



OREGON
WATERSHED
ENHANCEMENT BOARD

Virtual Meeting
October 25-26, 2022
Item F

Open Solicitation Grant Awards
Supplemental Attachment



Kate Brown, Governor



Agenda Item F supports OWEB's Strategic Plan priority # 5: The value of working lands is fully integrated into watershed health.

MEMORANDUM

TO: Oregon Watershed Enhancement Board
FROM: Eric Williams, Grant Program Manager
SUBJECT: Agenda Item F – Spring 2022 Open Solicitation Grant Offering
October 25-26, 2022, Board Meeting

I. Introduction

This staff report describes the Spring 2022 Open Solicitation Grant Offering and funding recommendations. Staff request the board approve the funding recommendations outlined in Attachment D to the staff report, including funding for 38 restoration grants, 21 technical assistance grants, 7 stakeholder engagement, and 17 monitoring grants.

II. Spring 2022 Grant Offering Background and Summary

A. Applications Submitted

A total of 117 applications were received requesting over \$18 million. Attachment A shows applications submitted by region, project type, and funding request.

B. Applications Determined Ineligible

Focused Investment Partnership (FIP) Administrative Rule 695-047-0100(4) indicates the following:

“Projects in the defined geographic area of the Initiative and focused on the programs and actions identified in the Initiative’s proposal, are ineligible for the grant types listed in OAR 695-047-0110(8) that are offered outside of the Focused Investment Partnership program.”

One restoration application (222-2024) and one technical assistance application (222-2030) were determined to be ineligible under open solicitation because they met the criteria for funding under Focused Investment Partnership awards made by the board in July. These applications will be routed to the applicable partnership for funding consideration.

The award for one monitoring application (222-4028) recommended for funding is contingent upon fully executing grant agreements associated with the Deschutes FIP. According to the policy describing how the FIP Administrative Rule 695-047-0100(4) should be administered, a FIP initiative is “complete” when the partnership has obligated all its FIP funding in project grant agreements. If the Deschutes FIP has not obligated the remaining funds in project grant

agreements by date of the board award for Open Solicitation, then 222-4028 is ineligible for an award.

III. Review Process

Staff facilitated a review process where all eligible grant applications were evaluated by the agency’s six Regional Review Teams (RRTs). Staff scheduled site visits for as many proposed projects as possible, with all RRT members invited to the visits.

OWEB then facilitated RRT meetings in each region for all grant types offered. Reviewers considered the likelihood of success of the proposed project based on evaluation criteria in rule, which are provided in Attachment B. After classifying applications as “Fund,” “Fund with Conditions,” or “Do Not Fund,” the RRTs then prioritized the projects recommended for funding by application type.

The RRT evaluations and recommendations, along with staff recommendations, were distributed to all applicants. Attachment C includes the number of applications recommended by RRTs and staff for each region by project type, as well as staff-recommended award totals by application type and region. Prior to the board meeting, staff will forward to the board any written comments received from applicants regarding the RRT and staff recommendations.

IV. Sage-grouse Projects

At its April 2015 meeting, the board adopted a policy to make available at least \$10 million through its granting programs over the next ten years in support of projects located in Oregon’s sage steppe ecosystem that improve greater sage-grouse habitat. The recommended Spring 2022 Open Solicitation Grant awards include four projects that meet the criteria:

- 222-5029, “Jack Creek Water Quality Improvement,” requesting \$129,869,
- 222-5025, “Baker Corral Juniper and Ponderosa Pine Treatment,” \$199,387,
- 222-5030, “Let's Go Hog Wild and Protect Some Mahogany for Mule Deer,” \$172,527, and
- 222-5038, “Owyhee Upland Vegetation Restoration,” \$161,570.

If awarded, total funding for sage-grouse projects since 2015 will be \$12,145,066.

V. Funding Recommendation

Staff considered the RRT recommendations and funding availability in developing the staff funding recommendations provided in Attachment D, which includes the number of applications recommended for funding by RRTs and staff by region and grant type. The funding recommendations for the Spring 2022 Open Solicitation Grant Offering are summarized in Table 1.

Table 1: Spending Plan and Funding Recommendations for Spring 2022 Grant Offering

Grant Type	Current Spending Plan	Awards to Date	Staff Recommendation	Remaining Spending Plan Balance
Restoration	\$35,500,000	\$15,775,609	\$7,625,306	\$12,099,085

Technical Assistance	\$5,500,000	\$1,967,866	\$1,281,464	\$2,250,670
Monitoring	\$4,750,000	\$1,837,110	\$2,742,090	\$170,800
Stakeholder Engagement	\$2,750,000	\$773,235	\$462,707	\$1,514,058
TOTAL	\$48,500,000	\$20,353,820	\$12,111,567	\$16,034,613

Staff recommend the board award funds for the staff-recommended projects listed in Attachment D.

Attachments

- A. Grant Applications Submitted
- B. Evaluation Criteria
- C. RRT and Staff Funding Recommendations
- D. Regions 1-6 Funding Recommendations

Oregon Watershed Enhancement Board Spring 2022 Open Solicitation Grant Offering

Applications Received by Type

	Stakeholder Engagement	Technical Assistance	Restoration	Monitoring	Totals
Region 1	1	3	6	6	16
Region 2	2	5	8	4	19
Region 3	2	4	7	5	18
Region 4	0	3	9	5	17
Region 5	3	5	14	4	26
Region 6	0	6	14	1	21
Totals	8	26	58	25	117

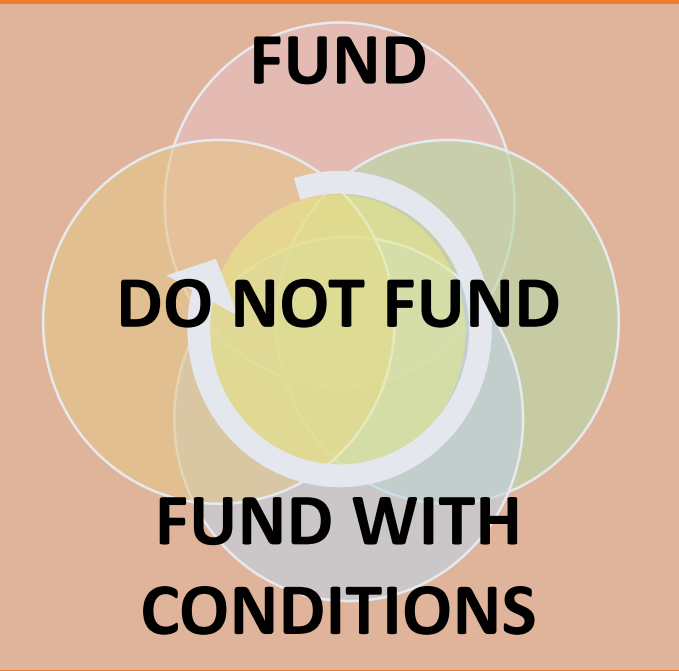
Dollar Amounts by Application Type

	Stakeholder Engagement	Technical Assistance	Restoration	Monitoring	Totals
Region 1	14,560	219,724	1,594,664	834,533	\$2,663,481
Region 2	171,387	326,432	2,434,313	987,110	\$3,919,242
Region 3	103,124	296,537	1,368,975	1,056,645	\$2,825,281
Region 4	0	180,243	2,627,667	1,094,299	\$3,902,209
Region 5	237,209	262,889	1,926,083	406,725	\$2,832,906
Region 6	0	301,372	1,872,965	140,217	\$2,314,554
Totals	\$526,280	\$1,587,197	\$11,824,667	\$4,519,529	\$18,457,673

Open Solicitation – Restoration Grants

PROVIDE PUBLIC BENEFIT FOR WATER QUALITY, NATIVE FISH AND WILDLIFE HABITAT, OR WATERSHED/ECOSYSTEM FUNCTION

Recommend



Regional team reviews & evaluates each project individually based on how well project meets criteria

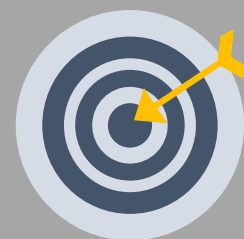
Prioritize



CRITERIA

How well project meets criteria for project evaluation & preferences, including:

- Causes over symptoms of disturbance
- Whole watershed approach over site-specific
- Collaboration over single-party



CERTAINTY OF SUCCESS

Certainty of success, based on the organizational capacity of the applicant & the likelihood the project will meet its ecological objectives



BENEFIT TO OREGON PLAN

Benefit to the Oregon Plan for Salmon & Watersheds, as evidenced by its expected benefits to watershed functions, fish habitat or water quality



