



# R & E Grant Application 21-23 Biennium

Project #: 21-010

## *Carcus Creek Habitat Enhancement*

### *Project Information*

---

**Requested Cycle:** 21-1  
**R&E Project Request:** \$43,500  
**Other Funding:** \$253,000  
**Total Project:** \$296,500  
**Spending Start Date:** 4/1/2021  
**Spending End Date:** 11/30/2022  
**Project Start Date:** 3/1/2021  
**Project End Date:** 12/31/2025  
**Organization:** Lower Columbia River Watershed Council

### *Fiscal Officer*

---

**Name:** Nathan Herr  
**Address:** 35285 Millard Road  
St. Helens, OR 97051  
**Telephone:** 5034333205  
**Telephone 2:**  
**Fax:**  
**Email:** nathan.herr@columbiaswcd.com.

### *Applicant Information*

---

**Name:** Malyssa Legg  
**Address:** 35285 Millard Rd.  
St. Helens, OR 97051  
**Telephone:** 503-433-3205 x107  
**Email:** malyssa.legg@columbiaswcd.com

### *Past Recommended or Completed Projects*

---

This applicant has no previous projects that match criteria.

## **Location Information**

---

### **Where is it?**

The project will occur on private land owned or managed by another party

### **Landowner Information**

**Name:** Evenson Logging Company  
**Affiliation:** Private timber company  
**Address:** 476 Nehalem Street  
Clatskanie, OR, 97016  
**Phone:** (503) 728-2411  
**Email:** office@evensonlogging.com

### **Site Description**

*Street Address, nearest intersection, or other descriptive location.*

6.8 miles on Swedetown Rd from Highway 30. Stop at logging gate. Walk to Carcus Creek on 1st logging spur road on the left.

*Directions to the site from the nearest highway junction.*

Approximately 7 miles on Swedetown Rd from Highway 30.

*Following project completion, public anglers will be allowed the following level of access to the project site:*

Limited access

*Please describe what leases, easements, agreements are in place to ensure angler access to the project site, and what is the length of each agreement.*

N/A

*Dominant Land Use Type:*

Forest

### **Project Location**

*General Project Location.*

**County:** COLUMBIA  
**Town/City:** Clatskanie  
**ODFW Dist:** North Willamette  
**Stream/Lake/Estuary Name:** Carcus Creek  
**Sub-basin:** 17080003  
**Tributary of:** Clatskanie River

*Specific Project Location.*

Latitude	Longitude
46.02531	-123.0905

## **Project Summary**

---

### **Project Summary**

Project #: 21-010  
Carcus Creek Habitat Enhancement

Last Modified/Revised: 2/18/2021 4:44:20 PM

Page 2 of 14

*Please provide a couple sentence summary of the proposal.*

The project provides necessary cost share for large scale habitat restoration project to install large wood structures and native riparian plant species along ~2 miles of tributary habitat. Ecological benefits will improve stream habitat function needed for expanding native fish population productive capacity and angling opportunities.

### Overall Project Goals

*Describe the primary goals or outcomes of the entire project, including elements not requesting funding from R&E.*

The primary goal of this restoration project is to improve salmonid and steelhead trout population productivity and survival capacity through habitat improvement activities in the form of large wood placement and native riparian plantings.

Outcome #1: Enhance substrate condition for spawning needs of local trout and salmonid populations. Placement of large wood will emulate natural sediment transport processes needed for nominal sediment size distribution for successful redd development.

Outcome #2: Expand habitat complexity through increased pool densities and side channel activation. Placement of wood will promote deep pool development and interaction with relic side channels. This will facilitate availability of quiet, protected areas for juvenile rearing and prey resource opportunities from re-established floodplain connectivity.

Outcome #3: Increase native plant diversity through strategic plantings along riparian forest corridor. Plantings will improve presence of conifer and forest floor understory species. Expanded diversity will contribute to habitat function through increased prey resources pathways to aquatic environment and long-term riparian recruitment of large wood.

### Primary objectives of R&E funding

*Please describe the measurable objectives for the R&E portion of the funding request.*

Improve instream stream complexity through large wood placement at 35 locations in 2 miles of stream on Carcus Creek. This will lead to availability of approximately 350 meters of side channel habitat.

