Meadow Creek Large Woody Debris Project Phase I
Final Proposal

Contact: Joe Platz

1. Project Name: Meadow Creek Large Woody Debris Phase I Project

The project is located on Meadow Creek, on lands administered by the US Forest Service.

2. Applicant:

US Forest Service (USFS), LaGrande Ranger District; Attn: Joe Platz; 3502 HWY 30; LaGrande, OR 97850. Email: jplatz@fs.fed.us. Phone Number: 541-962-8571. Fax Number: 541-962-8580.

3. Participating Landowner(s) and Agencies:

(1) USFS; Attn: Joe Platz; 3502 HWY 30, LaGrande, OR 97850; (541) 962-8571; Fax: (541) 962-8580
(2) Grande Ronde Model Watershed, Lyle Kuchenbecker; 1114 J Ave., La Grande, OR 97850; 541-663-0570; Fax: 541-962-1585
(3) Bonneville Power Administration, Timmie Mandish; P.O. Box 3621; Portland, OR 97208; PH 503-230-3983; FAX 503-230-4564

4. Project Contact(s):

Technical contact(s):
Joe Platz: 3502 HWY 30, LaGrande, OR 97850; jplatz@fs.fed.us; (541) 962-8571

Administrative contact(s):
Trish Wallace: 3502 HWY 30, LaGrande, OR 97850; plwallace@fs.fed.us; (541) 962-8553

5. Project Location:

The Meadow Creek Large Woody Debris Phase I Project is located on Meadow Creek, a tributary to the Grande Ronde River. The project is located on 4 miles of Meadow Creek (approximate RM 10 - 14) (T 3S, R 34E, S 14, 23, 26, 35; T 5S, R 35E, S 26, 27, 32, 33, 34, 35). The project is located within the Meadow Creek Watershed (1706010402); Middle Meadow Creek Subwatershed (170601040202); Reaches 1-2; Union County.

6. Project Objectives:

The objective is to improve spring/summer chinook habitat, summer steelhead habitat, specifically through improving or increasing the following habitat elements.

- Increase quantity and quality of pools within Meadow Creek
- Increase fish cover
- Increase habitat complexity
- Increase forage availability
- Increase residual pool depth
- Increase number of large and medium pieces of large woody debris in the stream
- Increase spawning gravel recruitment
- Improve stream shade

- Improve floodplain and riparian function
- Increase riparian vegetation

7. Project Description

Introduction

Meadow Creek is spawning and rearing habitat for Snake River Basin summer steelhead and redband trout. Snake River Basin rearing spring chinook salmon habitat is located .5 mile downstream of the project area. The summer steelhead and spring/summer chinook are federally listed under ESA as threatened species. Redband trout are on the Regional Forester's Sensitive Species List.

Historic timber harvest removed larger conifers from the valley bottom, reducing the future recruitment of large wood to the stream. This project will rehabilitate the floodplain and instream habitat through planting, large wood/boulder additions, exclosure re/construction and culvert removal on two intermittent streams.

Existing condition

The Meadow Creek Project Phase I is broken into 2 reaches. The valley bottom is forested, and riparian vegetation consists of shrub species, primarily willow and alder, with sedges and grasses. Conifers consist of Englemann spruce, lodgepole pine, Douglas-fir, western larch, and ponderosa pine. Historic timber harvest, including splash dams removed larger conifers from the valley bottom, reducing the future recruitment of large wood debris to the stream.

In the early 1990's the Wallowa-Whitman cooperated with Bonneville Power Administration to add structural complexity to the Meadow Creek. Large wood and rock structural elements were added to the river channel. Most of the structures constructed were log sills that spanned the entire channel on the level. The majority of the structures are no longer present, due to high flow and ice scour events.

