

**Application Name:** Lower Fly Restoration Project

**By:** Grande Ronde Model WS Foundation

**Offering Type:** Upper Grande Ronde Initiative

**Application Type:** Restoration

**OWEB Region:** Eastern Oregon

**County:** Union

**Coordinates:** 45.200982,-118.402029

**Applicant:**

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**Payee:**

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**Project Manager:**

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**Budget Summary:**

OWEB Amount Requested: \$0  
Total Project Amount: \$0

## **Administrative Information**

### **Abstract**

Provide an abstract statement for the project. Include the following information: 1) Identify the project location; 2) Briefly state the project need; 3) Describe the proposed work; 4) Identify project partners.

The Lower Fly Restoration Project is located on Fly Creek, tributary to the Grande Ronde River. The project is located on 3.5 miles of Fly Creek (RM .5 -4.0). This project involves implementing restoration to improve habitat for listed spring/summer chinook and summer steelhead. The project is located in the Lower Fly Creek Subwatershed (170601040108) (T 4S, 35E, S 23, 27 & 34 and T 4S, R 35E, S 1, 12 & 13). Fly Creek is spawning and rearing habitat for Snake River Basin summer steelhead and redband trout and rearing habitat for Snake River Basin spring chinook salmon. Historic beaver trapping, roading, timber harvest, grazing and splash dams created a confined channel, with limited floodplain interaction. The project would prioritize LWD placement to add roughness, increase floodplain interaction and habitat complexity, and promote out of channel flooding. It is expected that the project will promote longer periods of hydrologic production, decreased stream temperatures, increased low velocity habitat, and increased fish cover. The project would place wood within 3.5 miles of Fly Creek and 9,500 seedlings will be planted. Project partners include: Grande Ronde Model Watershed, Bonneville Power Administration, and the US Forest Service.

### **Location Information**

*What is the ownership of the project site(s)?*

*Public land (any lands owned by the Federal government, the State of Oregon, a city, county, district or municipal or public corporation in Oregon)*

What agency(ies) are involved?

US Forest Service

*Private (land owned by non-governmental entities)*

*This grant will take place in more than one county.*

## **Permits**

Other than the land-use form, do you need a permit, license or other regulatory approval of any of the proposed project activities?

- Yes  
 No

For Details Go to Permit Page

*I acknowledge that I am responsible for verifying applicable permits, licenses, and General Authorizations required for the project, and can update information at grant agreement execution.*

✓ Yes

## **Racial and Ethnic Impact Statement**

### Racial and Ethnic Impact Statement

- The proposed grant project policies or programs could have a disproportionate or unique POSITIVE impact on the following minority persons. (indicate all that apply)
- The proposed grant project policies or programs could have a disproportionate or unique NEGATIVE impact on the following minority persons. (indicate all that apply)
- The proposed grant project policies or programs WILL HAVE NO disproportionate or unique impact on minority persons.

## **Insurance Information**

- Working with hazardous materials (not including materials used in the normal operation of equipment such as hydraulic fluid)
- Earth moving work around the footprint of a drinking water well
- Removal or alteration of structures that hold back water on land or instream including dams, levees, dikes, tidegates and other water control devices (this does not include temporary diversion dams used solely to divert water for irrigation)
- Applicant's staff or volunteers are working with kids related to this project (DAS Risk assessment tool not required, additional insurance is required )
- Applicant's staff are applying herbicides or pesticides (DAS Risk assessment tool not required, additional insurance is required)

## **Additional Information**

*This project affects Sage-Grouse.*

## Problem Statement

Describe the watershed problem(s) that this restoration project seeks to address.

Overall problem: The Fly Creek reach is not in proper functioning ecological condition (hydrologic and geomorphic), due to historic management that included beaver trapping, roading, timber harvest (including splash dams), and livestock grazing.

### Sub-problem 1 - Floodplain form and function

The Lower Fly Creek reach has limited water capture and retention capacities due to past anthropogenic influences. These deficiencies have lowered groundwater tables. This has resulted in a decreased ability to store water and buffer water temperature, less connection to the floodplain to moderate in-channel velocity, and lower quality fish habitat. Lack of floodplain form and function has resulted in:

- \* Potential increase of in-stream water temperatures from decrease in groundwater recharge, which can be problematic for salmonids.
- \* Increase of in-channel velocity where the channel has downcut, and doesn't spread water out onto the floodplain during high flows. The process of downcutting causes vertical erosion, which increases fine sediment levels and decreases habitat complexity.
- \* Decrease in the amount of zero velocity habitat, which provide juvenile salmonids protection, temperature buffering, food sources and feeding areas, and resting areas.

### Sub-problem 2 - Side channel habitat and activation:

There are old channel scrolls within the floodplain that are rarely activated, due to many of the issues identified in Sub-problem 1.

- \* Channel incision and lack of woody debris have isolated side channel scrolls from the existing channel. These channels only flow during high flow events.

### Sub-problem 3 - Fish habitat complexity:

The Lower Fly Creek fish habitat complexity (cover, pool quality/quantity, and zero velocity habitat) is limited.

- \* Channel incision and lack of instream woody material has affected the quantity and quality of spawning, rearing, and overwintering habitat in the Lower Fly Creek Reach.

How have past or current land management practices contributed to the problem?

Historic management that included beaver trapping, roading, timber harvest (including splash dams), livestock grazing and an altered fire regime have degraded the Lower Fly Creek watershed's ecological form and function. The loss of functional stream habitat adversely effects the survival and rearing of native salmonids, other fish, and wildlife species.

