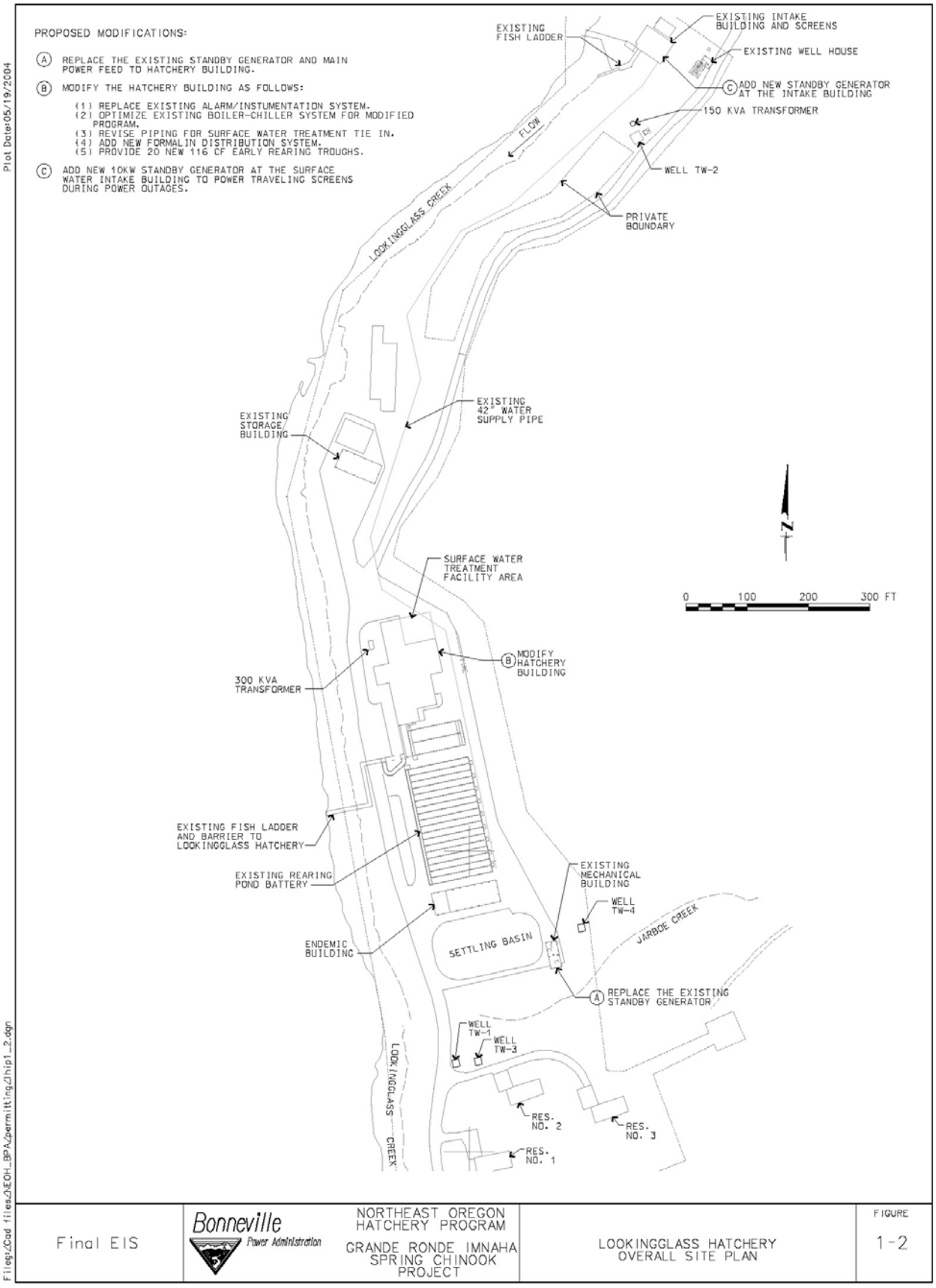


Figure 1-1. Grande Ronde & Imnaha Spring Chinook Project Vicinity Map.


