US Army Corps
of Engineers®
Walla Walla District

LITTLE WOOD RIVER, GOODING, IDAHO

DRAFT INTEGRATED LETTER REPORT AND ENVIRONMENTAL ASSESSMENT

APPENDIX G, BIOLOGICAL EVALUATION

US Army Corps
of Engineers®
Walla Walla District

LITTLE WOOD RIVER
CHANNEL REHABILITATION PROJECT

GOODING, IDAHO

PM-EC-2010-0002

Federal Natural Resources Law Compliance
and
Biological Evaluation

Memorandum for Record

U.S. Army Corps of Engineers
Walla Walla District
Environmental Compliance Section

18 October 2023

CENWW-PPL-C

MEMORANDUM FOR RECORD

To: Michael Erickson, Chief, Environmental Resources Section
From: Sabrina Roberts, Biologist
Subject: Little Wood River Streambank Stabilization, Gooding, Idaho

Summary

The U.S. Army Corps of Engineers (USACE) proposes to rehabilitate about one mile of streambanks of the Little Wood River in Gooding, Idaho. The existing channel (Gooding Canal) is lined with grouted basalt rock, which is now crumbling. This crumbling wall will be replaced by a concrete wall which will be anchored into the bank. Five vehicle bridges (Nevada, Idaho, Montana, Wyoming, and Oregon Streets) that currently restrict river flow will also be replaced with longer spanning bridges. Three pedestrian bridges (two located between Nevada and Idaho Streets, and one between Main and Montana Streets) will also be removed and replaced to facilitate construction of the new walls.

The following biological analysis report is prepared in accordance with legal requirements set forth under Section 7 of the Endangered Species Act (16 U.S.C. 1536 (c)), the Fish and Wildlife Coordination Act (16 U.S.C.661 et seq., as amended), Migratory Bird Treaty Act (16 U.S.C. §§ 703–712), Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c), Magnuson Fishery Conservation and Management Act (16 U.S.C. 1801), as well as various Executive Orders, and follows the guidance and standards established by the Army Corps of Engineers Environmental Compliance Regulations and Procedures (ER 200-2-3), Project Purposes Planning Guidance (ER 1105-2-20), Management of Natural Resources and Outdoor Recreation at Civil Works Water Resource Projects (ER 1130-2-400), and Environmental Policies (EP 1165-2-501) Objectives and Guidelines for the Civil Works Program of the Corps of Engineers).

It is assumed construction work would begin after the irrigation season, likely in October then finish by March 15 of the following year. Work would occur 5 to 6 days per week, during daylight hours.

There will be no effect on Endangered Species Act (ESA) listed or candidate species and there is no designated or proposed critical habitat present. There is also no Essential Fish Habitat protected under the Magnuson-Stevens Fishery Conservation and Management Act present. There will be no take under the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act.

The proposed action would require further review in order to re-analyze the potential adverse effects on special status species or habitats if any significant changes in the action are proposed or occur after the date of this document.

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1. PROPOSED ACTION

USACE proposes to rehabilitate about one mile of streambanks of the Little Wood River in Gooding, Idaho. The existing Gooding Canal channel is lined with grouted basalt rock, which is now crumbling (Figure 1). This crumbling wall will be replaced by a concrete wall that would be anchored into the bank. The river alignment and work area are shown highlighted in yellow in Figure 2.

The project area is located on the Little Wood River in the city of Gooding, Idaho. Gooding is the county seat and largest city of Gooding County. Gooding is located in south central Idaho, a few miles from Interstate 84. Boise is 98 miles to the west and Twin Falls is 33 miles to the east. Gooding is located near the confluence of the Big Wood and Little Wood Rivers where they join and form the Malad River, a tributary of the Boise River.

This project is authorized by Section 3057 of the Water Resource Development Act of 2007 (Public Law 110-114 Section 3057) and under WRDA 2022. Section 3057 directs the Secretary [and in turn USACE] to rehabilitate the Gooding Canal for the purposes of flood control and (if feasible) ecosystem restoration.