Beaver trapping pressure in the 19th Century almost caused extirpation of this species in the western United States. The decrease in beaver populations on Fly Creek has contributed to channel incision, decreased habitat complexity, altered vegetative communities, and an altered flow/temperature regime. Beavers serve as ecological engineers by building dams that decrease the velocity of peak flows and spread flows out over longer periods of time. This increase of water retention time decreases erosive forces that cause stream incision. Higher levels of surface and subsurface water retention expands riparian and wetland habitat along the stream. As beavers move in and out of systems, side channels often form, and more woody vegetation ends up in the stream. This leads to increased habitat complexity for fish and wildlife.

High densities of roads near the Lower Fly Reach have likely caused a variety of compounding problems.

Impermeable road surfaces increase the rate of overland flow. This affects the timing and volume of flow in downstream areas of the watershed. Roads that are built on the sides of stream systems (which is the case on sections of Fly Creek) often result in long-term soil compaction. The soil compaction can lead to a reduction in water holding capacity and infiltration into nearby meadow systems.

Historic overgrazing of sheep and later cattle caused bank erosion, channel over widening, and soil compaction. This has caused vertical erosion and channel incision. Channel incision has altered the Fly Creek system by lowering streambeds and groundwater tables. Currently, the stream is only grazed by sheep with limited access to Fly Creek.

Historic logging practices caused a variety of problems in Fly Creek. Splash dams and the removal of wood from the system resulted in a confined channel, limited spawning gravels, low pool quality and quantity and less in-stream large woody debris (LWD).

Altered natural and human ignited fire (Native American and sheep herders) regimes due to 20th century fire suppression have likely affected the vegetative, hydrologic, and geomorphic processes of Fly Creek. Less frequent intense wildfires are more likely to have negative effects on the erosion of uplands than more frequent low-intensity fires. Historically, naturally caused and human ignited low intensity fires were likely more common. Conifer encroachment due to lack of regular fire intervals has caused dense under and mid-story fir/pine species on the edges of headwater meadows. This early stage forest ecosystem dynamic increases competition for large tree regeneration, and contributes to water loss through evapotranspiration.

The restoration of the Lower Fly Reach's form and function will address a combination of these interrelated problems through a physical approach to stream and floodplain restoration.

## **Project History**

Continuation - Are you requesting funds to continue work on a project previously funded by OWEB where that work did not result in a completed project?

- Yes  
 No

Resubmit - Have you submitted, but were not awarded an OWEB application for this project before?

- Yes  
 No

Phased - Is proposed work in this application a phase of a comprehensive watershed restoration plan or project?

- Yes  
 No

## Plans and Salmon

Is the proposed restoration activity(ies) identified in a local assessment or other plan?

- Yes  
 No

Provide name of local plan, Watershed assessment or other locally relevant document.

The project is located in the Upper Grande Ronde Restoration Atlas. The Upper Grande Ronde Atlas is a geo-spatial restoration prioritization plan developed in coordination with BPA by local fish biologists, researchers, engineers, hydrologists, practitioners, and stakeholders. The plan divides the subbasin into biologically significant reaches (BSR) and prioritizes those reaches for restoration based on fish species present, fish use, fish life stages, limiting factors, and floodplain availability. Restoration actions were identified during the planning process to address limiting factors for each BSR. Each reach is assigned a Tier with Tier 1 being the highest priority and Tier 3 being the lowest priority. The Lower Fly Creek Project is within a Tier 1 (Node) BSR.

Will this project benefit salmon or steelhead?

- Yes  
 No

- Snake River Basin - Steelhead  
 Snake River Spring/Summer-run - Chinook Salmon

How will the resulting restoration project benefit salmon or steelhead or their habitat?

- \* Side channels will be activated through constructing woody debris jams in strategic locations to raise water levels that would engage existing side channel scrolls.
- \* Floodplain engagement will increase through constructing woody debris jams in strategic locations to raise water levels.
- \* Habitat complexity and pool quality will improve through woody debris jam construction.

Does the project address a restoration action identified in a regional assessment or recovery plan?

- Yes  
 No

*Does this project address one or both of the following:*

- Habitat needs for one or more Endangered Species Act-listed species and/or species of concern*  
 *Concerns identified on 303(d) listed streams*  
 *No*

## Proposed Solution

### Goal, Objectives, and Activities

State your project goal. A goal statement should articulate desired outcomes (the vision for desired future conditions) and the watershed benefit.

Overall Goal: To achieve proper ecological form and function of Lower Fly Creek and thereby restore habitat for the imperiled Snake River Basin Spring/Summer Chinook and Snake River Basin Steelhead.

Subgoal 1: Physical - Restore Hydrologic Function

Increase hydration of a laterally confined channel to improve groundwater retention through channel spanning log jam construction.

Subgoal 2: Physical - Activate Side Channel Scrolls

Encourage and create perennial side channels through channel spanning log jam construction.

Subgoal 3: Biological - Improve Fish Habitat

Restore habitat complexity. Existing LWD structures will be modified and additional whole trees will be placed. These structures will encourage scour pool habitat, and fish cover.

**List specific and measurable objectives. Objectives support and refine the goal by breaking it down into steps for achieving the goal. (NOTE: If you quantify your objectives, ensure all numbers match the metrics listed in your selected habitat types.) Provide up to 7 objectives.**

### Objective #1

#### Objective

Hypothesis 1: If channel spanning wood structures using trees and racking material are constructed in strategic locations then: 2 years post implementation: 25% more of the floodplain will be inundated in the summer season (June-July). Water storage will be quantified in terms of floodplain acres using drone technology.

