

Application Name: SMALL STREAMS_Restoration

By: Grande Ronde Model WS Foundation

Offering Type: Open Solicitation

Application Type: Restoration

OWEB Region: Eastern Oregon

County: Union

Coordinates: 45.077093,-118.341769

Applicant:

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Payee:

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Project Manager:

Joe Platz
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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 Small Streams Project involves Lookout Creek (3 miles), Meadowbrook Creek (.75 mile), and Smith Creek (2.0 miles)(total of 5.75 miles). The project is located within the Upper Grande Ronde River Watershed (1706010401) and Meadow Creek Watershed (1706010402). These streams are all primarily steelhead and redband trout streams. Historic beaver trapping, timber harvest, grazing, mining and roading have created a laterally confined channel, with limited floodplain interaction and diminished vegetation. The project would prioritize LWD placement (channel spanning jams, whole trees, and small wood material) 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 and increased riparian deciduous vegetation. 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?

USFS

Private (land owned by non-governmental entities)

Not applicable to this project

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

If applicable, select all the activities that are part of your project - These require a risk assessment tool unless otherwise noted (check all that apply).

- 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)
- Insurance not applicable to this project

Additional Information

This project affects Sage-Grouse.

Problem Statement

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

Overall Problem: The small streams and associated meadow habitats are not in proper functioning ecological condition (hydrologic, geomorphic, vegetative composition), due to historic management that included beaver trapping, over grazing, logging, road building, and an altered fire regime.

Sub-problem - Floodplain form and function/habitat complexity

The floodplains have limited water capture and retention capacity due to past anthropogenic influences. These deficiencies have lowered groundwater tables. This has resulted in lower riparian vegetation survival and vigor, a decreased ability to store water and buffer water temperature, less connection to the floodplain to moderate inchannel velocity, and lower quality fish habitat. Lack of floodplain form and function has resulted in a:

- * decrease in water storage and meadow/wetland habitats, resulting in drier site and mesic-site species encroachment. Drier habitats are less conducive to riparian deciduous woody vegetation species (Populus and Salix) that are important food and habitat for beaver populations.
- * potential increase of in-stream water temperatures from decreases 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.

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

Historic trapping, overgrazing, logging, road building, and an altered fire regime have degraded the small streams' watersheds ecological form and function. The loss of functional meadow and stream habitat adversely affects 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 within the small streams has contributed to channel incision, decreased habitat complexity, altered vegetative communities, and an altered flow/temperature regime. Beaver 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 decreases erosive forces that cause stream incision. Higher levels of surface and subsurface water retention expands riparian and wetland habitat along the stream. As beaver move in and out of systems, side channels often form, and more woody vegetation is recruited to the stream. This leads to increased habitat complexity for fish and wildlife. Historic overgrazing of sheep and later cattle reduced deciduous vegetation communities around the small streams. Overgrazing has also caused bank erosion, channel over-widening, and soil compaction. This has caused vertical erosion and channel incision. Channel incision has altered the stream systems by lowering streambeds and groundwater tables causing a further decrease in riparian vegetation. Currently, Smith Creek is not grazed, whereas Lookout and Meadowbrook Creeks are grazed with a rotational grazing system. Wild ungulate (elk and deer) browsing pressure is high in areas along all of the small streams. Historic logging practices caused a variety of problems in the small streams' watersheds.

High densities of roads near the small streams and its meadows 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 meadow systems often result in longterm soil compaction. The soil compaction can lead to a reduction in water holding capacity and infiltration into nearby meadow systems.

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 montane meadow systems. Less frequent, intense wildfires are more likely to have negative effects on meadows (erosion in 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 midstory fir/pine species on the edges of meadows and in some cases all the way up to the streambank. This early stage forest ecosystem dynamic increases competition for large tree regeneration, and contributes to meadow water loss through evapotranspiration. The restoration of small streams' form and function will address a combination of these interrelated problems through a physical approach to creek and meadow 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 planning area. 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, fish use, fish life stages, limiting factors, and floodplain availability. Restoration actions were identified during the planning process to address limiting factors in each BSR. Each reach is assigned a Tier with Tier 1 being the highest priority and Tier 3 being the lowest priority. Meadowbrook Creek is a Tier 1 BSR. Lookout Creek is located just upstream of a Tier 1 node on Fly creek. Smith Creek is a Tier II stream.

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?

The project will improve floodplain function, increase habitat complexity, increase off-channel habitats, lower stream temperatures, and increase riparian vegetation (shade, cover).