A stream survey of Meadow Creek was conducted in 2006. Stream survey results indicate poor numbers of pools per mile and moderate amounts of large wood within the medium size class (see Table 1 below for stream survey results). The Rosgen Class for reach 1 is dominated by a C4 channel with some stream segments exhibiting B channel characteristics. Reach 2 is dominated by a B4 channel with some C channel characteristics. Large and medium size classes for wood are poor for all both reaches. The number of pools per mile are low and width to depth ratios are high for reaches 1 & 2. Personal observation agreed with the stream survey results. Portions of reach 1 and reach 2 have poor habitat complexity and pool quality and could be improved dramatically through wood placements.

Table 1. Results of stream habitat survey for Meadow Creek.

Stream/Year Surveyed	Pools Per Mile	W/D Ratio	Dominate Channel Substrate	*LWD Large (pieces/mile)	**LWD Medium (pieces/mile)	Stream Gradient
Meadow Creek Reach 1 (3.21 miles) (Bndry – Ray Cr)	11	36	GR	4	8	.93%
Meadow Creek Reach 2 (2.61 miles) (Ray Cr to end of Narrows)	7	57	GR	1	4	1.89%

*Large LWD: Pieces >20 inches dbh and >35 feet in length.
**Medium LWD: Pieces >12 inches dbh and >35 feet in length.
***Reach 3 extends for approximately 1.25 miles upstream of the project area.

No grazing occurs for approximately 2.8 miles in reach 1 (approximately 70% of Meadow Creek within the project area is not grazed). The rest of the area is grazed by cattle.

Specific Actions

The Meadow Creek Large Woody Debris Phase I Project would place wood within 4 miles of Meadow creek for a total of 29 structure sites. Two culverts on intermittent streams will be removed. Planting will occur on approximately 2 miles of stream (within the existing exclosure fences). One stream exclosure fence would be removed and reconstructed (.2 mile of stream).

Structure Construction

A total of 29 structure sites will have wood/boulder input within the project. The first 14 structure sites (starting from downstream end) will have a total of 64 large pieces of wood with the root wad attached added to each site. There will be 82 boulders used in conjunction with the wood on the first 14 structure sites. Of these, 53 large wood pieces and 81 boulders will be hauled in. The last 15 structure sites will involve 175 large pieces of wood with the root wad attached and up to 77 boulders. All of the material for these structures will be obtained on site. A total of 239 large wood pieces and up to 159 boulders will be placed in Meadow Creek Phase I.

Pinning with rebar will occur where logs/root wads cross and 1-3 large wood pieces will be partially buried into the streambank at each structure site. Most of the structures are a combination of root wads and boulders. Three of the structures involve the partial removal of old log sills. Trees will be felled or pushed over on site or obtained through hazard trees and/or blowdown. All of the logs, rootwads, and boulders will be imported into the creek with the use of an excavator, chokers, where needed.

- *Culverts*

Two culverts would be removed within the project area. The culverts are located on nonfish-bearing tributaries. The culvert removal will remove the road fill and create a stream channel that will be similar in channel morphology to the channel upstream of the road prism. Wood will be incorporated into the newly created channel.

- *Seeding*

All areas disturbed by equipment will be seeded with a native grass/forb seed mix after project completion.

- *Planting*

Approximately, 2 miles of stream will be planted with 7,000 deciduous rooted seedlings, 10,000 conifer seedlings and 2000 cuttings. Native species will be used. All of the planting will be completed by hand. The deciduous seedlings will be protected (as much as possible) from drought. Drought protection includes scalping (by hand), watering the trees twice during the first year, adding soil moisture granules, and tree mat placement. Deciduous seedlings within exclosures will be tubed with vexar to protect from wildlife grazing. The conifer seedlings will be watered twice during the first year. **No planting will occur outside the existing exclosures (The project map still shows planting outside of the existing exclosures in Phase I. This will not occur.).**

- *Fence removal and reconstruction*

Approximately .2 mile of exclosure fence will be removed and be replaced. This fence was constructed in the mid 1970s. The fence will exclude .2 mile of habitat.