Figure 1. Example of Failing Walls on the Little Wood River at Gooding, Idaho

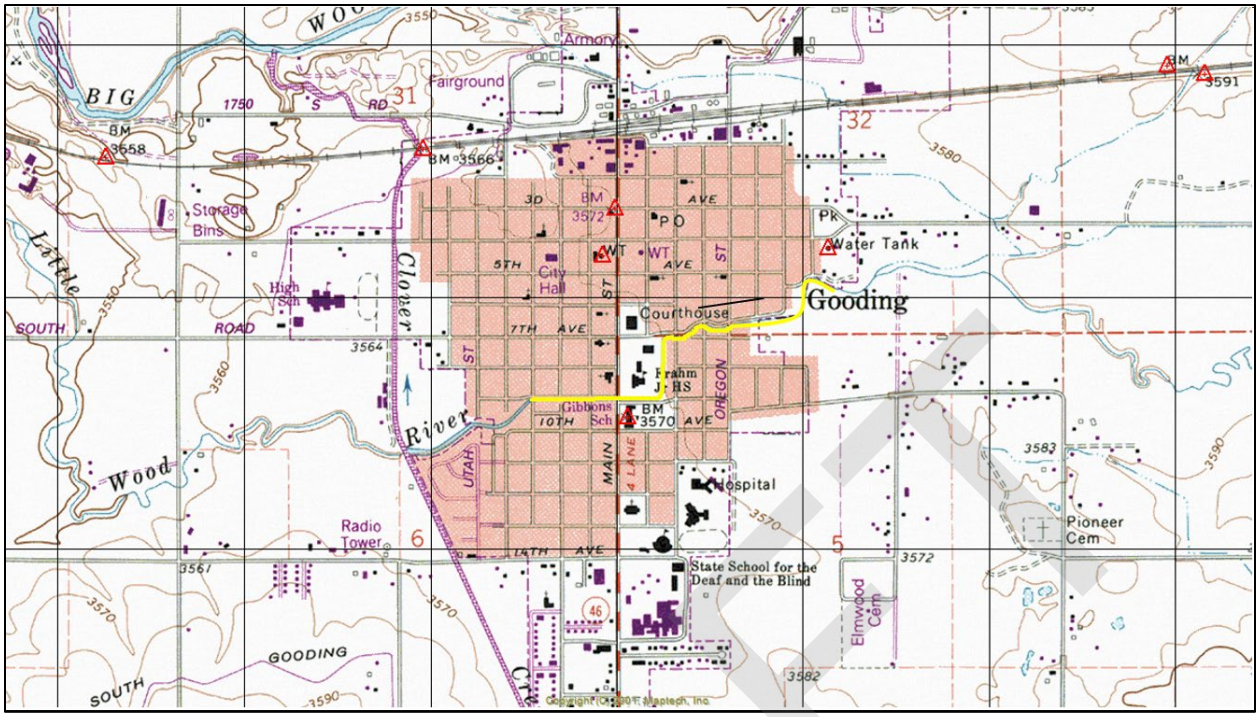

Figure 2. General Location of the Little Wood River through Gooding, Idaho
Note: Project area is yellow line.

2. PROJECT DESCRIPTION

2.1. Project Background

The Little Wood River was channelized for irrigation and flood protection purposes more than 100 years ago. The section of river through the town of Gooding was lined with grouted basalt by 1941 forming the Gooding Canal. Studies have been conducted in the past on methods to reduce the flood risk within Gooding; however, funding limitations have prohibited implementation of any projects.

2.2. Baseline Conditions

The Little Wood River Subbasin Assessment (IDEQ 2005) provides much information about the Little Wood watershed. Baseline condition information was obtained from this report.

The Gooding section of the river is on the State's 303(d) list for bacteria, dissolved oxygen, nutrients, sediment, flow alteration, and temperature. The lower reach of the river downstream of Shoshone, Idaho is managed by the Idaho Department of Fish and Game (IDFG) as a warm-water fishery (IDEQ 2005). The habitat quality of the lower river is poor. The river in certain reaches upstream of Shoshone is sometimes dewatered for irrigation and power production purposes, which can contribute to a lack of peak flushing flows in the lower river and irrigation water demands within the subbasin leads to peak flows that occur within irrigation months (summer and early fall) rather than during spring runoff. Additionally, the segment of the river downstream of

Gooding (Clover Creek Canal Crossing to Big Wood River) becomes nearly dewatered due to irrigation demands (IDEQ 2005), which limits fish movements between reaches.