PROPOSED MODIFICATIONS:
(A) REPLACE THE EXISTING STANDBY GENERATOR AND MAIN POWER FEED TO HATCHERY BUILDING.
(B) MODIFY THE HATCHERY BUILDING AS FOLLOWS:
(1) REPLACE EXISTING ALARM/INSTUMENTATION SYSTEM.
(2) OPTIMIZE EXISTING BOILER-CHILLER SYSTEM FOR MODIFIED PROGRAM.
(3) REVISE PIPING FOR SURFACE WATER TREATMENT TIE IN.
(4) ADD NEW FORMALIN DISTRIBUTION SYSTEM.
(5) PROVIDE 20 NEW 116 CF EARLY REARING TROUGHS.
(C) ADD NEW 10KW STANDBY GENERATOR AT THE SURFACE WATER INTAKE BUILDING TO POWER TRAVELING SCREENS DURING POWER OUTAGES.
EXISTING FISH LADDER
EXISTING INTAKE BUILDING AND SCREENS
EXISTING WELL HOUSE
(C) ADD NEW STANDBY GENERATOR AT THE INTAKE BUILDING
150 KVA TRANSFORMER
FLOW
WELL TW-2
PRIVATE BOUNDARY
LOOKINGGLASS CREEK
EXISTING 42" WATER SUPPLY PIPE
EXISTING STORAGE BUILDING
SURFACE WATER TREATMENT FACILITY AREA