Strategy and Objectives 1: Mimic beaver dam function at pool tails and where accessible side channel habitats exist by constructing channel spanning wood structures to:

- Deflect water into the floodplain for groundwater storage.
- Activate side channel scrolls.
- Back water into fish habitat structures.
- Promote gravel deposition and spawning gravel recruitment.
- Recruit deciduous vegetation by increasing groundwater storage.
- Improve habitat for future use by beaver populations.

Hypothesis 2: See hypothesis 1

Strategy and Objectives 2: Restore floodplain function by placing floodplain wood to: deflect, retain, and capture water once it reaches the floodplain. Floodplain wood would increase by 200 pieces and be counted by the USFS.

Hypothesis 3: If large wood and racking material is placed to promote scour and longitudinal pools then residual pool depth will increase by 15% and instream wood will increase by 1350 pieces.

- Pool depth and wood will be measured by USFS Level II habitat surveys.

Strategy and Objectives 3: Place logs, rootwads, racking material and whole trees to encourage: pool scour, fish cover and habitat complexity.

Describe the project activities. Activities explain how the objective will be implemented.

The project would construct debris jams and habitat structures at 80 sites within the lower 3.5 miles of Fly Creek (RM .5 – RM 4.0). This would include approximately 1200 pieces of large wood (800 trees) and 2,140 yards of racking material. An additional 150 whole trees would be placed within the stream and 200 pieces of wood would be placed on the floodplain. Boulders will be placed into the stream where they are available. All of the wood and boulders will be placed with excavators/log loaders. There will be 1-3 pieces of large wood dug into the stream bank at each structure site. In addition, 2 – 5 pieces of large wood will be pinned at each site.

- The 80 debris jams will mimic the Type A Full Spanning Log Jam (Woodlee Restoration Project, 2020), which includes 2 large trees with rootwads (> 20" dbh) & 50' long), 4 medium trees with rootwads (14" – 20" dbh & 50' long), 6 small trees/logs (10" – 14" dbh & 30' – 50' long), 2 whole trees, and 2.5: 10 yard loads of racking material. These structures are designed for floodplain inundation and habitat complexity.
- Upstream of 7 debris jams, the Type C Small Habitat Structure (Woodlee Restoration Project, 2020) will be constructed. This will consist of 2 large trees with rootwads, 4 medium trees, 4 small trees, 2 whole trees and 2: 10 yard loads of racking material. These structures are designed for habitat complexity.
- There will be additional 150 whole trees and 200 logs placed within the stream and floodplain to provide habitat complexity, fish cover, and floodplain roughness.
- Total of 1550 large wood pieces in 2020.
- \* An additional 500 large pieces of wood (200 whole trees, 200 logs with branches, and 100 logs with rootwads) will be flown into Lower Fly Creek to augment 2020 constructed structures during the Middle Fly and MUGRII restoration projects.

Access for machinery to the stream would also occur on a closed road off of the 5115 road (refer to map). The road would be reopened to provide access (1.3 miles). This closed road will access an old streambottom road that will be used to access all of the sites on Fly Creek. Some improvements to the road will be needed.

There are a total of 950 large trees needed for the project. Of these, 174 trees will be over 20", 348 trees will be between 14" and 20" dbh, and 428 trees will be between 10" and 14" dbh. All of the trees will be a minimum of 50' long (whole trees could be longer).

There will be 900 trees obtained from within 300' of Fly Creek. Trees within 100' of Fly creek would not be removed, where possible. Approximately, 1,790 yards of racking material will be obtained from adjacent to the access road, small trees thinned from dense stands and branches/tops. An additional 50 large pieces of wood and 350 yards of racking material removed and hauled down the closed access road to Fly Creek. The wood and racking material will be obtained within 15' of the road prism. The trees and racking material will be pushed over or plucked and skidded down to Fly Creek.

All of the disturbed areas will be seeded. The access roads will be ripped. The tree removal areas adjacent to Fly Creek, access roads, and disturbed areas adjacent to Fly Creek will be replanted with 5,000 conifer seedlings (ponderosa pine and western larch) and 4,500 deciduous seedlings (cottonwood, willow and alder).

The project will occur from May 17 – November 6 of 2020. All of the instream work will occur in July. Tree removal and haul from roads will occur from May 17 – June 30. Tree removal adjacent to Fly Creek will occur from June 1 through June 30. Rehabilitation, seeding and planting will occur from May 17 – November 6.

Objectives 1, 2, and 3 would be met through channel spanning jam construction, floodplain wood placement and wood placement to encourage pool scour, habitat complexity and fish cover. Monitoring will measure the effectiveness of the above treatments.

Structures were constructed in 2009 in Fly Creek. The structures primarily consisted of 3 large wood pieces with pinning. No pieces were dug into the bank. Rocks were used as ballast. Approximately, 25% of the structures moved in the high water events of 2010 and 2011. In most cases, the pieces were washed onto the floodplain. The flood event of 2019 moved another 65% of the structures onto the floodplain. In order to prevent a similar outcome to the proposed project: the following will be implemented.

- (1) The amount of large wood per structure will increase by 11 pieces with racking material.
- (2) 1-3 key member pieces will be dug into the streambank per structure.
- (3) 2-5 pieces of wood will be pinned at each site.
- (4) Boulders will be used as ballast, where available.
- (5) Structures are designed in the low gradient portions of the stream.
- (6) Minimum of 2 large trees (> 20" dbh) will be installed in each structure.

List the major project activities and time schedule for each, including post project implementation.