Increase riparian plant diversity by 25% to improve stream habitat function. Preliminary planting plan has been developed that identifies species that emulate forest successional processes. This is done through rehabilitation of area disturbed by construction equipment and along stream corridor.

### Current Situation/Justification

*Please describe the current situation and explain why this funding is needed.*

Carcus Creek is an important fish bearing stream of broader Clatskanie River watershed system. It provides critical spawning and rearing habitat for multiple aquatic species including the southwestern Washington/lower Columbia River Coastal Cutthroat Trout, federally threatened Coho and Chinook salmon and lower Columbia River Winter Steelhead Trout. The historical practice of removing large woody debris from the channel prior to the 1960s stripped much of the spawning gravel from the river, homogenizing in-stream habitat, reducing floodplain connectivity. Legacy logging activities have also reduced riparian plant diversity, turning it into a monoculture of hardwoods and impacting forest capacity for longer term large wood recruitment. The absence of stream complexity and diversity is a known limiting factor to salmonid populations thereby inhibiting their ability to successfully

reproduce and negatively impacting juvenile survival through the winter. AQI surveys completed in the 1990s summarize this phenomena with project area expressing pool densities and riparian condition below established habitat benchmarks. Recent reconnaissance surveys conducted by project partners confirm contemporary existing condition summarized in proposal attachments. Attachments show representative snapshots of single channel stream morphology and riparian condition dominated by hardwood species.

### Recreation and Commercial Benefit

*This project will provide benefits to:*

Recreational fisheries  
Commercial fisheries

*Explain how this project will contribute to current (and/or potential) fishing opportunities, access, or fisheries management.*

The placement of large wood and installation of native riparian plants will increase spawning and rearing capacity for habitat needs of juvenile and adult trout, steelhead, and salmonid populations. Overtime this will contribute to enhanced stream productivity and fish densities for Carcus Creek and Clatskanie watershed. These benefits translate into higher adult returns for recreational and commercial angling interests. This is accomplished through enhanced stream complexity in the form of higher frequency of pool density, side channel activation, and substrate condition. Strategic placement of large wood will facilitate a more dynamic interaction with floodplain system and improve connectivity of stream corridor with adjacent riparian forest. This will generate development of food web pathways needed for improving stream productivity. Plantings will contribute to riparian habitat function in the form of expanded native plant species diversity. Overtime diverse riparian plant community will increase macro-detrital stream inputs that expand prey resource availability for foraging needs of local fish populations.

*Percent benefit split between Commercial and Recreational anglers:*

5 % Commercial  
95 % Recreational

*Please explain, or justify, how the percentage split was determined:*

Ecological benefits will expand productive capacity and adults and juvenile survival translate into elevated adult returns over time. Commercial anglers activity in Clatskanie River watershed is minimal. Real benefit to commercial anglers manifests in small harvest allotments for Coho and steelhead in Columbia River estuary. Benefits to recreational anglers is higher in the form of local community members and interest from broader region.

*This project has been identified as an ODFW priority for:*

Local/watershed

*Does this project directly support implementation of the ODFW Strategic Plan and/or current Fish Division priorities?*

Yes

Project supports all four goals of ODFW 2018 Strategic Plan. The project location is also aligns with ODFW Oregon Conservation Strategy. It is located Conservation Opportunity area and directly benefits strategy species such as coastal cutthroat trout, as well as local populations of steelhead trout, coastal coho, and chinook salmon.

*Please briefly explain when this was identified as a priority and what process or workgroup was used to identified this as an ODFW priority.*

Clatskanie watershed was identified as a priority for recovery in the Lower Columbia River

Recovery Plan. Project addresses key limiting factors identified in the plan including impaired complexity and diversity, access to off-channel habitats, excessive fine sediment.

*Identify any plan or other document that identifies this priority.*

Lower Columbia River Watershed Strategic Action Plan. Page 24, Carcus Creek, Reach #1 table for Lower Clatskanie Reaches. WEBSITE: <https://www.lowercolumbiariver.org/watershed-plan>

Oregon Conservation Strategy: The proposed project applies conservation actions to restore aquatic and riparian habitat and manage future sources of large wood.

