EVALUATIONS OF PROPOSED WATER RESOURCES PROJECT

Pursuant to

Section 7(a) of the Wild and Scenic Rivers Act

for the

Imnaha River (Lower Imnaha Road) Bridge Replacement
Army Corps of Engineers Action, Permit #NWP-2006-906

Imnaha Wild and Scenic River
Wallowa-Whitman National Forest

February 16, 2007

INTRODUCTION

The Imnaha River (Lower Imnaha Road) Bridge has been planned for replacement under the Federal Highway Administration (FHWA) Highway Bridge Rehabilitation and Replacement Program (HBRR). The Oregon Department of Transportation (ODOT) will administer the funds for this project, although the bridge is owned by Wallowa County.

The Wallowa County Public Works Department has requested a 404 Permit from the U.S. Army Corps of Engineers. Permit requests that involve activities in the Imnaha Wild and Scenic River are subject to the provisions of Section 7(a) of the Wild and Scenic Rivers Act. The purpose of this report is to evaluate the potential effects of this proposal on the Imnaha Wild and Scenic River under Section 7(a) of the Wild and Scenic Rivers Act.

This report begins by describing the purpose and need for the bridge replacement and the activities associated with the proposed bridge replacement. It then presents an analysis of the proposed project's potential effects on river values. The analysis documents the potential effects of the proposal on the channel and water quality conditions, riparian and floodplain conditions, upland and off-site conditions, hydrologic and biologic processes, free-flowing conditions, time scale of effects, outstandingly remarkable values, and management goals of the river. The procedure used for this analysis is described in Forest Service Manual 2354, Washington Office Amendment 2300-2004-2. The report concludes with a determination of the effects of the proposed

activities on the free-flowing condition, the water quality and quantity, and the outstandingly remarkable values of the Imnaha Wild and Scenic River.