Element	Description	Start Date	End Date
Tree removal and stage	Trees and racking material will be removed from closed road and within the 100' - 300' zone (away from the stream) on each side of Fly Creek.	5/2020	6/2020
Structure construction/woodplacement	Construction of instream fish structures and whole tree placement within Fly Creek.	7/2020	7/2020
Seeding	Seeding disturbed areas.	9/2020	11/2020
Planting seedlings	Hand plant 9500 seedlings.	10/2020	11/2020

Element	Q2 2020	Q3 2020	Q4 2020
Tree removal and stage			
Structure construction/woodplacement			
Seeding			
Planting seedlings			

**Habitat Types**

*In which habitat type(s) are you proposing to work?*

- Instream Habitat: below the ordinary high water mark (includes in-channel habitat restoration, bank stabilization, flow, fish screening, and fish passage) -- Details will follow.*
- Riparian Habitat: above the ordinary high-water mark of the stream and within the stream's floodplain. -- Details will follow.*
- Upland Habitat: above the floodplain and improves native habitat and watershed function.*
- Wetland Habitat: land or areas covered, often intermittently, with shallow water or have soil saturated with moisture.*
- Estuarine Habitat: tidally influenced areas.*

**Instream Habitat**

*Select all applicable Instream categories.*

- Bank stabilization**
- Fish passage improvement**
- Fish screening project**
- Instream Flow**

### ✓ **Instream habitat restoration**

Select all the actions you propose to implement to address the problem.

✓ *Placement of materials in channel*

Does the proposed project follow:

✓ *ODFW Guidelines*

✓ *NOAA Guidelines*

*Other*

What types of instream habitat materials are you proposing to install? (select all that apply)

*Large wood*

*Boulders*

✓ *Combination log/boulder*

Number of structures

87

Average number of logs per structure.

14

Average length of logs per structure (feet)

50

Average diameter of logs per structure (feet)

1.3

Average number of boulders per structure.

2

Average size of boulders per structure (feet)

3.0

*Other materials: Materials that stabilize the streambed*

✓ *Channel reconfiguration and connectivity, including alcoves and side channel reconnection*

What type(s) of change are you proposing to the channel configuration and connectivity?

The project will activate old side channel scrolls through construction of full spanning log jams that will back water into the side channel inlets.

Acres off-channel or floodplain habitat connected

19

Number of pools created/added

38

*Spawning gravel placement*

*Beaver reintroduction*

*Non-native plant control*

*Nutrient enrichment*

*Animal species removal*

Is the primary purpose of the instream habitat restoration treatment(s) to address water quality limiting factors?

- Yes  
 No

Total miles of stream to be treated with all instream habitat restoration treatments  
3.50

Stockpiling logs

## Riparian Habitat

*Select all applicable Riparian categories.*

- Riparian road activities  
 Fencing and other materials for habitat protection

Vegetation establishment or management

*Select all the actions you propose to implement to address the problem.*

Planting

For Details Go to Plant Page

Non-native plant control

Prescribed burnings, stand thinning, stand conversions, silviculture

Juniper treatment

Livestock management

Debris and Structure Removal

Is an objective of the riparian treatment(s) to address water quality limiting factors?

- Yes  
 No

High Temperature

Total linear stream miles to be treated.  
3.5

Total riparian acres to be treated.  
21

Left streambank miles to be treated.  
3.5

Right streambank miles to be treated.  
3.5

## Wrap-Up

### Watershed Benefit

Describe the watershed or ecosystem function(s) that the project will address through the proposed restoration actions and the resulting benefits to water quality, native fish and wildlife habitat, and/or watershed health. Explain why the project is a priority for investment at this time.

This project will increase floodplain inundation, habitat complexity, pool quantity/quality and side channel activation. The spring/summer chinook and summer steelhead need these habitat components and water quality improvements to improve spawning, rearing and migratory habitat. This project is a priority, due to the emphasis on Tier 1 projects within the Upper Grande Ronde River Watershed.

### Public Awareness

Does this proposed project include public awareness activities?

- Yes  
 No

### Design

Were design alternatives considered?

- Yes  
 No

Describe the design alternatives that were considered and why the preferred alternative was selected.  
Design alternatives were analyzed using flow mapping, Lidar, and hydraulic modeling.

Select the appropriate level of design for your project.

- No design is required.  
 10-30%: Conceptual design (evaluation of alternatives, concept-level plans, design criteria for project elements, rough cost estimates).  
 30-85%: Preliminary design (selection of the preferred alternative, draft plans, draft design report, preliminary cost estimates).  
 85-100%: Final design (final design report, plans, and specifications, contracting and bidding documents, monitoring plan, final cost estimate).

If work remains on the project's design, describe the work that remains to be done and when you expect to have it completed. If no design is required put "N/A"

The design will be 80% completed at the time of the proposal deadline. This will be sent separately to GRMW before the deadline. The finished product will be completed in December of 2019.

Describe the steps you will take to minimize adverse impacts to the site and adjacent lands during and after project implementation.

Project implementation will avoid wetlands, use existing/closed road prisms, and stay on existing designated skid trails where possible. All disturbed areas will be rehabilitated with an excavator to mimic natural conditions and add floodplain wood. The areas will also be seeded, where erosion potential is high.

## Project Management

List the key individuals, their roles, and qualifications relevant to project and post project implementation. At a minimum include the following: project management, project design, project implementation, and project inspection.