*Is this project part of an approved Salmon-Trout Enhancement Program (STEP) activity?*

No

*This project is intended to benefit the following species:*

Fall Chinook Salmon  
Coho Salmon  
Lamprey  
Winter Steelhead  
Summer Steelhead  
Cutthroat Trout

*This project will benefit anglers or fishery by providing:*

Angling Opportunity  
Habitat Enhancements

#### Angling Opportunity

*This project will:*

Enhance natural production of fish stocks to levels that allow for recreational fishing opportunities  
Restore a degraded fishery

#### Habitat Enhancements

*The primary purpose of this project is to improve/increase:*

In water structure, complexity, and habitat  
Planting or vegetation management  
Riparian - reduce bank erosion

### **Project Description**

---

#### Schedule

Activity	Date	RE Funding
Environmental Planning and Permitting-Engage regulatory community to verify permitting needs and best management practices for project.	March, 2021	No
Construction scoping-Finalize project logistics such as access, material procurement, staging areas, project BMPs, riparian planting plan and revised construction estimates based on availability of materials and market prices.	March, 2021	No
Request for proposals-In collaboration with project partners develop solicitation package reflective of cost and permitting conditions.	April, 2021	No
Implementation-Develop construction management plan to define project partner roles, communications, and contingencies during in-water construction.	July, 2021	Yes

Monitoring-In collaboration with ODFW conduct monitoring activities for validation of construction, and effectiveness monitoring based on project goals and objectives.	October, 2021	No
Additional planting events based on site response from in-water work in 2021.	February 2022	Yes
Additional construction as needed based on level of completion in 2021 and site response from treatments and high flow events.	July, 2022	Yes
On going monitoring with project partners to ensure ecological goals are being met.	2022-2025	No

### Permits

Permit	Secured?	Date Expected
ODF Forest Practices Notification	No	March 2021

### Project Design and Description

*Please describe in detail the methods or approach that will be used to achieve the project objectives.*

This restoration project will address the loss of critical habitat component by installing large wood throughout the project reach (~2 stream miles) as described by the Oregon Department of State Lands, Forestry and Fish and Wildlife's Guide to Placement of Wood, Boulders and Gravel for Habitat Restoration. Project directly contributes to recovery goals established for the Clatskanie river in the form of restoring off-channel habitat and habitat complexity along with improving riparian condition. Project adds an average of 10 pieces of wood every 330 feet. Key member pieces will play an important role in allowing additional volume to deposit overtime that allow site to evolve toward state benchmark of 30 pieces every 330 feet.

Opportunities have been identified in the field with assistance from ODFW staff where current large wood is lacking and would naturally occur. The attached map is the initial scope and distribution of log placement (see Implementation Strategy). Final placement will be determined based on project budget, large wood availability, and construction equipment access. All logs will be harvested from an upland site with a diameter at breast height of no less than 16". Key logs will consist only of coniferous material. Key logs without root wads will have a trunk length no less than 2x the bankfull width and those with a root wad will be no less than 1.5x the bankfull width. Existing trees and pin logs will be used to hold logs in place by orienting logs in a manner that locks them in place during high flows. Placement will be focused on making sure flows force the in-stream section of the log downstream the middle of the log is pushed against a downstream existing tree and the butt end of the log is pushed against another more inland existing tree. The stability will also be increased by strategically adding additional logs to create "pinch points" locking wood in place. In addition, one log can be placed on top of another so the weight of the top tree can pin the second tree down.

The addition of installed large wood will over time create side channels in this system, providing critical spawning and rearing habitat as well as providing refugia from high flows during storm events. Throughout the completion of this project, the riparian zones will be altered to allow construction equipment for large wood placement. Attention will be made to keep disturbance at a minimum, and all areas will be replanted with native vegetation using the upper and lower reaches as a reference site. During this project, in areas of disturbance, plantings will occur to create pockets of native diversity. Additional plantings will occur beyond project footprint to expand riparian plant diversity along stream corridor according to planting plan informed by nearby functioning riparian conditions with input from project partners.

### Engineering

*Does the project involve capital improvement, engineering, site grading or other construction?*

Yes

Not associated with ODFW

## Project Management and Maintenance

*What is the life expectancy of R&E funded construction, structures, equipment, supplies, data or fishery?*

It is anticipated that project maintenance will be minimal and the site will be allowed to passively evolve overtime from large wood placement. Using established guidance from the state along with collective experience of the selected contractor, management team, logs will be placed strategically in line with stream's geomorphic trajectory.

