# Executive Summary

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 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 conservation and recovery of this species in Northeast Oregon.

The Northeast Oregon Hatchery Project 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 Lower Snake River Compensation Plan's (LSRCP) mitigation goals or the conservation and recovery goals for ESA-listed species.

The purposes and need for taking action are fully described in Section 1.2 of the EIS. In summary, the purposes of taking action are to:

- 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 the implementation of the Lower Snake River Compensation Plan's (**LSRCP**) hatchery fish **production** program.

- Coordinate the operation at the existing Lookingglass Hatchery and related LSRCP hatchery facilities with the Fish and Wildlife Program of the Northwest Power and Conservation Council (NPCC or Council), thereby aiding Bonneville Power Administration's (**BPA**) 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 the 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 the requirements of pertinent federal laws, regulations and executive orders, and other 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.

The EIS evaluates the Proposed Action and an alternative of taking no action. Several other alternatives were eliminated from detailed study because they are physically or economically infeasible or fail to meet the purposes and need for the action. Alternatives considered but eliminated are described in Section 2.3 of the EIS and include:

- Modifying the existing Lookingglass Hatchery without using, adding or modifying any other facilities;
- Using or modifying existing facilities elsewhere in the Columbia Basin to assist with Lookingglass Hatchery production; and
- Putting new facilities at other sites in Northeast Oregon to assist with Lookingglass production.

The Proposed Action consists of five sites and facilities described in Section 2.1 of the EIS. Figure ES-1 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 components of the production program and to transfer other stock responsibilities to facilities on natal streams.
- 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 production program by incubating and rearing chinook near their natal waters.
- Imnaha Satellite 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.
- Imnaha Satellite Facility – Modifications to the existing adult collection and acclimation facility are proposed to allow collection of broodstock over a greater range of flows and holding, spawning and incubation before transport.

The Proposed Action is designed to benefit native spring/summer chinook salmon and to avoid and minimize potential impacts. The Proposed Action includes best management practices, compliance with applicable regulatory requirements and guidance, and other activities protective of the environment. Facility design and construction would meet relevant requirements and would incorporate best management practices such as erosion control, waste management, dust control, weed management, fire prevention, work hour and noise considerations. The Proposed Action also incorporates sensitive site design measures such as retaining riparian vegetation, landscaping with native plants, erecting buildings reflective of local character, and shielding of facility lighting. Proposed facilities would be designed and constructed to meet low density rearing criteria to the extent feasible. Instream structures would meet applicable regulatory agency design requirements. Construction would be staged to accommodate existing hatchery operations and reduce impacts on fish production at each facility. Instream work would comply with applicable regulations and permits, and would occur behind temporary cofferdams or other water diversions appropriately placed to route water around work areas.

Chapter 3 of the EIS describes the environmental consequences of the Proposed Action and the No Action Alternative. It contains an analysis of potential impacts on fisheries; wildlife; plants; geology; hydrology; wild and scenic rivers; cultural resources; aesthetics; land use, recreation and transportation; socioeconomics;