COST BENEFIT

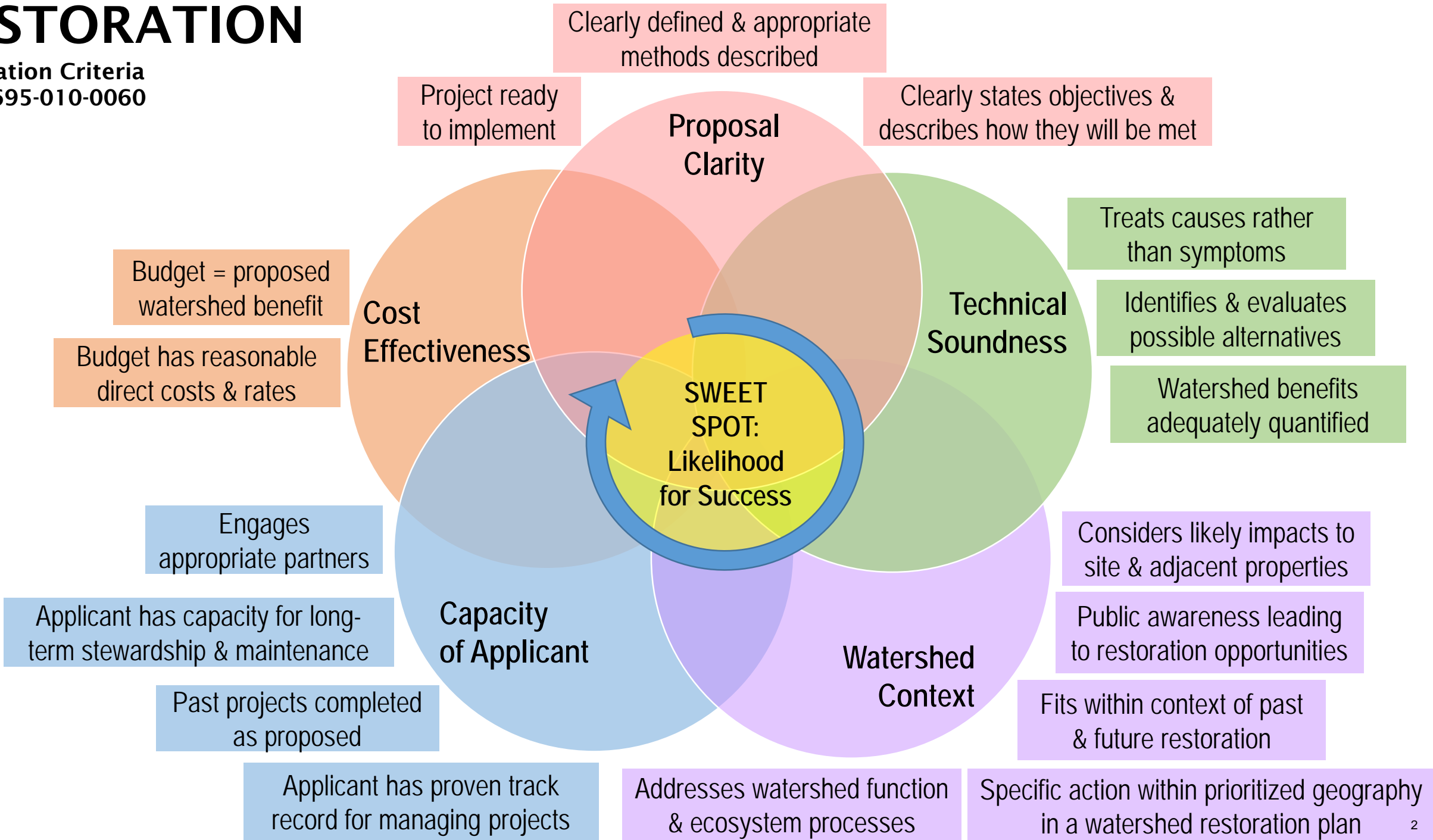
Project costs relative to the anticipated watershed health benefits

Recommendation to Staff

Staff review recommendations from each regional review team & make a statewide funding recommendation to the Board based on available resources for the grant period & type.

RESTORATION

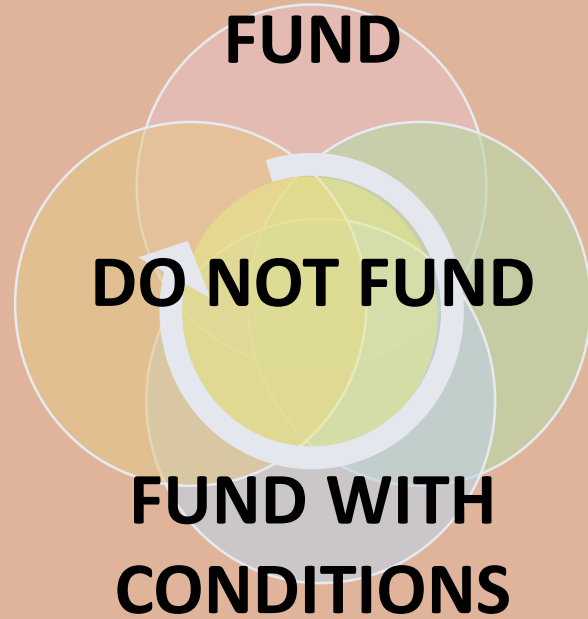
Evaluation Criteria
OAR 695-010-0060



Open Solicitation – Technical Assistance Grants

PROVIDE PUBLIC BENEFIT FOR WATER QUALITY, NATIVE FISH AND WILDLIFE HABITAT, OR WATERSHED/ECOSYSTEM FUNCTION

Recommend



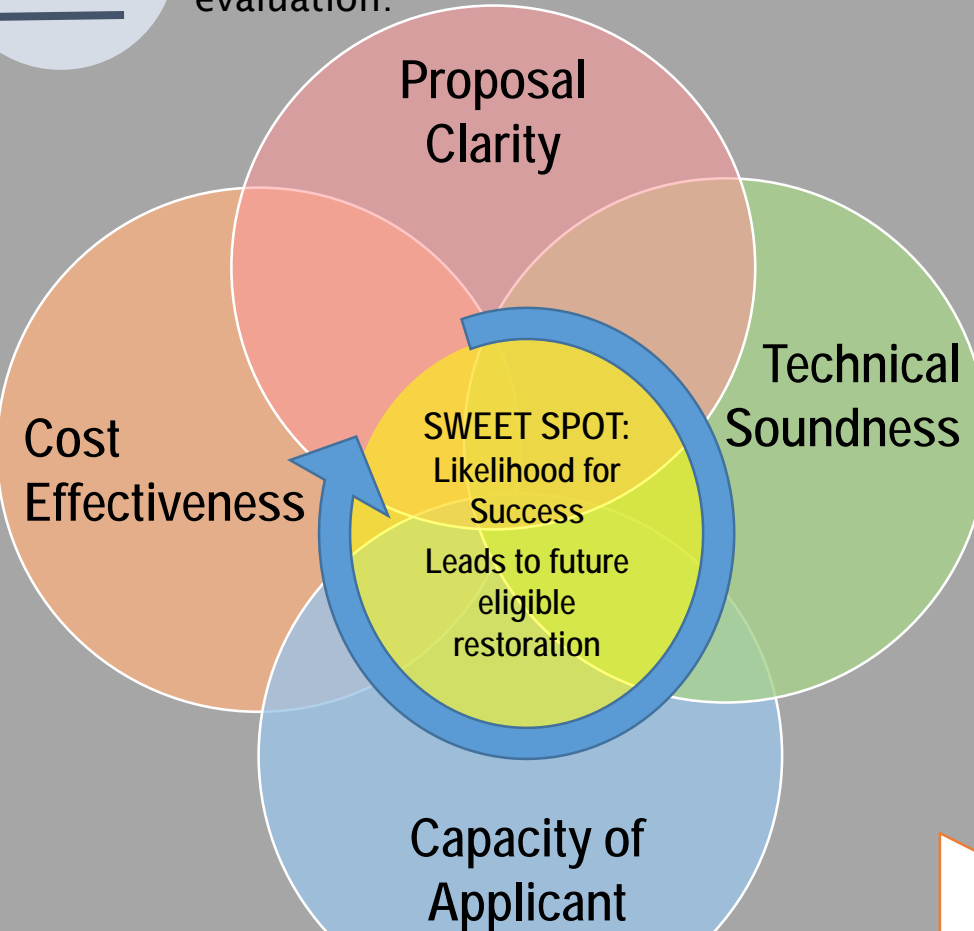
Regional team reviews & evaluates each project individually based on how well project meets criteria

Prioritize



CRITERIA

How well project meets criteria for project evaluation:



Recommendation to Staff

Staff review recommendations from each regional review team & make a statewide funding recommendation to the Board based on available resources for the grant period & type.