*Who is responsible for long term management, maintenance, and oversight of the project beyond what is funded by R&E.*

The watershed council, local landowner, Columbia Soil and Water District, and ODFW staff will collectively monitor the site overtime to track stream profile shifts from log placement as well as riparian plant survival. Monitoring will track pool development, sediment response, and side channel activation. On going monitoring from ODFW program will allow tracking of fish presence and densities overtime as site responds to restoration actions.

*Will the project require ongoing maintenance?*

No

*Is there a plan to collect baseline data and to conduct monitoring efforts to measure the effectiveness of the project?*

Yes

Baseline datasets exists for fish presence in the Carcus creek area. It is anticipated that wood placement will contribute to increased pool densities that will improve spawning and rearing capacity for local trout, steelhead, and salmon populations. This positions the project to conduct effectiveness monitoring to track biological response from restoration treatments. Monitoring will provide validation of project assumptions regarding improved stream productivity for rearing and spawning capacity of targeted fish populations and relative contribution to recreational and commercial angling. Discussions are underway to expand monitoring sites to include selected restoration areas for understanding fish use including snorkling surveys and adult spawning activity.

## Project Funding

---

### Funding

*Have you applied for OWEB funding for this project?*

Yes

OWEB application number: 221-1001

Received an award.

R&E money is needed as matching funds.

At writing of this grant final decision from OWEB board is not anticipated until March 2021.

*Has this proposal, or similar proposal for this project location, previously been denied by OWEB or other funding source?*

No

Other Funding Source	Type	Secured	Dollar Value	Comments
Oregon Watershed Enhancement Board	Cash	Secured	43500	Construction mobilization, site prep, log installation, site rehabilitation, riparian plant installation.

Columbia Soil and Water Conversation District.	In-Kind	Secured	9000	Project management in-kind
Lower Columbia Watershed Council	In-Kind	Secured	7000	Project management in-kind
ODFW Resource Coordinator	In-Kind	Secured	5000	Design guidance and implementation support
		Total	64500	



## Budget

Item	Unit Number	Unit Cost	In-kind or non-cash contributions	Funding from other sources	R&E Funds	Total Costs
PROJECT MANAGEMENT						
Watershed Council Coordinator	200	50.00	7000	3000	0	10000
SWCD Resource Conservationist	240	50.00	9000	3000	0	12000
		SUBTOTAL	16000	6000	0	22000
IN-HOUSE PERSONNEL						
ODFW Fish Biologist	100	50.00	5000	0	0	5000
		SUBTOTAL	5000	0	0	5000
CONTRACTED SERVICES						
Construction Mobilization	1	15000.00	0	15000	0	15000
Construction-Clearing and Access	1	7500.00	0	7500	0	7500
Construction-Log Structures	35	3000.00	0	67500	37500	105000
Construction-Seeding, mulching, and installing plantings	1	10000.00	0	7500	2500	10000
		SUBTOTAL	0	97500	40000	137500
TRAVEL						
			0	0	0	0
		SUBTOTAL	0	0	0	0
SUPPLIES/MATERIALS						
Rootwad Logs	60	950.00	0	57000	0	57000
Logs without rootwads	140	325.00	0	45500	0	45500
Bare root plants	2000	1.00	1000	1000	1000	3000
Potted plants	1000	3.00	0	3000	0	3000
		SUBTOTAL	1000	106500	1000	108500
EDUCATION/OUTREACH						
			0	0	0	0
		SUBTOTAL	0	0	0	0
EQUIPMENT						
			0	0	0	0
		SUBTOTAL	0	0	0	0
FISCAL ADMINISTRATION						
Columbia SWCD Admin (5%)	0	0.00	0	21000	2500	23500
		SUBTOTAL	0	21000	2500	23500
		BUDGET TOTAL	22000	231000	43500	296500

## ***Internal Review Results***

---

**Review Score:** 1 out of 3

(0 = Do Not Fund, 1 = Strengthen Proposal, 2 = Recommend, 3 = Strongly Recommend)

### ***Summary of Review Team Comments***

While habitat projects are important for recovery of native species, the review team was not confident that this project could provide a direct or tangible benefit to anglers or meet the intent of previous board guidance. More information on the need for this restoration, lift it will provide, and benefit to the angler is needed. Scores included zero 3s, three 2s, four 1s, and three 0s.

