

Sixes Riverbank Restoration

Application to WaterSMART Environmental Water Resources Projects for Fiscal Year 2022

Applicant

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SAM UEI: Z4KAJ9QM1DK3

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Executive Summary

November 29, 2021

Curry Watersheds Nonprofit

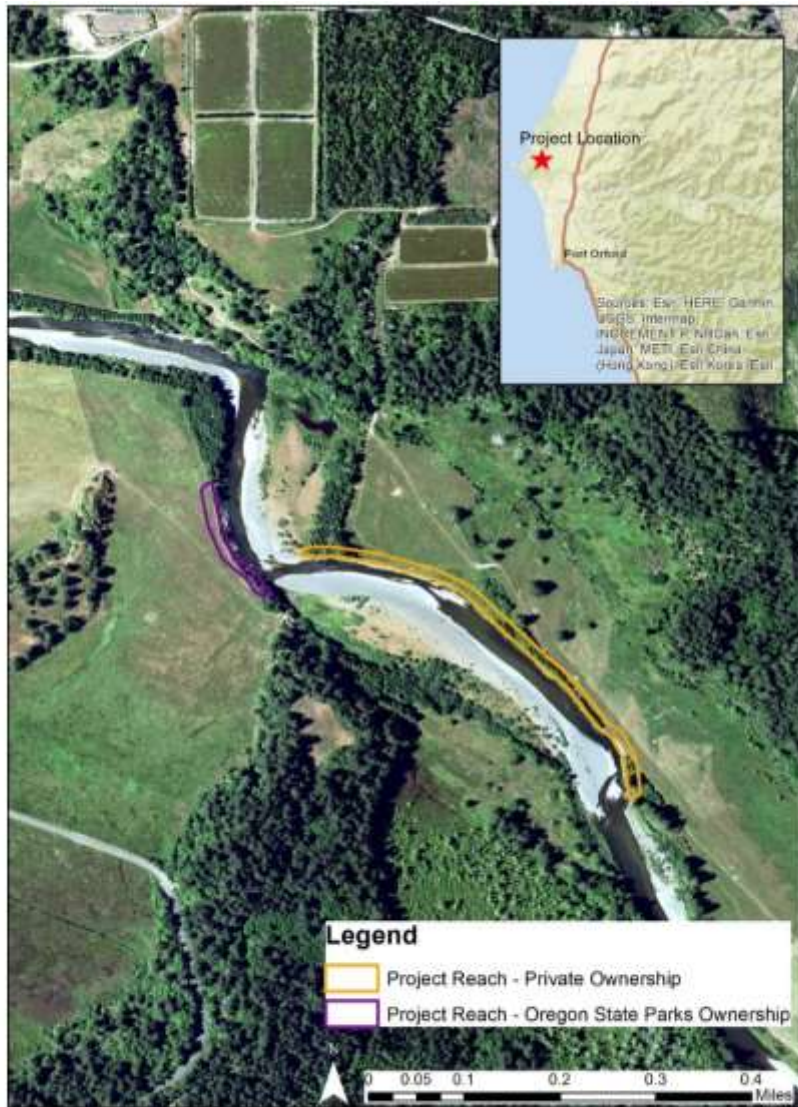
Gold Beach, Curry County, Oregon

Category B Applicant

The Curry Watersheds Nonprofit, in conjunction with Oregon Parks and Recreation Department and the privately-owned Sweet Ranch, proposes to design and implement watershed restoration that reduces erosion and enhances water quality and instream habitat in the Sixes River estuary on the southern Oregon coast. In 2019, we were involved in development of a Strategic Action Plan aimed at increasing the resilience of the Sixes River estuary and the human communities it supports. Estuaries have been identified as a priority habitat by the Oregon Watershed Enhancement Board, the Oregon Conservation Strategy, The Nature Conservancy, and the Oregon Independent Multi-disciplinary Science Team, due to the number of beneficial functions and services they provide both to fish and wildlife species and to the human population. The Sixes River estuary ranked as the highest priority in Curry County based on current aquatic species populations, including the threatened population of Oregon Coast coho salmon, and their potential responses in production, rearing habitat, and the local economy. This particular project site was prioritized because severe erosion delivers excess sediment and pollution into the estuary, and the lack of riparian vegetation leads to higher water temperatures and simplified instream habitat. The lower Sixes River is 303(d) listed as impaired year-round for dissolved oxygen and temperature, and the project objectives would directly address these water quality limiting factors. The project's primary objectives are to (1) build lateral log structures to stabilize and protect ~2,300 feet of bank and (2) establish ~3 acres of highly functional riparian habitat to further stabilize and protect the bank. These objectives will improve water quality and instream habitat for native fish. The secondary objective is to protect working agricultural lands and irrigation along the project reach. The estimated length of this project is two years, with construction starting in September 2022 and project completion by June 2024. The project is not located on a Federal facility.

Project Location

This project is located in Curry County, Oregon approximately 10 miles north of Port Orford. The project latitude is {42°50'N} and longitude is {-124°31'W}.



Technical Project Description

Streambank Restoration

To initially stabilize and protect ~2,300 feet of the Sixes riverbank, the bank slope will be regraded to a stable repose, and lateral log structures will be installed to redirect the channel thalweg away from the bank, add hydraulic roughness to the channel margin, and provide structural integrity to the toe of the slope. The lateral log structures will be installed by burying approximately half of the log length in trenches (keyways) that are excavated into the riverbank and backfilled with rock for ballast. Doing so will counter the buoyancy of the wood, which would otherwise float downstream given the size of the Sixes river and the depth of flow during active channel and greater flood events. Burying the logs will also allow the structures to be positioned at specific orientations and slopes relative to the bank, so that they redirect flow away from the toe of the slope as they are overtopped. Because the bank has largely not been able to hold vegetation, it will be easier to key in logs and place them at the slope and angle most desirable. Each structure will be built using 6-10 logs, approximately half of which will have rootwads attached, and additional logs will be built into the structures parallel to the bank. Log length and diameter will depend on our ability to source the wood within close proximity to the project area, but in general 60 feet is the longest length that is cost effective to haul, and 24-36 inch diameter trees are the largest size typically available for purchase in the area. In total, 45-50 structures will be built using approximately 450 pieces of wood.