TECHNICAL ASSISTANCE

Evaluation Criteria
OAR 695-030-0045

Technical Design & Engineering = project feasibility reports, designs, or engineering materials that directly lead to site-specific restoration or acquisition projects within a specified timeframe

Resource Assessment & Planning = information about existing water quality or habitat conditions and processes at an identified scale, and relates those conditions and processes to actions that will directly lead to desired future conditions within a specified timeframe

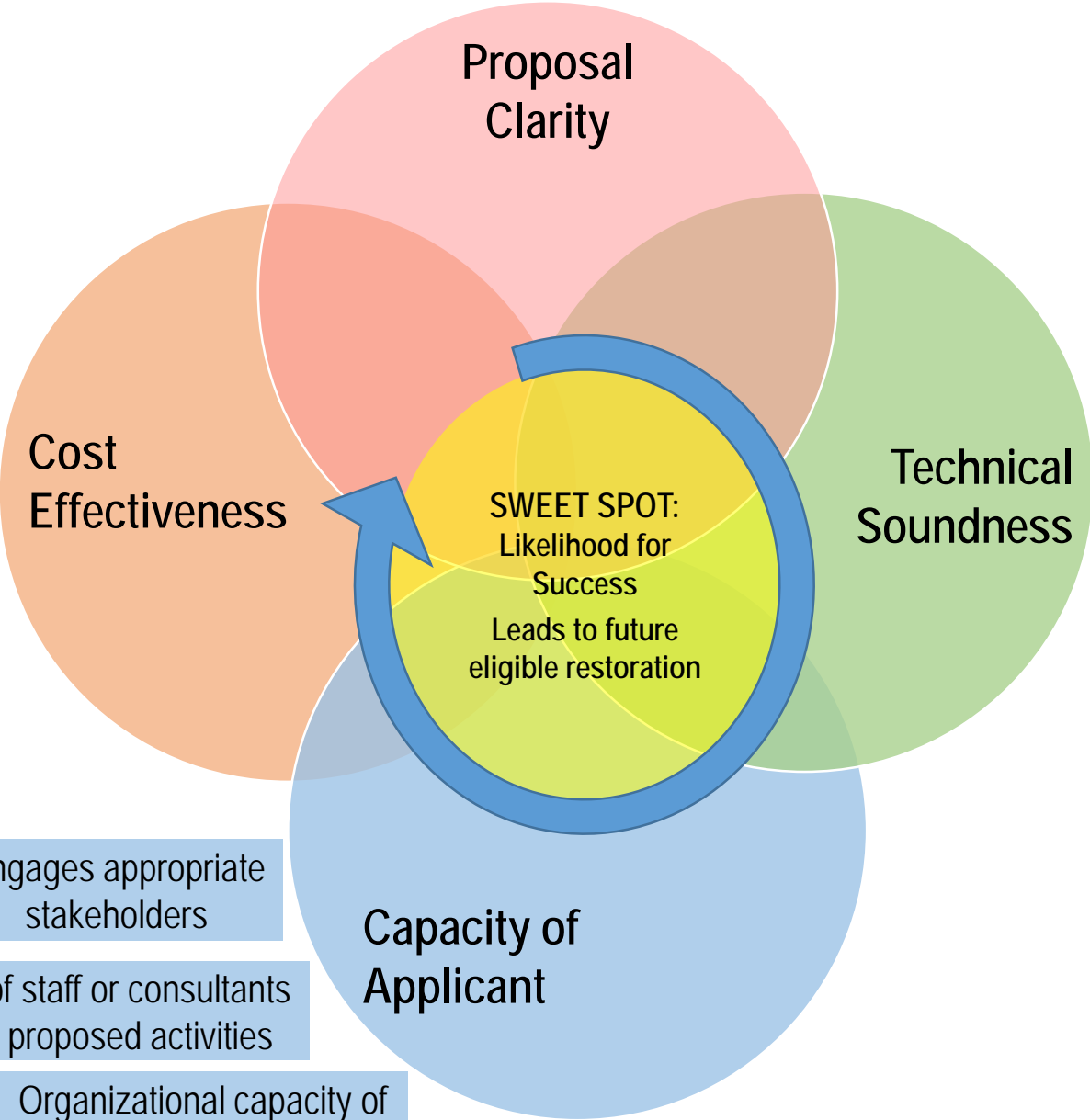
Describes a clear need

Cost aligns with work necessary to accomplish project objectives

Engages appropriate stakeholders

Qualifications of staff or consultants to accomplish proposed activities

Organizational capacity of applicant



Technical Design & Engineering

- Addresses limiting factors in existing conservation or recovery plan
- Describes alternative analysis that demonstrates a range of options were considered
- Appropriate data will be collected to inform designs
- Professionally accepted technical or engineering approaches will be used

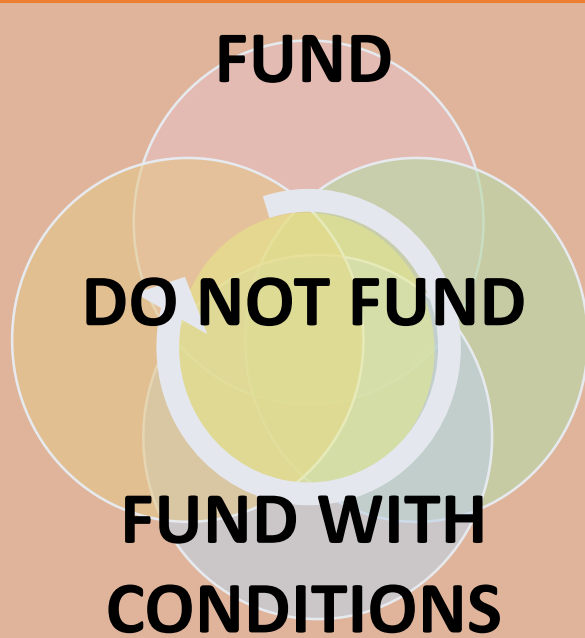
Resource Assessment & Planning

- Scope & scale is feasible, & partners have demonstrated ability in collaborative work at this scale
- Process by which data will be managed & shared with partners
- Professionally accepted methods & parameters will be used

Open Solicitation – Stakeholder Engagement Grants

PROVIDE PUBLIC BENEFIT FOR WATER QUALITY, NATIVE FISH AND WILDLIFE HABITAT, OR WATERSHED/ECOSYSTEM FUNCTION

Recommend



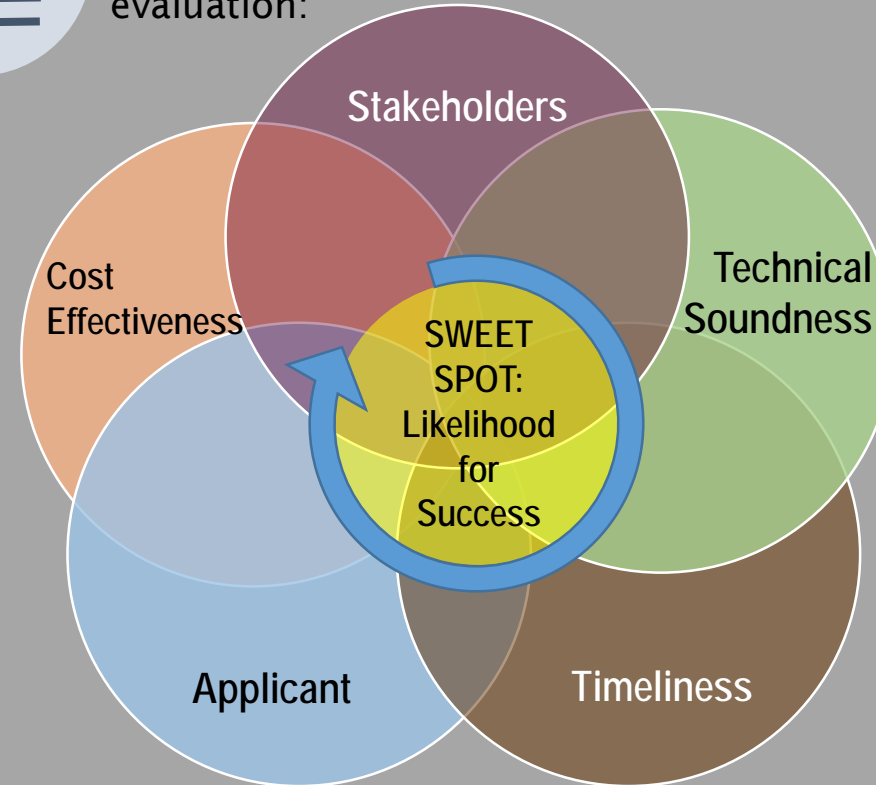
Regional team reviews & evaluates each project individually based on how well project meets criteria

Prioritize



CRITERIA

How well project meets criteria for project evaluation:



CERTAINTY OF SUCCESS

Based on the organizational capacity of the applicant & likelihood the project will meet its stakeholder engagement objectives


Recommendation to Staff

Staff review recommendations from each regional review team & make a statewide funding recommendation to the Board based on available resources for the grant period & type.