The river through Gooding has a channel capacity of 900 cubic feet per second (cfs). However, that volume can be drastically lower during heavy icing conditions. Fish species found in the Little Wood River include rainbow trout, brown trout, smallmouth bass, yellow perch, bridgelip sucker, largescale sucker, sculpin species (probably mottled, but possibly Wood River), redside shiner, speckled dace, longnose dace, and others. Anglers seasonally fish the Little Wood River, but angler effort and harvest data are not available for Gooding. Several Species of Greatest Conservation Need, including wintering bald eagles, inhabit the site on a seasonal basis. Riparian habitats associated with the Little Wood River provide breeding, nesting, denning, and roosting habitat for migratory songbirds, birds of prey, waterfowl, shorebirds, aquatic mammals, small mammals, reptiles, and amphibians.

The project is proposed for the fall and winter months. This is outside the nesting season for most birds. The construction work is within an urbanized area and will could remove up to 45 large trees and 37 small trees. Riparian trees upstream of the work area would not be impacted by the proposed work. There would be no adverse effects to migratory birds from the proposed project.

Because of the location and timing of the proposed action (October – March), disturbance of nesting bald eagles is unlikely to occur. Eagles nest as early as late January, but because of the urban setting and the work activity, it is highly unlikely for an eagle to nest near the project.

Throughout most of the western United States golden eagles are mostly year-long residents, breeding from late January through August with peak activity in March through July (Polite and Pratt 1999). They may also move down-slope for winter or upslope after the breeding season (Polite and Pratt 1999, Technology Associates 2009).

2.3. Project Location

The Hydrological Unit Code (HUC) is 17040221-01 Little Wood River. It is located in Section 32 of Township 5 South, Range 15 East, and Sections 5 and 6 of Township 6 South, Range 15 East, Boise Meridian at Latitude 42°56’11.24” North, and Longitude 114°42’41.90” West.

2.4. Work Schedule

Work will begin after the irrigation season, likely in October then finish by March 15. Work will occur 5 to 6 days per week, during daylight hours.

2.5. Project Details

Prior to starting work on the walls, the river would be partially dewatered by diverting a portion of the flow around Gooding at existing diversion points. These diversion points

are approximately 4 and 6 miles upstream from Gooding (Figure 3). The dewatering will be conducted slowly to encourage fish to leave with the receding water. No fish salvage is planned. Pre-existing irrigation diversions will be used to divert the river. Fish screens to keep fish out of the diversion channels will not be used. The diverted water from the upstream diversion channel returns to the Big Wood River about 9 miles before it becomes the Malad River. The other diversion canal empties back into the Little Wood River about 5 miles before it joins the Big Wood River and becomes the Malad River (Figure 3). Both diversions will be used to carry a portion of the river flow around the work area.