N
0 100 200 300 FT
(B) MODIFY HATCHERY BUILDING
300 KVA TRANSFORMER
EXISTING FISH LADDER AND BARRIER TO LOOKINGGLASS HATCHERY
EXISTING REARING POND BATTERY
EXISTING MECHANICAL BUILDING
WELL TW-4
JARBOE CREEK
ENDEMIC BUILDING
SETTLING BASIN
(A) REPLACE THE EXISTING STANDBY GENERATOR
WELL TW-1
WELL TW-3
LOOKINGGLASS CREEK
RES. NO. 2
RES. NO. 3
RES. NO. 1
Plot Date=05/19/2004
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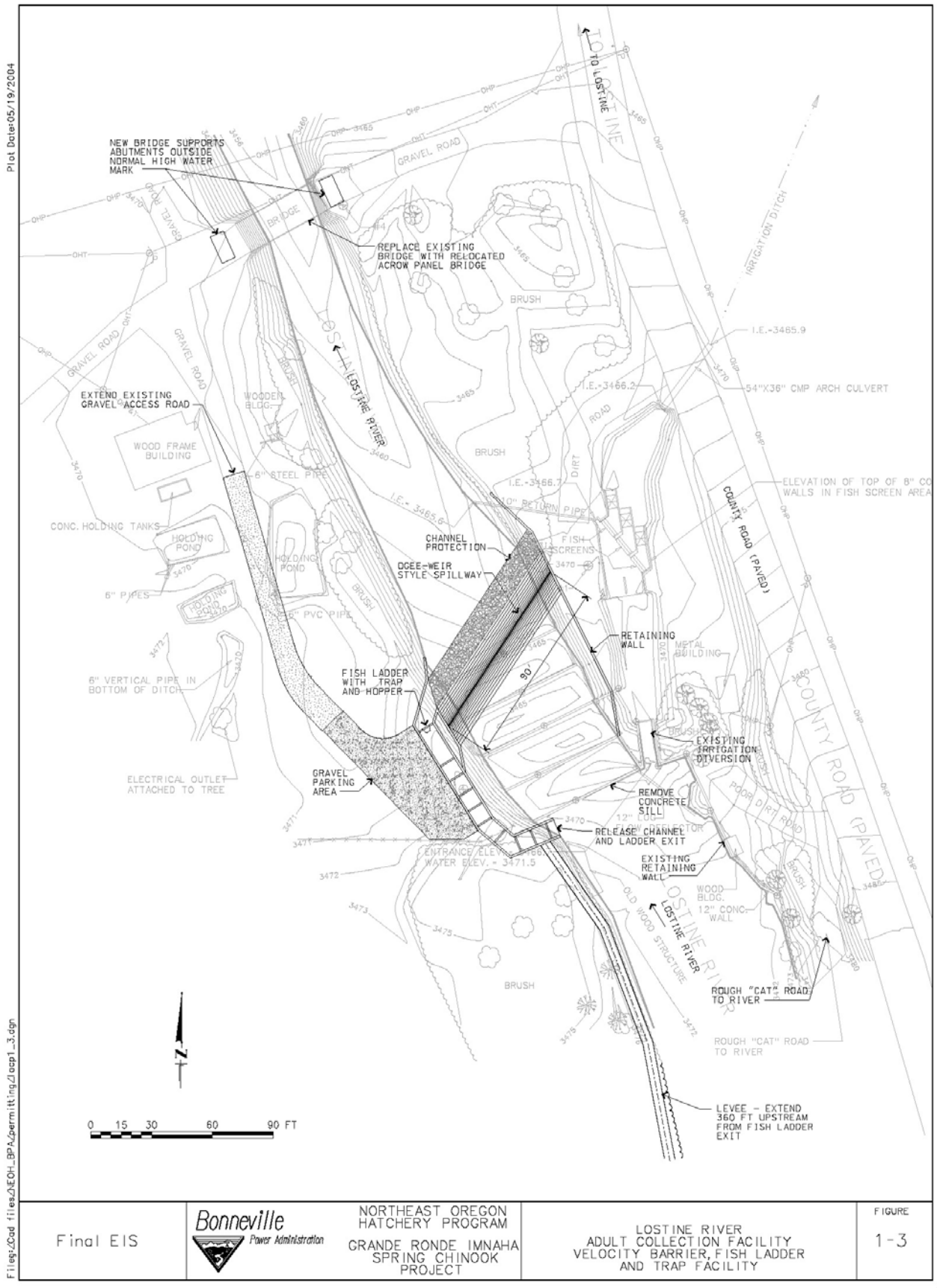
Final EIS
Bonneville Power Administration
NORTHEAST OREGON HATCHERY PROGRAM
GRANDE RONDE IMNAHA SPRING CHINOOK PROJECT
LOOKINGGLASS HATCHERY OVERALL SITE PLAN
FIGURE 1-2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NEW BRIDGE SUPPORTS ABUTMENTS OUTSIDE NORMAL HIGH WATER MARK
REPLACE EXISTING BRIDGE WITH RELOCATED ACROW PANEL BRIDGE
EXTEND EXISTING GRAVEL ACCESS ROAD
