

## Forest Aquatic Restoration Project NEPA Compliance and Implementation Checklist

**Project Number:** 01012017

**Date:** 3/28/2017

**Title & Category:** Slip Up Creek Spring Development & Protection Category 2: Large Wood, Boulder, and Gravel Placement, Category 9: Livestock fencing, stream crossings, and off-channel livestock watering, Category 12: Juniper Removal

**Location:** T. 12 S., R. 29 E., sec. 4, 5

**Project Description:** The project will authorize the felling of juniper, placement of LWD and CWD from juniper, and the development of several springs.

**Heritage**

Specific PDC for Heritage addressed (Heritage Surveys; Avoidance areas). N/A

**Botany**

- Specific PDC for Botany addressed (Sensitive Plant Surveys).

- Specific PDC for Nox. Weeds addressed.

**Land Management Consistency**

4A Big Game Winter range

6A & 6B Wilderness

7 Scenic Area

8 Special Interest Areas

9

10

22

Research Natural Areas

Semi-Primitive Non-Motorized Recreation Areas

Wild and Scenic River

Inventoried Roadless Areas

**Comments:**

Table 1. Projects Design Criteria and Forest Plan compliance checklist.

I have reviewed this project and have determined it is within the Project Design Criteria identified for my resource.			
Resource	Signature	Date	Comments
Heritage	Kate Withee	05/22/17	no effect to historic properties, please see attached PA.
Botany	ARONIA H. BROWN	4/17/2017	No SENSITIVE plants in creek
Wildlife	Dan Theoharides	4/3/2017	ensure all traps are equipped with wildlife escape ramps.
Fish*	Chris	5/6/2017	Follow PDCs.
Hydrology*	Mary L. Kelly	5/4/17	Advise hydrology when work starts & when it is completed at each site.
Range	Walt P. St.	3-29-17	
Soils	Robert C. Mynatt	5-12-17	N. STINGER SAYS NO HEAVY EQUIPMENT.
Recreation	Danson	5/9/2017	NO effects
Lands and Special Uses MINERALS	Kimbell	4/12/17	No Lands SUP identified w/in project area. / Mine claim 3 miles away from project, should not be issue.
Engineering	Zeke Langum Jr	5-22-17	See email w/attachment that have road related requirements
Fuels / Fire	Walt P. St.	5/15/17	No Concerns
Silviculture	Umananda Lindsay	5/1/17	If you need trees other than juniper coordinate with the silviculturist.

\* Ensure that an experienced fisheries biologist or hydrologist is involved in the design of all projects covered by Aquatic Restoration Biological Opinion II. The experience should be commensurate with technical requirements of a project.

Line Officer Signature: David Holman

Date: 5-25-2017

## Implementation Description:

### Slip Up Creek Spring Development & Protection Project

<b>Category 9:</b> Livestock fencing, stream crossings and off-channel livestock watering <b>Category 2:</b> Large Wood, Boulder, and Gravel Placement <b>Category 12:</b> Juniper Removal	<b>Lead Preparer:</b> Emma Anspach
<b>Applicant:</b> Blue Mountain Range	<b>NEPA Reference:</b> DN For Aquatic restoration EA <small>(<a href="http://www.fs.usda.gov/detailfull/malheur/landmanagement/?cid=STELPRD3817723&amp;width=full">http://www.fs.usda.gov/detailfull/malheur/landmanagement/?cid=STELPRD3817723&amp;width=full</a>)</small>
<b>Location: (T/R, sec.)</b> T12S R29E Section 5 T12S R29E Section 4	<b>Lease/ /Case File/ Serial #: N.A.</b> <b>(Reference #): N.A.</b>
<b>Begin Date:</b> September 7, 2016	<b>Due Date:</b> July 1 <sup>st</sup> , 2017

### Purpose/Need:

Aquatic and riparian habitat, including groundwater dependent ecosystems, in the McHaley Subwatershed has been and is continuing to be adversely affected by concentrated use by livestock and wildlife, putting down-slope water quality at risk. While many riparian areas are affected, disturbance is particularly concentrated at four springs/seeps or spring/seep complexes and along two intermittent stream segments and ephemeral draws in the headwaters of Slip Up and McHaley creeks.

The purpose of this project is to allow passive restoration to occur at source areas and along streams and draws by controlling access to and discouraging trailing in riparian areas; by excluding riparian grazing by cattle and wildlife at source locations; by providing water at alternative, upland locations by relocating or developing new watering facilities outside riparian areas; and by using the availability of reliable, accessible water to draw livestock and wildlife away from other riparian areas in the subwatershed.

The springs/seeps are located in a portion of the McHaley Subwatershed in Cottonwood Creek Watershed in the North Fork John Day River sub-basin in the northwest portion of the Blue Mountain Ranger District. The area is drained by Slip Up Creek and its tributary McHaley Creek. Slip Up Creek is a tributary to Beck Creek, which is a tributary to Fox Creek. This area lies within the Belshaw Pasture of the Mt. Vernon Allotment. The project area is shown by the red dot on the vicinity map for the Malheur National Forest in Figure 1 below; approximate locations for springs/seeps are shown on Figure 4; the intermittent stream and ephemeral draw segments are described below but not identified on the map.

Rearing and spawning habitat for ESA-listed, Middle Columbia Distinct Population Segment, summer-run steelhead (*Oncorhynchus mykiss*) and R6 Sensitive Species redband trout (*Oncorhynchus mykiss mykiss*) is found downstream of the project area, below the forest boundary.