STAKEHOLDER ENGAGEMENT

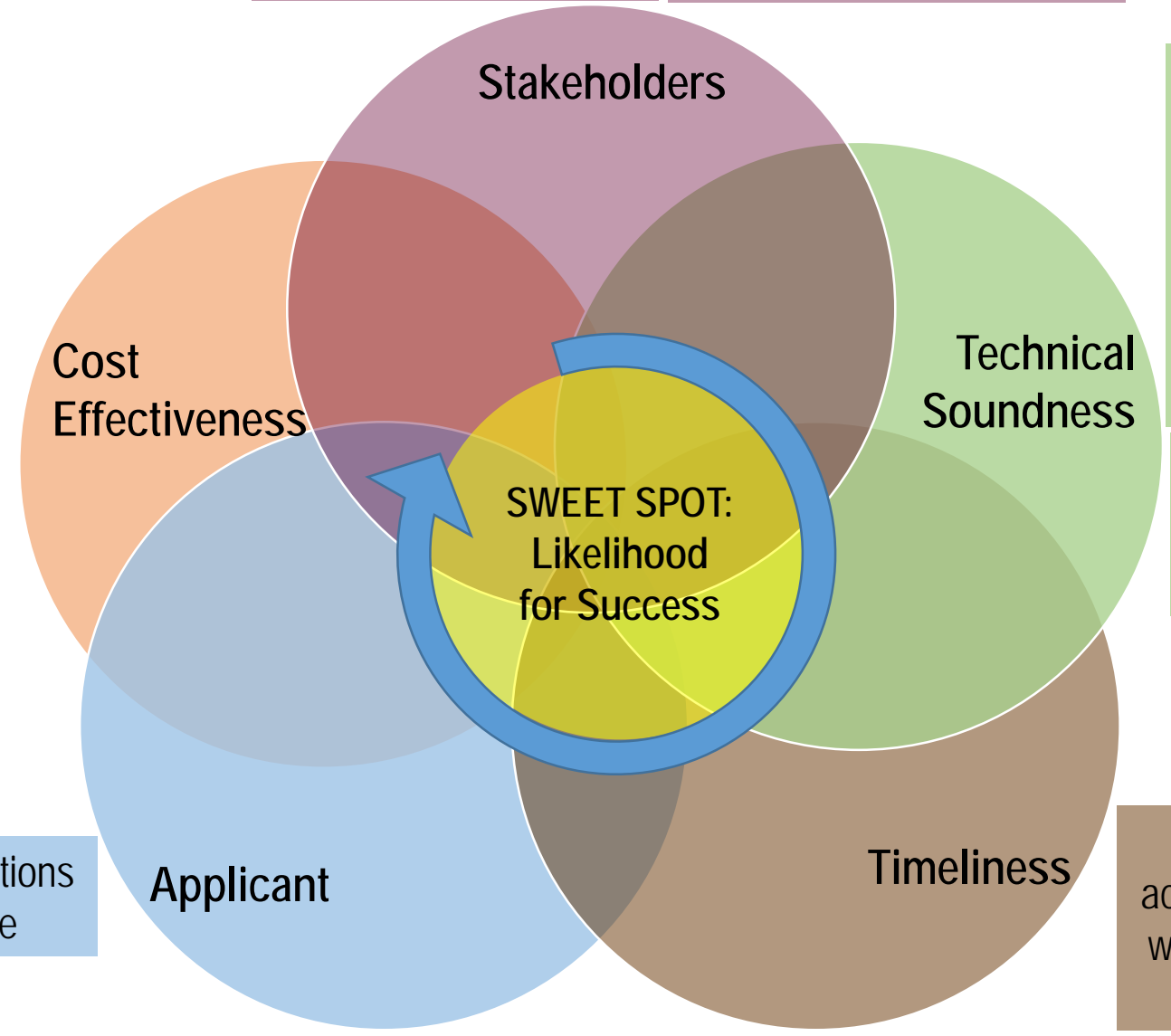
Evaluation Criteria
OAR 695-015-0070

“Stakeholder Engagement Project” means a project whose purpose is to communicate and engage with landowners, organizations and the community about the need for, feasibility, and benefit of a specific eligible restoration or acquisitions project or program that leads to development of eligible projects within an identified geography.

Projects whose primary purpose is education are  NOT ELIGIBLE

Applicants engage with appropriate stakeholders in the appropriate geography

Likely effectiveness of multidirectional communication among the applicant & stakeholder



Expected outcomes of resulting restoration or acquisitions include protecting or restoring fish or wildlife habitat, watershed function, and or water quality or quantity

Evidence base linking engagement to eligible project types

Shows qualifications & experience

Resulting restoration or acquisition projects, or program will lead to timely development of eligible projects

RRT and Staff Funding Recommendations for the Spring 2022 Open Solicitation Grant Offering

Restoration

Region	RRT	Staff	%
1	4	4	100%
2	7	5	71%
3	4	4	100%
4	6	6	100%
5	11	11	100%
6	8	8	100%
Total	40	38	95%

Technical Assistance

Region	RRT	Staff	%
1	2	2	100%
2	4	3	75%
3	4	4	100%
4	2	2	100%
5	5	5	100%
6	5	5	100%
Total	22	21	95%

Stakeholder Engagement

Region	RRT	Staff	%
1	1	1	100%
2	2	2	100%
3	1	1	100%
4	0	0	n/a
5	3	3	100%
6	0	0	n/a
Total	7	7	100%

Monitoring

Region	RRT	Staff	%
1	6	5	83%
2	3	3	100%
3	2	2	100%
4	5	4	80%
5	3	2	67%
6	1	1	100%
Total	20	17	85%

Totals by Region

Region	Restoration	Technical Assistance	Stakeholder Engagement	Monitoring	Total
1	\$1,051,075	\$149,544	\$14,560	\$716,965	\$1,932,144
2	\$1,249,879	\$183,386	\$171,387	\$608,727	\$2,213,379
3	\$874,145	\$296,537	\$39,551	\$179,536	\$1,389,769
4	\$1,640,594	\$149,443	\$0	\$863,024	\$2,653,061
5	\$1,422,932	\$262,889	\$237,209	\$233,621	\$2,156,651
6	\$1,386,681	\$239,665	\$0	\$140,217	\$1,766,563
Total	\$7,625,306	\$1,281,464	\$462,707	\$2,742,090	\$12,111,567

North Coast

Southwest

Willamette Basin

Central Oregon

Eastern Oregon

Mid-Columbia

All Regions Spring 2022 Funding Recommendations

Spring 2022 Funding Recommendations Status

- Staff Recommended Funding
- Below Funding Line

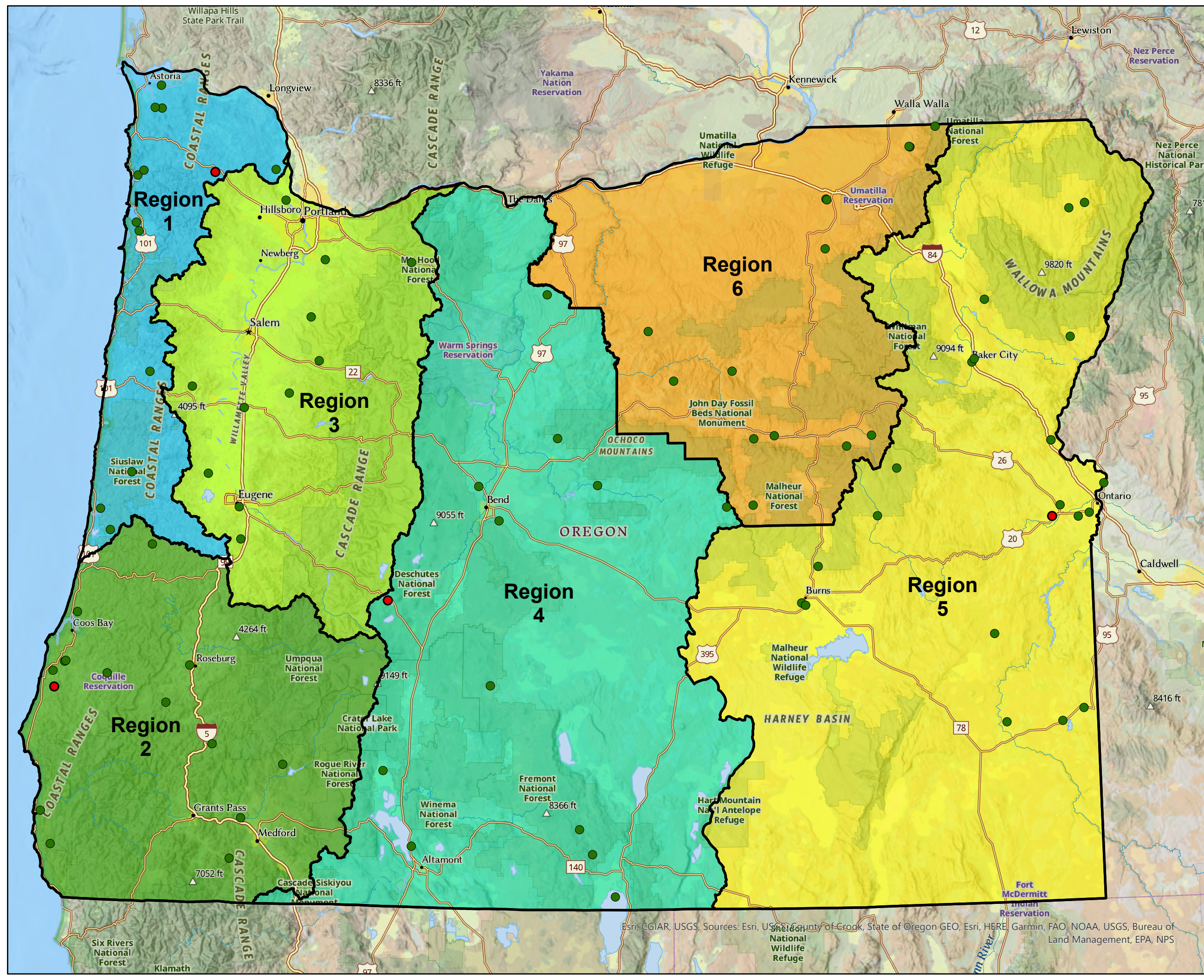
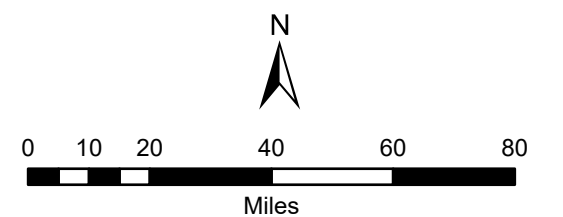
OWEB Regions