Role	Name	Affiliation	Qualifications	Email	Phone
Project design, implementation and inspection.	Joe Platz	USFS (Biological Technician)	Joe Platz is a biological technician for the US Forest Service. Joe Platz has a Bachelor of Science degree from OSU in Fisheries Science. He has been involved in designing and implementing restoration projects since 1989.	joe.platz@usda.gov	(541) 962-8571
Design	Sean Welch	BPA (Engineer)	Fish and Wildlife Engineering Technical Services Team Leader	spwelch@bpa.gov	(503) 230-7691
Design	Erin Ryan	USFS - Civil Engineer	B.S. in Civil Engineering (Bio-Resources)(MSU) & an M.S. in Civil Engineering (Hydraulic engineering/stream restoration/river mechanics)(CSU). EI licensed in MT & worked in the federal govt. for 5 years on fish restoration and passage projects.	erin.ryan@usda.gov	(406) 491-1262

## Optional Monitoring

### OPTIONAL: Restoration Project Monitoring

- Salmonid Monitoring*
- Non-salmonid biological monitoring*
- Water (quantity) flow monitoring*
- Water quality monitoring*
- Rangeland monitoring*
- Onsite*
- Downstream*
- Upstream*
- Upslope*

Will effectiveness monitoring be conducted for this project?

- Yes  
 No

Please describe the monitoring activities and any additional sources of funding (amount and source) to support this effort.

Monitoring consists of the following:

- (1) Drone: Drone imaging will be collected, yearly, for five years by GRMW.
- (2) 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.
- (3) Structure construction: Monitoring of structures would involve photo points of before and after operations occur. Follow up photo points would occur at year 1 - 3 after project completion. This monitoring will be completed by the USFS.
- (4) 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 (depending on funding). This monitoring will be completed by the USFS.
- (5) Noxious weeds: Noxious weeds would be monitored, yearly, for three years after project operations. This monitoring will be completed by the USFS.

## Budget

Item	Unit Type	Unit Number	Unit Cost	OWEB Funds	External Cash	External In-Kind	Total Costs
<b>Salaries, Wages and Benefits</b>							
			\$0	\$0	\$0	\$0	\$0
<b>Category Sub-total</b>				<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Contracted Services</b>							
			\$0	\$0	\$0	\$0	\$0
<b>Category Sub-total</b>				<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Travel</b>							
			\$0	\$0	\$0	\$0	\$0
<b>Category Sub-total</b>				<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Materials and Supplies</b>							
			\$0	\$0	\$0	\$0	\$0
<b>Category Sub-total</b>				<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Equipment</b>							
			\$0	\$0	\$0	\$0	\$0
<b>Category Sub-total</b>				<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Other</b>							
			\$0	\$0	\$0	\$0	\$0
<b>Category Sub-total</b>				<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Modified Total Direct Cost Amounts</b>				<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Indirect Costs</b>							
		0%					<b>Indirect Cost Total: \$0</b>
<b>Total</b>				<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

\* = OWEB funds excluded from indirect.

If the budget includes unusually high costs and/or rates, provide justification for those costs and/or rates.

If the budget identifies a contingency amount for specific line item(s) within the Contracted Services and Materials and Supplies budget categories, explain the specific reasons a contingency is needed for each line item. Contingencies are line-item specific and cannot be used for other costs.

## Funding and Match

### Fund Sources and Amounts

Organization Type	Name	Source Note	Contribution Type	Amount	Description	Status
Federal	United States Forest Service		In-Kind - Materials	\$191,926	Includes trees, boulders, seed and vehicle	Secured
Federal	Bonneville Power Administration		Cash	\$295,813	Includes salary, contracted services and materials.	Pending
Federal	US Forest Service	NEPA/Project Engineer	In-Kind - Labor	\$28,120	NEPA/Project Engineer	Secured
<b>Fund Source Cash Total</b>			<b>\$295,813</b>	<b>Fund Source In-Kind Total</b>		<b>\$220,046</b>

### Match

Contribution Source-Type: Description	Amount
United States Forest Service-In-Kind - Materials: Includes trees, boulders, seed and vehicle	\$0
Bonneville Power Administration-Cash: Includes salary, contracted services and materials.	\$0
US Forest Service-In-Kind - Labor: NEPA/Project Engineer	\$0
<b>Match Total</b>	<b>\$0</b>

Do match funding sources have any restrictions on how funds are used, timelines or other limitations that would impact the portion of the project proposed for OWEB funding?

- Yes  
 No

Do you need state OWEB dollars (not Federal) to match the requirements of any other federal funding you will be using to complete this project?

- Yes  
 No

Does the non-OWEB cash funding include Pacific Coast Salmon Recovery Funds?

- Yes  
 No

## Uploads

Map: [LowerFlyCkRestoration\\_062019.pdf](#) -

Photos: [LOWER FLY CREEK RESTORATION PROJECT.pdf](#) -

Figures and Tables: [Headwaters UGR Partnership - Fly Creek Application Budget Template.pdf - Budget](#)

## Plant Page

### Planting Questions

#### Relationship to other conservation programs

This project will use OWEB funds to increase the planting density on CREP acres.

### Planting Activities

Describe the current condition of the site(s) to be planted.

Approximately, 90% of the riparian area is well vegetated with alder, dogwood, cottonwood and other deciduous vegetation. Tree species include Douglas-fir, Ponderosa pine, Englemann spruce, Western larch and White fir.

Describe how you will prepare the site(s) prior to planting and how those activities are appropriate considering the site conditions described in the previous question.

A total of 4,500 deciduous seedlings and 5,000 conifer seedlings will be planted in the project area. Native species will be used. All of the planting will be completed by hand. The planting will target all of the disturbed areas within the project area. Deciduous species selected are those that are abundant in the area and/or are the preferred food sources for beavers.

Fill out the table below. Identify the vegetation communities you plan on planting in, the acres each vegetation community encompasses, and the density of your planting.