Three (#1, #2, #3) of the four spring/seep project sites are isolated springs/seeps located on hillslopes where local groundwater emerges and then goes subsurface again within approximately 20-30 feet. The fourth (#4) site is a cluster of seeps and springs, with local surface flow, located in an ephemeral swale/draw; surface flow goes subsurface at the lower end of the complex below the road, after flowing through a culvert). The intermittent stream and ephemeral draw segments are located in the vicinity of #1 and #2 project sites; they are also in the vicinity of the FSR 3950741 road crossing and the FSR 3950792 which parallels portion of the proposed implementation segments; the proposed implementation area extends to the forest boundary.

During most of the year, spring/seep flow appears to infiltrate immediately downslope of the source areas, before reaching perennial surface waters. However, the springs/seeps, in combination with infiltration from snowmelt or rainfall events, may contribute seasonal groundwater flow to Slip Up or McHaley creeks. Similarly, surface runoff from the springs/seeps, in combination with overland flow generated during periods of snowmelt or wet convection storms, may contribute overland flow to Slip Up or McHaley creeks. Road ditches in the vicinity of spring sites #2 and #3 probably re-direct and expedite the routing of spring/seep flow away from the source areas; the areas where the flow from these spring/seeps sinks into the ground have been re-located.

These areas and the other riparian areas in the Belshaw pasture receive disproportionate use by livestock and cattle, compared to the rest of the pasture because they are located in a landscape of dry forests and grasslands where the amount of surface water and the number of groundwater springs/seeps are limited. Small, isolated groundwater dependent ecosystems are especially sensitive to management activities in a dry landscape due to the limited water in the surrounding uplands. In addition, two (#2, #3) of the hillslope springs/seeps appear to have been disturbed by previous road-building; one (#3) of these may have flowed entirely subsurface until road construction exposed it.

The intermittent stream and ephemeral draw segments are eroded due to their location near roads (where they receive concentrated overland flow from the roads) and livestock trailing in the vicinity of water sources. Overland flow is channeled through these streams and is routed off the landscape earlier and in larger volumes than would occur in an undisturbed system, rather than being captured and stored for later release by in-channel hyporheic zones, such as those behind coarse-to-large woody material, or infiltrating through the bed or draw bottom. The Forest Service considers ephemeral draws to be groundwater recharge areas in the absence of more detailed information.

Soft hydric soils have been compacted and compaction is being maintained by use. Browsing and foraging on riparian vegetation is adversely affecting plant vigor and architecture. Sediment is being detached, mobilized, and moved downslope where it may be available for further mobilization and transport during periods of high overland flow. Sediment mobilization also affects quality of water locally available for use by wildlife and livestock.