Riparian Restoration

The project area includes approximately one acre of riparian area on river right of the Sixes River and two acres on river left. In the first year, the sloped bank will be planted extensively with willow and other fast growing native riparian shrubs (twinberry, spirea, ninebark, etc.) that are adept at colonizing the channel margin, at or near the active channel boundary where seasonal inundation and hydraulic scour are common. The willow will be sourced locally as cuttings and planted using a water jet (stinger) that hydrologically mines holes for the cuttings. The other species will be planted as 2-3 year old bare root seedlings. The riparian setback on the top-of-bank will be fenced and planted in the first year with a mix of 2-3 year old bare root shrubs and hardwood and coniferous trees. Additional species will be interplanted in the second year if the bank has been stabilized. Throughout the life of this project and for approximately 5 years following the project, periodic mechanical control of vegetative competition will be used to establish the plantings.

Performance Measures

Part of this project will include the development of a project effectiveness monitoring plan, and the collection and evaluation of baseline data to measure performance. See Section E.1.5 for a description of the following performance measures that will be used to quantify actual benefits upon completion of the project:

- Photo points and aerial photography
- Cross-sectional and longitudinal surveys of the river channel
- Macroinvertebrate surveys within the river
- Large woody debris (LWD) surveys within the river channel
- Plant survival plots in the riparian restoration areas

Evaluation Criteria

E.1.1 Project Benefits

The specific ecological values benefitted by this project are habitat and water quality for native fish, adjacent riparian areas, and the long-term population stability of fish species. The installation of lateral log structures will slow water velocities along the eroding bank, provide toe support, and scour pool habitat. These management effects will in turn slow or stop the erosion, facilitate the revegetation of the riparian area, and create complex instream habitat for summer and winter rearing in and around the estuary, which are the greatest limiting life stages in this watershed for native fish populations. Furthermore, existing livestock exclusion fencing and riparian vegetation have been lost to the erosion and pasture irrigation systems are being threatened. The project will benefit agricultural water uses by enabling the landowners to exclude cattle from the river and revert solely to off-stream water sources and protect existing irrigation.

Improvements to water quality will include decreases in water temperature and fine sediment and nutrient pollution. An analysis of thermal loading on the Sixes river using the NetMap model (<https://terrainworks.com/netmap-portal>), indicates that added riparian shade would decrease thermal loading in this half-mile reach of the Sixes River by approximately 2000 watt-hours per square meter (130% decrease from current, unvegetated conditions). The increased

sediment supply and erosion occurring from adjacent pastures also increases water temperature, and fills in deep habitat pools and contributes pollution from livestock in the estuary. Livestock pollution contributes to water quality degradation by fueling algal blooms that deplete estuarine waters of oxygen, and alter pH beyond tolerable levels for juvenile fish. The project will improve water temperature and quality throughout the 100-acre estuary.

Overtime the log structures in the half-mile project reach will move the channel thalweg away from the toe of the bank ~30 ft toward the end of the logs, which will further stabilize the banks and potentially lead to the development of inset terraces that provide refugia for fish during high flows. Realigning the thalweg ~30 ft from the bank shouldn't have a pronounced effect on the river's meander pattern, but it will further develop the size, depth, and complexity of the lateral scour pool, making the project area increasingly good summer and winter rearing habitat. The effect of the structures should persist for 20-40 years or longer.

The goal of the riparian enhancement is to establish 500-700 stems per acre of "free-to-grow" shrubs and trees within a 5-7 year timeline. Doing so will position three acres of riparian habitat to evolve into a self-sustaining, diverse ecosystem that can resist erosional forces, filter pasture runoff, develop complex instream habitat along the channel margins, cast shade onto the channel and restore overhanging vegetation, and eventually serve as a source of wood recruitment into the Sixes.

The proposed restoration will specifically benefit the federally threatened Oregon Coast population of coho salmon. Coho spend a year or more in freshwater, and they rely on placid, biologically rich environments for refuge in the winter, where they can feed without expending excess energy, and rapidly put on growth before smolting to the ocean in the spring. This type of habitat is naturally limited in the Sixes River because the regional geology of the Siskiyou Mountains, coupled with tectonic uplift, produces relatively steep watersheds with small estuaries. Nearly all the habitat that naturally existed was converted to farmland and pasture because it was the most fertile and accessible land in the watershed. These instream and riparian habitat enhancements will benefit a wide range of other native fish species, including Pacific lamprey, Chinook salmon, coastal cutthroat trout, winter steelhead, as well as reptiles and amphibians, birds and waterfowl, mammals, plant communities, and insects.

The erosion that is actively occurring is the result of the river's geomorphic desire to express a sinuous planform, and by expressing that desire the river is developing sinuosity that promotes lateral scour pool–point bar morphology. This morphology is fundamental to the creation of complex instream habitat in a low gradient, unconfined river system such as the Sixes. However, the erosion is occurring in a pasture setting where it contributes excess nutrients to

the river, and where there is no structural input from falling trees to counter the channel's migration or create complex instream habitat. It is also undermining the landowner's efforts to exclude livestock from the river and establish a riparian reserve, and consuming valuable pastureland and threatening irrigation that is integral to the property's status as a 'working lands' cattle ranch. These large ranches are an asset to the local economy and agricultural community. In prioritizing this project, we believe that the merits of taking action outweigh the potential geomorphic gains that could result from allowing the river to migrate further into the pasture. The habitat gains that result from the log structures and riparian restoration will offset the loss of additional sinuosity that would occur with no action. As restoration practitioners working on privately-owned lands it is our responsibility to seek and accept good compromises, which we believe this project represents.