Vegetation Community	Acres	Density
Riparian Area	21	452

Fill out the table below for each vegetation community listed in the table above, provide the common and scientific names of up to five plants that will be planted, the form(tree, shrub, grass), type of plant (bare root, cutting, etc) and the planting timing.

Vegetation Community	Plants: Common Name	Plants: Scientific Name	Form	Type	Year	Month
Riparian area	Cottonwood	Populus trichocarpa	Tree	Plugs	2020	October
Riparian area	Coyote willow	Salix interior	Shrub	Plugs	2020	October
Riparian area	Mtn. alder	Aldus incana	Shrub	Plugs	2020	October
Riparian Area	Ponderosa Pine	pinus ponderosa	Tree	Plugs	2020	October
Riparian Area	Western larch	Larix occidentalis	Tree	Plugs	2020	October

## **Plant Stewardship**

After the plantings are installed, will you conduct plant stewardship (“free to grow”)?

- Yes  
 No

Are you requesting OWEB funds for plant stewardship activities?

- Yes  
 No

Explain how you plan to carry out activities to help the plantings survive and grow over time.

The plants will be planted in disturbed areas, where no competition from other vegetation will occur. In the past, we have had very good success with this type of planting.

## **Measures of Planting Success**

Use the table below to explain how you will document and determine success for the plantings.

<b>Vegetation Community</b>	<b>Parameter</b>	<b>Percentages</b>
Riparian area (shrubs)	Percent Survival	70%
Riparian area (trees)	Percent Survival	90%
Riparian area (grass/forbs)	Percent Survival	90%

If, in the course of the 3-5 years following planting, the success rate falls below your standard, what is your plan?

Our plan is to replant/seed where applicable. However, the amount of replanting will depend on future funding.

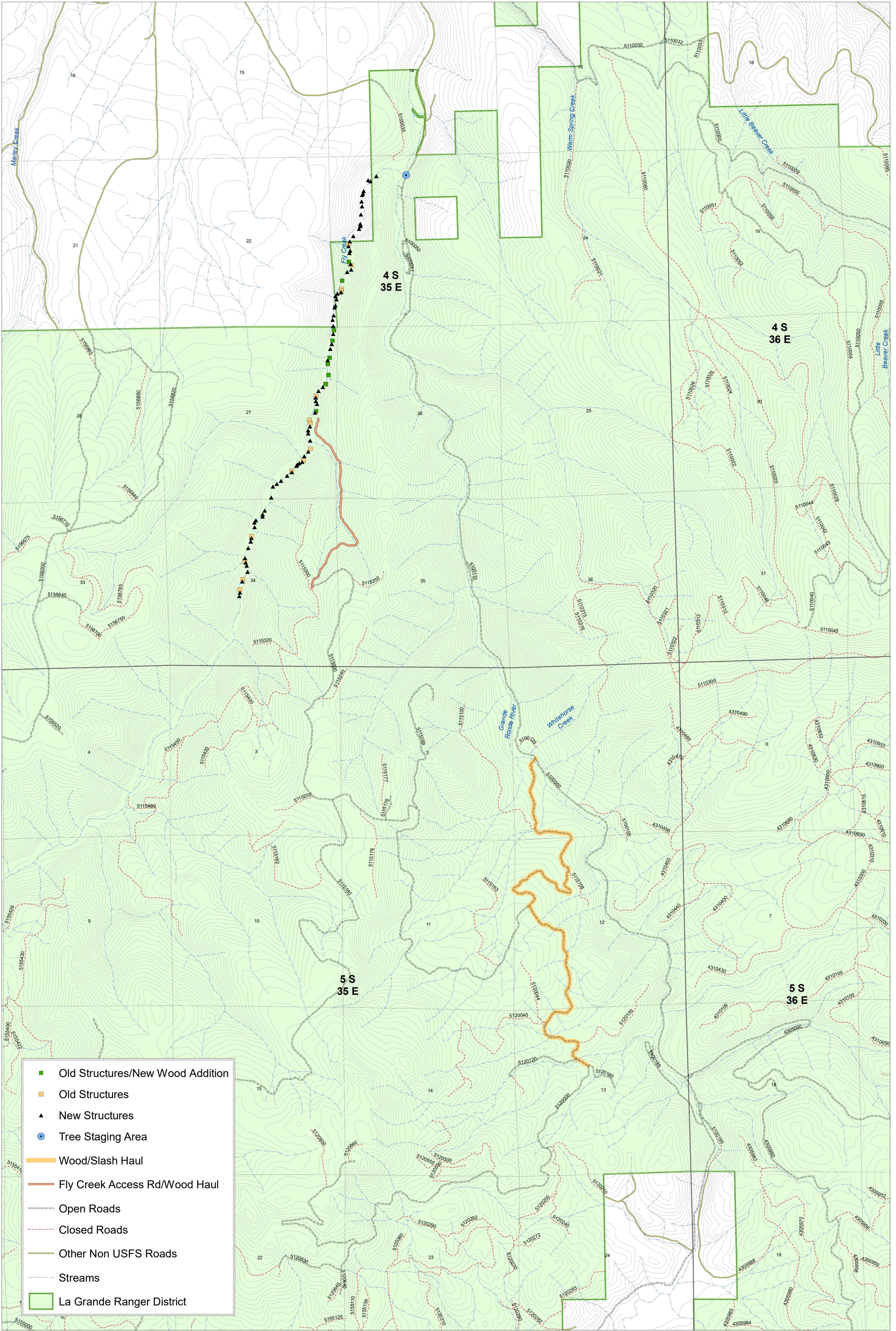
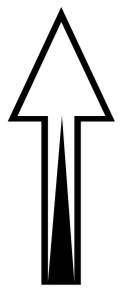
## Permit Page

