Forest Aquatic Restoration Project
NEPA Compliance and Implementation Checklist

Project Number: ________________ **Date:** 12/2/2016

Category: 9. Livestock Fencing, Stream Crossings **Location:** T20S, R31E, Sec 20,21,29,30 (see attached map and photos)

Project Description: Poison Creek Riparian Enhancement Fence 11 T 337811.07 E 4853660.31 N

Heritage

☐ - Specific PDC for Heritage addressed (Heritage Surveys; Avoidance areas).

Botany

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

☐ - Specific PDC for Nox. Weeds addressed.

Land Management Consistency

☐4A	Big Game Winter range	☐9	Research Natural Areas
☐6A & 6B	Wilderness	☐10	Semi-Primitive Non-Motorized Recreation Areas
☐7	Scenic Area	☐22	Wild and Scenic River
☐8	Special Interest Areas	☐	Inventoried Roadless Areas

Comments:

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

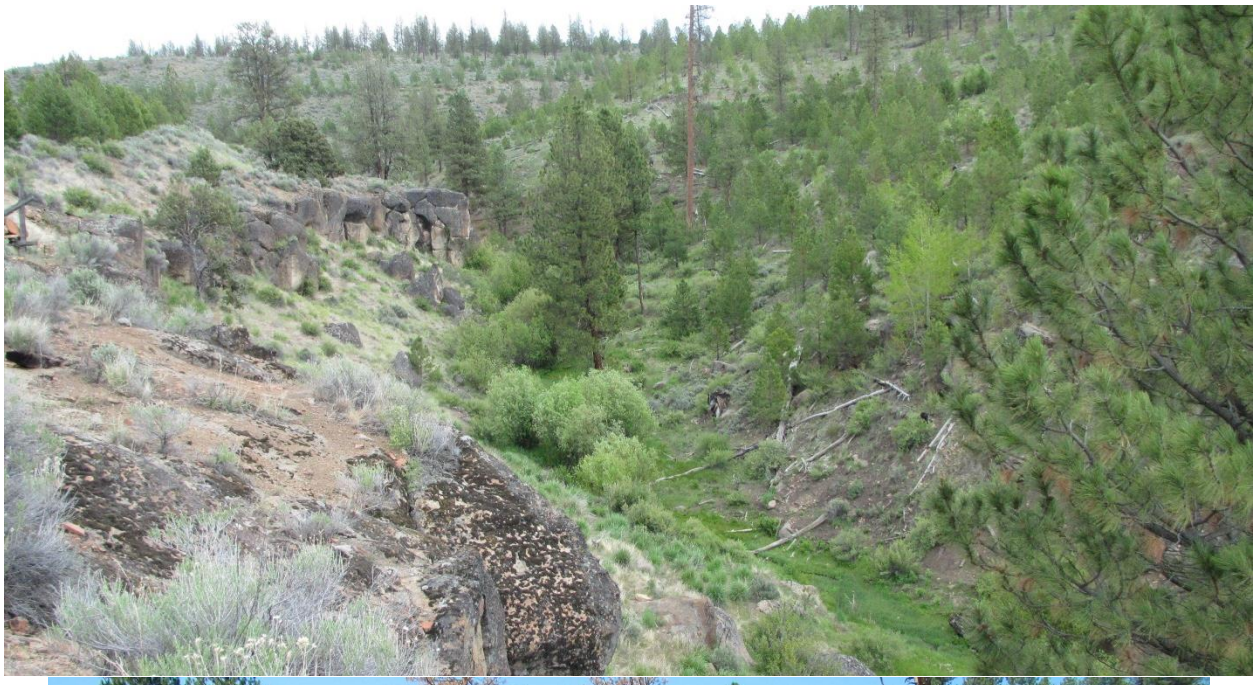
I have reviewed this project and have determined it is within the Project Design Criteria identified for my resource.