E.1.2 Collaborative Project Planning

The project was identified as part of a collaborative process by the South Coast Watershed Council (SCWC) and partners, which is a watershed group as defined in section 6001 of the CWMA, and the work will be led primarily by the Curry Watersheds Partnership, which includes the Curry Watersheds Nonprofit, the South Coast Watershed Council, the Lower Rogue Watershed Council, and the Curry Soil and Water Conservation District. The collaborative process resulted in a Strategic Action Plan for the Sixes River Watershed (available here: https://www.currywatersheds.org/wp-content/uploads/2021/10/SAP_SiskiyouCoastEstuariesPartnership_02_01_2019.pdf), completed in 2019, for the purpose of improving water quality and rearing habitat in the Sixes River estuary. The SAP identifies 4 broad strategies across the watershed that would help achieve this vision: Aquatic organism passage, stream and floodplain restoration, water quality, and habitat protection. Based on intimate knowledge of and experience working in the watershed, the partners identified specific, preliminary project types and locations that aligned with these strategies.

The SCWC represents a diverse group of stakeholders, including agriculture, ranching, timber production, commercial and recreational fishing, and the environment. Other partners that collaborated with the SCWC to prioritize restoration and conservation opportunities for the Sixes SAP were the Curry Soil & Water Conservation District, the Lower Rogue Watershed Council, the Curry Watersheds Nonprofit, Wild Rivers Land Trust (WRLT), the Oregon Department of Fish and Wildlife (ODFW), USFS, BLM, DEQ, and the Coquille Indian Tribe and Confederated Tribes of the Siletz Indians. The proposed project directly addresses two of the four strategies identified in the SAP (see pages 19-21 of the SAP): 1. Restore stream and floodplain habitats to provide the suite of conditions necessary for juvenile salmonid rearing;

and 2. Reduce sediment inputs to improve water quality. The project is classified as Mainstem Habitat Restoration and was identified as the highest priority project type using the process described in Appendix 1 of this application.

E.1.3 Stakeholder Support

The level of stakeholder support for this project is high because it directly and indirectly benefits many watershed interests. Some of these stakeholders have provided letters of support and/or funding commitment. The project is supported by the Curry Soil and Water Conservation District Board of Directors, which is comprised of agricultural and forestry landowners in the county; by the South Coast Watershed Council’s Governing Board, which is a representative body of different user groups and watershed interests including the Sixes watershed; by the Coquille Indian Tribe and Confederated Tribes of the Siletz Indians; and by the Wild Rivers Land Trust, Wild Salmon Center, and Native Fish Society. The project is also supported by and consistent with the policies of the following entities responsible for the management of natural resources in the area: the Oregon Department of Agriculture, the Oregon Department of Fish and Wildlife, the US Forest Service, the Bureau of Land Management, and the Oregon Department of Environmental Quality.

The project complements the Sullivan Gulch Bottomland Restoration Project that is ongoing just downstream of the proposed project site. The first phase of this project was completed in 2015 by the South Coast Watershed Council and included restoration of wetlands, instream and riparian habitats, fish passage improvements, and grazing management, opening up ~300 acres of rearing habitat for native fish. As part of the Sixes SAP, additional habitat expansion and improvements are prioritized at the Sullivan Gulch site and two other tributaries just upstream and downstream of the proposed project site. The cumulative impact of these habitat improvements will increase the capacity and enhance the ecosystem functions and services of the Sixes River estuary and adjacent freshwater rearing habitats. This project is not located on Federal land or at a Federal facility, and there is no known opposition to the project.

E.1.4 Readiness to Proceed

	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023	Q1 2024
Compliance									
Permitting (prior to award)									

Project design (prior to award)	■								
Source/Order Materials/Contracts			■	■					
Collect baseline monitoring data/develop monitoring plan			■	■					
Improve access road				■					
Log placement				■	■				
Fencing					■	■			
Year 1 planting					■	■			
Planting maintenance							■	■	
Year 2 planting									■

Implementation Plan: 90% designs and permit submittal (see descriptions below) will be completed in Q1 2022 using existing funds from the South Coast Watershed Council. The Project Manager will use designs to complete and submit a removal-fill permit application to DSL/USACE. Environmental and cultural compliance will be initiated by BOR in conjunction with OPRD and USFS as soon as the application is selected for award consideration in Q2 2022. Once compliance is complete, permits are acquired, and a notice to proceed is issued by the awarding Grants Officer, we will begin sourcing/ordering materials and contracted services for the project. This will include logs, boulders, seedlings, planting and fencing material, and heavy equipment. Construction will begin on the access road on the Sweet Ranch in September 2022. While this is being completed, log installation will begin on OPRD property and continue over to the Sweet Ranch. Approximately three structures will be completed per eight-hour day. Log installation will be completed by the end of October 2022, followed by fencing. The first round of planting will occur in Q1 2023 followed by maintenance in the spring and fall. The second round of interplanting will occur in Q1 2024.

Permits and Agency Approvals: Environmental and cultural compliance will be completed by BOR in conjunction with OPRD and USFS. The Curry Watersheds Nonprofit is responsible for obtaining all applicable project permits. Prior to award, CWN will submit a Removal-Fill Permit application through the Oregon Department of State Lands (DSL) and the US Army Corps of Engineers (USACE). These permit applications are also screened by other local, state, and federal agencies for compliance with all applicable laws. Specifically, the DSL permit includes a

review by the Oregon Department of Fish and Wildlife (ODFW) and the Oregon Department of Land Conservation and Development. The USACE permit includes a review by the Oregon Department of Environmental Quality for compliance with the federal Clean Water Act, by the State Historic Preservation Office for compliance with the National Historic Preservation Act, and by the National Marine Fisheries Service for compliance with the Endangered Species Act. In order to apply for a DSL and/or USACE permit, a local planning authority/department must review and approve the project for compatibility with all land use laws, rules, and ordinances that apply to the project site. Typically, non-construction projects (i.e. tree planting) do not require state or federal permits, but may still require a land use agreement (LUA) and/or memorandum of understanding (MOU) with the landowner, which CWN will also acquire.