- *Livestock grazing*

Approximately 2.8 miles of stream are excluded from livestock grazing on Meadow Creek within Phase I (70% of the project area). The remainder 1.2 miles of stream (30% of project area) is grazed for research objectives within the Starkey Experimental Forest.

Benefits

Benefits include increased quantity and quality of pools; increased fish cover; increased habitat complexity; increased forage availability; improved riparian/wetland communities; increased number of large and medium pieces of large woody debris in the stream; and increased spawning gravel recruitment.

Project Maintenance

Maintenance of the exclosure fencing and vexar tubing would be completed by the USFS: LaGrande Ranger District (Joe Platz & Aric Johnson). Maintenance would involve ensuring the fencing/tubing is up after spring flows every year (June). In addition, the exclosures will be checked/maintained by USFS: LaGrande Ranger District once every 2 weeks during the time that grazing occurs adjacent to the exclosures for 10 years after project completion. Once the trees/shrubs are above browse height or exhibit sufficient growth to withstand wildlife grazing pressure, the vexar tubes will be removed or used in additional areas on the stream.

Permits

NEPA, ESA consultation with NMFS and USFWS, and permits from the US Army Corps of Engineers/Department of State Lands will need to be obtained for this project. All instream work will be performed in the instream work window, which is July 1 – July 31.

Monitoring Plan

Monitoring specific to project activities would be accomplished to assure that activities conform to objectives of the Forest Plan. Project level monitoring is a component of Forest Plan monitoring. The following types of monitoring would be accomplished:

Implementation Monitoring - Are the project design being implemented as planned?

A fisheries biologist/hydrologist would be on site during project operations to ensure that the project design and mitigation measures would be implemented as planned.

Effectiveness Monitoring - Were the desired results achieved?

- Structure construction: Monitoring of structures would involve photo points of before and after operations occur. Follow up photo points would occur at year 1, year 3, and year 5 after project completion**.** This monitoring will be completed by the USFS.
- Stream Survey: Region 6 Level II Stream Habitat Inventory would be conducted prior to (completed) and @ year 1 and year 5 after completion. This monitoring will be completed by the USFS.

- Plant/seed survival: Native plantings and seeded areas would be evaluated for survival on a yearly basis for three years after project completion through photo points and determining plant survival. If plant/seed survival is poor, then subsequent planting and/or seeding would occur. This monitoring will be completed by the USFS.
- Noxious weeds: Noxious weeds would be monitored, yearly, for five years after project operations. This monitoring will be completed by the USFS.

Reports -

- Meadow Creek Phase I Reports: A preliminary final report that describes the actual implementation of this project and associated monitoring would be completed in the winter of 2013. A final report would be completed in the winter of 2014. After final report completion, monitoring reports would be completed the following winter after monitoring is completed.

Work Dates

Phase I

Structure construction and culvert removal would occur from July 1, 2012 through July 31, 2012. The work window for Meadow Creek is July 1 – July 31.

Log, root wad, boulder, and woody debris hauling will occur in June of 2012.

Seeding and mulching will occur in the Fall of 2012.

Planting will occur from April 2013 to June of 2013.

Exclosure fence reconstruction will occur from May of 2012 through June of 2013.

8. Project Budget

The project budget is attached.

9. Attachments

Attachments include: (1) Project Budget, (2) Vicinity Map, (3) Project Description Map, and (4) Photos (attached).

Forest Service Budget
Meadow Creek Large Woody Debris Project
Phase I
May 1, 2012 - February 28, 2014