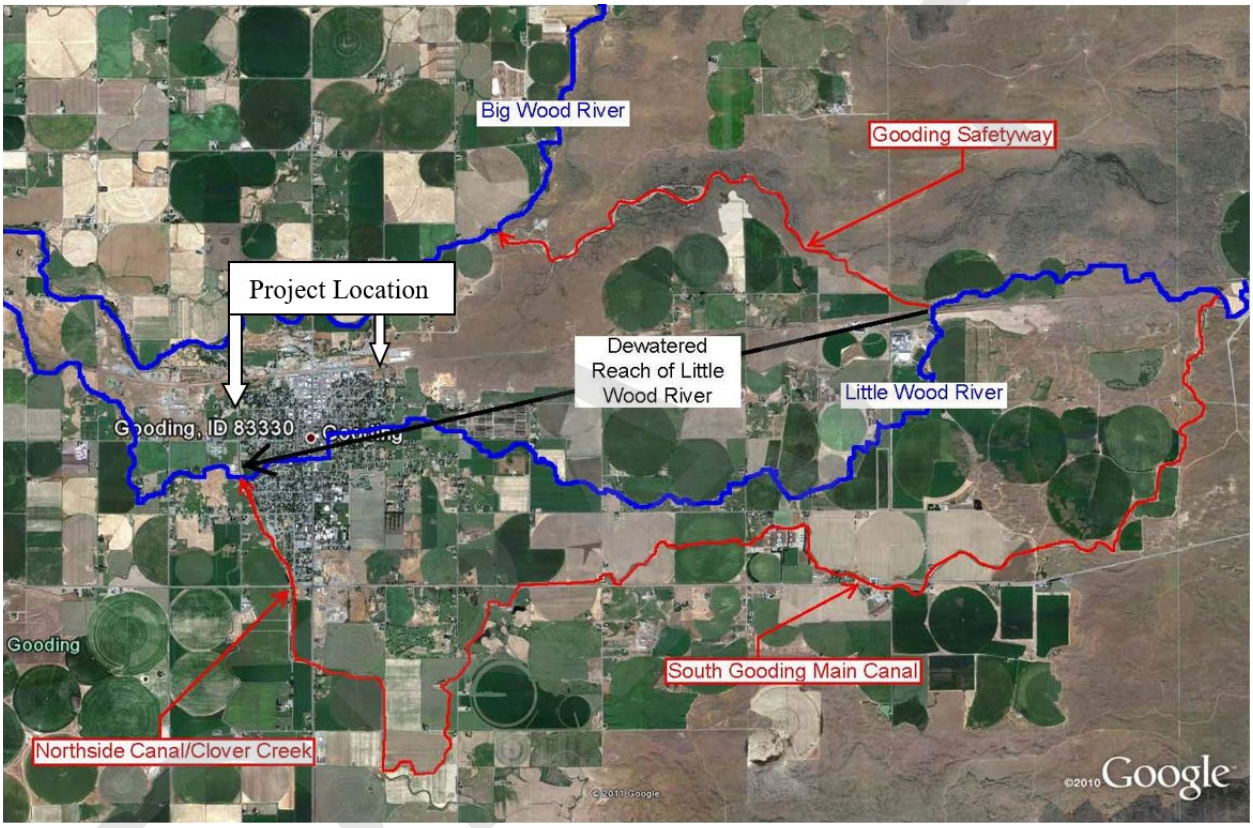

Figure 3. Proposed Diversion Channels to Dewater the Project Area in Gooding, Idaho

Note: Proposed diversion channels are red lines.

Once the water is partially diverted around the work areas and the remainder of the water is piped or pumped through the work area, work in the channel will be done in the dry. Approximately 0.9 miles of channel will be modified with new walls or repaired. The existing basalt rock walls will be removed with an excavator and loaded into trucks using existing roads and the channel for access as necessary. The waste rock will be hauled to the Gooding Industrial Park, which is about 3/4 mile from the project site.

Next the soil along the banks will be shaped as needed to facilitate placement of pre-cast concrete walls. Approximately 2 to 4 feet of excavation will be required behind the existing wall footprint to allow for the proposed wall construction. This excavation will run the entire project length on both sides of the channel wherever there are existing

basalt rock walls. The type of existing material behind the rock wall is unknown, but is expected to be primarily lava rock and random fill material. This excavated material will be taken to the Gooding Industrial Park as well.

Prior to setting the new walls, a toe trench will be excavated/jack-hammered into the bedrock river bottom. The pre-cast concrete walls will be set into the toe trench and anchored into the bank with soil nails or anchored tendons which will be grouted into place. After the proposed wall has been installed, new fill material will be placed and compacted behind the wall. This fill material will come from a commercial source. There is equipment access to the channel and the channel bottom is relatively smooth, so small construction equipment will drive in the channel to perform work.

There are five existing bridges within the work area that will be replaced. The abutments of these bridges project into the channel, creating impingement points where ice jamming can occur. These bridges and abutments will be removed and replaced with bank-to-bank spanning bridges. This work will also occur when the channel is dewatered. The existing bridge decking and support structure will be removed and become the property of the contractor or disposed off-site, in compliance with State and Federal requirements.

A comprehensive storm water pollution prevention plan (SWPPP) in compliance with applicable environmental laws will be implemented prior to construction to prevent debris from leaving the project site and entering the Little Wood River. Construction debris and rubble will be mechanically removed from the channel as needed to maintain a usable work environment during construction. Filter material (gravel bags, fiber rolls) will be placed as needed in the river channel to capture finer debris material during rain events. The project site will be thoroughly re-inspected at the end of construction to remove any remaining debris before channel rewatering. After all the channel work and cleanup is complete, the dewatering pipes would be removed, and the total river flow will slowly be released back into the repaired river channel.