Design Work: Topographic coordinate data will be collected at the project site this winter/spring using existing funds. A licensed survey company will conduct the survey using robotic and conventional total stations. Coordinates will be collected along ~2,300 linear feet of the Sixes River, to map the active channel morphology and the eroding riverbank; and multiple cross-sections will be surveyed from the pasture, across the eroding bank and active river channel, to the vegetation line on the far side of the channel. The survey datum will be established using GPS. The survey company will post-process the survey data and plot longitudinal and cross-sectional profiles and plan view maps in AutoCAD, which will be used by a contractor to design the project (See Figures 6 and 7 in Appendix B for typical design examples that were completed for a similar nearby project). This process will take approximately one month.

Access to the Project: The applicant has permission from OPRD and the Sweet family to access the project location.

Contact with local Reclamation office: We had a conversation with Gregg Garnett (Bend Field Office Manager), Christine Horting-Jones (Archeologist), and Wade McGilvra (Natural Resource Specialist), and have included a line item in the budget reflecting this conversation and costs associated with environmental and cultural resources compliance.

E.1.5 Performance Measures

The following performance measures will be used to define project benefits, monitor post-project changes, and allow for potential adaptive management efforts:

- Photo points and aerial photography - Photos will be used to qualitatively evaluate changes to channel, bank, and riparian conditions over time. Photo point stations will be established with both in-field monuments and GPS coordinates. Photos will be taken at

least annually, and up quarterly depending on capacity. Standard photo point protocols (e.g. photos taken at same height, in same direction, with same equipment) will be used to ensure consistency and comparability of photos over time.

- Cross-sectional and longitudinal surveys - Land surveys will be used to quantitatively evaluate both horizontal and lateral morphological changes throughout the project area. Cross-sectional surveys will be taken at designated locations in conjunction with a longitudinal survey of the channel thalweg. Surveys will be conducted prior to implementation to establish baseline conditions, and in years 1, 3, and 5 post-implementation to determine changes to morphology in response to restoration actions. These surveys will help us to understand if our actions arrest the current active bank erosion, and how the stream channel is responding to the additional in-stream complexity provided by large woody debris.
- Macroinvertebrate surveys - Benthic macroinvertebrate surveys will be used to evaluate water quality metrics, specifically related to effects of in-stream sedimentation. The Oregon DEQ benthic macroinvertebrate survey protocol will be used to collect samples in three distinct sections of the river: upstream of the project area (control reach), within the project area, and downstream of the project area. Samples will be processed and analyzed by the BLM/USU National Aquatic Monitoring Center's Bug Lab. Results will be analyzed using the PREDictive Assessment Tool for Oregon (PREDATOR), which is a predictive model used by Oregon DEQ to evaluate a number of water quality parameters based on the observed/expected ratio of reference macroinvertebrate taxa. Samples will be collected before and after project implementation. This method of water quality assessment and monitoring was chosen due to its ability to evaluate a large number of parameters at once without the need for expensive equipment and additional capacity that our organization currently does not have.
- Large woody debris (LWD) surveys - LWD surveys will be used to quantitatively assess the volume of large wood that is installed and any losses or additions over time. All LWD within the project reach will be recorded for length and diameter in order to determine total volume of LWD and number of root wads. These surveys will be done before and after project implementation. These surveys will be used to evaluate project success, and post-project surveys will be used to determine if wood is added due to entrainment, or removed due to potential continued erosion. This will allow us to evaluate the effectiveness of our restoration techniques (e.g. if LWD is staying in place), and understand if any adaptive management needs to be done in the future (e.g. to address any loss in LWD or erosion).
- Plant survival plots: Plots will be established within the riparian areas to monitor plant survival over time and determine if interplanting is needed. Plots will be visited annually in late summer/early fall for five years post-implementation.

Part of this project will include the development of a project effectiveness monitoring plan, and the collection and evaluation of baseline data that will be used to inform implementation and monitoring plan development. This plan will identify the parameters that will be monitored, establish study designs that detail how data will be collected and analyzed, and any reporting and data sharing requirements. Monitoring parameters and protocols that have already been identified are outlined in the bullets above. The majority of post-implementation monitoring will be funded by the Oregon Watershed Enhancement Board.

The Curry Watersheds Partnership is also currently developing a comprehensive monitoring plan for the Sixes watershed that will integrate with the goals and projects identified in the Sixes River Strategic Action Plan (SAP). This monitoring plan will most likely include both status and trend monitoring to evaluate key parameters throughout the watershed, and project effectiveness guidelines for each type of project identified in the SAP. The development of the monitoring plan for this project will be integrated into this comprehensive monitoring plan process as an example of the type of project-level planning that will be done using the guidelines from the comprehensive plan. This comprehensive plan will be collaboratively developed with input from local, state, and federal agency officials, other restoration monitoring professionals, and subject experts. This team of experts will also provide input on the development of this project monitoring plan as part of the comprehensive planning process.

E.1.6 Presidential and Department of the Interior Priorities

Does the proposed project have a conservation or management component that will promote healthy lands and soils or serve to protect water supplies and its associated uses?

Where the erosion is occurring, there is little or no riparian vegetation to slow the erosion or create complex instream habitat. As a result, the erosion is having an overall negative impact on water quality and instream habitat and is preventing the establishment of riparian fences and vegetation. By adding structural integrity to the toe of the river bank and hydraulic roughness at the channel margins, we will be protecting water quality in the Sixes River and creating complex instream and riparian habitat to protect its use as critical habitat.

Does the proposed project support Reclamation's Tribal trust responsibilities or a Reclamation activity with a Tribe?

The Confederated Tribes of the Siletz Indians were removed from the Sixes River watershed in 1856. This created an interruption not only of their uses, but also the traditional management methods that they applied to the landscape. Though there has been an interruption, their people maintain strong connections to this ancestral place and the resources their families have depended on for millennia. This connection includes an ongoing responsibility toward these places and their resources. This project would support Reclamation's Tribal trust responsibilities by enabling the restoration of their ancestral lands. The CTSI is in support of this project and would donate wood off of USFS lands to help it succeed.