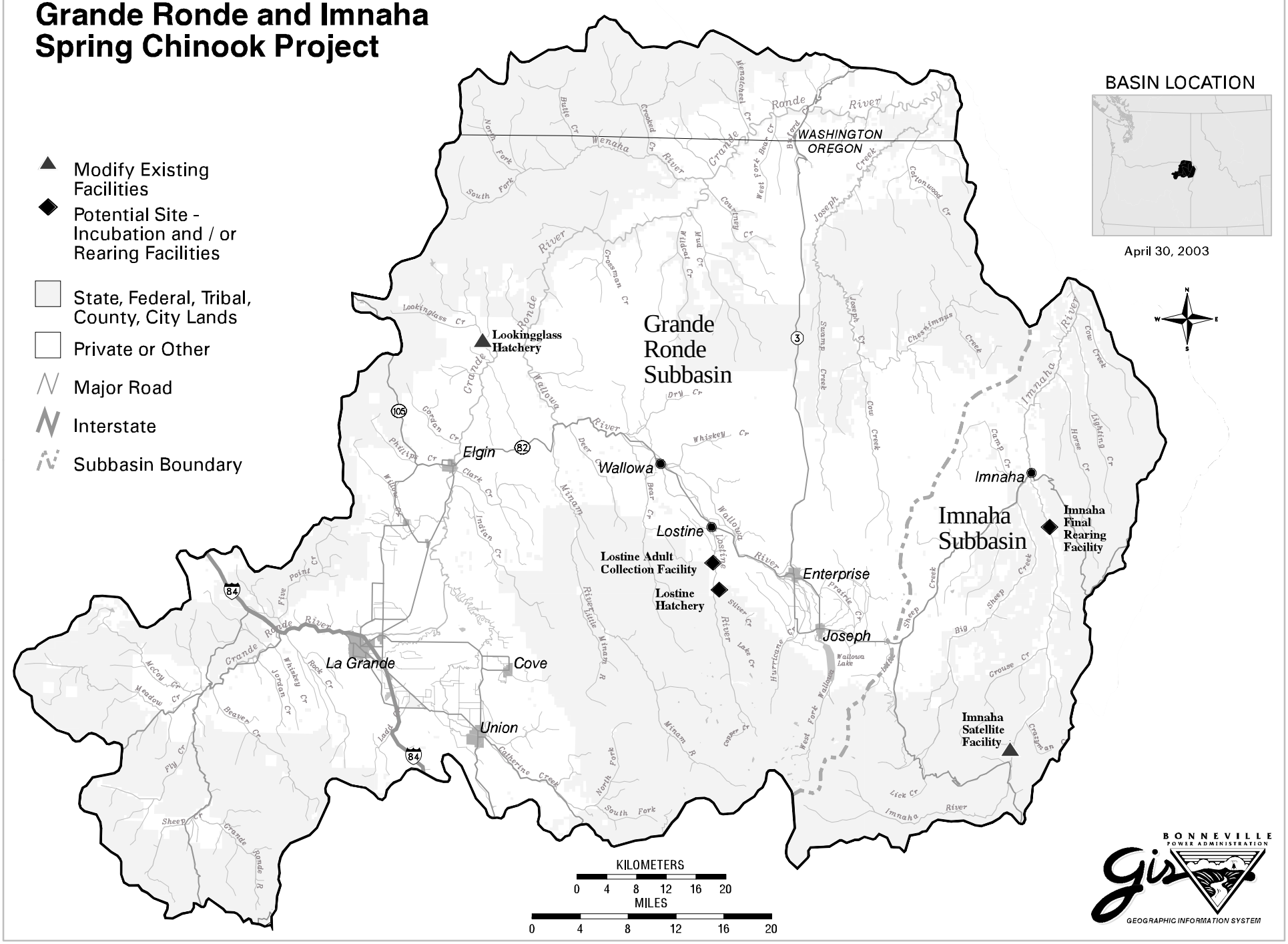
air quality; noise; and, public health and safety. Table ES-1 (Summary of Environmental Consequences of Alternatives) presents the impacts of the Proposed Action and the No Action Alternative for each of these environmental resource areas.

In conformance with NEPA, BPA involved the public in meetings to identify environmental issues and concerns needing consideration during the environmental review process. Interested and affected parties included local residents, local business owners, regional special interest groups involved with fish conservation, and government agencies with regulatory responsibilities related to the environment. The public raised concerns about 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. The public had a particular concern about whether proposed new facilities would unreasonably diminish values of the Imnaha and Lostine Wild and Scenic River status and the Hells Canyon National Recreation Area. Further, the public was concerned 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 versus the benefits of the facilities overall in the context of other means to conserve and recover spring/summer chinook in Northeast Oregon.

BPA is the lead agency for purposes of NEPA compliance, but several other agencies and tribes have worked closely with the BPA to develop the Proposed Action. The Nez Perce Tribe, the Confederated Tribes of the Umatilla Indian Reservation, and the Oregon Department of Fish and Wildlife are co-managers of the spring/summer chinook conservation and recovery program in Northeast Oregon. Though not federal agencies, they are the primary cooperating agencies for the EIS. The USFWS, NOAA Fisheries, U.S. Forest Service (Forest Service) and other managers of habitat, fisheries and hatcheries in Northeast Oregon have been consulted during the development of this EIS. The Forest Service and the USFWS are also cooperating federal agencies. The Forest Service must decide whether to authorize/permit facilities on lands under its jurisdiction along the Imnaha River. The USFWS and NOAA Fisheries are the federal co-managers responsible for administering the LSRCP program. These agencies must concur with the design of any new LSRCP facilities, approve any modifications to Lookingglass Hatchery and the Imnaha Satellite Facility, and work with other fisheries co-managers to settle any fish production issues that may result from the addition or modification of facilities associated with the Proposed Action.