- Region 1
- Region 2
- Region 3
- Region 4
- Region 5
- Region 6



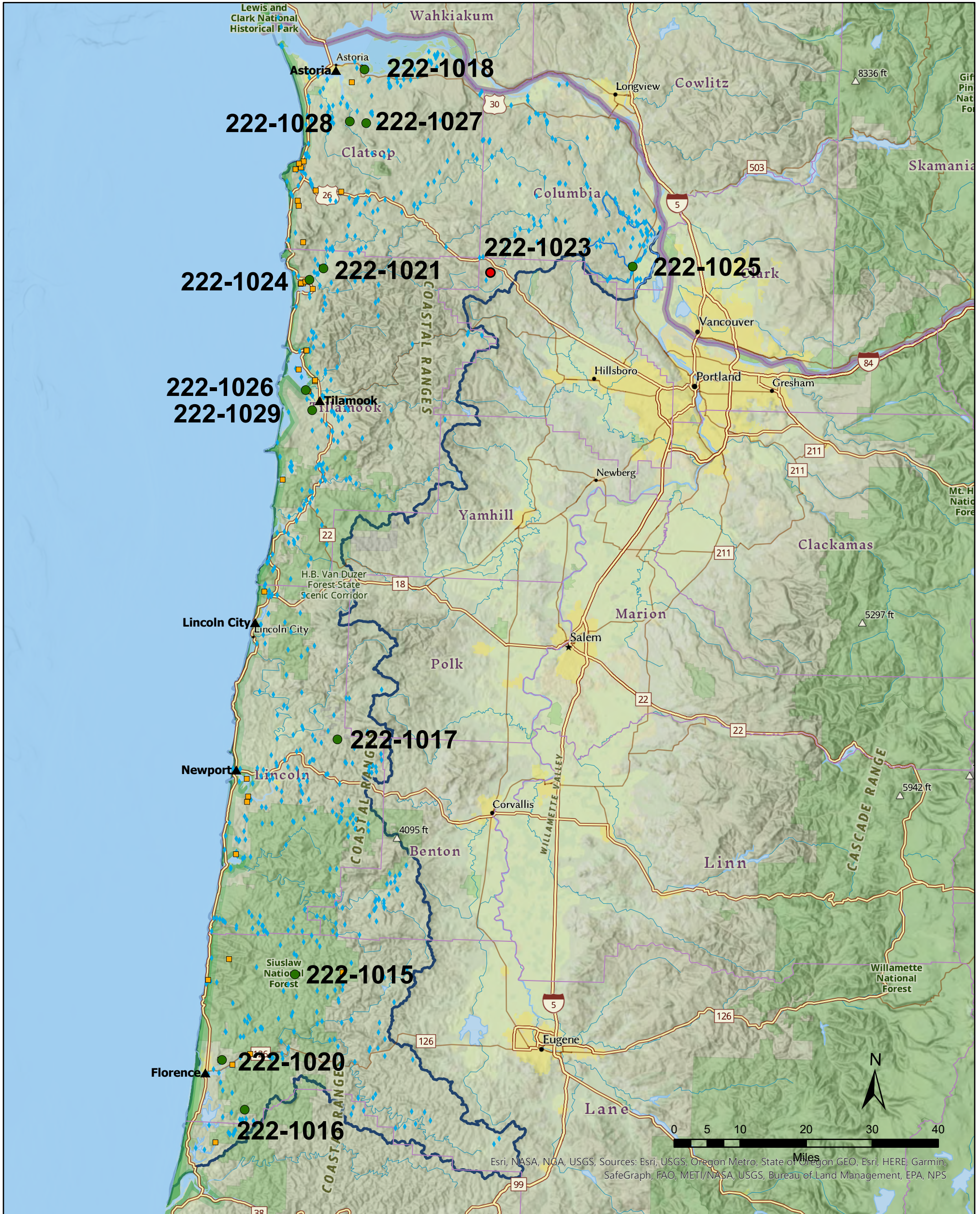
775 Summer St, NE Suite 360
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North Coast

North Coast - Region 1 Spring 2022 Funding Recommendations



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Funding Recommendation

- Staff Recommendation For Funding (SRF)
- Below Funding Line (BFL)

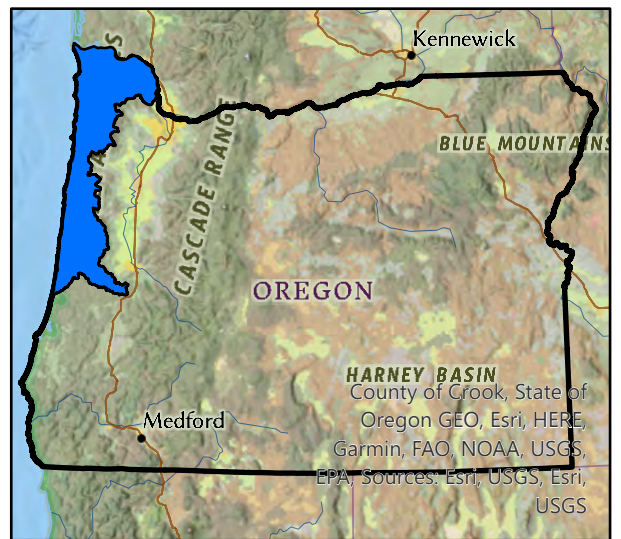
Previous Grants 1998 - Fall 2021

- Land Acquisition
- ◆ Restoration
- ▲ Region 1 Cities
- Region 1 Streams
- ▭ OWEB Region 1 Boundary



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Region 1 - North Coast Restoration					
Projects Recommended for Funding in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
222-1016	Siuslaw SWCD	Bear Creek Habitat Enhancement Phase III	Healthy streamside and aquatic habitats will be restored to Bear Creek, an important tributary in the Fiddle Creek watershed in the Coastal Lakes basin. Large wood will be added to improve instream fish habitat and native trees and shrubs will be planted along the stream and protected from livestock grazing.	232,546	Lane
222-1017	MidCoast WC	Sam's Creek Fish Passage, LWD, and Riparian Restoration	Fish habitat will be restored along Sam's Creek, an important coho stream in the Siletz watershed, by removing fish passage barriers, planting native trees and shrubs along the stream, and adding large wood into the stream to provide habitat structure.	207,166	Lincoln
222-1018	CREST	South Tongue Point Habitat Improvement	High quality tidal habitat will be created on a conservation property within a high priority reach of the lower Columbia River estuary. New tidal channel networks will be added to provide critical rearing habitat for juvenile fish.	381,217	Clatsop
222-1015	Siuslaw WC	North Fork Indian Creek Fish Passage Enhancement	Fish passage will be improved at several road crossings within the North Fork Indian Creek as part of a larger landscape level watershed restoration effort.	230,146	Lane
Total Restoration Projects Recommended for Funding by RRT and OWEB Staff				1,051,075	

Projects Recommended but Not Funded in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
None					

Projects Not Recommended for Funding by RRT					
Project #	Grantee	Project Title	Amount Requested	County	
222-1014	Wildside	Wildside Forest	44,235	Clatsop	
222-1019	Upper Nehalem WC	Fishhawk Lake Fish Passage Restoration	499,354	Clatsop	

Region 1 - North Coast Technical Assistance					
Projects Recommended for Funding in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
222-1020	Siuslaw WC	North Fork Bend Tidal Restoration Design Technical Assistance	Designs for restoring tidal wetland habitat and natural estuarine ecosystem function at a 247-acre property located in the Siuslaw River estuary will be developed to restore coho habitat.	74,554	Lane
222-1021	Lower Nehalem WC	Bandy Slough Reconnection Designs	Designs will be developed to remove a tidegate that is currently limiting tidal connectivity in the lower Nehalem estuary.	74,990	Tillamook
Total Technical Assistance Projects Recommended for Funding by RRT and OWEB Staff				149,544	

Projects Recommended but Not Funded in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
None					

Projects <i>Not Recommended</i> for Funding by RRT					
Project #	Grantee	Project Title		Amount Requested	County
222-1022	Lincoln SWCD	Central Coast Land Use Survey and Prioritization		70,180	Lincoln

Region 1 - North Coast Stakeholder Engagement					
Projects Recommended for Funding in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
222-1029	Tillamook Estuaries Partnership	Tillamook River Wetlands Stakeholder Engagement	Tillamook River Wetlands project designs to restore tidal connectivity on a conservation property in the Tillamook River estuary will be presented to stakeholders to improve understanding of the project and build support for implementation.	14,560	Tillamook
Total Stakeholder Engagement Projects Recommended for Funding by RRT and OWEB Staff				14,560	

Projects Recommended but Not Funded in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
None					

Projects <i>Not Recommended</i> for Funding by RRT					
Project #	Grantee	Project Title		Amount Requested	County
None					

Region 1 - North Coast Monitoring**Projects Recommended for Funding in Priority Order**

Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
222-1026	Tillamook Estuaries Partnership	Southern Flow Corridor Wetlands Post-Restoration Effectiveness Monitoring: Years 7 & 8	The current status of the Southern Flow Corridor project in Tillamook County will be assessed by a multi-disciplinary team specialized in monitoring estuarine habitats.	330,682	Tillamook
222-1025	Lower Columbia Estuary Partnership	2022-23 Continuing Columbia SWCD Water Quality Monitoring Program	Partners will continue and build upon six years of water quality monitoring in six key subbasins in Columbia County. Bacteria, temperature, turbidity, conductivity, dissolved oxygen, and pH will be measured and analyzed.	33,324	Columbia
222-1028	North Coast WS Assn	North Coast Water Quality Monitoring 2023-25	Water temperature monitoring will be continued and expanded within four Clatsop County watersheds, including Youngs Bay, Skipanon, Nicolai-Wikiup, and Ecola Creek.	23,571	Clatsop
222-1024	Tillamook Estuaries Partnership	Long-Term, Watershed-Scale Temperature Monitoring for Nehalem and Tillamook Bay Watersheds	Partners in the Tillamook and Nehalem Bay watersheds will monitor annual stream summer temperatures at 46 sites over the course of five years.	54,408	Tillamook
222-1027	North Coast WS Assn	North Coast Watershed Association and Necanicum Watershed Council RBA and LFA Light	A Rapid BioAssessment will be conducted on 332 stream miles of coastal watersheds within Clatsop County to collect information about salmon distribution, abundance and habitat to identify stream restoration projects.	274,980	Clatsop
Total Monitoring Projects Recommended for Funding by RRT and OWEB Staff				716,965	

Projects Recommended but Not Funded in Priority Order

Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
222-1023	Upper Nehalem WC	Coho Response to Beaver Dam Analogues	A pilot study will be conducted to assess the effectiveness of Beaver Dam Analogues as a restoration technique on the north coast.	117,568	Washington

Projects *Not Recommended* for Funding by RRT

Project #	Grantee	Project Title	Amount Requested	County
None				

Region 1 Total OWEB Staff Recommended Board Award**1,932,144****Region 1 - 6 Grand Total OWEB Staff Recommended Board Award****12,111,567**

Open Solicitation-2022 Spring Offering North Coast (Region 1)

Application Number: 222-1014-22276

Project Type: Restoration

Project Name: Wildside forest

Applicant: Wildside

Region: North Coast

County: Clatsop

OWEB Request: \$44,235

Total Cost: \$68,097

Application Description Wildside forest is just south of Cannon Beach near Arcadia State Beach and accessible by a trail through an Oregon State Forest that is designated Marbled Murrelet Habitat Zone and contains a large stand of old growth Western Red Cedars. Five creeks converge on the 27-acre land, which was acquired from a logging company that fully harvested the trees without replanting, leaving three of the creeks filled/covered with wood slash.

The land is being donated to Wildside, an Oregon 501(c)(3) nonprofit. I started the organization to transform damaged lands into ecologically and economically sustainable habitats (www.wildside.fund). We've already planted over 11,000 native trees and this grant would fully fund the restoration of the three damaged streams, including site preparation, bank plantings, wood placement, die-off replacement, and monitoring.

I'm Andrew Yorra (<https://www.linkedin.com/in/andrewyorra>) and I'm leading the restoration. I previously built two successful software companies in Oregon over the past twenty years, and am a licensed Oregon attorney. I've immersed myself in ecological restoration and assembled a team of trusted experts with extensive experience in their fields. I've helped fund and volunteer all my time to the restoration, and will continue doing so. The expert team includes:

- Dave Wells, well-regarded North Coast forester, oversees plantings and developing the forest management plan.
- Ash Creek, stream restoration contractors performing restoration & monitoring
- Efren Cazares, PhD in Botany, former Oregon State professor, overseeing mycological restoration to support overall forest recovery and health
- Brad Kerr - Aquatic Ecologist with expertise developing water ecosystems, advising on stream habitat/design
- Dean Apostol - Landscape Architect, former University of Oregon Professor and head landscape architect for Mt. Hood Forest, author of 4 books including "Designing Sustainable Forest Landscapes."

Review Team Evaluation

Strengths

- The project area is near an older forest stand containing the ancient Arcadia cedars. Restoring late

successional forest habitat at this site will improve habitat connectivity.

- Wildside is a new non-profit organization that is focused on restoring degraded forest habitat. If successful, this could increase the support network available to landowners.
- The applicant is developing a long-term restoration and conservation strategy for the property and is open to technical suggestions.

Concerns

- The project proposes removing slash in streams by hand, which may not be a feasible approach. Slash is also providing critical temperature benefits in a clearcut landscape.
- There are unlikely to be substantial benefits to aquatic species through the proposed actions. The property is upstream of a barrier at Highway 101 and the stream has a steep gradient through the site, making it not particularly suitable for anadromous fish species even if access is restored.
- The proposal to restore stream habitat through the placement of large wood and pool development may not have much ecological benefit given the fact that there are no fish present in the streams.
- The application insinuates that the previous landowner did not follow through with planting obligations, but the property was sold within a time period that transferred the planting responsibility to the new landowners.
- The number of trees proposed for planting is high and it appears that the project team is expecting 100% mortality of all the vegetation previously planted.
- The ultimate outcome/goal of the project is not well described. It is unclear what the desired future conditions of the site will be.

Concluding Analysis

The Wildside Forest is a 27-acre coastal forest just south of Cannon Beach that represents the first project of a new non-profit organization designed to help landowners address degraded habitat. The applicant has put substantial time and resources into the property and is committed to long-term stewardship of the site. The application would benefit from additional information regarding the overarching restoration goals and watershed context. The plan for instream habitat restoration seems challenging to implement without machinery, and it may not be productive given the lack of access for fish and other aquatic species. The riparian planting component of the project is valuable but may be achieved through an OWEB small grant given the size of the property and scale of the proposed actions.

Review Team Recommendation to Staff

Do Not Fund

Review Team Priority

n/a

Review Team Recommended Amount

\$0

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Do Not Fund

Staff Recommended Amount

\$0

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering North Coast (Region 1)

Application Number: 222-1015-22288

Project Type: Restoration

Project Name: North Fork Indian Creek Fish Passage Enhancement

Applicant: Siuslaw WC

Region: North Coast

County: Lane

OWEB Request: \$230,146

Total Cost: \$397,516

Application Description The North Fork Indian Creek fish passage enhancement project is located in the Upper Indian Creek basin, HUC 171002060501, in the Lake Creek sub-watershed. Indian Creek flows from its headwaters through forested Federal land before entering a mix of rural residential and agricultural properties in its lower reaches. The stream enters Lake Creek near the town of Indiola, where it continues is downstream path to the Siuslaw River and flows through towns such as Swisshome, Tide, Mapleton and Florence. Multiple restoration documents have cited the potential for OC Coho salmonid production in the Siuslaw basin but recongizes that its carrying capacity is being limited by a variety of anthropogenic factors including decreased fish passage through road-stream crossings on many tributary streams. Blocking fish passage at road-stream crossings lowers the carrying capacity of the basin by bloacking access to high quality spawning and rearing habitat. The work proposed in the project would address two (2) high priority crossings in the Upper Indian Creek 6th field HUC on unnamed tributaries to North Fork Indian Creek. The new crossings would be designed to meet ARBO II standards and be sized at 1.5x the active channel and also utilize downstream grade-control structures to promote gravel aggradation and floodplain connectivity.

Project Partners include the Siuslaw Watershed Council (SWC), United States Forest Service (USFS) and the Wild Salmon Center (WSC). The Siuslaw Watershed Council and US Forest Service will cooperatively raise funds and manage the technical details of the project and provide construction oversight. The SWC will be responsible for all project procurement and bid/contract documents. The US Forest Service will permit the program under ARBO II and the Indian Creek Landscape Management Plan. The Wild Salmon Center is funding the AOP designs and also provides technical assistance.

Review Team Evaluation

Strengths

- The proposed work is a component of a larger, watershed-level restoration plan.
- The road through the project area is proposed for major improvements that will address sediment delivery impacts to the stream and correct all fish passage issues.
- The identified reach is a high intrinsic potential area for Oregon coast coho salmon. This area is important for population and species resiliency, especially with future climate change threats.

- Project partners have a long history of collaborating on similar projects and have a track record of success.
- The majority of funds requested are for work on tributary 2, which contains excellent upstream habitat upstream that is currently blocked for passage by a perched and undersized structure. The culvert is so undersized that it has aggraded the floodplain upstream.
- The USFS has recently addressed other watershed impacts in the area, including trespass from cattle.

Concerns

- The application does not include designs, making it difficult to understand how the proposed new structures will handle grade control.
- The project proposes large wood to be incorporated downstream of the structures for habitat complexity, but without designs it is challenging to understand whether the wood could be a barrier to some fish species.
- The application would benefit from a description of road improvements that will be made as part of the larger project.
- The budget may be low based on similar projects funded and implemented recently.

Concluding Analysis

This project addresses two fish barriers in a stream reach with high intrinsic potential for coho salmon. As part of a larger restoration strategy, several limiting factors will be addressed by the proposed project including adding habitat complexity and restoring access to spawning and rearing habitat on North Fork Indian Creek. While the project team has experience implementing similar projects, design details are needed to fully evaluate the proposed approach. The lack of design in the application is somewhat mitigated by the need to comply with USFS stream crossing standards; however, future applications should incorporate design details.