WOOD FRAME BUILDING
CONC. HOLDING TANKS
6" PIPES
6" VERTICAL PIPE IN BOTTOM OF DITCH
ELECTRICAL OUTLET ATTACHED TO TREE
GRAVEL PARKING AREA
CHANNEL PROTECTION
OGEE-WEIR STYLE SPILLWAY
FISH LADDER WITH TRAP AND HOPPER
RETAINING WALL
EXISTING IRRIGATION DIVERSION
REMOVE CONCRETE SILL
RELEASE CHANNEL AND LADDER EXIT
EXISTING RETAINING WALL
ROUGH "CAT" ROAD TO RIVER
LEVEE - EXTEND 360 FT UPSTREAM FROM FISH LADDER EXIT
54"X36" CMP ARCH CULVERT
COUNTY ROAD (PAVED)
LOSTINE RIVER
IRRIGATION DITCH
0 15 30 60 90 FT
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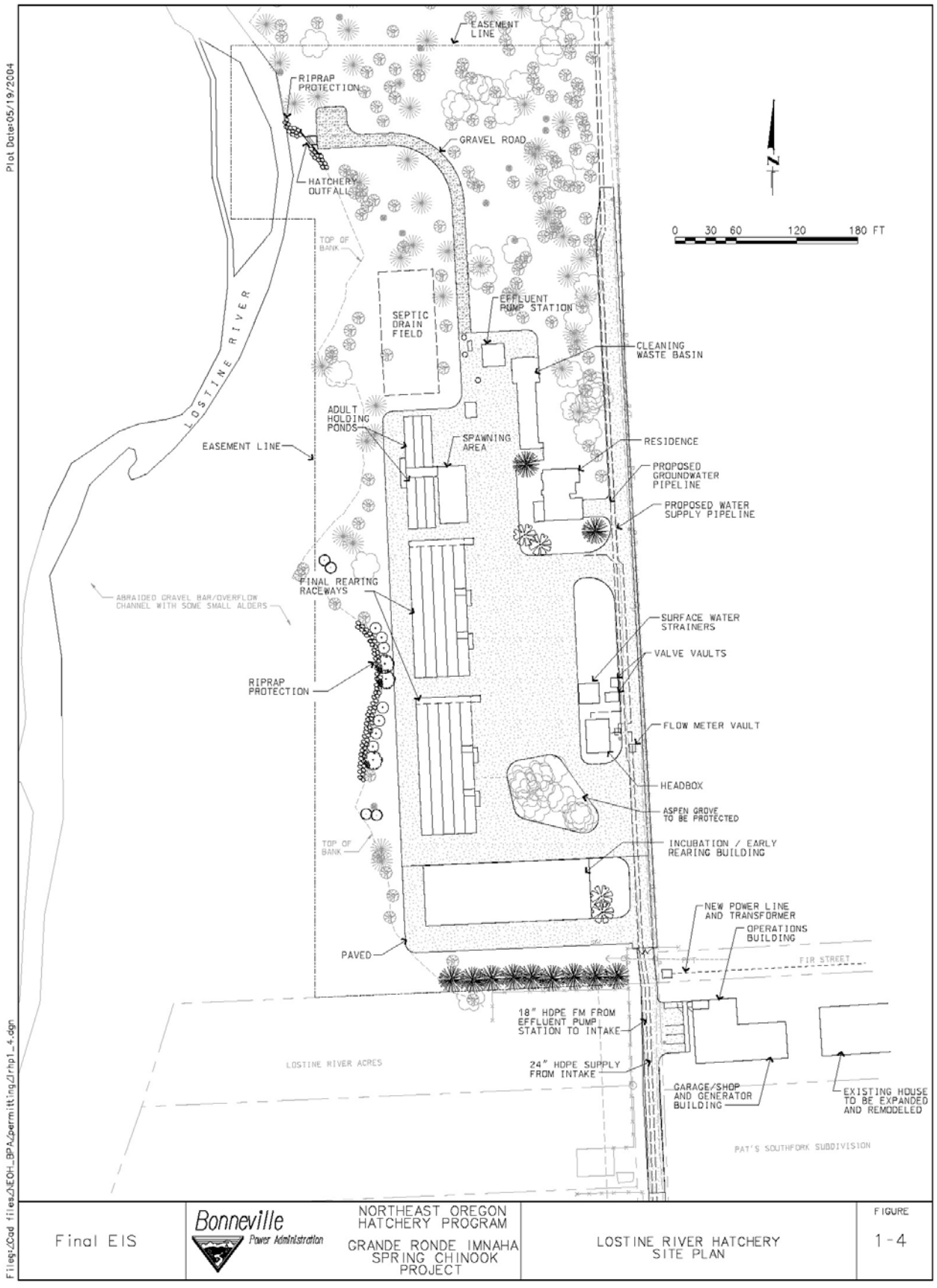
Bonneville Power Administration
NORTHEAST OREGON HATCHERY PROGRAM
GRANDE RONDE IMNAHA SPRING CHINOOK PROJECT
LOSTINE RIVER ADULT COLLECTION FACILITY VELOCITY BARRIER, FISH LADDER AND TRAP FACILITY
FIGURE 1-3


Plot Date:05/19/2004