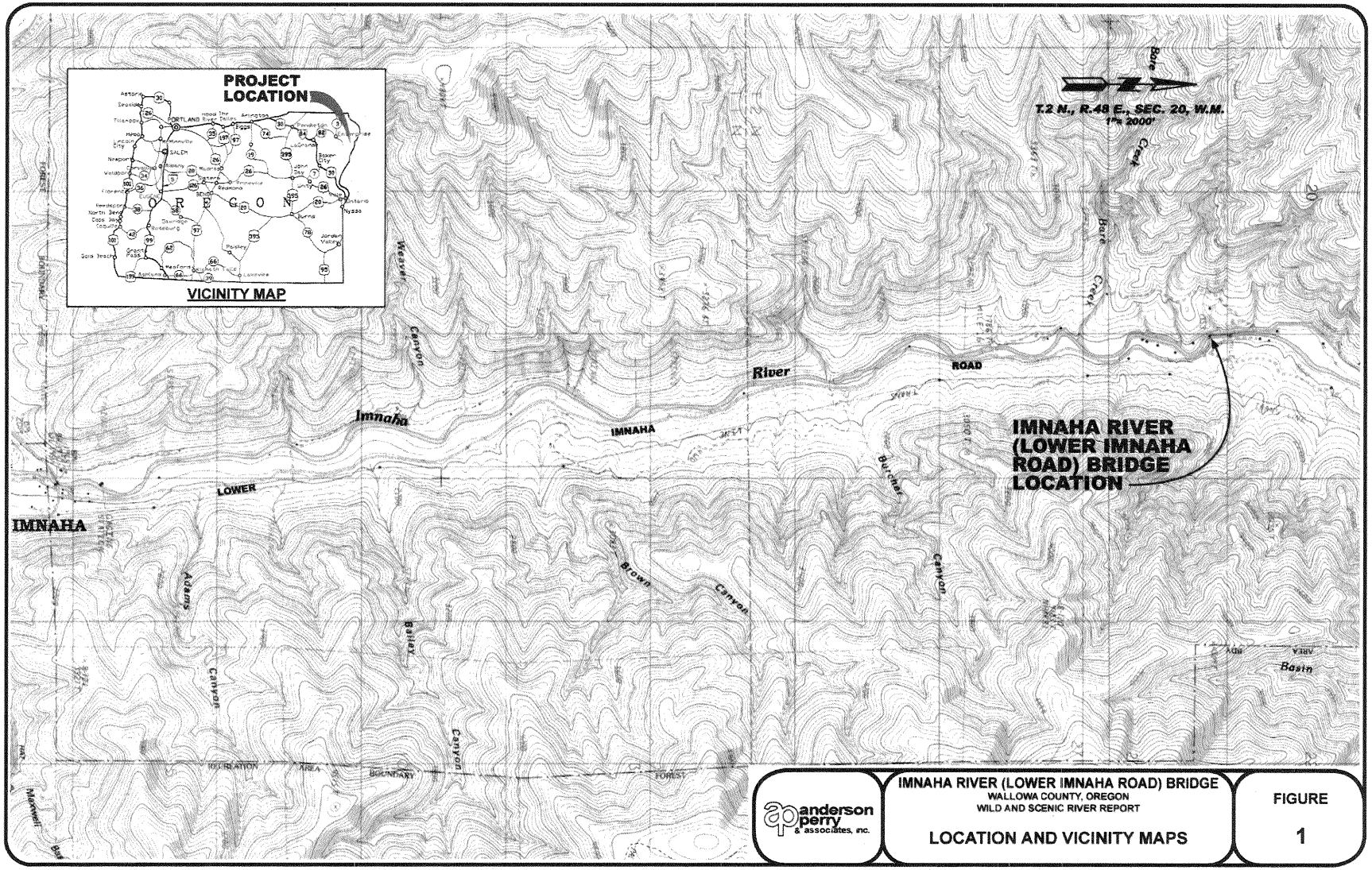
NEED FOR THE PROPOSED ACTIVITY

The existing bridge was originally constructed in 1969 and serves as a link for agricultural and recreational traffic with Oregon Highway No. 350 (Little Sheep Creek Highway) and Wallowa County's Upper Imnaha Road. According to the ODOT Bridge Inspection Report dated 2005, the bridge is load limited, has a narrow width, and structural deficiencies. Furthermore, the bridge rail does not meet current standards. These conditions make the bridge undesirable and unsafe for two-way truck traffic.

DESCRIPTION OF PROPOSED ACTIVITY

The Wild and Scenic Rivers Act of 1988 designated the entire 77-mile length of the Imnaha River into the National Wild and Scenic Rivers System, with wild, scenic, and recreational segments. The proposed bridge replacement is located approximately 6 miles downstream of the town of Imnaha on privately owned parcels. This segment of the river is designated as a recreational segment of the Imnaha Wild and Scenic River corridor. The Imnaha River (Lower Imnaha Road) Bridge project area is located in Township 2 North, Range 48 East, Section 20, Willamette Meridian. Figure 1 shows Location and Vicinity Maps.

Construction of the new bridge is scheduled for the summer of 2007. At the beginning of construction, erosion control measures will be installed. The erosion control measures will be maintained throughout the construction period. The proposed new Imnaha River Bridge will span the Imnaha River with an 83-foot single-span precast prestressed concrete slab superstructure with a 30 degree skew. See Figure 2 for photos of a similar bridge. The overall bridge width will be 24 feet. Bridge rail will consist of side mount thrie beam steel rail. The resulting roadway width will be 23 feet, 6 inches, consisting of two 11-foot travel lanes and two 9-inch shoulders. The wearing surface on the bridge will be asphalt concrete pavement. The bridge foundation will consist of concrete spread footings. See Figure 3 for approximate location of the proposed bridge.