Resource	Signature	Date	Comments
Heritage	B.P. Cullen	12/7/16	R2016060402006 - Heritage Report.
Botany & weeds	[signature]	12/06/2016	No sensitive plant species in project area
Wildlife	R.J. Sutcliffe / for	1/6/17	make sure gate is signed - All good for wildlife Resources.
Fish*	[signature]	1/9/17	Would like to be present during implementation
Hydrology*	[signature]	1/12/17	Would like to be present during implementation
Range	Joe Kee	1/19/17	Hydrology, Fisheries, other specialists & permittee will be informed Prior to implementation.
Soils	[signature]	1/12/17	Would like to be present during implementation
Recreation	Amstad	1-10-2017	Include gates where the fence would block creek access from dispersed camping sites.
Lands and Special Uses	[signature]	12/15/16	Coordinate w/ Utility Company to ensure access to permitted improvements. See attached for Paleontology Resources.
Engineering	[signature]	12-7-16	Fence should not be built on Road Prism Shoulder. 2-12' from shoulder
Fuels / Fire	[signature]	1/17/18	CONTRACTOR CREATED SLASH SHALL NOT BE LEFT IN CONCENTRATION
Silviculture	J. Travis Swain	1/17/2017	Ensure trees used in fence line are protected e.g. use stays to protect bark.

* 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: [signature] Date: 1-18-17

Aquatics EA Implementation Checklist: 2017 Poison Creek Riparian Enhancement Fence Project



Goals and Objectives for the Poison Creek Riparian Enhancement Fence:

Our goals are to 1) improve livestock dispersal into uplands by reducing daily access and concentration of cattle within Poison Creek riparian habitat and stream channel 2) meet or move toward the Malheur Forest Land and Resource Management Plan standards and amendments, made part of the term grazing permit 3) control livestock use and access and allow for ease of livestock movement (existing livestock/elk travel routes and trails) to promote grazing distribution into the adjacent uplands, and 4) include water gaps near existing livestock and wildlife travel routes to minimize over-all concentrations of livestock effects at otherwise more limited water sources.

Objectives of this restoration application.

1. Construct approximately 2.54 miles of wildlife friendly four strand barbed wire fence to distribute livestock away from the majority of Poison Creek and increase control of the timing and intensity of livestock use on the riparian forage. This would increase the ability to prevent exceedance of the forest riparian grazing standards along Poison Creek and encourage livestock dispersal into otherwise often un-used upland areas. The proposed fence location was GPSed in the field by the Emigrant Creek Range Management staff, the permittee, and other Forest Service specialists.
2. Plan for this project under the 2014 Aquatic Restoration Environmental Assessment (EA) and NEPA Compliance and Implementation Checklist to build the fence as early as possible in 2017.
3. Implement the intent of existing planning for this riparian enhancement fence in the 1996 Devine Allotment Environmental Assessment (EA): The Devine Allotment EA includes this proposed fence to control utilization of riparian vegetation by domestic livestock along Poison Creek. Under rational in the Decision Notice it states, “Until completion of this project (or if adequate funding is not received), with proper range administration it is expected there would be no change in the environmental effects as described in the EA. The permittee will still be required to meet Forest Plan standards for Utilization. This may result in a reduced season of use.”

Oncorhynchus mykiss gairdneri are currently on the Region 6 sensitive species list, and are a resident form of rainbow trout, exhibiting habitat preferences similar to those of steelhead. Redband trout populations are widely distributed in all/most major stream drainages within the Malheur National Forest, including lower portions of Poison Creek within the forest grazing allotment. By implementing the Poison Creek riparian enhancement fence, and promoting riparian shrub communities, the drainage would have an increased buffering capacity, reducing the erosional process. The objectives of the proposed project are to increase the water quality, and retain streamside vegetation and shrubs, minimizing soil compaction and reducing past impacts to streambank erosion. Installing this riparian corridor fence along designated habitat will aid in reducing the impact of wildlife in combination with cattle.

Monitoring over the previous seven years has frequently expressed livestock use at the very maximum allowable levels, and at levels in excess of the seasonal standards described on the term grazing permit and annual operating instructions. Riparian vegetation along Poison Creek makes up a minor portion of the total available forage in the grazing pasture, however, over-all livestock use standards on riparian sedges, willows and aspens must be achieved to concur with the Forest Standards. Implementing this proposed riparian enhancement fence will cause domestic livestock to start using the more abundant and available alternative upland grasses and achieve a positive trend in the Poison Creek riparian habitat.

Attached are a map and photos of the proposed Poison Creek Riparian Enhancement Fence.