The construction staging area will be approximately 1/2 acre and will be used to store equipment and material. It will be located in a vacant, City-owned lot near the upper end of the project (Figure 4). After the staging area has been cleared and graded, a 4-inch layer of crushed aggregate will be placed to provide a usable working surface. No trees will be removed from the staging area site.

Figure 4. Equipment Staging Area for the Project
Note: Project reach is red line.

2.6. Endangered Species

On 20 September 2023, USACE reviewed the current list of threatened, endangered, and candidate species that pertain to the area affected by this action under jurisdiction of the National Marine Fisheries Service (NMFS), as well as the list for species under the jurisdiction of the U.S. Fish and Wildlife Service (USFWS) for Gooding County, Idaho. The compiled species list is shown in Table 1. Critical habitat is not designated or proposed for these species. Therefore, critical habitat analysis will not be further addressed in this report.

Table 1. ESA-Listed Species That May Occur in Gooding County, Idaho

Species	Scientific Name	Status
NMFS		
None		
USFWS		
Banbury Springs limpet	*Idaholanx fresti*	Endangered
Monarch Butterfly	*Danaus plexippus*	Candidate

2.6.1. Banbury Springs Limpet

The Banbury Springs limpet (*Idaholanx fresti*) was listed on December 14, 1992, as an endangered species. It was first discovered in 1988. Its conical, pyramid-shaped shell is

red-cinnamon in color, ranges from .09 to .28 inch long, and is only .03 to .17 inch tall. The species lacks specialized respiratory organs and is particularly sensitive to dissolved oxygen fluctuations. It requires cold, clear, and well-oxygenated water with swift currents. This species is found on smooth basalt, boulders, or cobble-sized substrate ranging from 2 to 20 inches deep, but they avoid areas with green algae.

The Banbury Springs limpet is currently known to only exist in four coldwater spring complexes along approximately 6 river miles of the middle Snake River: Thousand Springs, Box Canyon Springs, Banbury Springs, and Briggs Springs. Each of the four known colonies remains isolated from each other as they did at the time of listing in 1992.

Thousand Springs is 14 miles; Box Canyon Springs is 16 miles; Banbury Springs is 18 miles and Briggs Springs is 19 miles, respectively from Gooding. The Banbury Springs limpet is not known to occur in the Little Wood River and the habitat in the Little Wood River is not suitable for this species. There will be no effect on this species.

2.6.2. Monarch Butterfly

The Monarch Butterfly (*Danaus plexippus*) was listed on December 17, 2020, as a candidate species. Adult monarch butterflies are large and conspicuous, with bright orange wings surrounded by a black border and covered with black veins. On the upper side of the wings, the black border features a double row of white specks. Adult monarchs are sexually dimorphic, with males having narrower wing venation and scent patches. Monarch butterflies' vivid color serves as a warning to predators that ingesting them could result in poisoning.

Monarchs lay their eggs on their mandatory milkweed host plant, primarily *Asclepias* spp., during the breeding season, and the larvae hatch after two to five days. Over a period of 9 to 18 days, larvae go through five larval instars (intervals between molts), consume milkweed, and sequester poisonous substances (cardenolides) as a defense against predators. The larva subsequently pupates into a chrysalis and emerges as an adult butterfly 6 to 14 days later. During the breeding season, several generations of monarch butterflies are created. The majority of adult butterflies have a lifespan of two to five weeks; overwintering adults go into reproductive diapause (suspended reproduction) and have a lifespan of six to nine months.

In many regions where monarchs are present, monarchs breed year-round. Individual monarchs in temperate climates, such as eastern and western North America, undergo long-distance migration, and live for an extended period of time. Monarch butterflies start moving toward their respective overwintering locations in the fall in both eastern and western North America. Monarchs can travel nearly 3,000 km during this migration, which can take more than two months. The remaining monarchs burst out of their dormancy in early spring (February to March), mate in their wintering grounds, and then disperse. The same individuals that undertook the initial southward migration begin flying back through the breeding grounds and their offspring start the cycle of generational migration over again.