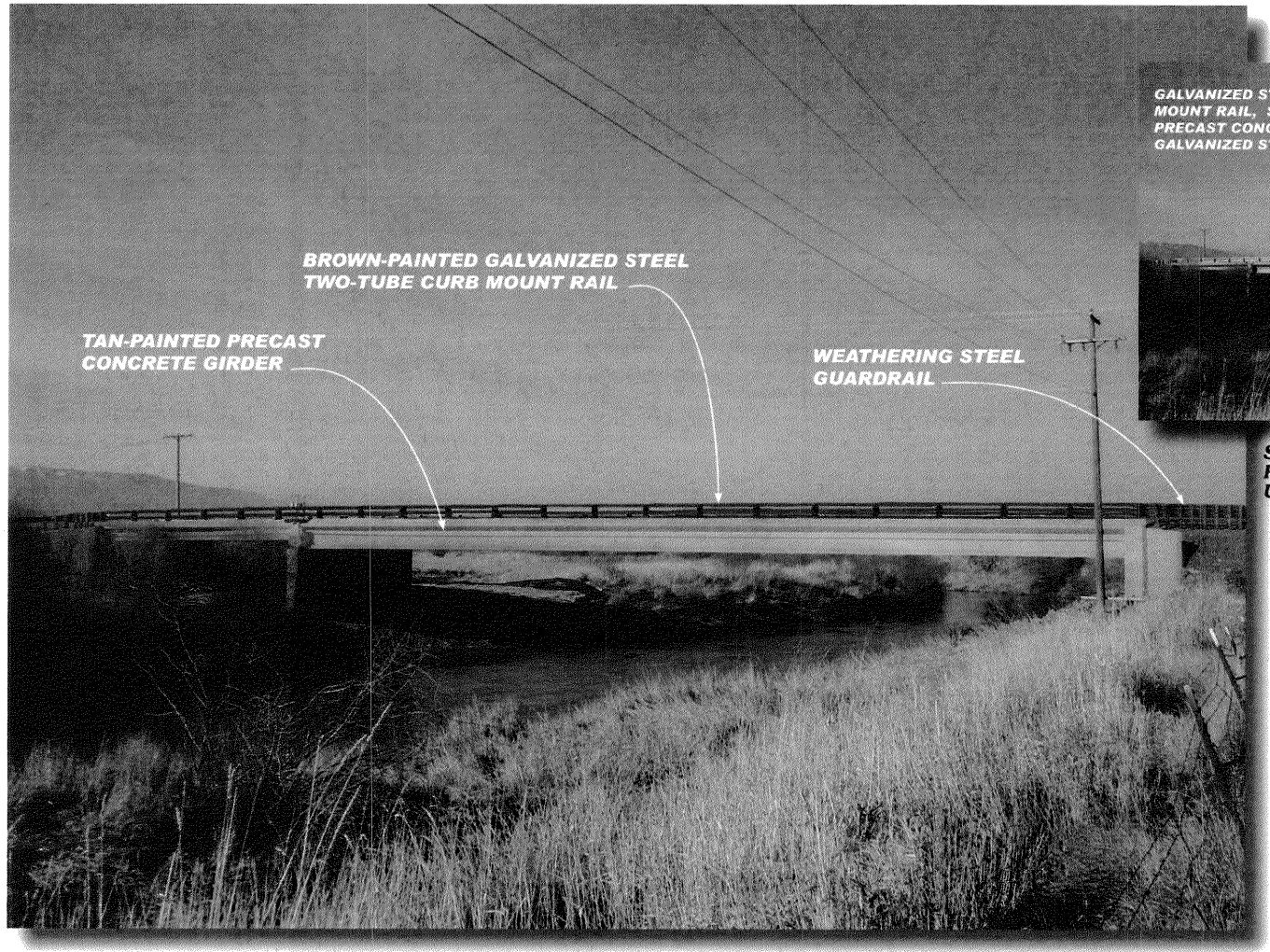


anderson perry & associates, inc.

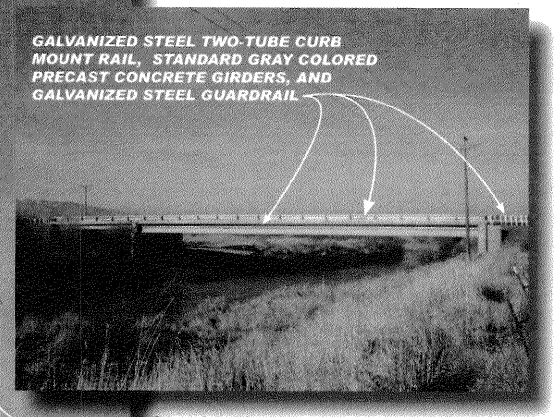
IMNAHA RIVER (LOWER IMNAHA ROAD) BRIDGE
WALLOWA COUNTY, OREGON
WILD AND SCENIC RIVER REPORT

LOCATION AND VICINITY MAPS

FIGURE 1



The Grande Ronde River (McKennon Lane) Bridge colorized to show the appearance of the proposed Imnaha River (Lower Imnaha Road) Bridge.