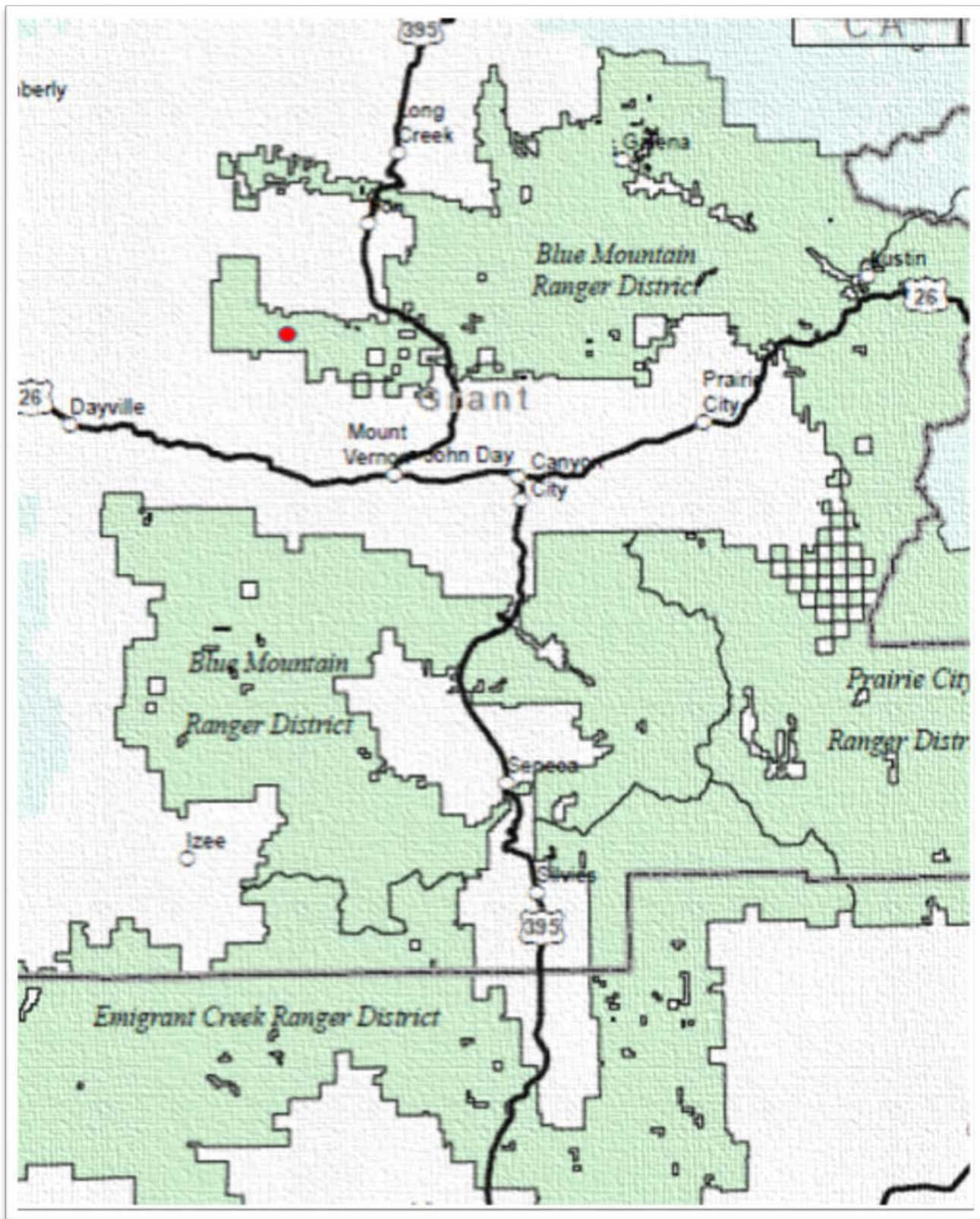


Figure 1 Vicinity Map, Malheur National Forest

## Land Use Plan Conformance:

Under the Malheur National Forest Land and Resource Management Plan (Malheur Forest Plan), as amended, the project areas are designated as Management Area (MA) 3B “Anadromous Riparian Areas.” The goal of MA3B is to “manage riparian areas to protect and enhance their value for wildlife, anadromous fish habitat, and water quality. Manage timber, grazing, and recreation to give preferential consideration to riparian-dependent species on that portion of the management area ‘suitable’ for timber management, grazing, or recreation. Design and conduct management in all riparian areas to maintain or improve water quality and beneficial uses” (USDA Forest Service 1990, page IV-62.). Under the Malheur Forest Plan, as amended by PACFISH, the spring/seeps and intermittent stream segments are also designated riparian habitat conservation areas (RHCAs) which extend either 100 or 150 feet from the edge of riparian vegetation, depending on the size of the associated wetland or classification of the stream segments.

The Malheur Forest Plan also includes direction to maintain the integrity of unique habitats including meadows, rimrock, talus slopes, cliffs, animal dens, wallows, bogs, seeps and springs by incorporating cover buffers approximately 100 feet in width. See Forest-wide Standard 56 to utilize additional mitigation/enhancement measures identified through project level analysis (USDA Forest Service 1990, Forest-wide standard 56, page IV-31).

## Desired Conditions

The desired conditions for MA3B and RHCAs at springs/seeps, intermittent streams and ephemeral draws are generally to maintain/improve riparian function, processes and conditions and protect down slope water quality in order to provide favorable flows of water in terms of quantity, timing and quality and to meet the requirements of the Clean Water Act. Specifically, at the project locations included in this Implementation Plan, the desired conditions are to improve aquatic vegetation and decrease soil compaction and other disturbance which would also increase ecological resilience at these ground water dependent ecosystems and reduce risk to down slope water quality.

## Proposed Action

The Proposed Actions are to restore aquatic and riparian habitat and protect/improve riparian areas and down slope water quality at four spring/seep locations by applying the listed restoration activities/practices including the site-specific project design criteria as described by the guidelines for these categories of aquatic restoration included in the Aquatic Restoration Decision. The categories of restoration are:

- Category 2: Large Wood, Boulder, and Gravel Placement
- Category 9: Livestock fencing, stream crossings and off-channel livestock watering
- Category 12: Juniper Removal

Water developments utilized by livestock and larger wildlife would be provided while obstructing access to riparian areas by using fencing, placement of large and coarse woody material and similar activities; locating livestock/wildlife watering improvements outside riparian areas or expanding their capacity; and piping water to and from spring/seep source areas to these improvements. Providing new or improved water developments would increase water storage capacities, improve livestock distribution throughout the pasture and provide additional water supplies for wildlife.

The proposed actions would be implemented using a variety of practices as shown in Table 1. These practices would control access by livestock and wildlife to springs/seeps and the headwaters of Slip Up Creek, as well as allow for passive restoration to improve hydrologic, geomorphic and vegetative function of the selected sites, while continuing to provide livestock and wildlife with water at these locations. The types of activities, which are consistent with the guidelines for the three restoration categories proposed, may vary based on individual site characteristics and may include:

- Strategic tree felling (Category 2)

- Fencing (Category 9)
- Spring development (Category 9)
- Juniper felling (Category 12, Category 2)

**Table 1. Description of proposed actions and aquatic restoration category by site location.**

Site ID	Aquatic Restoration Practices Identified	Summary of Implementation Actions
#1	<p>Category 2. Large Wood, Boulder, Gravel Placement</p> <p>Category 9: Livestock Fencing, Stream Crossings and Off-channel Livestock Watering</p> <p>Category 12. Juniper Removal</p>	<p>Fell 10 juniper.</p> <p>Control access to spring/seep with juniper placement (fence will not be rebuilt).</p> <p>Replace trough with one with greater capacity.</p>
#2	<p>Category 9: Livestock Fencing, Stream Crossings and Off-channel Livestock Watering</p>	<p>Control access to spring/seep with fence or with strategically placed LWD and CWD from juniper.</p> <p>Develop spring (install headbox, plumbing to trough, trough, and overflow plumbing back to drainage).</p>
#3	<p>Category 9: Livestock Fencing, Stream Crossings and Off-channel Livestock Watering</p>	<p>Control access to spring/seep with fence or with strategically placed LWD and CWD from juniper.</p> <p>Develop spring (install headbox, plumbing to trough, trough, and overflow plumbing back to drainage).</p> <p>The spring/seep will continue to drain into road ditch for approximately 200 feet, the ditch will be filled with gravel, and water will be piped from the road ditch to the nearby trough and return overflow into nearby drainage.</p>
#4	<p>Category 9: Livestock Fencing, Stream Crossings and Off-channel Livestock Watering</p>	<p>Control access to spring/seep with fence or with strategically placed LWD and CWD from juniper.</p> <p>Develop spring (install headbox, plumbing to trough, trough, and overflow plumbing back to drainage). Incoming plumbing will be placed through road culvert with trough below road.</p>
Intermittent Stream & Ephemeral Draw segments, tributaries to Slip Up Creek	<p>Category 2. Large Wood, Boulder, Gravel Placement</p> <p>Category 12. Juniper Removal</p>	<p>Fell juniper across and adjacent (within 150 feet both sides) to 2 intermittent stream segments and connected ephemeral draw in vicinity of FSR 3950792 and 3950751.</p>