Project Budget

Funding Plan

Non-federal cost share contributions to this project are through third-party cash and in-kind costs. Letters of funding commitment are included in Appendix C. The South Coast Watershed Council will be contributing contractor costs to complete topographic surveys and 90% design reports (\$5,600), as well as 40 hours of personnel time to complete and submit project permits (\$1,804). These project design and permit costs (\$7,404) would be contributed and incurred prior to award. These are already secured costs and would be critical to achieving the project on the proposed timeline. Oregon Parks and Recreation Department will be contributing 50 whole trees from their property (\$22,500). The Confederated Tribes of the Siletz Indians will be donating 50 whole trees off of USFS lands (\$22,500). The USFS will transfer the title to the trees to the Confederated Tribes of the Siletz Indians through the 2008 Farm Bill, which includes Tribal free use of trees where the Tribe has currently or traditionally used the area. The Confederated Tribes of Siletz Indians will then donate the trees to the applicant for the project. The Sweet family will be donating 30 whole trees from their property (\$13,500), as well as 25 hours of heavy equipment use and labor (\$4,500), and 2300 feet of fence construction (\$5,750). We also plan to submit a grant to 'One Tree Planted' which would reimburse us for \$0.80/seedling (\$1,920).

Budget Proposal

Table 1. Total Project Costs

SOURCE	AMOUNT
Costs to be reimbursed with the requested Federal funding	\$268,789
Costs to be paid by the applicant	\$0
Value of third-party contributions	\$89,769
TOTAL PROJECT COST	\$358,558

Table 2. Summary of Non-Federal and Federal Funding Sources

FUNDING SOURCES	AMOUNT
Non-Federal Entities	
1. Confederated Tribes of the Siletz Indians	\$22,500
2. Oregon Parks and Recreation Department	\$27,500
3. The Sweet Family	\$23,750
4. South Coast Watershed Council	\$7,964
5. One Tree Planted	\$1,920
6. Curry Soil and Water Conservation District	\$6,135
Non-Federal Subtotal	\$89,769
Requested Reclamation Funding	\$268,789

Table 3. Project Budget

A	B	C	D	E	F	G	
Itemize projected costs under each of the following categories:	Unit Number	Unit Cost	Unit Type	BOR Funds	Cash Match*	In-Kind Match*	Total Costs
SALARIES, WAGES AND BENEFITS. List position titles, include only costs of employees charged to this grant.							
Monitoring Coordinator	126	\$34.00	Hours	\$ 4,284.00			\$ 4,284.00
Riparian Management Coordinator	150	\$34.00	Hours			\$ 5,100.00	\$ 5,100.00
Applicant Project Manager	140	\$37.50	Hours	\$ 3,750.00		\$ 1,500.00	\$ 5,250.00
SUBTOTAL (1)				\$ 8,034.00	\$ -	\$ 6,600.00	\$ 14,634.00
FRINGE BENEFITS							
Monitoring Coordinator	126	\$6.90	Hours	\$ 869.40			\$ 869.40
Riparian Management Coordinator	150	\$6.90	Hours			\$ 1,035.00	\$ 1,035.00
Applicant Project Manager	140	\$7.60	Hours	\$ 760.00		\$ 304.00	\$ 1,064.00
SUBTOTAL (1)				\$ 1,629.40	\$ -	\$ 1,339.00	\$ 2,968.40
CONTRACTED SERVICES and PARTNER CONTRIBUTIONS. Labor, supplies, and materials to be provided by non-staff for project implementation.							
Land Surveyor/Design Specialist	80	\$70.00	Hours		\$5,600.00		\$5,600.00
Project Management & Construction Oversight	220	\$50.00	Hours	\$11,000.00		\$ -	\$11,000.00
Archeologist for Cultural Compliance	100	\$50.00	Hours	\$ 5,000.00	\$ -		\$5,000.00
Heavy Equipment (dozer, excavator) - improve access road to project site	50	\$180.00	Hours	\$ 4,500.00	\$ -	\$ 4,500.00	\$9,000.00
Heavy Equipment (log loader) - log whole trees with rootwads	145	\$200.00	Hours	\$ 29,000.00			\$29,000.00
Heavy Equipment (log truck) - move rootwad logs to project sites	70	\$135.00	Hours	\$ 9,450.00			\$9,450.00
Heavy Equipment (excavator with clamshell head) - unload logs, project construction	195	\$200.00	Hours	\$ 39,000.00			\$39,000.00
Sweet Ranch and Cape Blanco State Park	2	\$2,000.00	Each	\$ 4,000.00			\$4,000.00
Construction Labor (compaction, sawyer, etc.)	150	\$40.00	Hours	\$6,000.00			\$6,000.00
Fence Construction	2300	\$2.50	Feet		\$ -	\$ 5,750.00	\$5,750.00
Riparian Planting and Maintenance Labor	140	\$32.00	Hours	\$4,480.00			\$4,480.00
SUBTOTAL (2)				\$ 112,430.00	\$5,600.00	\$ 10,250.00	\$128,280.00
TRAVEL. Mileage, per diem, lodging, etc. Must use current State of Oregon rates.							
to Sixes watershed)	3375	0.56 miles		\$ 1,890.00	\$ -		\$ 1,890.00
SUBTOTAL (3)				\$ 1,890.00	\$ -	\$ -	\$ 1,890.00
MATERIALS/SUPPLIES.							
Fencing	2300	\$2.50	Feet	\$5,750.00			\$ 5,750.00
Seedlings	2400	\$1.30	Each	\$ 1,200.00		\$ 1,920.00	\$ 3,120.00
Protective Mesh Tree Tubes	2400	\$0.60	Each	\$ 1,440.00			\$ 1,440.00
Fiberglass Stakes	2400	\$1.70	Each	\$4,080.00			\$ 4,080.00
Saw Logs (incl. logging, trucking, and wood value)	300	\$240.00	Each	\$72,000.00			\$ 72,000.00
Whole Trees w/Rootwads (value of the wood)	130	\$450.00	Each	\$0.00		\$58,500.00	\$ 58,500.00
Boulders for Log Ballast (incl. trucking)	690	\$35.00	Ton	\$24,150.00			\$ 24,150.00
SUBTOTAL (4)				\$ 102,870.00	\$ -	\$ 60,420.00	\$ 163,290.00
COMPLIANCE COSTS							
Reclamation Cultural Compliance	1	\$7,500.00	Each	\$7,500.00			\$7,500.00
OPRD Environmental and Cultural Compliance	1		Each			\$5,000.00	\$5,000.00
Reclamation Environmental Compliance	1	\$10,000.00	Each	\$10,000.00			\$10,000.00
SUBTOTAL (5)				\$17,500.00		\$5,000.00	\$22,500.00
OTHER. Costs must be necessary and reasonable for successful completion of this grant.							
SUBTOTAL (6)							
[Add subtotals above] MODIFIED TOTAL DIRECT COSTS (7)				\$ 244,353.40	\$ 5,600.00	\$ 83,609.00	\$ 333,562.40
GRANT ADMIN. Select one of the methods below. Fill in the requested rate. Compute by multiplying MTDC (6) line by this rate.							
Indirect Cost Rate	X	10.00%		\$ 24,435.34	\$ 560.00		\$ 24,995.34
SUBTOTAL (7)				\$ 24,435.34	\$ 560.00	\$ -	\$ 24,995.34
GRANT BUDGET TOTAL (8)							
[Add Modified Total Direct Costs (6), Grant Admin Subtotal (7)]				\$ 268,788.74	\$ 6,160.00	\$ 83,609.00	\$ 358,557.74