Standard bridge colors at the Grande Ronde River (McKennon Lane) Bridge located in Union County, Oregon.

anderson perry & associates, inc.

WALLOWA COUNTY, OREGON
IMNAHA RIVER (LOWER IMNAHA ROAD) BRIDGE
WILD & SCENIC RIVER REPORT

PHOTO SIMULATION

FIGURE
2

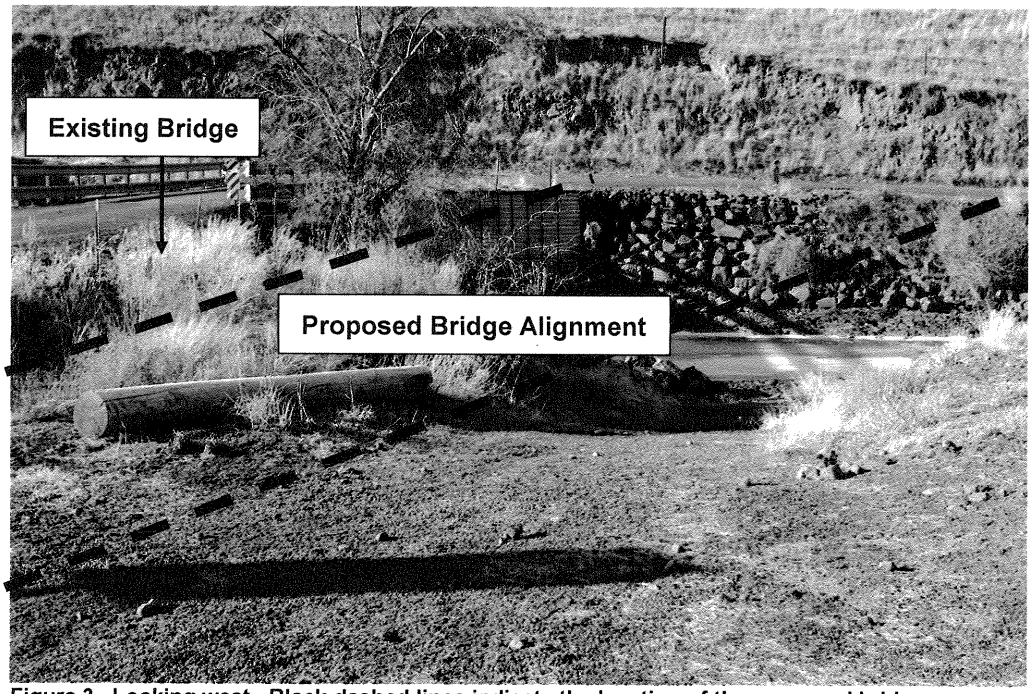


Figure 3. Looking west. Black dashed lines indicate the location of the proposed bridge.

Removal of Existing Bridge

The construction contractor will be required to remove the existing bridge, including the asphalt concrete, steel superstructure, and east concrete abutment. The contractor will be required to contain all debris during removal and construction. The salvaged bridge superstructure will remain the property of the Contractor. All demolition debris will be disposed of by the contractor at an approved site.

Work Area Isolation

Removal of the existing east bridge abutment and installation of the new bridge abutments will occur during the Oregon Department of Fish and Wildlife (ODFW) preferred in-water work period of July 15 through October 31. Work area isolation structures will be installed prior to the removal and installation. The purpose of these structures is to separate the work area from the flowing stream. This isolation will minimize the amount of sediment and debris that enters the Imnaha River and allows removal of fish from the work area. See Figure 4 for an example work area isolation structure. The methods will be tailored to stream conditions at the time of construction but will most likely consist of ecology blocks and sandbags placed around the abutment to isolate the work area from the flowing stream. The barriers will be covered with plastic to seal off flow. Once the work area is isolated, fish salvage will be conducted by ODFW biologists to remove any trapped fish from the work area. Once the abutment has been removed and the resulting holes have been filled with native streambed material, the isolation barriers will be removed.