## Implementation Plan

Slipup Creek Spring Improvement #1 (-119.24841, 44.55333)



**Photo 1: Spring Site #1, located adjacent to the upper reach of Slip Up Creek**

This spring/seep is located in the Belshaw Creek pasture of the Mt. Vernon Allotment on the east side of closed road FSR 3950792 approximately 0.5 miles from FSR 3950741 (see attached map). Cattle, wildlife, and encroaching vegetation are adversely impacting the riparian area for two reasons. First, due to the minimal output of the spring and the storage capacity of the current trough, there is not adequate water for the livestock or wildlife use. Additionally, there are about 10 juniper trees (which require a lot of water) near the spring/seep, which are probably transpiring water from the spring/seep. The proposed activities include felling the juniper trees and strategically placing them around the seep/spring to control access by livestock and larger wildlife; the buck and pole fence would not be re-built. The trough currently at the site would be replaced with one with approximately double the capacity to provide a more reliable source of water.

Improvement of this site would increase animal distribution, while decreasing the amount of time ungulates spend in the nearby creek drainages searching for water and thus decrease the impacts to the riparian area that currently occurs.

Slipup Creek Spring Development #2 (-119.25224, 44.56134)



**Photo 2: Spring Site #2, located just a few yards up FSR 3950792 off FSR 3950741**

This spring site is located in the Belshaw Creek pasture of the Mt. Vernon Allotment on the east side of closed FSR 3950792 off FSR 3955741 (see attached map). Livestock and wildlife use is damaging riparian vegetation and disturbing soil by detaching and mobilizing soil particles down slope. The proposed activities include: protecting the spring/seep source with a fence structure or by strategically placing large and coarse woody material felled or bucked/limbed from nearby junipers and providing water at an alternate upland location by developing the spring/seep with the installation of a headbox in the spring/seep on the east side of the road, piping of flow under the closed road to a trough, and piping the overflow back into the drainage to limit soil and vegetation disturbance at the trough.

## Slipup Creek Spring Development #3 (-119.23795, 44.55838)



**Photo #3: Spring Site #3, located on the west side of FSR 8800571**

This spring site is located in the Belshaw Creek pasture of the Mt. Vernon Allotment on the west side of FSR 8800571 (see attached map). Livestock and wildlife use is damaging riparian vegetation and disturbing soil by detaching and mobilizing soil particles down the inboard ditch. The proposed action would provide water at an alternate upland location from the spring. Surface flow from the spring/seep would be captured in a head box located near the source, a pipe will be placed in the bar ditch of the road, and the trough will be located about 200 feet down FSR 8800571 on the uphill side of the road. The overflow from the water trough would be piped back into the drainage. The overflow pipe will move the water approximately 100 feet away from the trough to limit trampling of the lower spring/seep vegetation and soils by livestock and wildlife. Junipers that appear to be drawing water from the spring/seep for transpiration would be felled.

This site receives less utilization by both livestock and wildlife than other developed sites due to limited water in the area. Developing this spring would protect other, undeveloped riparian areas by improving animal distribution in the Belshaw Pasture by providing an additional, reliable water source for livestock and wildlife in a portion of the pasture that is underutilized, this would likely reduce the level of use in other, lower portions of this pasture.

## Slipup Creek Spring Development #4 (-119.24364, 44.56542)



**Photo#4: Spring Site #4 - located on the north side of FSR 3955741**

This spring/seep site is located in the Belshaw Creek pasture of the Mt. Vernon Allotment on the north side of the road of FSR 3955741 (see attached map). This project area is a complex of multiple springs/seeps located in close proximity of each other. Livestock and wildlife use is damaging riparian vegetation and disturbing soil by both compacting it and by detaching and mobilizing soil particles down slope; browsing of riparian hardwood shrubs may be altering shrub architecture and damage vigor.

The proposed activities include protecting the spring/seep source by strategically placing large and coarse woody material felled or bucked/limbed from nearby junipers and providing water at an alternate upland location north of the road by developing the spring/seep with the installation of a headbox in the spring/seep on the south side of the road, piping it under the road, through an existing culvert, to a newly located trough, and piping of overflow back into the drainage to limit trampling of the lower spring/seep vegetation and soils by livestock and wildlife.

### Slipup Creek—Site 5: Strategic tree felling

This portion of the project encompasses the segment of Slip Up Creek (category 4 (intermittent) stream) and its small unnamed category 4 and ephemeral draw tributary that flows along FSR 3950792 upstream of the forest boundary fence. The proposed activity for these stream/draw segments is strategic felling of juniper across the stream/draw segments and within 150 feet of both banks on both stream/draw segments from FSR 3950571 down to the FSR 3950741, and then from FSR 3950741 downstream to the boundary of the Malheur National Forest (approximately 1.8 miles of stream/draw) to discourage trailing and congregating by livestock. Controlling livestock distribution and access to these areas would allow aquatic/riparian vegetation conditions to improve and decrease soil compaction and/or mobilization.



**Appendix to the Aquatic Restoration EA**

**Implementation Description**

**Project Title: Slipup Creek Spring Development Project**

Project Number: 01012017

Category 9: Livestock fencing, stream crossings and off-channel livestock watering

Category 2: Large Wood, Boulder and Gravel Placement

Category 12: Juniper Removal

The following information will guide actions for this project that is taking place within the bounds of the Decision Notice for the 2014 Malheur National Forest Aquatic Restoration Environmental Analysis to maintain that all conservation measures, guidelines and project design criteria (PDCs) are met under this guiding document.