12/02/2016: Poison Creek Riparian Enhancement Project Map: GPSed Proposed Riparian Fence (2.54 mi.).
The project Area is approximately 144 Acres that will be within the new fenced area along Poison Creek. There are 2.38 actual (GIS) miles of Poison Creek within the planned fenced area.
The total perimeter of project area fence will be approximately 4.9 miles (including the existing pasture boundary fence that the new fence will tie into).

This project will improve the ability to stay within forage use standards (riparian and upland) by livestock within the entire 3747 acre Varien Pasture of the Devine Allotment.

Proposed Gate Locations
New 2016 Spring Development (trough)
Existing Spring Development (trough)
Proposed Riparian Fence
Existing Devine Allotment, Varien Pasture Boundary Fence

Proposed Wire Gate (5)
2016 Completed Trough
Proposed Wire Gate (4)
Proposed Wire Gate (6)
Existing Trough
Proposed Wire Gate (3)
Proposed Wire Gate (2)
Proposed Wire Gate (1)

3110228
3110030
3110057
3900606
3900976
3900958

N
W
E
S

0 0.125 0.25 0.5 Miles

Photo #1: This is a photo of the lower hillsides where the new fence will be located outside of the Poison Creek riparian habitat.

Photo #2: Portions of the fence will include natural barrier.

Project Design Criteria for Aquatic Restoration Activity Categories

The 17 aquatic restoration activity categories will be designed and implemented to help restore watershed processes. These projects will improve channel dimensions and stability, sediment transport and deposition, and riparian, wetland, floodplain and hydrologic functions, as well as water quality. As such, these improvements will help address limiting factors—related to spawning, rearing, migration, and more—for ESA-listed and other native fish species. Aquatic habitat restoration and enhancement projects are conducted within stream channels, adjacent riparian/floodplain areas, wetlands, and uplands. Work may be accomplished using manual labor, hand tools (chainsaws, tree planting tools, augers, shovels, and more), all-terrain vehicles, flatbed trucks, and heavy equipment (backhoes, excavators, bulldozers, front-end loaders, dump trucks, winch machinery, cable yarding, *etc.*). Helicopters will be used for many large wood and salmon carcass placement projects.

9. 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. Such projects promote a balanced approach to livestock use in riparian areas, reducing livestock impacts to riparian soils and vegetation, streambanks, channel substrates, and water quality. 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. **Livestock Stream Crossings**

i. The number of crossings will be minimized. ii. Locate crossings or water gaps where streambanks are naturally low. Livestock crossings or water gaps must not be located in areas where compaction or other damage can occur to sensitive soils and vegetation (e.g., wetlands) due to congregating livestock. iii. To the extent possible, crossings will not be placed in areas where ESA listed species spawn or are suspected of spawning (e.g., pool tailouts where spawning may occur), or within 300-feet upstream of such areas. iv. Existing access roads and stream crossings will be used whenever possible, unless new construction would result in less habitat disturbance and the old trail or crossing is retired.

v. Access roads or trails will be provided with a vegetative buffer that is adequate to avoid or minimize runoff of sediment and other pollutants to surface waters.

vi. Essential crossings will be designed and constructed or improved to handle reasonably foreseeable flood risks, including associated bedload and debris, and to prevent the diversion of streamflow out of the channel and down the trail if the crossing fails. vii. If necessary, the streambank and approach lanes can be stabilized with native vegetation or angular rock to reduce chronic sedimentation. The stream crossing or water gap should be armored with sufficient sized rock (e.g., cobble-size rock) and use angular rock if natural substrate is not of adequate size. viii. Livestock crossings will not create barriers to the passage of adult and juvenile fish. Whenever a culvert or bridge—including bridges constructed from flatbed railroad cars, boxcars, or truck flatbeds—is used to create the

crossing, the structure width will tier to project design criteria listed for Stream Simulation Culvert and Bridge Projects under Fish Passage Restoration (PDC 21).

ix. Stream crossings and water gaps will be designed and constructed to a width of 10 to 15 feet in the upstream-downstream direction to minimize the time livestock will spend in the crossing or riparian area.

x. When using pressure treated lumber for fence posts, complete all cutting/drilling offsite (to the extent possible) so that treated wood chips and debris do not enter water or flood prone areas.

xi. Riparian fencing is not to be used to create livestock handling facilities or riparian pastures.