Project Activity Requiring a Permit or License	Name of Permit or License	Entity Issuing Permit or License	Status
Instream wood/boulder placement	Regional General Permit & General Permit	Army Corps of Engineers & Dept. of State Lands	Programmatic permits - obtained in March 2020
Entire Project	NEPA	USFS	Will be completed in February of 2020.
Entire project	ESA clearance	USFW and NOAA	Programmatic (ARBOII) will be completed March 2020

# LOWER FLY CREEK RESTORATION PROJECT

## 2020

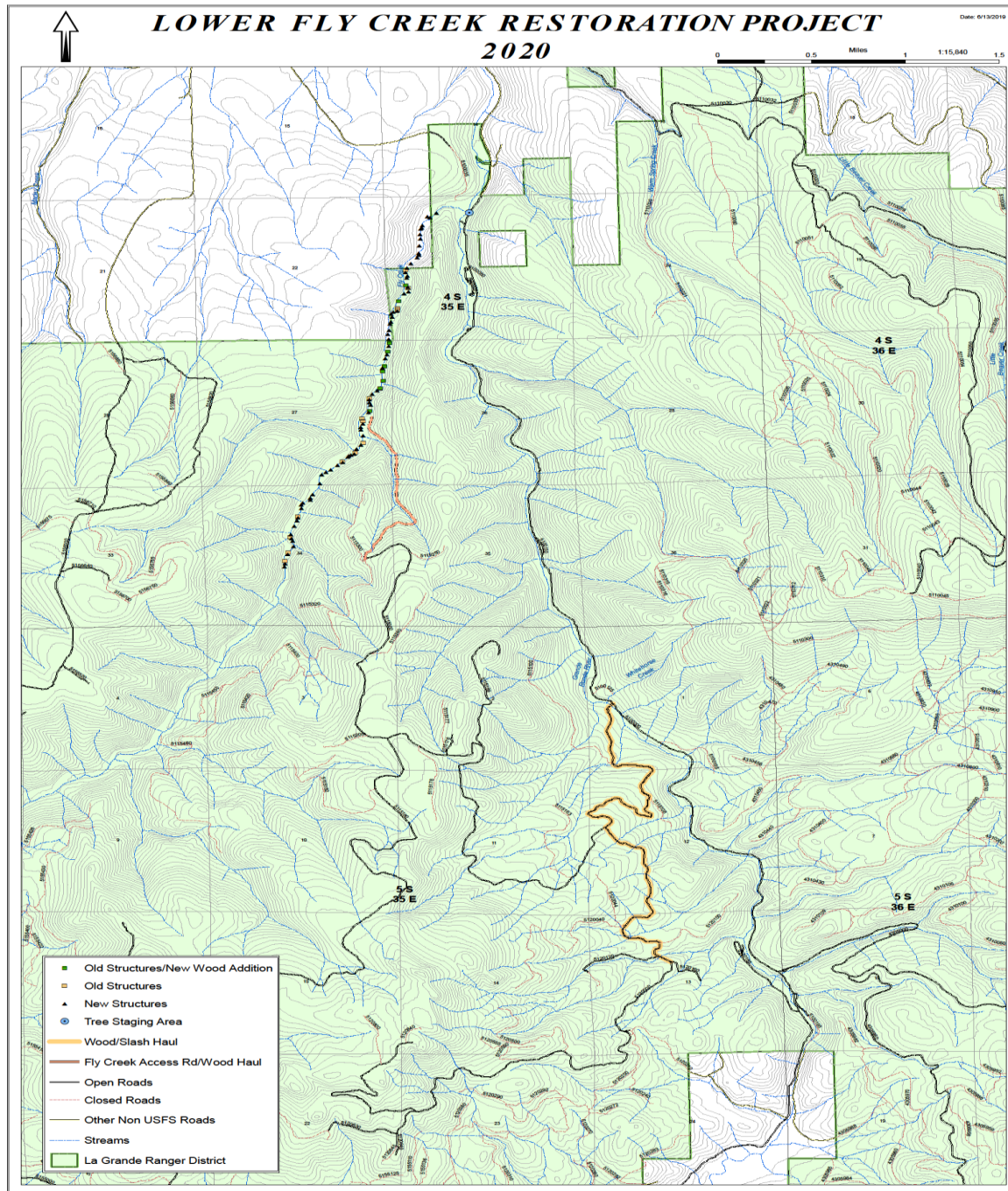
Date: 6/13/2019



- Old Structures/New Wood Addition
- Old Structures
- ▲ New Structures
- Tree Staging Area
- Wood/Slash Haul
- Fly Creek Access Rd/Wood Haul
- Open Roads
- Closed Roads
- Other Non USFS Roads
- Streams
- La Grande Ranger District

# LOWER FLY CREEK RESTORATION PROJECT





**Project length: 3.5 mi.**

**Existing conditions:**

- (1) Sheep Allotment
- (2) Sill logs added in late 1980s/early 1990s
- (3) Large wood, streambottom road recontouring and planting in 2009.
- (4) .75 mile of private land (Todd Smith)

# Lower Fly Creek

- 2020 Construction
- Within UGR 15 Tier 1 Node
- Equipment accessible
- Trees and racking material onsite
- **Objectives:**
  - Engage floodplain
  - Habitat complexity
  - Activate side channels
  - Pool quality/quantity





# Design on Lower Fly Creek (3.5 miles)

- Target low gradient, floodplain inundation, & side channel activation areas
- 80: Type A debris jams sites: Full channel jam construction
- 7: Type C habitat structures
- 150 whole trees
- 200 pieces of Floodplain wood
- 2 - 2.5: 10 yard loads of racking material per site
- Boulders placed for ballast, where available.
- Would like to dig 2-3 key wood pieces & pin 3-5 pieces per site.
- Total of 1550 large wood pieces (950 trees), and 2,140 yards of racking mat.
- Seeding and planting
- \*\*An additional 500 large wood pieces would be flown into Lower Fly during Middle Fly and MUGRII.