	Qnty	Unit		Unit Cost	2010 BPA Requested Funds	USFS Costs	Comments
A. PERSONNEL					**$44,975**	**$13,875**	
Regular Staff:							
NEPA staff	25.0	8 hr day	@	$291 /day		$7,275	N
Biological Technician (project lead)	90.0	8 hr day	@	$330 /day	$23,100	$6,600	I,C,P,CO,
Technician	125.0	8 hr day	@	$175 /day	$21,875		I,C,M,MA
B. VEHICLES						**$3,650**	
GSA lease	6	mo	@	$275 /mo		$1,650	I,C,M,MA
GSA mileage	5000	mi.	@	$0.40 /mi		$2,000	I,C,M,MA
C. SERVICES AND SUPPLIES					**$22,319**	**$9,113**	
Rebar	250	pieces	@	7.00 /piece		$1,750	MT
Purchase of conifer seedlings	10,000	tree	@	0.60 /tree		$6,000	
Purchase of deciduous seedlings	7,000	tree	@	1.25 /tree	$8,750		MT
Steel posts	75	post	@	4.19 /post	$314		MT
Tree mats and ground staples	7,000	mat	@	0.85 /mat	$5,950		MT
Super absorbent granules	70	lbs	@	16.50 /lb	$1,155		MT
Native Seed	100	lbs	@	10.00 /lb		$1,000	MT
Barbed wire for exclosure fence	4	rolls	@	75.00 /roll	$300		MT
Stay material	150	stay	@	1.50 /stay		$225	MT
Jack material	50	jack	@	2.75 /jack		$138	MT
Mulch	100	bales	@	6.00 /bale	$600		MT
Vexar Tubes	7,000	tubes	@	0.75 /tube	$5,250		
D. DIRECT COST (Sum of Items A-C)					**$67,294**	**$26,638**	
F. SUBCONTRACTS					**$127,800**		
E. INDIRECT COST	**8.0%**				**$15,608**		
G. TOTAL CONTRACT COST					**$210,702**	**$26,638**	

Comments

N = NEPA
I = Implementation
C = Contract administration
P = Permits
CO = Coordination of BPA projects
M = Monitoring
MA = Maintenance
MT = Materials for implementation

Subcontractor Budget
MEADOW CREEK LARGE WOODY DEBRIS PROJECT
Phase I
May 1, 2012 - February 28, 2014

		Qnty	Unit		Unit Cost	BPA Requested Funds	USFS Costs	Comments
A.	**Equipment with operator(s)**					**$127,800**		
	320 excavator with operator	120	hr	@	$155	$18,600		I
	315 excavator with operator	100	hr	@	$145	$14,500		I
	Mini excavator w/ operator (rehab	50	hr	@	$105	$5,250		I
	Log/boulder haul contract	1	cont.	@	$29,950	$29,950		I
	Planting Contract	1	cont.	@	$59,500	$59,500		I
B.	**TOTAL PROJECT COST**					**$127,800**		

C. Comments

N = NEPA
I = Implementation
C = Contract administration
P = Permits
CO = Coordination of BPA projects
M = Monitoring
MA = Maintenance
MT = Materials for implementation

Notes
* All fencing will be completed by USFS personnel.
** All planting will be completed through a contract, except for cuttings.
*** Cuttings will be planted by USFS personnel.

Natural wood in Meadow Creek.

Meadow Creek Natural Wood.

Old upstream “V” sill log structure that will be partially removed and wood added. Structure site # 18, Phase I.

Culvert on intermittent stream will be removed with natural drainage pattern restored (Phase I).

MEADOW CREEK LARGE WOODY DEBRIS PROJECT
Phase I & Phase II

09 September 2011

1 : 15,840

Miles

0 0.5 1 1.5

Meadow Creek Project Area Map

- Culvert Removal
- Fish Structure Sites
- Tree Staging Area
- New Exclosure Construction
- Exclosure Reconstruction
- Planting Areas
- Existing Exclosure Fence
- Main Streams
- Other Non FS Roads
- 2 - Digit Roads
- 4 - Digit Roads
- 3 - Digit Roads
- RangerDistrict

40 Foot Contour Interval

Phase II

Phase I

Smith Creek

Peet Creek

Ray Creek

Bear Creek

T03S

T04S

R33 1/2E

R34E

09 September 2011

MEADOW CREEK LARGE WOODY DEBRIS PROJECT

Phase I & Phase II: Vicinity Map