Figure 4. Photo of a similar work area isolation structure on the Umatilla River.

Alternatives Considered

Comment: Unless all alternatives are to be evaluated, this section is unnecessary. There may be a need to evaluate the range of action alternatives for complex projects. The NEPA document should be referenced for detailed description of the alternatives.

The criteria used in choosing the preferred alternative included safety, cost, environmental impacts, and whether or not the alternative meets the project need, which is to keep Lower Imnaha Road open for public use, and complies with the management goals for the Imnaha River.

(1) No Action Alternative

Lower Imnaha Road is an important route for agricultural, fire protection, recreational, and rural residential traffic. This road provides access to private ranches, Thorn Creek Forest Service Station, Dug Bar, and numerous wilderness access trails. There are no other alternative routes onto these lands. Not replacing this bridge would eventually lead to road closure.

(2) Rehabilitation of Existing Bridge

Due to the condition of the existing bridge, abutments, and superstructure, structural deficiencies including sagging girders, deficient alignment, and narrow bridge width, it is

not feasible to rehabilitate this bridge to current American Association of State Highway and Traffic Transportation Officials (AASHTO) and County standards for alignment and width. Compliance with AASHTO standards is required by ODOT. In addition, the current HBRR funding is available only for construction of a new replacement bridge.

(3) New Single-Span Bridge at Current Location

Replacing the bridge on the current alignment would require the installation of a temporary detour bridge to maintain traffic during construction. Because no alternate routes are available, the road cannot be closed during construction. A detour bridge would be more costly and would require more in-water work. Additionally, the existing location and alignment of the bridge does not meet AASHTO design standards.

(4) New Multi-Span Bridge

A multi-span bridge would involve the construction of concrete piers in the river. This would require construction of temporary cofferdams in the river and also temporary access roads from the riverbank to the cofferdams. This alternative is more costly and not feasible due to the environmental constraints and would put a pier into the channel of the Imnaha Wild and Scenic River which would impact the river flow to some extent.

(5) New Single-Span Bridge on Improved Alignment

This is the preferred alternative and the proposed action. Leaving the existing bridge in place during construction of the new bridge will allow traffic to be maintained so a temporary detour bridge is not necessary. A single-span bridge will allow spanning of the river without in-stream piers. The only in-water work will be the removal of the existing east bridge abutment and the installation of the new abutments. The new alignment will meet AASHTO design standards for truck turning. This alternative has few environmental impacts and is the most feasible and least costly.

ANALYSIS OF THE EFFECTS OF THE PROPOSED ACTIVITY

Within-Channel Conditions

The new bridge has an 83-foot long span. By widening the bridge, the proposed bridge abutments will reduce constriction on the width of the Imnaha River. The current channel restriction will also be reduced by the removal of one of the existing abutments on the east side. This will allow the natural channel features and functions to continue unaltered at this location, restoring more natural conditions. The west side abutment will be left in place to prevent erosion and scouring of the new abutment (see riparian discussion below). Although this leaves a constriction on the channel from the old abutment, the total constriction of the river from the new bridge is still reduced from the existing bridge. The total amount of rip rap to protect the new bridge abutments will be no more than that used for the old bridge.

This project is not expected to alter the water quality in the Imnaha River. Water quality will be protected by work area isolation methods during removal of the existing

abutments and installation of the new abutments by the installation of erosion control measures to contain construction sediment from project components located above the ordinary high water mark. Figure 4 provides an example of a work area isolation structure. The Oregon Department of Fish and Wildlife has been consulted regarding the bridge replacement and has prescribed an in-stream work period of July 15 to October 15. This work window minimizes the effect that in-water work could have on any listed fish species.

Riparian and Floodplain Conditions

This project involves constructing a new bridge and removing an existing bridge within the riparian area and floodplain of the Imnaha Wild and Scenic River. Existing vegetation consists of native and non-native grasses, native herbaceous plants, willows, and some trees.