The project will also affect downstream fish habitat by promoting cooler water temperatures and an improved flow regime throughout the year.

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 the small streams and its meadows, 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 laterally confined channels to improve groundwater retention. Use Large Woody Debris (LWD) to restore stream grade, reduce hydraulic efficiencies, and increase floodplain meadow inundation time. LWD structures will be placed in locations to increase roughness and back up water.

Subgoal 2: Biological - Improve Fish Habitat

Restore channel habitat complexity. Structures will enhance pools, cover and floodplain connection. The structures will increase hydraulic complexity and zero velocity refugia on active channel margins. LWD structure types designed to meet fish habitat goals include: channel spanning structures to back water into pool habitat and small wood and whole tree placements.

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 to slow down and back up stream flows then:

- 2 years post implementation: 25% more of the floodplain will be inundated in the late summer season (June-July) than in 2018-19.
- Water storage will be quantified in terms of acres of inundated floodplain using drone technology.

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

- Deflect water into the floodplain for groundwater storage (hyporheic activity) and off channel fish habitat.
- Back water into existing fish habitat structures.
- Recruit fluvially sorted wood.
- Promote gravel deposition and spawning gravel recruitment.
- Recruit deciduous vegetation by increasing groundwater storage.
- Improve habitat for future use by beaver populations.
- Decrease conifer encroachment in meadow habitats.

No hypothesis will be tested for objective 2.

Strategy and Objectives 2: Place whole trees and small wood to:

- increase habitat complexity .
- fish cover.

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

Wood placement: The project will involve placing wood into a channel spanning log jam configuration into the above streams. The project would prioritize LWD placement (channel spanning log jams, whole trees and small wood material) 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, and increased riparian deciduous vegetation.

All of the wood for these streams would be obtained within 200 feet on each side of the streams. All of the wood and racking material would be felled and brought to the stream with the use of two mini excavators. Small debris jams will be placed in the streams and will average 30 - 40 debris jams per mile. Each debris jam will consist of 6 logs (9" – 12" in diameter and 20' long) with branches intact and racking material (consist of tree tops, branches and small trees less than 8" in diameter). An additional 50 whole trees (10" – 12" in diameter) with small wood will be spaced in between sites per mile. An average of 290 trees (9" – 12" in diameter) will be placed per mile. It is estimated that each log jam will consist of 5 yards of racking material.

All disturbed areas would be seeded with a native seed mix.

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

Element	Description	Start Date	End Date
Wood placement into streams.	Two mini excavators placing wood into Lookout, Meadowbrook and Smith Creeks.	6/2022	11/2022

Element	Q2 2022	Q3 2022	Q4 2022
Wood placement into streams.			

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*

Number of structures.
230

Average number of logs per structure.
6

Average length of logs per structure (feet)
20

Average diameter of logs per structure (feet)

.83

- Boulders
- Combination log/boulder
- Other materials: Materials that stabilize the streambed

- Channel reconfiguration and connectivity, including alcoves and side channel reconnection
- 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

✓ High Temperature

Total miles of stream to be treated with all instream habitat restoration treatments
5.75

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
- 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.
5.75

Total riparian acres to be treated.

45

Left streambank miles to be treated.

5.75

Right streambank miles to be treated.

5.75

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 and riparian vegetation. 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 I and II projects within the Upper Grande Ronde River Watershed. This Tier 1 BSR supports multiple fish species and life stages and has been identified as a critically important reach within the Atlas.

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.

Hand crews were considered to complete the work, however, it was determined that mini excavators will construct structures that better increase floodplain connectivity and inundation.

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"

N/A.

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

Ground disturbance will be minimal due to the use of mini excavators and obtaining trees onsite.

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	United States Forest Service - 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/implementing restoration projects since 1989.	joe.platz@usda.gov	(541) 962-8571

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.

(1) During the high and low flow period (April/May & August/September), side channel lengths and dimensions will be measured within the project areas prior to and after project implementation. Post project monitoring will occur for one year following implementation.

(2) 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.

(3) 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
Salaries, Wages and Benefits							
			\$0	\$0	\$0	\$0	\$0
Category Sub-total				\$0	\$0	\$0	\$0
Contracted Services							
			\$0	\$0	\$0	\$0	\$0
Category Sub-total				\$0	\$0	\$0	\$0
Travel and Training							
			\$0	\$0	\$0	\$0	\$0
Category Sub-total				\$0	\$0	\$0	\$0
Materials and Supplies							
			\$0	\$0	\$0	\$0	\$0
Category Sub-total				\$0	\$0	\$0	\$0
Equipment							
			\$0	\$0	\$0	\$0	\$0
Category Sub-total				\$0	\$0	\$0	\$0
Other							
			\$0	\$0	\$0	\$0	\$0
Category Sub-total				\$0	\$0	\$0	\$0
Modified Total Direct Cost Amounts				\$0	\$0	\$0	\$0
Indirect Costs							
	0%			\$0	\$0		\$0
Total				\$0	\$0	\$0	\$0

* = OWEB funds excluded from indirect.