The proposed repair and replacement of channel walls along Little Wood River within the city of Gooding is projected to not impact the breeding or migration patterns of any monarchs in and around the project area. The area lacks any suitable habitat for this species. There will be no effect to this species.

2.7. Magnuson-Stevens Fishery Conservation and Management Act of 1976, as Amended

The consultation requirement of section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) directs Federal agencies to consult with NMFS on all actions, or proposed actions that may adversely affect Essential Fish Habitat (EFH). Adverse effects include the direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce the quality or quantity of EFH. Adverse effects to EFH may result from actions occurring within EFH or outside EFH, and may include site-specific or EFH-wide impacts, including individual, cumulative, or synergistic consequences of actions (50 CFR 600.810). Section 305(b) also requires NMFS to recommend measures that may be taken by the action agency to conserve EFH.

The Pacific Fishery Management Council (PFMC) designated EFH for ground fish, coastal pelagic species, and Chinook salmon, Coho salmon, and Puget Sound pink salmon (PFMC 1999).

The Little Wood River (HUC 17040221-01) is upstream from impassible dams on the Snake River and is not identified as Essential Fish Habitat (EFH); therefore, there will be no modification or adverse effects to EFH from the proposed action.

3. ENVIRONMENTAL CONSIDERATIONS

USACE or its representative will strictly adhere to the following environmental considerations as part of the action, as proposed and described above, in order to ensure impacts and effects that may result from the action are minimized or eliminated. The environmental considerations, identified below, are an integral part of the proposed action, and will not stand alone. These requirements must be used in conjunction with the proposed action to ensure that USACE can defensibly make a determination that the proposed action will not affect species or habitats protected by the natural resources laws addressed in this document.

This action will divert a portion of the Little Wood River into existing irrigation ditches located 4 and 6 miles upstream from Gooding. The Little Wood River channel will be partially dewatered for up to 12 miles from October through March.

Aquatic and riparian dependent wildlife species may be directly or indirectly impacted by the partial dewatering of riverine habitat. Direct effects may include overall trophic disruption, increased predation, individual fish and wildlife mortalities, loss of forage, displacement, and reduced species diversity. Indirect effects may include habitat

degradation, loss of primary productivity, riparian vegetation desiccation, and downstream habitat impacts. These impacts may range in severity and longevity; however, some level of protection is afforded if complete dewatering is avoided. The Idaho Department of Fish and Game (IDFG) encourage preservation of the riverine connectivity as much as feasible during construction to minimize impacts, and offered recommendations that will assist in minimizing impacts to fish and wildlife from the proposed dewatering effort. Those comments are included in the appendix of this document and are incorporated by reference as required recommendations in this report. A verbal concurrence in support of with IDFG recommendations was received from the USFWS (personal communication R. Kibler, February 2012).

3.1. Stipulations

1. Erosion control measures shall be properly installed and provide adequate coverage for disturbed areas or associated areas subject to run-off as result of the proposed action.
2. Timing of project shall not be adjusted beyond the proposed dates more than 2 weeks without further review by Environmental Compliance.
3. Spreading of excess materials shall be conducted in a manner to eliminate the potential for any of the material to be become airborne and enter any fish-bearing water body or enter any fish-bearing water body by any other means, to include, but not limited to, run off.
4. Reseed or replant disturbed areas with native materials and seed to minimize the invasion of noxious weed species, and subsequent use of pesticides, as well as potential for runoff.

3.2. Recommendations

1. Use best management practices to minimize potential impacts to wildlife and surrounding vegetation.
2. Minimize footprint of disturbance to smallest area possible.
3. No construction activities should occur in the river channel between March 15 and July 15 to protect spawning and rearing fish species.
4. River flows should be gradually reduced to allow fish and wildlife to migrate to suitable habitat.
5. Stranded fish should be salvaged and relocated into suitable habitat.
6. All soil disturbed sites should be restored using site-appropriate native woody plants, forbs, and grasses.
7. Post-construction monitoring should be required to assess short- and long-term effects of dewatering.
8. Options for habitat-based mitigation (e.g., wetland habitat restoration and protection) should be available based on the monitoring results.

