AUG 2 8 2003

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

Neither project facility has the potential to invade the Lostine WSR. 020-33

Diminish Scenery, Recreation or Wildlife Values of Lostine WSR

Given the location of the proposed facilities, neither will affect the scenery, recreation or wildlife values of the Lostine WSR. 020-34

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).

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. 020-35

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.)

2003

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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