Provide context and justification for how your budget was developed. Explain how project costs and/or rates were determined.

Does the budget identify a contingency amount for specific line item(s) within the Contracted Services and/or Material and Supplies budget category?

Yes

No

Funding and Match

No Fund Source Contribution Amounts have been identified for this application.

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No Fund Source Contribution Amounts have been identified for this application.

Fund Sources and Amounts

Organization Type	Name	Source Note	Contribution Type	Amount	Description	Status
Fund Source Cash				\$0	Fund Source In-Kind	\$0
Total					Total	

Match

Contribution Source-Type: Description	Amount
Match Total	\$0

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

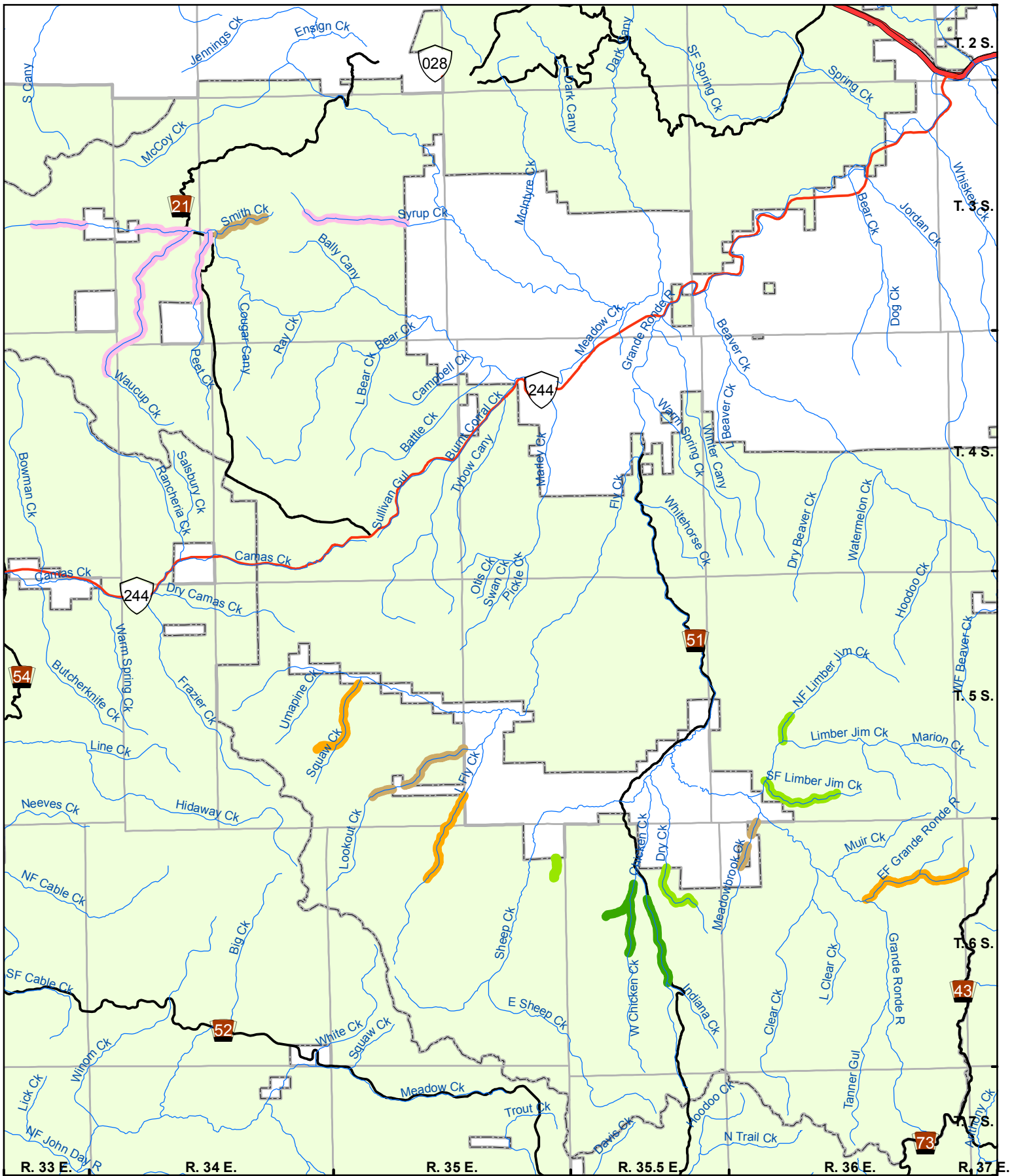
Map: [HeadwatersSmStr_Restoration_PrjTracking_2021.pdf](#) -