Budget Narrative

- **Salaries and Wages:** The Project Manager is Miranda Gray, South Coast Watershed Council Coordinator and board member of the applicant Curry Watersheds Nonprofit. Gray's compensation is \$37.50/hour for direct labor and \$7.60/hour for fringe costs. Gray will be contributing 140 total hours to the project: 40 hours to compile and submit Project permits, 40 hours to coordinate with partners to complete environmental and cultural compliance for the project, 40 hours to coordinate with partners to initiate contracts and source materials (project designs, wood, rock, fencing and planting materials), and 20 hours for financial, interim, and final performance reports. The Monitoring Coordinator's compensation is \$34.00/hour for direct labor and \$6.90/hour for fringe costs, and they will be contributing 80 hours to develop the project monitoring plan, 30 hours to complete baseline macroinvertebrate surveys, and 16 hours to complete Large Woody Debris surveys. The Riparian Management Coordinator's compensation is \$34.00/hour for direct labor and \$6.90/hour for fringe costs, and they will be contributing 20 hours for planting plans, 20 hours for sourcing plant materials, 50 hours for planting, and 60 hours for maintenance/plant establishment.
- **Travel:** We estimated a total of 45 trips at 75 miles per trip and \$0.56/mile (Gold Beach to the project site). 20 trips will be for project development with landowners and partners, 10 trips will be for monitoring, and 15 trips will be for planting and maintenance.
- **Materials and Supplies:** Fencing, planting and construction material costs were estimated based on extensive past and recent experience on similar projects, including recent experiences with costs impacted by COVID. Fencing costs are estimated at \$2.50/foot. We've estimated a need for 2400 seedlings at \$1.30/each, as well as protective mesh tree tubes at \$.60/each and fiberglass stakes at \$1.70/each. The value of whole trees was estimated at \$450 (1.5 mbf @ \$300/mbf), saw logs were estimated at \$240 (.4 mbf per log @ \$600/mbf), and the cost of boulders was estimated at \$35/ton based on current market values.
- **Contracted Services:** 90% Project designs will be completed by firms specializing in land surveying and restoration design and was estimated at \$50-\$90/hour based on previous work with these firms. Previous contracting with archeologists to perform pre-work surveys and/or monitoring has cost \$50/hour. 10 hours will be spent on consultation, 20 hours will be spent on fieldwork, 30 hours will be spent on report writing, and 40 hours will be spent on construction monitoring. 220 hours of implementation project management (design review, project layout, construction oversight, follow-up assistance with reporting) will be contracted out based on cost, availability, experience,

and site-specific knowledge. We assume three large wood structures will be built each 8-hour day. Wood Placement assumes an ~80,000lb excavator with a clamshell head will be used to build log structures. Contractors for large wood installation, construction labor (e.g. compaction and sawyer) and logging will be selected based on equipment type, cost, and experience. Costs for log trucks to move rootwad logs to project sites assumed 53 trips averaging 45 minutes a turn. Riparian restoration assistance assumes one person and includes all travel and equipment costs to assist the Riparian Management Coordinator. Fence construction will be contributed by the landowners at an estimated \$2.50/foot.

- Third-party contributions: The South Coast Watershed Council will be contributing 80 hours of contractor costs to complete topographic surveys and 90% design reports (\$5,600), as well as 40 hours of personnel time to complete and submit project permits (\$1,804). Oregon Parks and Recreation Department will be donating 50 whole trees from their property (\$22,500) as well as personnel costs for compliance (\$5,000). The Confederated Tribes of the Siletz Indians will be donating 50 whole trees off of USFS lands (\$22,500). The USFS will transfer the title to the trees to the Confederated Tribes of the Siletz Indians through the 2008 Farm Bill, which includes Tribal free use of trees where the Tribe has currently or traditionally used the area. The Confederated Tribes of Siletz Indians will then donate the trees to the applicant for the project. The Sweet Family will be donating 30 whole trees from their property (\$13,500), as well as 25 hours of heavy equipment use and labor (\$4,500), and 2300 feet of fence construction (\$5,750). We also plan to submit a grant to 'One Tree Planted' which would reimburse us for \$0.80/seedling (\$1,920).
- Environmental and Regulatory Compliance Costs: We spoke with Bureau of Reclamation Bend Field office staff to determine environmental and cultural compliance costs for this project. For cultural compliance, Reclamation staff time will entail consulting with tribes, reviewing reports, and submitting reports to SHPO. An estimate of cultural compliance personnel costs was \$5,000-\$10,000. For environmental compliance, it was determined that this project will likely require an Environmental Assessment for both the instream and riparian work, and additional consultation with NMFS will be necessary because there is critical habitat for coho salmon involved. An estimate for Reclamation staff costs for environmental compliance was \$10,000. Based on initial communication with the Confederated Tribes of the Siletz Indians, there will also be a pre-work archeological survey and monitoring requested for the project. Therefore, we have budgeted 100 hours for a contracted archeologist.
- Indirect Costs: We have elected to charge a de minimis rate of 10 percent of modified total direct costs.