EASEMENT LINE
RIPRAP PROTECTION
GRAVEL ROAD
HATCHERY OUTFALL
N
0 30 60 120 180 FT
TOP OF BANK
LOSTINE RIVER
SEPTIC DRAIN FIELD
EFFLUENT PUMP STATION
CLEANING WASTE BASIN
ADULT HOLDING PONDS
SPAWNING AREA
EASEMENT LINE
RESIDENCE
PROPOSED GROUNDWATER PIPELINE
PROPOSED WATER SUPPLY PIPELINE
FINAL REARING RACEWAYS
ABRAIDED GRAVEL BAR/OVERFLOW CHANNEL WITH SOME SMALL ALDERS
SURFACE WATER STRAINERS
VALVE VAULTS
RIPRAP PROTECTION
FLOW METER VAULT
HEADBOX
ASPEN GROVE TO BE PROTECTED
TOP OF BANK
INCUBATION / EARLY REARING BUILDING
NEW POWER LINE AND TRANSFORMER
OPERATIONS BUILDING
PAVED
FIR STREET
18" HDPE FM FROM EFFLUENT PUMP STATION TO INTAKE
LOSTINE RIVER ACRES
24" HDPE SUPPLY FROM INTAKE
GARAGE/SHOP AND GENERATOR BUILDING
EXISTING HOUSE TO BE EXPANDED AND REMODELED
PAT'S SOUTHFORK SUBDIVISION