Bids: [Headwaters UGR Partnership - 2022 Small Streams Application Budget Template.pdf](#) -

Photos: [Small Sreams photos.pdf](#) -

Permit Page

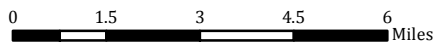
Project Activity Requiring a Permit or License	Name of Permit or License	Entity Issuing Permit or License	Status
Instream wood placement	Programmatic permit	Army Corps of Engineers	Will obtain in March, 2022.
Instream wood placement	Programmatic permit.	Army Corps of Engineers.	Will obtain in March of 2022.
Instream restoration	ESA consultation	NOAA and USFWS	Will be completed in February of 2022.
East Fork and Upper Fly Small Streams Project	NEPA	USFS	Will be completed by February of 2022



Date: 1/20/2021

HEADWATERS SMALL STREAM RESTORATION

1:195,000



Project Year

- █ 2019
- █ 2020
- █ 2021
- █ 2022
- █ 2023/2024

— Major Streams

— US or State Highway

— Interstate

— Major Road

Ranger District

BUDGET
SMALL STREAMS RESTORATION PROJECT

Totals automatically round to the nearest dollar

A	B	C	D	E	F	G	H
Itemize projected costs under each of the following categories:	Unit Number	Unit Cost	Unit Type	BPA Funds	Cash Match	In-Kind Match	Total Costs
	(e.g., # of days)	(e.g., daily rate)					(add columns D, E, F)
SALARIES, WAGES AND BENEFITS. List position titles, include only costs of employees charged to this grant.							
SUBTOTAL (1)				0	0	0	0
CONTRACTED SERVICES. Labor, supplies, and materials to be provided by <i>non-staff</i> for project implementation.							
Two mini excavators with rotating clam buckets (5.75 stream miles)	480	135	hr	64,800			64,800
NEPA, Biological Technician	55	360	8 hr days		19,800		19,800
SUBTOTAL (2)				0	64,800	19,800	84,600
TRAVEL. Mileage, per diem, lodging, etc. Must use current State of Oregon rates.							
USFS vehicle	40	4.3	day		172		172
Truck mileage	2000	0.55	mile		1,100		1,100
SUBTOTAL (3)				0	0	1,272	1,272
MATERIALS/SUPPLIES. 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.							
Trees (FSS)	1670	50	tree			83,500	83,500
Native Seed	10	100	pound			1,000	1,000
SUBTOTAL (4)				0	0	84,500	84,500
EQUIPMENT/SOFTWARE. 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
SUBTOTAL (5)				0	0	0	0
OTHER. Costs must be necessary and reasonable for successful completion of this grant.							
							0
SUBTOTAL (6)				0	0	0	0
[Add subtotals above] MODIFIED TOTAL DIRECT COSTS (7)				0	64,800	21,072	84,500
				0	64,800	21,072	170,372

A	B	C	D	E	F	G	H
<i>Itemize projected costs under each of the following categories:</i>	Unit Number	Unit Cost	Unit Type	BPA Funds	Cash Match	In-Kind Match	Total Costs
	(e.g., # of days)	(e.g., daily rate)					(add columns D, E, F)
GRANT ADMIN. 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						0
Federally Accepted 10% <i>de minimis</i>	<input type="checkbox"/>						0
OWEB Negotiated Indirect Cost Rate	<input type="checkbox"/>						0
SUBTOTAL (8)			0	0	0	0	0
POST-GRANT. Pre-paid costs (\$3,500 or less) that are associated with either post implementation status reporting or effectiveness monitoring or plant establishment costs. List each separately.							
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
SUBTOTAL (9)			0	0	0	0	0

GRANT BUDGET TOTAL *Totals automatically round to the nearest dollar

GRANT BUDGET TOTAL [Add Totals (10), (11), and (12) as applicable]	0	64,800	21,072	84,500	170,372
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EXAMPLE OF MINI WORK



EXAMPLE OF MINI WORK





LOOK OUT CREEK