Project Design Criteria by Resource

Fisheries and Hydrology

Fisheries and Hydrology resources will follow all mitigation measures and project design criteria for aquatic restoration activities as shown in the 'Aquatic Restoration Project Categories, Program Administration, General Aquatic Conservation Measures, and Project Design Criteria for Aquatic Restoration Activity Categories on the Malheur National Forest.'

Additional Aquatic project design criteria were developed for the following elements: Tree Tipping and Felling, Juniper Treatments, Tree Hauling, and Prescribed Burning.

General For Inside Riparian Habitat Conservation Areas

 All snags will be maintained within the RHCA unless deemed a hazard to the restoration activity.

Tree Tipping and Tree Felling for Large Wood Projects

- Source trees being extracted (either by tipping and or falling) as part of this project for instream restoration will not be harvested from within the primary shade zone.

Table 35 Primary shade zone width, based on adjacent hill slope.

	Hill Slope less than 30%	Hill Slope 30% to 60%	Hill Slope greater than 30%
Primary Shade Zone Width (slope distance	50 ft.	55 ft.	60 ft.

The Temperature Implementation Strategies allow the distances in the above table to be less (but not less than 25 ft.) if any of the following conditions applies:

- The trees are located on a south facing slope (175-185 degree azimuth) and therefore do not provide stream shade;
- An appropriate level of analysis is completed and documented, such as shade modeling, using site-specific characteristics to determine the primary shade tree width; and or
- Field monitoring or measurements are completed to determine the width where optimum Angular Canopy Density (65% or greater) is achieved (see TMDL Implementation Strategies).
- If trees are being felled for safety reasons they can be felled towards the stream.
- Source trees should come from but are not limited to: over or fully stocked upland and riparian stands, hazard trees, trees generated from administrative sites (maintenance, expansion, or new construction), and hardwood restoration.

There is no DBH (diameter at breast height) restriction for large wood, but consider the following before removing and placing trees:

Diameter

The key to establishing a logjam is utilizing larger diameter wood that resists decay. These pieces of wood are often called "key pieces," and serve as the anchors for the logjam structure. Wood can improve fish habitat only if the wood is large enough to stay, influence flow patterns, and sediment sorting. Larger diameter wood retains its size longer as abrasion and decay occurs over the years. Larger diameter wood is more effective in creating pools and complex channels that improve fish populations. The minimum diameter required for a key piece of wood depends on the bankfull width of the stream is found in the following table.

Table 36 Bankfull widths and minimum diameter of logs to be considered key pieces.

Bankfull Width* - Feet	Minimum Diameter* - Inches
0 to 10	10
10 to 20	16
20 to 30	18
Over 30	22
*This table was taken from '1995 A Guide to Placement of Large Wood in Streams.	

Length

- The length of the wood is also important to stability. To be considered a key piece a log with a rootwad still attached should be at least one and one-half times (1.5X) the bankfull or a log without a rootwad should be twice (2X) the length of the stream's bankfull width. As the best fish habitat is formed around jams composed of 3 to7 logs, at least 2 key pieces should be used at each structure.
- Mimic natural accumulations of large woody debris based on stream type, valley setting, and community type and ensure future large woody debris recruitment
- Tailholds as part of tree tipping operations are permitted across perennial, intermittent and ephemeral streams but the use of protective straps will be required to prevent tree damage.

Juniper Treatments

The majority of the juniper treatment areas would be within the riparian habitat conservation areas and adjoining uplands. For each area evaluated for juniper treatments, interdisciplinary teams would discuss the following questions in order to identify the attributes of an area and select the appropriate treatments:

- What kind of site (potential natural vegetation, soils)?
- Successional state of site?
- Components that need to be restored?
- How units may fit into the overall landscape mosaic?
- Long-term goals and objectives?
- Utilize the "Western Juniper Field Guide: Asking the Right Questions to Select the Appropriate Management Actions. (Bates et al. 2007, Circular 1321) http://pubs.usgs.gov/circ/1321/pdf/circ1321.pdf

Tree and Boulder Hauling

- Apply mitigation and best management practices for dust abatement (water, lignosulfonate, Calcium and Magnesium Chlorides) dry conditions, and erosion control as directed by physical scientist or road engineer (See Road Maintenance project design criteria #6 for application). ♦ Haul on gravel and native-surface roads will be limited to dry conditions.