Review Team Recommendation to Staff

Fund

Review Team Priority

4 of 4

Review Team Recommended Amount

\$230,146

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Fund

Staff Recommended Amount

\$230,146

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering North Coast (Region 1)

Application Number: 222-1016-22291

Project Type: Restoration

Project Name: Bear Creek Habitat Enhancement
Phase III

Applicant: Siuslaw SWCD

Region: North Coast

County: Lane

OWEB Request: \$232,546

Total Cost: \$411,264

Application Description Our “Bear Creek Habitat Enhancement Phase III” is along Bear Creek, the largest tributary within the Fiddle Creek Watershed, and ties directly into Phases I (WY-17-23) and II (WY-S21-32) of this ongoing project. Presently, the proposed treatment areas suffer from land use impacts typical to private agricultural and forest lands on the Oregon Coast. The property is leased for grazing and high densities of livestock have unimpeded access to the riparian and instream resources. The goal of the project is to restore healthy riparian and aquatic habitats to the site, to enable sustainable agricultural activity while providing cool clean water and high quality habitats for native species. Primary partners include Mason, Bruce and Girard, Inc. (MBG) and the Siuslaw National Forest (SNF). Specifically, Phase III will:

- Place conifer LWD in mainstem Bear Creek for ~1.25 stream miles.
- Establish ~11 acres of riparian buffer with native tree & shrub species, along ~1.25 stream miles.
- Construct ~15,000 feet of 6.5 foot game fence in a series of plant enclosures, tied together with ~5,000 feet of wildlife friendly livestock exclusion fence, to protect the ~11 acres of riparian buffer along ~1.25 stream miles.

Review Team Evaluation

Strengths

- The proposed project is located within the Fiddle Creek watershed, which is a stronghold for fish, including Oregon coast coho salmon. The coastal lakes provide high quality rearing habitat and this effort will further restore spawning and rearing habitat upstream on a key tributary of Siltcoos Lake.
- Multiple limiting factors for native fish will be addressed.
- The proposed project builds on previous restoration actions in the watershed, with two successful phases already completed.
- The planting plan is sufficiently dense and contains a high diversity of native shrub species. The restored riparian areas will provide good habitat for songbirds and other wildlife.
- The proposed planting approach has been refined from years of experience planting in this watershed and successfully protecting plants from the resident elk herd. The system of fencing utilized to protect areas from both livestock and wildlife browse is an innovative method to address grazing pressure.
- The location of the proposed fencing is well planned and considers natural wildlife use of the site.
- The budget is detailed and the expected ecological benefit for the cost is high.

- The applicant has developed a positive relationship with the private landowner, who has in turn highlighted the project's successes on a national level to investors.
- The riparian planting includes a 40' buffer on both sides of the stream which is likely to provide long-term benefits on water quality and riparian habitat.

Concerns

- More details about the long-term plan for managing the site and fence maintenance would have been helpful to assess project sustainability.
- Black hawthorn is proposed in the planting plan and this may not be a species that occurs in the area (based on the Oregon Flora project resource). Cascara could be a good substitute if black hawthorn isn't appropriate.
- Some of the fencing currently has barbed wire, which is not ideal for wildlife.

Concluding Analysis

The proposed project will continue a successful restoration effort on private land that addresses several limiting factors for fish at a high priority location in the Fiddle Creek watershed. The applicant has a proven track record of implementing high quality similar projects and has implemented adaptive management practices throughout the earlier phases. The previous two phases of work have visibly improved aquatic and riparian habitat throughout the stream reaches involved, and this phase is poised to continue that success.

Review Team Recommendation to Staff

Fund

Review Team Priority

1 of 4

Review Team Recommended Amount

\$232,546

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Fund

Staff Recommended Amount

\$232,546

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering North Coast (Region 1)

Application Number: 222-1017-22296

Project Type: Restoration

Project Name: Sam's Creek Fish Passage, LWD,
and Riparian Restoration

Applicant: MidCoast WC

Region: North Coast

County: Lincoln

OWEB Request: \$207,166

Total Cost: \$296,566

Application Description Sam's Creek is a tributary of the Siletz River, located four miles east of the town of Siletz, it provides approximately eight miles of anadromous fish habitat. Fish species present in the watershed include ESA-listed Oregon Coast Coho, fall Chinook, winter steelhead, resident and sea-run cutthroat trout and Pacific/brook lamprey. Sam's Creek has been identified in the ODFW's Coho Conservation Plan (2007) as having good Coho habitat potential but lacks complexity, over winter habitat, and is well below state and federal benchmarks for large woody debris loading. The proposed restoration reach of Sam's Creek is owned and managed by industrial timberland (Weyerhaeuser and FIA Timber). It is surrounded by young timber production areas and much of the riparian area is dominated by alder and reed canary grass. Multiple habitat assessments conducted by ODFW's habitat program between 1999 and 2019 categorized the wood volume as low and lacking key pieces. This project will use ground based heavy equipment to place approximately 258 pieces of large wood (150 key pieces with a minimum 24" diameter, 108 filler pieces with a 16" minimum diameter) into a 4.5-mile section of Sam's Creek at 35 geomorphologically appropriate sites. In addition to the large wood structures, three culvert removals and one culvert replacement along Sam's Creek and adjacent tributaries will remedy fish passage issues and allow access to 1 mile of stream. Riparian planting throughout the whole project reach will promote conifer establishment for long term large wood recruitment, increase beaver food sources and dam building material, and overall increase plant diversity and native cover to the riparian habitat along Sam's Creek. Approximately 1,300 potted plants/shrubs and 4,800 bare-root trees will be planted. Project partners include: Oregon Department of Fish and Wildlife, MidCoast Watersheds Council, Lincoln SWCD, Confederated Tribes of the Siletz Indians, Weyerhaeuser, and FIA Timber.

Review Team Evaluation

Strengths

- The addition of large wood structures throughout the project reach will restore habitat complexity, providing improved spawning and rearing conditions for Oregon coast coho salmon and other native fish.
- Sam's Creek is a productive stream for Oregon coast coho salmon, steelhead, Chinook salmon, and lamprey. Historically, the stream has been a stronghold for coho.
- The project takes a holistic approach to restoration and includes multiple project elements including fish passage, riparian planting, and increasing habitat complexity.

- The reestablishment of beaver is a component of the project, with BDAs (beaver dam analogues) and willow plantings encouraging their presence.
- The proposal is clearly written and the goals and objectives are well-stated and achievable.
- The project team has strong capacity to implement the project and a proven track record of success.

Concerns

- The application does not include sufficient details about design and placement of BDA structures to fully assess the technical soundness of the design.
- Only 3 years of plant stewardship is included in the budget, which may not be sufficient for establishing vegetation in reed canary grass dominated wetlands.
- The plan for planting site preparation does not propose scalping at a depth that will remove the rhizomes and may not be very successful long-term in reducing cover of reed canary grass around the new plantings.

Concluding Analysis

This comprehensive restoration project on Sam's Creek effectively targets a priority stream reach with a suite of restoration actions that address limiting factors for native fish. The project timing is optimal, with willing landowners and salvaged wood staged nearby that is available for restoration placement. Additional details would have been helpful with regards to the design of the BDA structures; however, an appropriate, low-gradient stream reach has been identified for BDA installation and the project team is experienced with similar projects.

Review Team Recommendation to Staff

Fund

Review Team Priority

2 of 4

Review Team Recommended Amount

\$207,166

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Fund

Staff Recommended Amount

\$207,166

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering

North Coast (Region 1)

Application Number: 222-1018-22307

Project Type: Restoration

Project Name: South Tongue Point Habitat Improvement

Applicant: CREST

Region: North Coast

County: Clatsop

OWEB Request: \$381,217

Total Cost: \$906,060

Application Description The South Tongue Point Habitat Improvement project is located on the eastern side of the City of Astoria, in Clatsop County. The site is the shore of the Columbia River in Cathlamet Bay. The majority of the project area was recently purchased from Oregon Department of State Lands with and OWEB acquisition grant and transferred Clatsop Community College. The site was built with dredge spoils between 1948 and 1957 by the federal government and left to vegetate naturally, with no subsequent disturbance. The site was built primarily for stability, however, and lacks significant tidal channel structure. Foraging opportunities for juvenile salmonids and other species are generally lacking, in part due to a simplified shoreline.

The project will create 14.45 acres of high-quality tidal foraging and refuge habitat for juvenile salmonids in this priority reach of the river (Reach B), which has lost the majority of its historical tidal wetlands. The project will excavate two flow-through channels, six tidal channel networks, and one pool-channel combination. The flow-through channels will connect existing wetlands on the north and south side of the landform, including a section of the Lewis and Clark National Wildlife Refuge and a 2012 OWEB-funded restoration project called Liberty Lane. The six tidal channel networks are on the site's eastern shore. All excavated materials will be placed in two upland piles in the property's interior.

CREST is working closely with Clatsop Community College on this project, which hopes to use the site as a living laboratory for students and faculty. Columbia Land Trust is a secondary partner, and led the acquisition.

The project is partially funded by Bonneville Power Administration. CREST is working also with Partners for Fish & Wildlife (a program of U.S. Fish & Wildlife Service), which will provide in-kind construction support. Additional grant funding is also being sought.

Review Team Evaluation

Strengths

- Restoration at this site will create 14.45 acres of high-quality tidal foraging and refuge habitat for juvenile ESA-listed Columbia River salmon.

- The project builds on previous conservation investments, with the site acquired in part with OWEB and USFWS funding.
- The project location is important for migrating fish transitioning from fresh to salt water as smolts. Limited opportunities for tidal restoration exist in this reach of the Columbia.
- The applicant has been proactive in addressing potential concerns with contamination of dredge spoil material on site and is utilizing the Portland Sediment Evaluation Team to determine clean fill prior to implementation.
- The plan to incorporate woody material into the sandy soils at the site is innovative and technically sound.
- The project design is robust and has been vetted by a wide range of technical experts.
- The partnership with the community college increases the potential for public awareness leading to future restoration opportunities. The site could serve as a living laboratory for marine science students.