Native vegetation will be planted in the area previously occupied by the east abutment and riprap and in any other disturbed areas. One semi-mature tree will be removed with the removal of the east abutment and riprap. This tree is growing in the fill behind the existing abutment, making its removal necessary.

The west abutment along with the sheet pile used for bank stabilization will remain in place. These structures are necessary to prevent erosion of the bank and of possible fill behind the old abutment, and also to prevent scouring of the new abutment. In an effort to mask the concrete abutment and sheet pile and preserve the scenic value of the waterway, basalt boulders will be placed in front of these structures.

Upland and Off-site Conditions

As a safety measure, basalt boulders will be placed across the top of the existing west bridge approach. These boulders will deter motorists from using this approach.

Other upland and off-site conditions will not be altered by the proposed activity because the effects of the construction activities will be limited to the existing and new roadway approaches, the proposed bridge site, and the existing bridge site.

Hydrologic and Biologic Processes

This project is expected to improve the hydrologic processes as compared to the existing bridge. The project Hydraulics Report estimated the bank full channel width to be 46 feet at the upstream face of the existing bridge. The bank full flow was input into the proposed replacement design hydraulic model. The resulting bank full width at the upstream face of the proposed bridge was determined to be 67 feet. The resulting bridge opening for the replacement bridge will be approximately 150% of the existing opening.

Comment: The Hydraulics Report provides background information that should be referenced or appended.

Because the opening for the proposed bridge is larger than the opening of the existing bridge, this project will improve the free flow of the river. The ability of the channel to change course, re-occupy former segments, or inundate its floodplain will be improved

over existing conditions by removing the existing bridge. Increasing the channel width will reduce streambank erosion potential and debris loading. The proposed project will not affect existing flow patterns with respect to timing or the amount of flow. Neither surface/subsurface flows nor flood storage characteristics of the channel will be altered by the proposal. No degradation of the channel will occur.

The project is expected to have beneficial effects on biological processes. Removal of the east abutment and re-contouring will improve fish habitat, as indicated by ODFW at the May 13, 2004, site visit. The new bridge spans more of the riparian area and floodplain than the existing bridge. This increased span will cause less disruption to the natural biological processes. Riparian vegetation will be restored to the streambank in the area of the existing east bridge abutment.

Free-Flowing Conditions

The free-flowing condition of the river will be improved over existing conditions by the proposed activity due to the removal of the existing bridge that currently constricts the channel to 55 feet. Additionally, removal of the east abutment and re-contouring of this area will improve the free-flowing conditions.

Time Scale of Effects

Potential effects identified in this analysis consist of potential increased short-term sedimentation from the removal of the bridge abutments and installation of the new abutments. Short-term sedimentation will be minimized by the placement of work area isolation structures around the abutments and will be limited to the 90-day in-water work period prescribed by ODFW. This work period has been scheduled to minimize impacts to protected fish species within the Imnaha River.

Long-term effects in the bridge area include a wider floodplain that will reduce shear stresses and susceptibility to erosion; wider opening under the bridge that will improve floodplain transport characteristics and floodplain connectivity; improved ability, over existing conditions, of the river to change course, re-occupy former segments, or inundate its floodplain; and improved fish and wildlife habitat over existing conditions.

Outstandingly Remarkable Values

The outstandingly remarkable values of the Imnaha River are recreation, scenic, fisheries, wildlife, vegetation/botanical, historic/prehistoric, and traditional value/lifestyle adaptation.

Recreation values would not be affected by the proposed activity because the bridge will be high enough to allow rafting to continue along this reach of the river. Because the land is privately owned along this river segment, the project would have no impact on public fishing access.

Scenic values would remain consistent with values described in the *Imnaha River Wild and Scenic River Management Plan* 1993 (page 11 of the *Plan*), which states that for

river segments designated as recreational, private land will retain its pastoral setting of western farms and ranches. The proposed activity replaces the bridge on the county road. Replacement of the bridge would be consistent with the setting. The new bridge has been designed with the following color scheme to better blend in with the surroundings and minimize visual impacts: all approach guardrail will be weathering steel which weathers quickly to turn a rusty brown, the bridge rails and posts will be painted brown (Pantone) with a powder coat, and the sides of the bridge will be painted tan. Figure 3 contrasts standard bridge colors with the more natural colors proposed for this bridge. Removing the existing bridge will improve scenic values because an unnatural feature that is no longer functional would be removed.