Haul Restrictions to Prevent Fine Sediment Delivery to Streams

Haul or maintenance is permitted on roads under the following conditions:

- During haul, weather conditions are monitored daily for the chance of precipitation by the Hydrologist or Fish Biologist.
- No rutting of the road surface is occurring, indicating the subsurface is wet.
- Frozen ground conditions.
- Haul will cease at any time when the travelway of the road is wet and turbid water or fines are observed moving off the road surface to ditchlines that deliver to stream channels regardless of time of year.

Roads Exempt from Haul Restrictions include (Do to no mechanism for sediment delivery):

- Paved roads
- Surfaced Ridge top roads
- Surfaced outsloped roads with no ditch or stream crossings

Prescribed Burning and Related Activities Mechanical piling and burning of large piles will be restricted to existing roads and landings.

- Include all relevant PDC in Silviculture prescriptions and burn plan objectives for all fuel treatment activities within RHCA's.
- Use all available fuel treatments and preparation activities as necessary (e.g. multiple entries, slash pull-back; modified ignition methods, locations, timing, and sequence; thinning of small green trees; pruning of green trees and snags, prescribed fire, fire suppression, jack pot burning, etc.) to achieve the specific project design criteria. Suppression should be used only as a last resort to achieve other project design criteria.

For perennial and fish-bearing stream channels:

- Avoid removing trees along stream banks (e.g. don't cause bank instability or increase erosion)
- Within 100' of the stream channel backing fire is preferred.
- Within primary shade zone retain 100% of the over-story canopy closure with the exception of hardwood treatment.

For intermittent, non-fish-bearing stream channels:

- Within 50' of the stream channel backing fire is preferred.

For the maintenance and use of water sources and draft sites:

- Minimize disturbance of existing riparian vegetation to the greatest extent practical; in particular, maintain shade, bank stability, and large woody material recruitment potential.
- Use sediment control measures such as straw bales, filter cloth, or sediment fences when conditions warrant.
- Maximize maintenance activities during late summer and early fall to best avoid wet conditions.
- Do not pump from streams that do not have continuous surface flow. When pumping water in all situations from streams, ensure that at least one-half of the original streamflow remains below the pump site.
- Refuel power equipment, or use absorbent pads for immobile equipment, and prepare concrete at least 150 feet (or as far as possible from the water body where local site conditions

do not allow a 150 foot setback) from water bodies to prevent direct delivery of contaminants into associated water bodies.

- Fisheries, hydrology or other qualified personnel must work with engineering/fire personnel to review proposed activities to minimize potential effects to fish, stream channel conditions, and water quality.
- Use and develop off-channel ponds outside of stream channels were feasible and appropriate.

Work with fire folks to prioritize and decommission unnecessary in-stream drafting sites.

- Water withdrawal equipment must have a fish screen installed, operated and maintained in accordance to NOAA Fisheries guidelines.

Wildlife

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.
- Big Game
- Within big game winter range a wildlife biologist will be consulted between December 1 and April 1 to determine if activities should be restricted for big game needs.

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.
- 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 be allowed in any documented sensitive plant sites unless it is for the demonstrated benefit or protection of the site. All sensitive plant populations should be buffered 100 ft. from all operational activities where topography does not restrict such a distance. Sensitive plant sites and associated buffers shall be identified as Areas to Protect.

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 exclosures 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.