4. DETERMINATIONS

4.1. Approach to Determinations

The approach to the effects analysis used the following questions (adapted from Johnson 2009) to determine the extent of potential effects, if any, and justify the effects determination for each species and critical habitat listed under the ESA. Potential effects of the action are considered along with the environmental baseline and the project description to determine the potential effects to the species and critical habitat. This approach will also be used as a basis for determinations under the MSA, FWCA, MBTA, and BGEPA, although the term "no effect" may be substituted for the appropriate term for each Act.

1. Is the proposed action likely to produce potential stressors or subsidies that would reasonably be expected to act directly on individual organisms or to have direct or indirect consequences (positive or negative) on the environment?

    a. An answer of "no" to #1 would result in a "no effect" determination by USACE.
    b. An answer of "yes" to #1 would result in moving to #2.

2. If the proposed action is likely to produce those potential stressors, are endangered or threatened individuals likely to be exposed to one or more of those potential stressors or subsidies or one or more of the proposed action's direct or indirect consequences on the environment?

    a. An answer of "no" to #2 would result in a "no effect" determination by USACE.
    b. An answer of "yes" to #2 would result a "may affect" determination by USACE, and moving to #3.

3. If listed individuals are likely to be exposed, are those listed individuals likely to respond, positively or negatively, to that exposure?

    a. An answer of "no" to #3 would result in a "not likely to adversely affect" determination by USACE.
    b. An answer of "yes" to #3 would result in moving to #4.

4. If listed individuals are likely to respond, are those responses likely to be sufficient to reduce their individual performance?

    a. An answer of "no" to #4 would result in a "not likely to adversely affect" determination by USACE.
    b. An answer of "yes" to #4 would result in a "likely to adversely affect" determination by USACE. This determination, for any potential effect, and

for any given species, would result in a "may affect, likely to adversely affect" determination for that species.

The USACE has determined that no individuals of species of concern or species protected under the ESA would be present due to lack of appropriate habitat.

4.2. Determination Summary

Table 2. Determinations for the Area Potentially Affected by This Action

ESA		
Common Name	**Species Determination**	**Critical Habitat Determination**
USFWS		
Banbury Springs Limpet	No Effect	None Designated
Monarch Butterfly	No Effect	None Designated
MSA		
No Adverse Effects		
MBTA Birds of Conservation Concern		
Rufous Hummingbird (*Selasphorus rufus*) No Adverse Effects		
BGEPA		
Disturbance Unlikely to Occur		

The USACE has determined that this action, as proposed, will have NO EFFECT on any ESA listed species in Gooding County.

After a review of the species list and critical habitat list, a review of the biological requirements of the identified species, and a review of the project description, timing, and nature of the action, USACE has determined that species and critical habitats will be spatially or temporally separated from this action, and although the proposed action is likely to produce potential stressors, species and critical habitats are not likely to be exposed to those potential stressors because of the distance of the proposed action to the Snake River and adjacent springs, the absence of species or specific life history stages of species from the vicinity of the proposed action, habitat conditions at each construction site, and the implementation of the environmental stipulations. As a result, 2.a. in section 4.1 (above) is true, and a no effect determination is justified.

This project will require further review in order to re-analyze the potential adverse effects on federal resource species or habitats if any significant changes in the action are proposed or occur after the date of this document.

5. REFERENCES

IDEQ (Idaho Department of Environmental Qulaity). 2005. Little Wood River Subbasin Assessment and Total Maximum Daily Load. IDEQ. Twin Falls, Idaho.

Johnson, C. 2009. Notes on ESA section 7 effects determinations. In: Effects determination guidance. Protected Resources Division. Pacific Island Regional Guidance. National Marine Fisheries Service. January. Available at:

http://www.fpir.noaa.gov/Library/PRD/ESA%20Consultation/Final%20Action%20Agency%20Consultation%20Package%20Files%20for%20website%201-12-09/Effects%20Determination%20Guidance%20-%201-12-09.pdf.

PFMC (Pacific Fishery Management Council). 1999. Amendment 14 to the Pacific Coast Salmon Plan. Appendix A: Description and identification of essential fish habitat, adverse impacts, and recommended conservation measures for salmon. Pacific Fishery Management Council, Portland, Oregon. March. Available at: http://www.pcouncil.org/salmon/salfmp/a14.html.