**Program Administration**

1. Integration of project design criteria and conservation measures and terms and conditions into project design and contract language
  - a. This document is to outline the conservation measures and PDCs that will be used during project implementation to remain compliant with the aquatic restoration BA as well as ARBO II.
2. Project notification: The following information will be provided to the NMFS Level 1 Aquatics members 30 days prior to implementation as a Project Notification Form 7.
  - a. Action identifier - 01012017
  - b. Project name - Slipup Creek Spring Development & Protection Project
  - c. Location -

<b>Stream Name</b>	Slipup Creek
<b>6<sup>th</sup> field HUC</b>	170702020904
<b>Latitude (Decimal Degrees)</b>	See Implementation Plan-multiple locations
<b>Longitude (Decimal Degrees)</b>	See Implementation Plan-multiple locations

- d. Agency contact - Nick Stiner, [nstiner@fs.fed.us](mailto:nstiner@fs.fed.us)
- e. Timing - This project is proposed to start in the spring of 2017 when the conditions on the ground will not be disturbed by fence construction activities.
- f. Activity category -
  - Category 9: Livestock fencing, stream crossings and off-channel livestock watering
  - Category 2: Large Wood, Boulder, Gravel Placement
  - Category 12: Juniper Removal
- g. Project description - Project description is available in the Implementation Description under the section "Implementation Plan" above.
- h. Species affected -
  - i. Listed species: None
  - ii. Critical Habitat: None
  - iii. MIS Species: None

- i. Date of submittal – To be completed in Spring of 2017, at least 30 day prior to implementation
  - j. Site assessments – Assessment for contaminants is not required at these locations.
  - k. Review – NMFS fish passage review and Restoration Review Team review are not required.
  - l. Verification – \_\_\_\_\_
  - m. SOD project notification – \_\_\_\_\_
3. Minor Variance: No variances are proposed for this project.
  4. NMFS Fish Passage Review and Approval: This work does not require review by the NFMS level 1 team member.
  5. Restoration Review Team: This work does not require review by the restoration review team.
  6. Project Completion Report: To be completed after implementation
  7. Annual Program Report: This project will be completed within one year, completion and annual reporting will occur in the winter of FY17 before February 15<sup>th</sup>.

## General Aquatic Conservation Measures

8. Technical Skill and Planning Requirements:
  - a. An appropriately qualified fisheries biologist or hydrologist will be involved in the design, review and implementation of this project.
  - b. The scope of this project is limited in both space and context. Field evaluations and site-specific surveys will require little work. Appropriate time will be allotted for these actions, prior to implementation. Planning and design will involve appropriate expertise.
  - c. The assigned fisheries biologist or hydrologist will make sure that any applicable conservation measures and project design criteria are met through the contracting process.
9. Climate Change: due to the small scale of this work, future climate changes impacts will not have dramatic effects on this work.
10. In-Water Work Period: Instream work will not be done until after the 15<sup>th</sup> of July.
11. Fish passage: Not applicable.
12. Site Assessment For Contaminants: In developed or previously developed sites, such as areas with past dredge mines, or sites with known or suspected contamination, a site assessment for contaminants will be conducted on projects that involve excavation of >20 cubic yards of material. The action agencies will complete a site assessment to identify the type, quantity, and extent of any potential contamination. The level of detail and resources committed to such an assessment will be commensurate with the level and type of past or current development at the site. The assessment may include the following:
  - a. Review of readily available records, such as former site use, building plans, records of any prior contamination events.
  - b. Site visit to observe the areas used for various industrial processes and the condition of the property.

- c. Interviews with knowledgeable people, such as site owners, operators, occupants, neighbors, local government officials, etc.

13. Pollution and Erosion Control Measures: Implement the following pollution and erosion control measures:

- a. Project Contact: Nick Stiner, [nstiner@fs.fed.us](mailto:nstiner@fs.fed.us)
- b. 50:1 chainsaw gas mix will be the only hazardous material used at the site during implementation.

14. Site Preparation

- a. Flagging sensitive areas –Prior to construction, all sites will be surveyed by trained botanist or invasive weeds specialist to identify any species of concern.

15. Heavy Equipment Use –Heavy equipment will be used during this project.

16. Site Restoration – No site restoration will be necessary once fence construction is complete.

17. Monitoring

Monitoring will be conducted by Action Agency staff, as appropriate for this project, during and after a project to track effects and compliance with this opinion.

- a. Implementation
  - i. Visually monitor during project implementation to ensure effects are not greater (amount, extent) than anticipated and to contact Level 1 representatives if problems arise.
  - ii. Fix any problems that arise during project implementation.
  - iii. Regular biologist/hydrologist coordination if biologist/hydrologist is not always on site to ensure contractor is following all stipulations.
- b. 401 Certification – To minimize short-term degradation to water quality during project implementation, follow current 401 Certification provisions of the Federal Clean Water Act for maintenance or water quality standards described by the following: Oregon Department of Environmental Quality (Oregon BLM, Forest Service, and BIA); Washington Department of Ecology (Washington BLM); and the Memorandum of Understanding between the Washington Department of Fish and Wildlife and Forest Service regarding Hydraulic Projects Conducted by Forest Service, Pacific Northwest Region (WDFW and USDA-Forest Service 2012); California, Idaho, or Nevada 401 Certification protocols (BLM and Forest Service).
- c. Post project – A post-project review shall be conducted after winter and spring high flows.
  - i. For each project, conduct a walk through/visual observation to determine if there are post-project affects that were not considered during consultation. For fish passage and revegetation projects, monitor in the following manner:

## Applicable Project Design Criteria

### Project Design Criteria for Aquatic Restoration Activity Categories

1. Livestock fencing, stream crossings and off-channel livestock watering facilities projects will be implemented by constructing fences to exclude riparian grazing, providing controlled access for walkways that livestock use to transit across streams and through riparian areas, and reducing livestock use in riparian areas and stream channels by providing upslope water facilities. Equipment such as excavators, bull dozers, dump trucks, front-end loaders, and similar equipment may be used to implement projects.
  - a. Livestock Fencing
    - i. Fence placement must allow for lateral movement of a stream and to allow establishment of riparian plant species. To the extent possible, fences will be placed outside the channel migration zone.
    - ii. Minimize vegetation removal, especially potential large wood recruitment sources, when constructing fence lines.
    - iii. Where appropriate, construct fences at water gaps in a manner that allows passage of large wood and other debris
  - b. Off-channel livestock watering facilities
    - i. The development of a spring is not allowed if the spring is occupied by ESA-listed species.
    - ii. Water withdrawals must not dewater habitats or cause low stream flow conditions that could affect ESA-listed fish. Withdrawals may not exceed 100% of the available flow.
    - iii. Troughs or tanks fed from a stream or river must have an existing valid water right. Surface water intakes must be screened to meet the most recent version of NMFS fish screen criteria (NMFS 2011e) (NMFS 2011e) (NMFS 2011e) (NMFS 2011e) (NMFS 2011e) (NMFS 2011e) (NMFS 2011e), be self-cleaning, or regularly maintained by removing debris buildup. A responsible party will be designated to conduct regular inspection and as-needed maintenance to ensure pumps and screens are properly functioning.
    - iv. Place troughs far enough from a stream or surround with a protective surface to prevent mud and sediment delivery to the stream. Avoid steep slopes and areas where compaction or damage could occur to sensitive soils, slopes, or vegetation due to congregating livestock.
    - v. Ensure that each livestock water development has a float valve or similar device, a return flow system, a fenced overflow area, or similar means to minimize water withdrawal and potential runoff and erosion.
    - vi. Minimize removal of vegetation around springs, wet areas.
    - vii. When necessary, construct a fence around the spring development to prevent livestock damage.
2. Large Wood, Boulder, and Gravel Placement includes large wood and boulder placement, engineered log jams, porous boulder structures and vanes, gravel placement, and tree removal for large wood projects. Such activities will occur in areas where channel structure is lacking due to past stream cleaning (large wood removal), riparian timber harvest, and in areas where natural gravel supplies are low due to anthropogenic disruptions. These projects will occur in stream channels and adjacent floodplains to increase channel stability, rearing habitat, pool formation, spawning gravel deposition, channel complexity, hiding cover, low velocity areas, and floodplain function. Equipment such as helicopters, excavators, dump trucks, front-end loaders, full-suspension yarders, and similar equipment may be used to implement projects.

- a. Tree Removal for Large Wood Projects
  - i. Live conifers and other trees can be felled or pulled/pushed over in a Northwest Forest Plan (USDA and USDI 1994a) Riparian Reserve or PACFISH/INFISH (USDA-Forest Service 1995 ; USDA and USDI 1994b) riparian habitat conservation areas (RHCA), and upland areas (e.g., late successional reserves or adaptive management areas for northern spotted owl and marbled murrelet critical habitat) for in-channel large wood placement only when conifers and trees are fully stocked. Tree felling shall not create excessive stream bank erosion or increase the likelihood of channel avulsion during high flows.
  - ii. Danger trees and trees killed through fire, insects, disease, blow-down and other means can be felled and used for in-channel placement regardless of live-tree stocking levels.
  - iii. Trees may be removed by cable, ground-based equipment, horses or helicopters.
  - iv. Trees may be felled or pushed/pulled directly into a stream or floodplain.
  - v. Trees may be stock piled for future instream restoration projects.
  - vi. The project manager for an aquatic restoration action will coordinate with an action agency wildlife biologist in tree-removal planning efforts.
3. Juniper Tree Removal will be conducted in riparian areas and adjoining uplands to help restore plant species composition and structure that would occur under natural fire regimes. Juniper removal will occur in those areas where juniper have encroached into riparian areas as a result of fire exclusion, thereby replacing more desired riparian plant species such as willow, cottonwood, aspen, alder, sedge, and rush. This action will help restore composition and structure of desired riparian species, thereby improving ground cover and water infiltration into soils. Equipment may include chainsaws, pruning shears, winch machinery, feller-bunchers, and slash-busters. The following measures will apply:
  - a. Remove juniper to natural stocking levels where BLM and Forest Service determines that juniper trees are expanding into neighboring plant communities to the detriment of other native riparian vegetation, soils, or streamflow.
  - b. Do not cut old-growth juniper, which typically has several of the following features: sparse limbs, dead limbed or spiked-tops, deeply furrowed and fibrous bark, branches covered with bright-green arboreal lichens, noticeable decay of cambium layer at base of tree, and limited terminal leader growth in upper branches (Miller et al. 2005).
  - c. Felled trees may be left in place, lower limbs may be cut and scattered, or all or part of the trees may be used for streambank or wetland restoration (e.g., manipulated as necessary to protect riparian or wetland shrubs from grazing by livestock or wildlife or otherwise restore ecological function in floodplain, riparian, and wetland habitats).
  - d. Where appropriate, cut juniper may be placed into stream channels and floodplains to provide aquatic benefits. Juniper can be felled or placed into the stream to promote channel aggradation as long as such actions do not obstruct fish movement and use of spawning gravels or increase width to depth ratios.
  - e. On steep or south-facing slopes, where ground vegetation is sparse, leave felled juniper in sufficient quantities to promote reestablishment of vegetation and prevent erosion.
  - f. If seeding is a part of the action, consider whether seeding would be most appropriate before or after juniper treatment.
  - g. When using feller-buncher and slash-buster equipment, operate equipment in a manner that minimizes soil compaction and disturbance to soils and native vegetation to the extent possible. Equipment exclusion areas (buffer area along stream channels) should be as wide as the feller-buncher or slash-buster arm.