### ***Specific Review Team Comments***

While this may be a decent habitat project, no information is provided to demonstrate that it will have any appreciable benefit to anglers or that it will measurably improve any population and move the needle toward delisting or recovery. Some information to include to help justify this include: how big is the run in this basin and how does that fit into a larger run, what portion of the available habitat types does this project improve, is there fishing in the basin or downstream, is this a critical population, the relative uplift expected from this project, benefit to recreational and commercial fisheries, etc.

Strengthen application by demonstrating that LWD is limiting for fish and below benchmarks. More information needs to be provided on the existing riparian component and the current conditions compared to proposed conditions.

- o What does it look like now? How will diversity be increased by 25%?
- o Is LWD deficiency documented by AHI surveys/benchmarks? Is root wads/logs every 10' of stream bank a normal for large wood projects?

Without a stronger connection to angler benefits, \$72,000 is a big ask from R&E.

A majority of funding is from OWEB (a more appropriate source) but not secured yet. Please provide an update on this funding prior to the R&E Board decision. It seems like the R&E request may be for "extra money" to pad the project budget or deal with contingencies. Please describe what would happen to the project if RE did not fund it?

The application currently includes a 5% administrative fee of \$3,450. The need for these costs needs to be justified in the application. Please refer to page 10 of the project proposal information packet for guidance and limits on administrative costs (\$2,500).

[https://www.dfw.state.or.us/fish/RE/docs/Project\\_Proposal\\_Informational\\_Packet\\_5-2017.pdf](https://www.dfw.state.or.us/fish/RE/docs/Project_Proposal_Informational_Packet_5-2017.pdf)

Landowner is listed as Evenson Logging Co., but in the engineering section it is listed as "ODFW land or managed by ODFW staff." Please verify and correct.

The project is listed as 100% Recreational, but Coho and Chinook are listed as species benefited. These are commercially valuable species and discussion on their input/value to commercial fisheries needs to be included.

### ***Specific Review Team Questions***

*Is there support for this project from within ODFW, that identifies this as a priority or necessary action?*

Carcus creek remains a priority area among ODFW staff include district conservationist and recovery plan coordinator. Actions are reflective of broader recovery goals and local strategic action plan developed by local watershed council.

*How was budget created if development of cost estimates is not scheduled until April?*

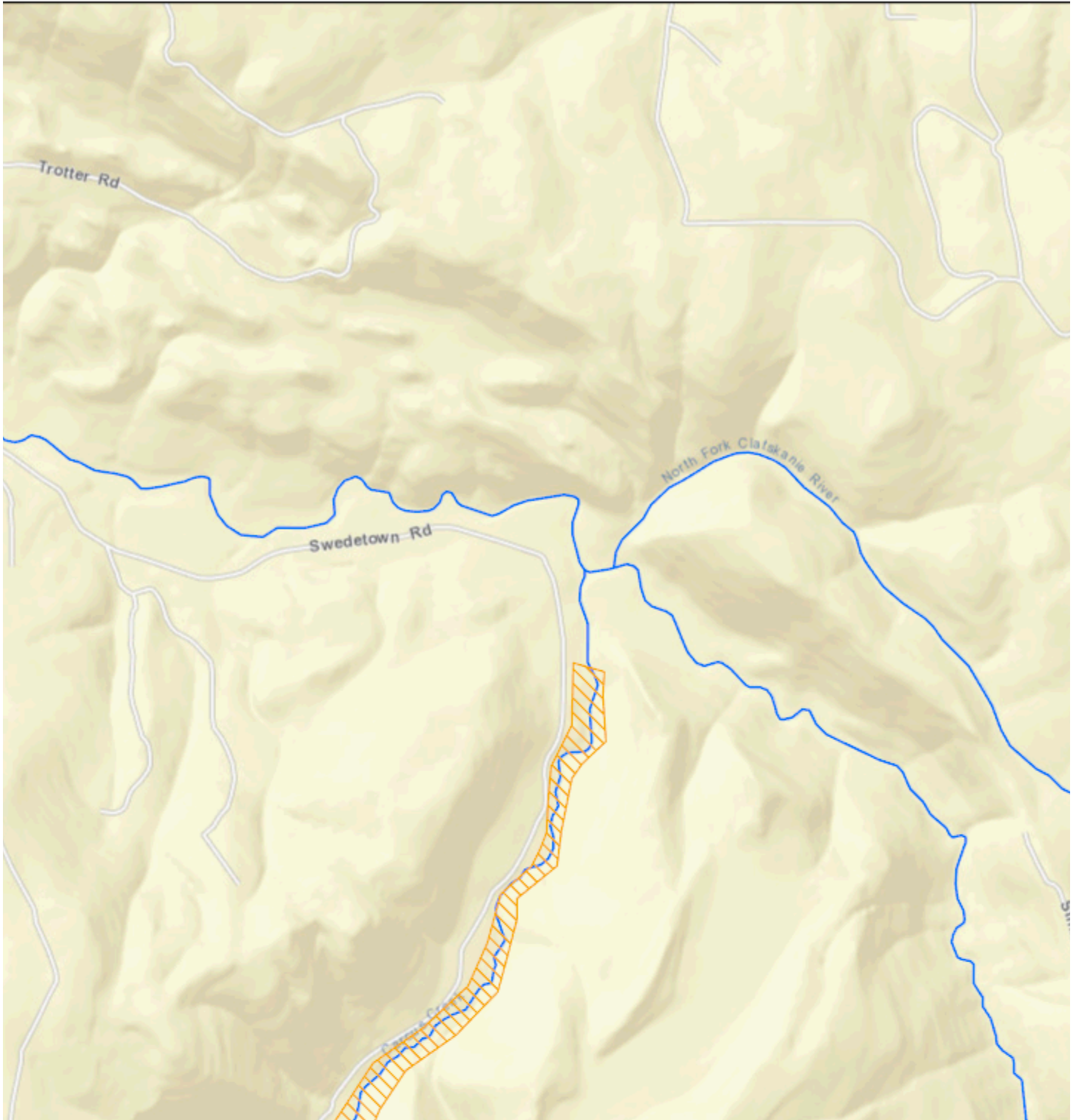
Budget was created in consultation with potential contractors and similar project completed in