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

# Grande Ronde and Imnaha Spring Chinook Project



## Table ES-1. Summary of Environmental Consequences of Alternatives.

| Environmental Resource | Proposed Action | No Action Alternative |
|---|---|---|
| **3.2 Fisheries**<br>• 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 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 fish 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 by 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 by 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 by 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 eagles roosts or potential roosts have been documented at or near all sites except ISF. Tree removal at LRH, LACF, and IFRF may reduce the number of potential roost sites. | No change. |
| • Other species | Temporary displacement during construction activities (noise, 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 would be replanted with native species. Some loss of riparian habitat is anticipated at LACF, LRH and IFRF. Improved quality of riparian habitat is expected at IFRF with exclusion of cattle from the site. | No change. |
| • Non-native species | All facilities would 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 – Commitment to conduct formal wetland delineations and to implement compensatory wetland mitigation as warranted in consultation with regulatory authorities. | No change. |
| **3.5 Geology** | | |
| • Approximate acres temporarily disturbed and permanently altered | LGH – < 1 acre within existing facility (total existing facility about 11 acres).<br>LACF – 3 acres (total site about 3 acres).<br>LRH – 5 acres temporarily, 3 acres permanently, altered (total site about 6 acres).<br>IFRF – 6 acres temporarily, 3 acres permanently, altered (10 acre lease, about 6 acres "occupied").<br>ISF – < 1 acre within existing facility (total existing facility about 6 acres). | LGH – No change.<br>LACF – No change.<br>LRH – No change.<br>IFRF – No change.<br>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 50-60% reduction during extreme low flows; during those times, river and well water would be pumped back to the intake location).<br>IFRF – similar to LRH, but shorter duration and extent; up to 50% reduction along the hatchery reach during extremely low flow periods.<br>ISF – similar to LRH, but shorter duration and extent; minor flow regime alteration during extremely low flow periods. | Water quantity unchanged. |
| • Flow restrictions / floodplains | LACF, LRH, IFRF - localized flow restriction, concentration, and scouring where new components are installed; slight improvement with new bridge abutments at IFRF and new weir at ISF. | Flows unchanged. |
| **3.7 Wild and Scenic Rivers** | | |
| • Imnaha River | In-stream structures at ISF and IFRF would slightly constrict river flow and decrease vegetation; slight improvement with new bridge abutments at IFRF and new weir at ISF; fill at IFRF would alter and redirect surface flows during extreme storm events; likely improvement over time to fisheries Outstandingly Remarkable Values (ORVs), as well as lifestyle and recreation ORVs. | No change to Imnaha flow conditions; forego slightly improved replacement structures at IFRF and ISF; forego enhancement 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 existing visual character.<br>LACF – limited effect on overall visual character.<br>LRH – limited effect, visible to nearby residents.<br>IFRF – limited effect, brief views from Road 551.<br>ISF – limited effect on overall visual character. | LGH – No change.<br>LACF – No change.<br>LRH – No change.<br>IFRF – No change.<br>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 the special use permit. | No change. |
| • Recreation | No effect on recreation, except possible long-term benefit if chinook stocks recover to enhance viewing and fishing. | No change. |
| • Transportation | Short-term traffic increase during construction.<br>LACF – improve trout farm bridge and parking.<br>LRH – pave Granger Road.<br>IFRF – construct turning lane on Road 551. | No change. |
| **3.11 Socioeconomics** | No change to human population; minor 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 at facility with new buildings and equipment.<br>LACF – temporary increase in area noise levels during construction.<br>LRH – temporary increase in area noise levels during construction; long-term noise associated with traffic to the facility and other activities, and an additional residence.<br>IFRF – temporary increase in area noise levels during construction.<br>ISF – temporary increase in area noise levels during construction; long-term potential to decrease noise in the area by replacing the existing diesel generator with powerline. | 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 from current situation. |

*Proposed Action
LGH = Lookingglass Hatchery
LRH = Lostine River Hatchery
ISF = Imnaha Satellite Facility
LACF = Lostine Adult Collection Facility
IFRF = Imnaha Final Rearing Facility