Environmental and Cultural Resource Considerations

Construction will occur in late summer/early fall 2022. The start date will be based on completion of compliance, and water level conditions and consultation with the ODFW District Fish Biologist and the Oregon DEQ South Coast Basin Coordinator. The proposed work will impact fish habitat, including critical fish habitat for threatened coho salmon. Fish salvage and turbidity monitoring will also be carried out in consultation with ODFW and DEQ. The following measures will be taken during construction:

- Heavy equipment will be limited to log trucks and an excavator with low ground pressure tracks. The log trucks will access the project site via one designated ingress-egress route across the adjacent pasture. All excavation will take place from top-of-bank, and no equipment will operate from within the active channel. The excavator will use biodegradable hydraulic fluid, and all machinery will be inspected for visible leaks, excess dirt, etc. before arriving on-site. Machinery will be serviced and maintained at least 150 linear feet from the Sixes River active channel and all other water bodies and wetlands, and the contractor will keep a spill kit on-site at all times.
- The contractor will leave a small berm at the start of each trench to isolate the excavation from the wetted channel. Logs will then be pushed through the berms as the structures are built, which will reduce contact with the wetted channel, and thus minimize the extent and duration of increased turbidity in the Sixes River.
- During construction silt barrier fencing and/or wool berms will be deployed, as needed, to prevent disturbed soils from washing into the Sixes River. Post construction, erosion control materials (i.e., jute netting, wool matting, etc.) will be deployed on the newly sloped riverbank, and the entire site will be seeded with annual rye grass to establish vegetative cover before the start of the wet season. The site will be fenced from livestock once construction activities are complete, and the new riparian reserve will be planted in the winter of 2022 with native trees and shrubs.
- There are no known archeological sites in the project area. We will work with the Confederated Tribes of the Siletz Indians and SHPO to determine the appropriate archeological monitoring protocol during construction.

Required Permits or Approvals

See Section E.1.4 – ‘Permits and Agency Approvals’

Official Resolution

The Official resolution adopted by the Curry Watersheds Nonprofit Board of Directors will be sent within 30 days of this grant submittal.



Oregon

Kate Brown, Governor

Parks and Recreation Department

South Coast District Office
92331 Coast Guard Hill Rd.

P.O. Box 699
Port Orford, OR 97465
541-252-7082



Bureau of Reclamation
P.O. Box 25007, MS 86-69200
Denver, CO 80225

To Whom it May Concern,

On the behalf of the Oregon Parks and Recreation Department (OPRD), I am writing in support of the Curry Watersheds Partnership (CWP) proposal for Sixes Riverbank Restoration. OPRD is acting in partnership with CWP on this project, and agrees to the submittal and content of the application. Furthermore, when appropriate and with the capacity to assist, OPRD intends to participate in the project by identifying and donating, if feasible, up to 50 whole trees for the log structures on Cape Blanco State Park, but OPRD will not be responsible for cost of transportation of logs, and OPRD will assist in providing input for cultural and environmental compliance on OPRD lands.

The CWP has a demonstrated track record of successful collaboration on a number of initiatives and a sound approach to restoration project implementation. In 2015, we partnered with CWP on the Sullivan Gulch Bottomland Restoration Project. This ambitious restoration project is located just downstream of the proposed riverbank restoration, and included restoration of wetlands, instream and riparian habitats, fish passage improvements, and grazing management. The proposed project will build upon these successes by elevating the impact of projects and partnerships pursued previously and moving forward in the Sixes watershed.

Sincerely,

Justin Helberg
District Manager- South Coast
Oregon Parks and Recreation Department

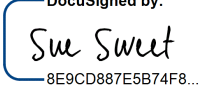
December 8, 2021

Bureau of Reclamation
P.O. Box 25007, MS 86-69200
Denver, CO 80225

To Whom it May Concern,

On the behalf of the Sweet family, I am writing in support of the Curry Watersheds Partnership (CWP) proposal for Sixes Riverbank Restoration. The Sweet ranch is owned jointly by three siblings, myself included, and we are acting in partnership with CWP on this project. Approximately three-fourths of the project work would occur on our property, which is a cattle ranch that we rotationally graze year-round. We intend to participate in the project by identifying and donating up to 30 whole trees for the log structures on our ranch. These trees have an estimated commercial value of approximately \$13,500. In addition, we intend to provide the use of heavy equipment and labor for access road improvements and fence construction. This has an estimated value of \$8,750.

The CWP has a demonstrated track record of successful project implementation in our area. The erosion at this site has been ongoing for many years and has taken down livestock exclusion fencing and vegetation, and is now threatening irrigation systems on our pastures. We are confident in our partnership with CWP to address this issue and help our working ranch, as well as the ecological health of the estuary.

Sincerely,
DocuSigned by:

8E9CD887E5B74F8...

Sue Sweet
Sweet Ranch Co-Owner



File Code: 2520
Date: December 2, 2021

Bureau of Reclamation
P.O. Box 25007, MS 86-69200
Denver, CO 80225

To Whom It May Concern,

On behalf of the United States Forest Service – Rogue River-Siskiyou National Forest (RRSNF), I am writing in support of the Curry Watersheds Partnership (CWP) proposal for the Sixes River Riverbank Restoration project.