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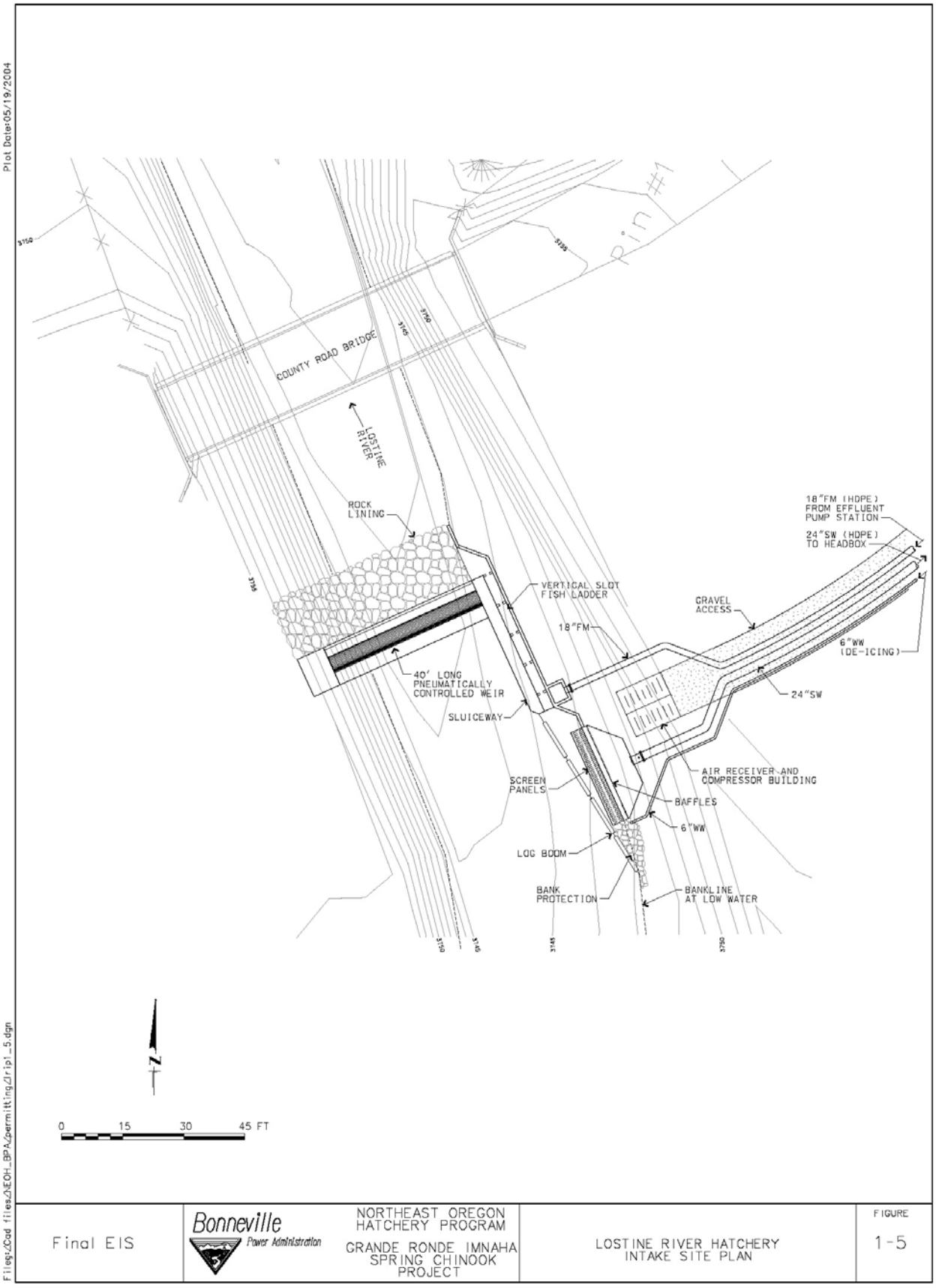
Final EIS
Bonneville Power Administration
NORTHEAST OREGON HATCHERY PROGRAM
GRANDE RONDE IMNAHA SPRING CHINOOK PROJECT
LOSTINE RIVER HATCHERY SITE PLAN
FIGURE 1-4


Plot Date=05/19/2004
COUNTY ROAD BRIDGE
LOSTINE RIVER
ROCK LINING
18"FM (HDPE) FROM EFFLUENT PUMP STATION
24"SW (HDPE) TO HEADBOX
VERTICAL SLOT FISH LADDER
GRAVEL ACCESS
18"FM
6"WW (DE-ICING)
40' LONG PNEUMATICALLY CONTROLLED WEIR
24"SW
SLUICEWAY
AIR RECEIVER AND COMPRESSOR BUILDING
SCREEN PANELS
BAFFLES
6"WW
LOG BOOM
BANK PROTECTION
BANKLINE AT LOW WATER
N
0 15 30 45 FT
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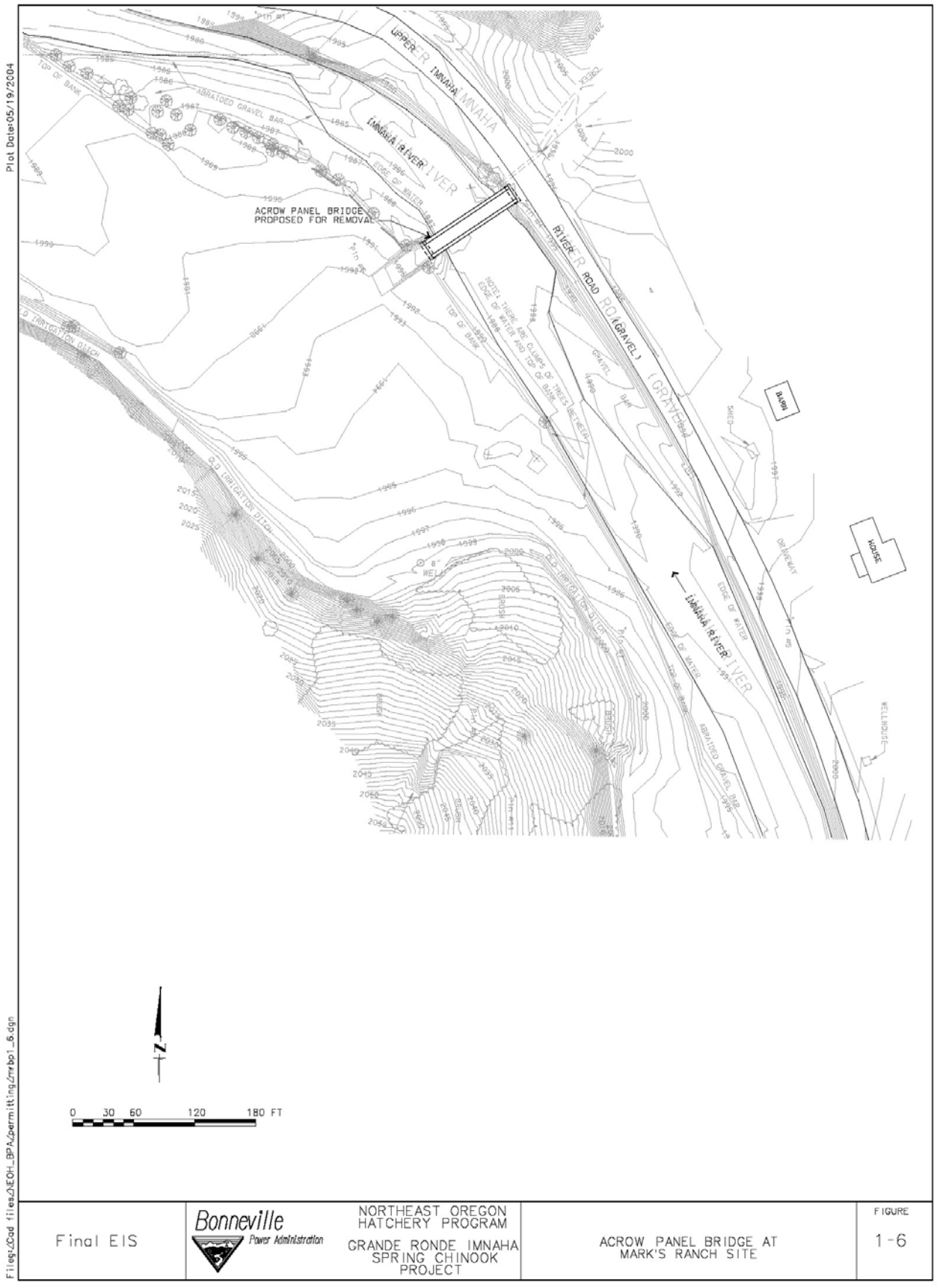
Final EIS
Bonneville Power Administration
NORTHEAST OREGON HATCHERY PROGRAM
GRANDE RONDE IMNAHA SPRING CHINOOK PROJECT