# Lower Fly Creek Project Budget

- **BUDGET**
- Log loader: \$42,000
- Excavators: \$74,250
- Salary: \$25,813
- Tree removal/stage contract  
\$151,250
- Materials \$ 2,500
- Overhead (10%) \$29,581
  
- **Total**  
**\$325,294**



**BUDGET**  
**LOWER FLY CREEK RESTORATION PROJECT**

Totals automatically round to the nearest dollar

A	B	C	D	E	F	G	H	
<i>Itemize projected costs under each of the following categories:</i>	<b>Unit Number</b>	<b>Unit Cost</b>	<b>Unit Type</b>	<b>BPA Funds</b>	<b>Cash Match</b>	<b>In-Kind Match</b>	<b>Total Costs</b>	
	(e.g., # of days)	(e.g., daily rate)					(add columns D, E, F)	
<b>SALARIES, WAGES AND BENEFITS.</b> List position titles, include only costs of employees charged to this grant.								
Biological Technician (Joe Platz)	50	\$360	8 hr day	18,000			18,000	
Biological Technician	31.25	\$250	8 hr day	7,813			7,813	
Project Engineer	20	\$404	8 hr day		8,080		8,080	
NEPA/Support Staff	60	\$334	8 hr day		20,040		20,040	
<b>SUBTOTAL (1)</b>				0	25,813	28,120	0	53,933
<b>CONTRACTED SERVICES.</b> Labor, supplies, and materials to be provided by <i>non-staff</i> for project implementation.								
Tree removal and stage contract	1	\$151,250	contract	151,250			151,250	
Log loader to construct structures	200	\$210	hr	42,000			42,000	
Excavators to construct structures/rehab.	450	\$165	hr	74,250			74,250	
<b>SUBTOTAL (2)</b>				0	267,500	0	0	267,500
<b>TRAVEL.</b> Mileage, per diem, lodging, etc. Must use current State of Oregon rates.								
USFS vehicle	40	\$4.30	day		172		172	
Truck mileage	2000	\$0.55	mile		1,100		1,100	
<b>SUBTOTAL (3)</b>				0	0	1,272	0	1,272
<b>MATERIALS/SUPPLIES.</b> Refers to items that are "used up" in the course of the project. Costs to OWEB must be directly related to the implementation of this grant.								
Conifer seedlings for replanting	5000	\$1	seedling			5,000	5,000	
Deciduous seedlings for replanting	4500	\$1.95	seedling			8,775	8,775	
Rebar	800	\$3	foot	2,500			2,500	
Boulders (FSS)	160	\$200	bldr			32,000	32,000	
Trees (FSS)	950	\$150	tree			142,500	142,500	
Native Seed	250	\$10	pound			2,500	2,500	
<b>SUBTOTAL (4)</b>				0	2,500	0	190,775	193,275
<b>EQUIPMENT/SOFTWARE.</b> List portable equipment costing \$300 or more per unit. Must remain property of a governmental entity, tribe, watershed council, SWCD, institution of higher learning or school district.								
							0	

A	B	C	D	E	F	G	H
<i>Itemize projected costs under each of the following categories:</i>	<b>Unit Number</b>	<b>Unit Cost</b>	<b>Unit Type</b>	<b>BPA Funds</b>	<b>Cash Match</b>	<b>In-Kind Match</b>	<b>Total Costs</b>
	(e.g., # of days)	(e.g., daily rate)					(add columns D, E, F)
							0
<b>SUBTOTAL (5)</b>			0	0	0	0	0
<b>OTHER.</b> Costs must be necessary and reasonable for successful completion of this grant.							
							0
							0
<b>SUBTOTAL (6)</b>			0	0	0	0	0
<b>[Add subtotals above] MODIFIED TOTAL DIRECT COSTS (7)</b>			0	295,813	29,392	190,775	515,980

<b>GRANT ADMIN.</b> Select one of the methods below. Fill in the requested rate. Compute by multiplying MTDC (7) line by this rate.							
Federally Negotiated Indirect Cost Rate	X	10%		29,581			29581
Federally Accepted 10% <i>de minimis</i>	<input type="checkbox"/>						0
OWEB Negotiated Indirect Cost Rate	<input type="checkbox"/>						0
<b>SUBTOTAL (8)</b>			0	29581	0	0	29581
<b>POST-GRANT.</b> Pre-paid costs (\$3,500 or less) that are associated with either post implementation status reporting or effectiveness monitoring or plant							
Post-Implementation Status Reporting (\$3,500 or less)	/yr						0
Effectiveness Monitoring (\$3,500 or less)	/yr						0
Plant Establishment (\$3,500 or less)	/yr						0
<b>SUBTOTAL (9)</b>			0	0	0	0	0

**GRANT BUDGET TOTAL** \*Totals automatically round to the nearest dollar

<b>GRANT BUDGET TOTAL</b> [Add Totals (10), (11), and (12) as applicable]	0	325,394	29,392	190,775	545,561
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