Native Plant Materials and Revegetation

- ***Pre-Implementation:*** Where the need for native plant materials is anticipated, assure that there is sufficient time for the plant materials specialist to develop a native plant materials plan and/or prescription prior to implementation of planned revegetation, rehabilitation, and restoration projects. This may include allowing for enough time to harvest and store hardwood cuttings, produce suitable quantities of native seed, and/or grow-out container stock.
- Locally adapted, genetically appropriate native plant materials are the first choice for use in revegetation, restoration and rehabilitation, where timely natural regeneration of the native plant community is not likely to occur. Use a diverse assemblage of species that have the potential to naturally occur in the project area. Acquire native seed or plant sources as close to the watershed as possible. Examples of areas that may need treatment include: habitat restoration efforts, log decks, staging areas, landing zones, temporary roads, slash piles, culvert replacements, severely burned areas, skid trails, decommissioned roads, invasive species treatments, and other disturbances.
- Non-native, non-invasive plant species may be used in the following situations: (1) when needed in emergency conditions to protect basic resource values (e.g., soil stability, water quality, and to help prevent the establishment of invasive species), (2) as an interim, nonpersistent measure designed to aid in the re-establishment of native plants, (3) if native plant materials are not available and/or are not economically feasible, and (4) in permanently altered plant communities.
- Under no circumstances shall non-native invasive plant species and/or noxious weeds be used for revegetation.
- Development, review and/or approval of revegetation, rehabilitation, and restoration prescriptions, including species selection, genetic heritage, growth stage, seed mixes, sowing guidelines, and any needed site preparation, shall be accomplished by a plant materials specialist who is knowledgeable and trained or certified in the plant community type where the revegetation will occur.
- Concentrate plantings above the bank-full elevation. Sedge and rush mats should be placed and sized to prevent their movement during high flow events.
- Newly planted and/or seeded areas should be protected from animals and activities that may prevent, retard, or slow the establishment and recovery of native vegetation. Site-specific measures may include building fences, piling slash, jackstrawing, closing areas to vehicles, and/or temporarily changing grazing regimes until the desired condition is sufficiently achieved.

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.
- For Livestock Stream Crossings and Off-Channel Watering Facilities, out-of-channel erosion would be minimized.
- For Road Erosion Control, erosion would be minimized.
- For Juniper Removal, erosion would be minimized. It is possible that Juniper Removal would increase ground cover within a few years, and thereby reduce erosion.
- Prescribed Fire (including for disposal of slash after Juniper removal) can involve only low and moderate severity fire, and erosion from fire lines would be minimized, so erosion from prescribed fire would not be significant.

Fire and Fuels

- Mechanical tools may be necessary to prepare fire control lines for these burns, but would be limited, and typically no heavy equipment would be used. Prescribed burns or wildfires could temporarily affect air quality.
- The project design criteria for both Juniper Removal and Riparian Vegetation Treatment (controlled burning) would be followed. National, state, and local policies regarding prescribed fire implementation will be met.
- Activities that are expected to create smoke emissions would follow the State of Oregon Smoke Management Plan. Prior to burning, approval will be obtained from the Oregon Department of Forestry, who determines compliance with the Clean Air Act. State smoke forecasts, which predict wind direction and smoke mixing height, will be obtained prior to all burning to ensure smoke intrusions will not occur in the local smoke sensitive receptor areas.

Burning will follow the guidance provided by the Oregon Smoke Management Plan (Directive 1-4-1-601, Operational Guidance for the Oregon Smoke Management Program), which is an agreement between federal land management agencies in northeast Oregon and Oregon Department of Forestry limiting smoke emission amounts. Oregon Department of Forestry monitors activity, and if a limit is reached it will shut down prescribed fire activity.

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.

Recreation

- Motorized aquatic restoration methods would not be used within Wilderness, Wild portions of Wild and Scenic Rivers, and Inventoried Roadless Areas.
- Mechanized aquatic restoration methods would not be used within Wilderness or Wild portions of Wild and Scenic Rivers.

Grazing

General

- Range and Fire Specialists and permittees would coordinate activities including scheduling of burning activities in grazing units.
- Utilize the Forest Post-Fire Interim Grazing Guidelines to aid in determining when to resume grazing activities.
- Whenever possible, units to be rested would be burned in the spring of the year to be rested or in the fall prior to the rest year.
- If a rest period is required following a burn the permittee has the option to exclude cattle grazing from those portions of a pasture that were burned through the use of fencing and could continue to graze the unburned areas of a unit.

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.

Aspen Restoration

- New aspen exclosure fences would have gates installed in proper locations to allow for removal of stray livestock. Aspen fences would be maintained each year and repaired whenever necessary. Plans for aspen exclosures will define when restoration of the protected stand has been achieved and who has responsibility for maintenance of the structure. When fences are no longer needed, aspen fences should be removed.
- Alternate livestock water sources to those being used in aspen stands would be developed offsite before fencing aspen or re-evaluate fencing of the aspen site. Coordinate with range specialist and permittee.

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.