the area. Revised cost estimates was put on the project timeline to ensure prices were reflective of market conditions for materials and labor before bid solicitation package is prepared.

*Please clarify the treatment area 2000' or 2 miles?*  
2 miles.

## Project Map

---



## ***Additional Files***

---

### Budget Information

### Maps

[Carcus Creek Project Location](#)

*Orientation map*

[Large Wood Placement Areas](#)

*Implementation Strategy, access and staging areas.*

[Project Map](#)

*Map image of project location*

### Photos

[Carcus Creek Project Location](#)

*Existing Condition Summary (#1)*

[Carcus Creek Project Location](#)

*Existing Condition Summary (#2)*

### Design Information

[Carcus Creek Project Location](#)

*Conceptual Design-Log Placement*

[Carcus Creek Project Location](#)

*Conceptual Design-Riparian Component*

### Management Plans and Supporting Documents

[ODFW Surveys](#)

*Redd Counts*

### Permits and Reviews

### Partnerships

[Landowner Agreement\\_Evenson Logging](#)

*Landowner Agreement between Project fiscal sponsor and landowner.*

### Public Comment

### Administrative Documents

[Signature Authorization](#)

*Signature Authorization Form*

## ***Completion Report***

---

### *Objectives and Accomplishments*

Improve instream stream complexity through large wood placement at 35 locations in 2 miles of stream on Carcus Creek. This will lead to availability of approximately 350 meters of side channel habitat.

Did you meet the objective? Yes

Project met objective by improving instream stream complexity through large wood placement at approx. 25 locations in 1.25 miles of stream on Carcus Creek. This will lead to availability of side channel habitat throughout the 1.25 mile project footprint.

Increase riparian plant diversity by 25% to improve stream habitat function. Preliminary planting plan has been developed that identifies species that emulate forest successional processes. This is done through rehabilitation of area disturbed by construction equipment and along stream corridor.

Did you meet the objective? Yes

Planting of shade tolerant, less-palatable to herbivores, Grand fir throughout project disturbed areas is anticipated to increase riparian plant diversity by 25% to improve stream habitat function in currently hardwood dominated riparian zone. Natural forest successional processes in rehabilitated areas disturbed by construction equipment is also anticipated to contribute to plant diversity.

### *Comments*

*Grantee agreed to forfeit all remaining funds.*