## *Threatened, Endangered or Sensitive Species*

- If wolves become established (denning) while project implementation is occurring, measures will be taken to avoid activity in that vicinity
- If any evidence of wolverines is discovered during project implementation, measures will be taken to provide protection. If a den is found we would protect it from human disturbance.

## *Raptors*

- No activities will occur within currently known goshawk or other raptor nest stands. To conserve nesting habitat and to minimize disturbance to nesting individuals, restrictions would be executed according to the requirements of the species involved.
- With all newly discovered raptor nests, a buffer zone would be established by the wildlife biologist to restrict activities near the nest area during occupancy.
- Where possible, retain trees with inactive nests that may be important to secondary nesters (e.g. Great Gray Owl).
- Any snags in riparian areas or uplands will be protected from disturbance, removal, or use in stream restoration activities unless deemed a safety hazard at a specific work site.

## *Botany*

Note: Pre-implementation planning project design criteria are identified.

## *Rare and Sensitive Plants and Habitats*

- *Pre-Implementation:* Proposed restoration projects shall be completely surveyed early in the implementation planning process by a qualified botanist or rare plant technician, to identify and assess any sensitive or rare plant populations or habitats.
- *Pre-Implementation:* Proposed restoration projects shall develop restoration plans for degraded sensitive species habitats and/or mitigation plans in areas where sensitive plant populations are documented. This shall be accomplished by a journey-level Forest Service botanist in collaboration with the interdisciplinary team and other stakeholders.

## *Sensitive and Unique Habitats*

- The integrity of unique habitats shall be maintained. Unique habitats [may] include meadows, rimrock, talus slopes, cliffs, animal dens, wallows, bogs [fens], seeps and springs. This shall be accomplished by incorporating cover buffers approximately 100 feet in width.
- Heavy equipment, vehicle operation, road construction, staging areas, stockpile areas, piling of slash, fence construction, recreation sites, prescribed fires, fire lines, and other operational activities shall not occur within, or at the interface of lithosols (scablands).
- Cutting of old-growth juniper shall be prohibited. Old-growth characteristics include: sparse limbs, dead limbed or spiked-tops, deeply furrowed and fibrous bark, branches covered with bright-green arboreal lichens, noticeable decay of cambium layer at base of tree, and limited terminal leader growth in upper branches.

## *Groundwater-Dependent Ecosystems*

- The integrity of groundwater-dependent ecosystems shall be maintained. Spring developments shall not dewater Groundwater dependent ecosystems. Spring developments shall not be allowed if the spring is occupied by rare or sensitive plant species, or in peatlands, fens, or where histic soils are present. These sites should be buffered 100 ft. from all operational activities where topography does not restrict such a distance, and be identified as Areas to Protect.

- Heavy equipment, vehicle operation, road construction, staging areas, stockpile areas, piling of slash, fence construction, fire lines, and other operational activities shall not be allowed in springs, seeps, or any other groundwater dependent ecosystem, unless it is for the benefit or protection of the groundwater dependent ecosystems or development of the spring.
- Spring developments should not disturb the spring orifice (point where water emerges). Spring head boxes should be placed in a location that will cause the least amount of disturbance to the soils and vegetation of the groundwater dependent ecosystems. Preferable locations for spring head boxes should be in an established channel downstream from the orifice or a location where flowing water becomes subsurface.
- When necessary, construct fenced enclosures around spring developments to prevent damage from wild ungulates and livestock.
- Spring developments shall have a return flow system to minimize the diversion of surface and subsurface water from the catchment area. Consider using a float valve or similar device to reduce the amount of water withdrawn from the groundwater dependent ecosystems.
- When developing springs, place troughs far enough away from Groundwater dependent ecosystems, wetlands, and other sensitive or unique habitats to prevent erosion, compaction, or degradation to sensitive soils and vegetation due to livestock congregation.

### *Invasive Plant Species*

- *Pre-Implementation:* Proposed restoration projects shall be surveyed for invasive plants early in the implementation planning process by a qualified invasive plant specialist /technician, to identify and assess any undocumented invasive plant infestation.
- *Pre-Implementation:* For project areas that overlap or are adjacent to invasive plant infestations, assure that there is sufficient time prior to develop a long-term site strategy for control, eradication, and revegetation of the site. This shall be accomplished by a qualified invasive plant specialist in collaboration with the interdisciplinary team and other stakeholders.
- All activities shall be conducted in a manner as to minimize or prevent the potential spread or establishment of invasive species.
- Actions conducted on National Forest System Lands that will operate outside the limits of the road prism, require the cleaning of all heavy equipment (bulldozers, skidders, graders, backhoes, dump trucks, etc.) prior to entering the National Forest. Cleaning will be inspected and approved by the forest officer in charge of administering the project.
- Assure that all materials are weed-free. Use weed-free straw and mulch for all projects conducted or authorized by the Forest Service on National Forest System Lands. If State certified straw and/or mulch is not available, individual Forests should require sources certified to be weed-free using the North American Weed Free Forage Program standards or a similar certification process.
- Inspect active gravel, fill, sand stockpiles, quarry sites, and borrow material for invasive plants before use and transport. Treat or require treatment of infested sources before any use of pit material. Use only gravel, fill, sand, and/or rock that are judged to be weed free by District or Forest weed specialists.
- Prohibit heavy equipment operation, vehicle travel, staging areas, fire-control lines, and any other operational activities in invasive plant infestations, unless the activities are for the express purpose of eradicating the infestation or INV1 and INV2 have been completed.
- Conduct post-implementation monitoring for invasive plants. Continue monitoring, treating, and removing invasive plants until all infestations are eradicated and native plant species are well established.