Polite, C. and J. Pratt. 1999. Bald eagle (*Haliaeetus leucocephalus*). California Wildlife Habitat Relationships System, California Department of Fish and Game, California Interagency Wildlife Task Group.

Technology Associates. 2009. Draft species account: golden eagle (*Aquila chrysaetos*). Yolo National Heritage Program. Available at: http://www.yoloconservationplan.org/yolo_pdfs/speciesaccounts/birds/golden-eagle.pdf.

ATTACHMENT – IDAHO DEPARTMENT OF FISH AND GAME COMMENTS, DATED 1/30/2012, IN RESPONSE TO MINIMIZING IMPACTS TO FISH AND WILDLIFE

Idaho Department of Fish and Game (Department) has reviewed information related to a proposal from the City of Gooding to address the failure of existing shoreline protection structures (approximately 1-mile of shoreline) on the Little Wood River within the City limits. We understand [USACE] desires to complete the work in the dry which would be achieved by diverting all Little Wood River flows into canals located approximately 4-6 miles upstream from the project area. We offer the following thoughts regarding the proposal to dewater the Little Wood River to construct the project.

The Department recognizes that construction within a stream channel is complicated by the presence of running water. Many project managers prefer to dewater the construction area to simplify construction methods, reduce costs, and meet mandated water quality standards and guidelines. The Department acknowledges the legitimacy of these advantages but is compelled to fully disclose the impacts of such actions to fish, wildlife, and their associated habitat.

Aquatic and riparian dependent wildlife species may be directly and/or indirectly impacted by intermittent and seasonal dewatering of riverine habitat. Direct effects may include overall trophic disruption, increased predation, individual fish and wildlife mortalities, loss of forage, displacement, and reduced species diversity. Indirect effects may include severe habitat degradation, loss of primary productivity, riparian vegetation desiccation, and downstream habitat impacts beyond the scope of the project. These impacts may range in severity and longevity; however, some level of protection is afforded if complete dewatering is avoided.

The Department encourages project planners to preserve riverine connectivity as much as feasible during construction to minimize impacts. In many cases, keeping as little as 10% of normal flows through the construction area can reduce the severity of immediate impacts and decrease post-construction recovery time.

The Little Wood River in this reach is heavily influenced by upstream water management activities. Currently, the Little Wood River is listed (IDEQ 303d) as impaired with respect to sediment, temperature, nutrient loads and does not meet the "coldwater aquatic biota" beneficial use standards. This reach of the river is subject to periodic low flow conditions and reportedly is dewatered on occasion.

The fish community is largely made up of cool and warm water fish species. Fish species found in the Little Wood River include rainbow trout, brown trout, smallmouth bass, yellow perch, bridgelip sucker, largescale sucker, sculpin species (probably mottled, but possibly Wood River), redside shiner, speckled dace, longnose dace, and others. Anglers seasonally fish this reach but angler effort and harvest data are not available. Several Species of Greatest Conservation Need, including wintering bald eagles, inhabit the site on a seasonal basis. Riparian habitats associated with this reach provide breeding, nesting, denning, and roosting habitat for migratory songbirds, birds

of prey, waterfowl, shorebirds, aquatic mammals, small mammals, reptiles, and amphibians.

We encourage the USACE to preserve riverine connectivity during construction by diverting approximately 90% of normal flows OR sufficient flows to maintain a consistent bare minimum flow. In the event a complete dewatering event is implemented, care should be taken to reduce impacts. We recommend implementing the following actions to avoid, minimize, and mitigate the effects of dewatering the river:

1. No construction activities should occur between March 15 and July 15 to protect spawning and rearing fish species.
2. River flows should be gradually reduced to allow fish and wildlife to migrate to suitable habitat.
3. Stranded fish should be salvaged and relocated into suitable habitat.
4. All soil disturbed sites should be restored using site-appropriate native woody plants, forbs, and grasses.
5. Post-construction monitoring should be required to assess short- and long-term effects of dewatering.
6. Options for habitat-based mitigation (e.g., wetland habitat restoration and protection) should be available based on the monitoring results.