Comment: Scenic enhancement is achieved by incorporating esthetic features (color and design elements such as weathering steel) into the project proposal (new bridge).

Fisheries and wildlife values would be improved over existing conditions by the proposed activity. The riparian area revegetation and the bridge design will improve fish, other aquatic species, and riparian wildlife habitat in the bridge area. Riparian vegetation removed for the new bridge will be replaced at the site of the existing bridge. If the success rate is poor, new native vegetation will be planted.

Historic/prehistoric values would not be affected by the proposed activity. A report has been prepared by Heritage Research Associates, Inc., Cultural Resources Report (Musil 2006) which has concluded that the project would have no effect on cultural resources. The report has been submitted to the State Historic Preservation Office (SHPO) and the project will not be implemented until SHPO issues a cultural resource concurrence letter.

Traditional value/lifestyle adaptation would be positively affected since the project's purpose is to assure continued access to the area for local residents, ranchers, and farmers.

DETERMINATION OF THE EFFECTS OF THE PROPOSED ACTIVITY

The Imnaha River's Wild and Scenic River values will be unaffected or improved over existing conditions by the proposed activity. By replacing a bridge that is currently constricting and intruding into the channel with a longer single-span bridge that does not require any structures within the river's ordinary high water mark, the project will allow a more natural flow of the river. Fish, wildlife, and vegetation values in the immediate bridge area will be improved over existing conditions because of improvements to the free flow of the river. Traditional value/lifestyle adaptations will benefit since the project's purpose is to assure continued access to the area for local residents, ranchers, and farmers. Other outstandingly remarkable values of the river would remain unchanged. The proposed activity replaces a bridge that existed prior to the designation of the Imnaha River as Wild and Scenic.

Therefore, based on the information contained in this report, and with the stipulation that the State Historic Preservation Office issues a cultural resource concurrence letter, it is my determination that the proposed activity will not have a direct and adverse effect on the free-flowing character of the river, the water quality and quantity of the river, or the values for which the Imnaha was designated a Wild and Scenic River.

Comment: Note the conditional nature of the determination. It is appropriate to defer to another federal/state agency with jurisdiction over resources within the river (e.g. US Fish and Wildlife biological opinions in regard to TES species).

/s/ Linda Goodman
LINDA GOODMAN
Regional Forester

2/16/2007
Date

REFERENCES

Heritage Research Associates, Inc. 2006. Archaeological Survey of the Imnaha River (Lewis) Bridge No. 63C81, Wallowa County, Oregon.

Oregon Department of Transportation Draft Project Prospectus, Imnaha River (Lower Imnaha Road) Bridge. Key Number 12587. November 17, 2003.

USDA Forest Service. 1990. Wallowa-Whitman National Forest Land and Resource Management Plan. Wallowa-Whitman National Forest. Accessed via the Internet on April 25, 2006 at: http://www.fs.fed.us/r6/uma/blue_mtn_planrevision/documents.shtml

USDA Forest Service. January 1993. Imnaha River Wild and Scenic River Management Plan. Wallowa-Whitman National Forest.

USDA Forest Service. 2004. Forest Service Manual 2350, Washington Office Amendment 2300-2006-3. Accessed via the Internet on May 1, 2006, at: http://www.fs.fed.us/im/directives/fsm/2300/2350.doc

West Consultants, Inc. 5/2/2006. Draft Bridge Hydraulics and Scour Assessment Detailed Report for Bridge No. 63C81 (Replacement), Imnaha River (Lewis) Bridge, Lower Imnaha Road, MP 35.00, Wallowa County, Oregon. West Consultants, Inc. 2601 25th St. SE, Suite 450, Salem, Oregon 97302.

Wild and Scenic Rivers Act. 1988. Public Law 100-557. Accessed via the Internet on July 19, 2005, at: http://www.nps.gov/rivers/wsract.html