The Powers Ranger District on the RRSNF intends to participate in the project by identifying and providing up to 50 whole trees for the log structures on Cape Blanco State Park. These trees have an estimated commercial value of approximately \$22,500. Trees will be identified from an area that has been reviewed and approved for environmental compliance in the Coastal Healthy Forest Treatments (CHFT) Environmental Analysis (EA), Decision Notice (DN), and Finding of No Significant Impact (FONSI), dated May 25, 2007. The RRSNF will work with the CWP and the Confederated Tribes of the Siletz Indians to complete this project. The RRSNF will transfer the title to the identified trees to the Confederated Tribes of the Siletz Indians through the 2008 Farm Bill, which includes Tribal free use of trees where the Tribe has currently or traditionally used the area. The Confederated Tribes of Siletz Indians will work with the CWP to use the trees to complete the restoration project.

The CWP has a demonstrated track record of successful collaboration on a number of initiatives and a sound approach to restoration project implementation. In 2021, the RRSNF partnered with the CWP and Confederated Tribes of Siletz Indians to provide trees for estuary restoration in the Rogue River. The Sixes River Riverbank Restoration project will build upon these successes by implementing additional, necessary watershed improvement projects. These projects perpetuate the strong partnerships developed between the RRSNF, CWP, and Confederated Tribes of Siletz Indians.

Should you have any questions regarding this letter of support or the project, please do not hesitate to contact me at (541) 841 – 2539 or karl.smith@usda.gov.

Sincerely,

**KARL
SMITH**

KARL W. SMITH
Powers District Ranger (Detail)

Digitally signed by
KARL SMITH
Date: 2021.12.02
14:43:31 -08'00'





Oregon

Kate Brown, Governor

Department of Fish and Wildlife

Gold Beach District Office

29907 Airport Way

PO Box 642

Gold Beach, OR 97444

(541) 247-7605

Fax (541) 247-2321

Bureau of Reclamation
P.O. Box 25007, MS 86-69200
Denver, CO 80225

To Whom it May Concern,

The Oregon Department of Fish and Wildlife (ODFW) is writing to express support for the Curry Watersheds Partnership (CWP) proposal for Sixes Riverbank Restoration. The proposal addresses several of the actions identified in the Sixes River Strategic Action Plan (SAP) which ODFW and other partners participated in developing.

The Sixes River estuary supports a high diversity of habitat types of native fish and wildlife and is especially important for juvenile salmonid rearing. Historic land uses have reduced the available rearing habitat and led to the degradation of estuarine habitat quality and complexity. The Sixes River SAP addresses what watershed processes need to be restored to address impacts from climate change and where habitat restoration can most effectively restore watershed processes. For these reasons, we identified the proposed project as a high priority action in the Sixes SAP.

The CWP has a demonstrated track record of successful collaboration on a number of initiatives and a sound approach to restoration project implementation. This project will build upon these successes by elevating the impact of projects and partnerships pursued in the Sixes watershed.

Sincerely,

Steven Mazur

Steven Mazur

District Fishery Biologist



Oregon

Kate Brown, Governor

Department of Environmental Quality

Western Region Coos Bay Office

381 N Second Street

Coos Bay, OR 97420

(541) 269-2721

FAX (541) 269-7984

TTY 711

Bureau of Reclamation

December 1, 2021

P.O. Box 25007, MS 86-69200

Denver, CO 80225

To Whom it May Concern,

On the behalf of the Oregon Department of Environmental Quality – South Coast Basin, I am writing to express my support for the Curry Watersheds Partnership (CWP) proposal for Sixes Riverbank Restoration. I commit to reviewing CWP's designs and evaluating for impacts in order to streamline the permit process.

The Sixes River is considered Category 5 impaired on Oregon's 303(d) list for water temperature and dissolved oxygen. Loss of vegetation in the riparian corridors and an incised mainstem channel are major contributing factors to these impairments, and the proposed project would directly address these concerns. I have collaborated with CWP staff on a handful of activities over the last few years to both aid in data collection and project development and I am confident in their abilities to implement the work of this project and the greater Sixes River Strategic Action Plan. I look forward to being able to contribute to this process as a water quality expert.

The CWP has a demonstrated track record of successful collaboration on a number of initiatives and a sound approach to restoration project implementation. This project will build upon these successes by elevating the impact of projects and partnerships pursued in the Sixes watershed.

Sincerely,

Bryan Duggan

South Coast Basin Coordinator

OR Department of Environmental Quality



Curry County Soil and Water Conservation District

Post Office Box 666 - Gold Beach, OR 97444 - Phone (541)247-2755 - Fax (541)247-0408

December 7, 2021

Bureau of Reclamation
P.O. Box 25007, MS 86-69200
Denver, CO 80225

To Whom it May Concern,

The Curry Soil and Water Conservation District is committing a total of \$6,135 to the Curry Watersheds' Nonprofit proposal 'Sixes Riverbank Restoration'. These funds will pay for the Riparian Management Coordinator's participation in the project, and there are no time constraints on the availability of funds.

Sincerely,

A handwritten signature in blue ink that reads "Liesl Coleman".

Liesl Coleman
District Manager

liesl.coleman@currywatersheds.org

541-247-2755 ext 0



South Coast Watershed Council

December 7, 2021

Bureau of Reclamation
P.O. Box 25007, MS 86-69200
Denver, CO 80225

To Whom it May Concern,

The South Coast Watershed Council is committing a total of \$7,404 to the Curry Watersheds' Nonprofit proposal 'Sixes Riverbank Restoration'. These funds will go towards project design and permitting, and the funds are available immediately.

Sincerely,

A handwritten signature in blue ink, appearing to read "Miranda Gray", written over a faint, larger version of the same signature.

Miranda Gray
South Coast Watershed Council Coordinator
Miranda.gray@currywatersheds.org
541-373-3127