### *Soils*

- For projects involving heavy machinery off roads, the project proponents shall inspect the site for existing impacts to the soil. If existing impacts appear to be heavy on the Malheur or moderate on the Ochoco, they shall contact a soil scientist, who shall determine what site specific project design criteria are necessary to meet Forest Plan and Forest Service Manual standards and guidelines. (If a soil scientist is not available, a silviculturist or hydrologist can do the work.) If standards and guidelines cannot be met, heavy machinery shall not be used.
- Erosion would be minimized by following General Aquatic Conservation Measures and by implementing the appropriate project design criteria based on the type of activity (see appendix A).
- Erosion from heavy machinery use would be minimized; by minimizing compaction and puddling, rutting would be minimized.

### *Heritage Resources*

- Compliance with Section 106 of the National Historic Preservation Act for activities authorized under this analysis will be completed and concurred with by the Oregon State Historic Preservation Office before any ground disturbing action takes place. For each potential activity the District or Zone archaeologist will determine which of the criteria in the 2004 Programmatic Agreement with the Oregon State Historic Preservation Office best fit the particular project. This will vary somewhat project to project based on the scale of the particular activity, the location on the landscape, and the nature of associated cultural resources, if any.
- The District or Zone archaeologist will document their findings on a Programmatic Agreement form with a project description, rationale and location map which will be attached to the Forest Service Heritage Event database. The Forest archaeologist will review and sign off on the Programmatic Review form if concurred with. For appendices A, B and C projects as defined in the 2004 Programmatic Agreement, the Forest will retain the documentation and provide the Oregon State Historic Preservation Office with the annual summary of projects as described in the Preservation Act.
- For full inventories the District or Zone archaeologist will complete an inventory report meeting current Oregon State Historic Preservation Office standards which will be reviewed by the Forest archaeologist. The Forest archaeologist will forward the completed inventory report to the Oregon State Historic Preservation Office for review and concurrence signature or further discussion as appropriate.
- Consultation with Native American tribes is conducted under the terms of the Memorandums of Understanding the Forest has with each individual tribe. The Forest regularly consults with the Burns Paiute Tribe, the Confederated Tribes of the Umatilla Indian Reservation and the Confederated Tribes of Warm Springs Reservation.
- For work requiring a full inventory under the terms of the 2004 Programmatic Agreement any identified cultural resources sites will generally be avoided. For cases where site avoidance is impractical mitigation procedures will be developed in consultation with the Oregon SHPO before project work begins.
- If any previously unidentified cultural resources are located during project implementation, ground disturbing work will be halted until the resources are evaluated by the District or Zone archaeologist. If the cultural resources are determined to be potentially eligible for listing on the National Register of Historic Places work will either be permanently halted or a mitigation plan will be developed in consultation with the Oregon SHPO before work continues.

### *Grazing*

#### *Protection of Government and Permittee Investments*

- All existing structural range improvements (fences, gates, spring developments, etc.) and permanent ecological plots would be contractually protected.
- Maintain structural integrity of range improvements.
- If structural improvements are damaged during project operations they would be repaired to Forest Service standards prior to livestock scheduled use by the party responsible for causing the damage. Repairs would be required of the purchaser if damage were done during thinning or fuel treatment contractors or by force account where appropriate.
- Three or more splices to a single wire within a distance of 20 feet will be replaced with a single splice.
- Fence right of ways (6ft either side of fence), trails, other developments and access to them would be cleared of slash produced by project activities.

### *Notification*

- During planning stage of each individual project all potentially impacted grazing permittees will have notice of action and opportunity to provide input that may lessen impacts to their livestock operation well in advance of implementation.
- Prior to implementation all potentially impacted grazing permittees will be given notice of dates when work will start.

## **Engineering Response:**

### **Slipup Spring Development #1**

No issues

### **Slipup Spring Development #2**

Actual road number is 3955741.

Waterline should be placed at a minimum depth of 36" unless geography of area will not allow pipe to be placed at that depth, then pipe will be placed as deep as possible that geography will allow.

Carsonite Markers marked with water line shall be placed marking location of waterline at both sides of road.

Compact backfill at a maximum 1 foot maximum depth until there is no longer visible displacement. Equipment used for compacting equipment can be wacker packer, vibratory compactor or bucket from backhoe or excavator.

### **Slipup Spring Development #3**

Actual road number is 8800571.

Waterline should be placed at a minimum depth of 36" from bottom of ditch. If unable to get 36" depth for some reason, have engineering review.

Carsonite Markers marked with water line shall be placed at beginning and ending of waterline with a minimum of one marker in the middle. If more than 100' in between markers, additional markers shall be placed marking location of waterline.

Compact backfill at a maximum 1 foot maximum depth until there is no longer visible displacement. Equipment used for compacting equipment can be wacker packer, vibratory compactor or bucket from backhoe or excavator.

### **Slipup Spring Development #4**

Actual road number is 3955741.

If design of project is changed as per conversation I had with Nick Stiner on 12-7-16, then engineering has no issues. Design is: the head box will not be placed in front of the existing culvert, water from head box will be piped to culvert where the pipe will not run through culvert but release water into culvert to run through by itself, water will run into a water trough on the down slope side of culvert, culvert will be placed below lowest level of culvert so that it will not block flow out of pipe. Any overflow from pipe would already be in channel.