LOSTINE RIVER HATCHERY INTAKE SITE PLAN
FIGURE 1-5


Plot Date:05/19/2004
UPPER IMNAHA
IMNAHA RIVER
ACROW PANEL BRIDGE
PROPOSED FOR REMOVAL
RIVER ROAD (GRAVEL)
OLD IRRIGATION DITCH
BARN
HOUSE
DRIVEWAY
ABRATED GRAVEL BAR
EDGE OF WATER
TOP OF BANK
N
0 30 60 120 180 FT
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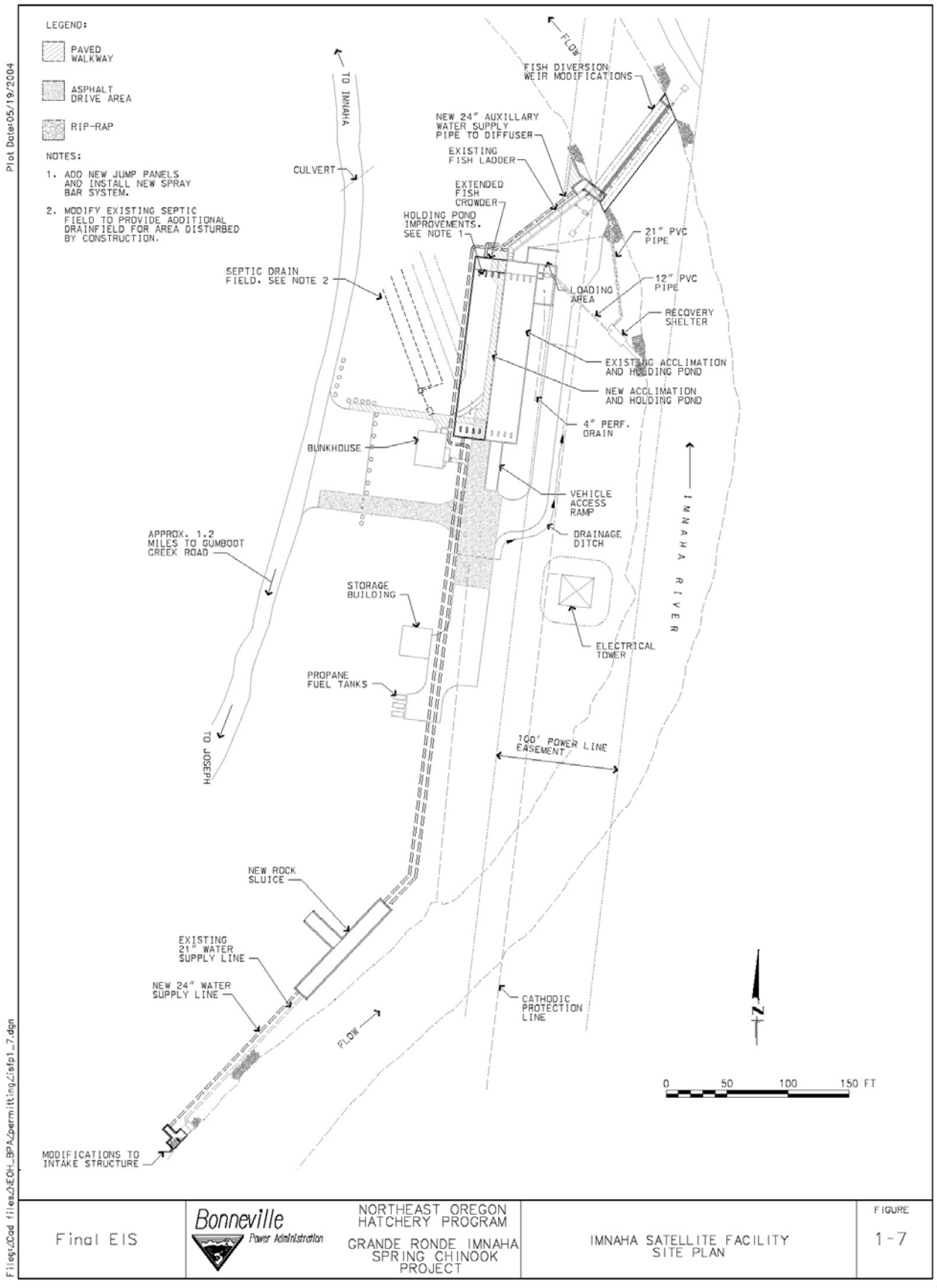
Final EIS
Bonneville Power Administration
NORTHEAST OREGON HATCHERY PROGRAM
GRANDE RONDE IMNAHA SPRING CHINOOK PROJECT
ACROW PANEL BRIDGE AT MARK'S RANCH SITE
FIGURE
1-6


LEGEND:
PAVED WALKWAY
ASPHALT DRIVE AREA
RIP-RAP
NOTES:
1. ADD NEW JUMP PANELS AND INSTALL NEW SPRAY BAR SYSTEM.
2. MODIFY EXISTING SEPTIC FIELD TO PROVIDE ADDITIONAL DRAINFIELD FOR AREA DISTURBED BY CONSTRUCTION.
Plot Date:05/19/2004
TO IMNAHA
FLOW
FISH DIVERSION WEIR MODIFICATIONS
NEW 24" AUXILLARY WATER SUPPLY PIPE TO DIFFUSER
EXISTING FISH LADDER
CULVERT
EXTENDED FISH CROWDER
HOLDING POND IMPROVEMENTS. SEE NOTE 1
21" PVC PIPE
SEPTIC DRAIN FIELD. SEE NOTE 2
12" PVC PIPE
LOADING AREA
RECOVERY SHELTER
EXISTING ACCLIMATION AND HOLDING POND
NEW ACCLIMATION AND HOLDING POND
4" PERF. DRAIN
BUNKHOUSE
VEHICLE ACCESS RAMP
IMNAHA RIVER
APPROX. 1.2 MILES TO GUMBOOT CREEK ROAD
DRAINAGE DITCH
STORAGE BUILDING
ELECTRICAL TOWER
PROPANE FUEL TANKS
TO JOSEPH
100' POWER LINE EASEMENT
NEW ROCK SLUICE
EXISTING 21" WATER SUPPLY LINE
NEW 24" WATER SUPPLY LINE
CATHODIC PROTECTION LINE
FLOW
N
0 50 100 150 FT
MODIFICATIONS TO INTAKE STRUCTURE
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Final EIS
Bonneville Power Administration
NORTHEAST OREGON HATCHERY PROGRAM
GRANDE RONDE IMNAHA SPRING CHINOOK PROJECT
IMNAHA SATELLITE FACILITY SITE PLAN
FIGURE 1-7