Concerns

- The total cost of the project is high due to the need for excavation of the dredge spoils.

Concluding Analysis

The project site has been highly altered by the deposition of dredge spoils from channel maintenance efforts in the Columbia River. The proposed project aims to create tidal wetland habitat rather than restore natural conditions, but the proposed habitat is of high value and rare in this lower part of the estuary. The thorough planning work that has gone into the project is evident and the design approach is technically sound. There is a strong partnership ready to implement the selected alternative and create high value aquatic habitat beneficial to juvenile salmon.

Review Team Recommendation to Staff

Fund

Review Team Priority

3 of 4

Review Team Recommended Amount

\$381,217

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Fund

Staff Recommended Amount

\$381,217

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering North Coast (Region 1)

Application Number: 222-1019-22338

Project Type: Restoration

Project Name: Fishhawk Lake Fish Passage
Restoration

Applicant: Upper Nehalem WC

Region: North Coast

County: Clatsop

OWEB Request: \$499,354

Total Cost: \$3,202,679

Application Description The fish ladder is located at Fishhawk Lake dam. The ladder is needed to restore and improve fish passage. The Oregon Coastal Coho Salmon Recovery Plan identified blocked/impaired fish passage as a major reason for the extensive reduction in connectivity and access to historical habitats in the Nehalem Basin, which has a direct impact on species survival and abundance. Improved fish passage will substantially improve connectivity and access to the area of Fishhawk Creek upstream of the dam. This area has approximately 34.4 miles of fish habitat, 13.5 miles of which is high quality Coho habitat. The Nehalem River Basin is Salmon Anchor Habitat due to its high quality habitat and importance to salmon populations. According to the Nehalem Strategic Action Plan, Fishhawk Creek is a place for investment in "strategies that enhance complexity with a high degree of confidence that projects are being located in reaches that can deliver the greatest benefit." Expanded access to habitat above the dam is expected to increase abundance and resilience of salmon within the Fishhawk Creek watershed and boost the long-term viability of populations in the greater Nehalem River basin. This will, in turn, strengthen the spatial structure and reduce extinction risk for salmonid species.

Fishhawk Lake dam is ranked 6th in ODFW's North Coast high priority fish passage barrier list, with a rating of 3. The fish most negatively affected by the existing ladder are juvenile Coho and Pacific lamprey. These impacts are caused by the height of each step and the sharp ladder weirs. The new ladder is designed to current fish passage standards to ensure volitional passage. Each step will be limited to a vertical drop of 6" between pools, with extra space for resting and an energy dissipation factor of 4, and with rounded ladder weir edges.

Partners are the Fishhawk Lake & Reserve Community Inc. (FLRC). Funding partners are the ODFW and Weyerhaeuser.

Review Team Evaluation Strengths

- The Fishhawk Lake Reserve Community continues to be committed to improving fish passage at the Fishhawk Lake dam.
- There were 4 separate alternative designs considered and the project team worked with all the relevant agencies to arrive at the selected approach.
- Fish passage certification at the dam has already been approved by both ODFW and NOAA.
- The project is ready to implement, with repairs already underway in summer 2022.
- The design will significantly improve fish passage for adult salmon and for juveniles traveling downstream, including Oregon coast coho salmon.
- The proposed structure should not need long-term maintenance, making lake operations easier with less risk to fish.

Concerns

- Water quality in the mainstem Nehalem is extremely temperature limited, and the Fishhawk Lake dam contributes heavily to that problem. Temperature monitoring has showed that the water in the lake achieves lethal conditions in the summer months.
- The application states that the new design will result in improved water quality by decreasing stream temperature for an undetermined distance downstream. There is no technical rationale for that statement provided in the application.
- The design may be the best that can be achieved at the site, but it provides limited fish passage without other watershed benefits and does not address the other severe water quality problems associated with the lake.
- Repairing the fish ladder is a component of the other required actions associated with dam repair. It is unclear what additional ecological benefits will be achieved with the addition of OWEB funding.
- It is unclear whether juvenile fish passage will be entirely restored and whether this project will solve the mortality issue, given the temperature impacts to fish.
- Fish salvage in the lake during drawdown for the fish ladder is going to be challenging and minimal details are provided about how this would be accomplished.
- The dredging permit held by the lake managers is still active and there is concern about the continuing impact of this practice on Pacific lamprey.
- The budget is not updated from the previous submittal in 2019. Given that construction has already begun, it is unclear how the funds will be spent moving forward.

Concluding Analysis

This is the 6th application to OWEB submitted by the applicant related to this site, with the previous 5 applications not recommended for funding. Primary concerns continue to include the fact that the proposed design provides limited fish passage and does not address stream temperature, which is negatively impacted by the presence of the artificially created lake maintained by the community for recreational purposes.

This application is requesting OWEB funding to contribute to a project that is already under construction, a project that includes both improvements to the dam and fish ladder. The application does not explain how the OWEB funds will be spent, given that by the time the funding would be awarded most of the fish ladder will already be constructed. Parts of the application do not appear to have been updated from the previous submittal, resulting in a lack of clarity about project sequencing and budget.

Review Team Recommendation to Staff

Do Not Fund

Review Team Priority

n/a

Review Team Recommended Amount

\$0

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Do Not Fund

Staff Recommended Amount

\$0

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering

North Coast (Region 1)

Application Number: 222-1020-22300

Project Type: Technical Assistance

Project Name: North Fork Bend Tidal Restoration
Design Technical Assistance

Applicant: Siuslaw WC

Region: North Coast

County: Lane

OWEB Request: \$74,554

Total Cost: \$109,554

Application Description The North Fork Bend Tidal Restoration Design Technical Assistance will advance the goal of restoring tidal wetland habitat and natural estuarine ecosystem function at a 247-acre property located in the Siuslaw River estuary, northeast of Florence, Oregon, in Lane County. The property is composed of diked and drained former tidal wetland and is separated into two hydrologically-disconnected grazing pastures, each drained by ditches and protected from tidal inundation by tidegates. This property is a segment of the lost tidal wetland habitats in the Siuslaw River estuary. An estimated 67% of tidal wetlands in the Siuslaw River estuary have been lost as a result of agriculture, development, and transportation infrastructure land use actions. Estuarine habitat quantity and quality are identified as key limiting factors in the health of the Siuslaw watershed and its ability to support healthy populations of species such as Oregon Coast coho, making restoration of estuarine habitat a high priority for local and regional organizations.

This project proposes to advance tidal wetland restoration design to the 30% design threshold. This includes collecting supplemental survey data, hydraulic modeling, assessing and identifying a restoration alternative, producing 30% designs, and a geotechnical review of native soil materials. A feasibility study for restoration at this project site was completed in 2018, supported by OWEB. Partners on this TA project include McKenzie River Trust (MRT), The Nature Conservancy (TNC), and the Siuslaw Watershed Council (SWC).

Review Team Evaluation

Strengths

- The application builds on previous OWEB investments in conservation at this site, including an Acquisition grant and an earlier Technical Assistance application.
- The proposal is clearly written and describes thoroughly the pathway from acquisition to restoration.
- The site has high potential to provide significant ecological benefit to the Siuslaw estuary and represents a major opportunity to recover estuarine function.
- The project area is part of a larger network of conservation and restoration projects and is immediately west of high functioning tidal habitat.
- The applicant is experienced with similar types of projects and has the capacity to lead the technical assistance work. The project team overall is highly qualified and committed to restoration at the site.

- The design work is cost-effective for the work proposed and the expected ecological benefits of a resulting restoration project.

Concerns

- Alternative 1 will focus on passive restoration with construction of shallow pilot channels. There have been few successful examples of this approach.
- The level of stakeholder engagement with potentially impacted landowners to date is unclear, and this may be a critical component of this project's success.

Concluding Analysis

The North Fork Bend Tidal Restoration project represents a significant opportunity to restore natural estuarine function to a 247-acre property in the Siuslaw River estuary. This technical assistance work will advance the designs now that the site has been acquired by conservation ownership and that a feasibility study has been completed. The site is a priority for restoration due to its ability to address key limiting factors in the watershed and the project partners have the necessary expertise and capacity to implement the design work.

Review Team Recommendation to Staff

Fund

Review Team Priority

1 of 2

Review Team Recommended Amount

\$74,554

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Fund

Staff Recommended Amount

\$74,554

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering North Coast (Region 1)

Application Number: 222-1021-22332

Project Type: Technical Assistance

Project Name: Bandy Slough Reconnection Designs

Applicant: Lower Nehalem WC

Region: North Coast

County: Tillamook

OWEB Request: \$74,990

Total Cost: \$134,247

Application Description Bandy Slough is located on the south bank of the North Fork Nehalem River at approximately river mile 1.7 and drains 3 acres of tidal wetland. A tide gate on Bandy Slough runs through a dike that also serves as an easement access to PacifiCorps powerlines on site. The tide gate is blocked partially open and in fair to poor condition. This project proposes to explore options for reconnecting Bandy Slough, maintain PacifiCorp's easement access, and restore access to 3 acres of tidal wetland presently disconnected from the North Fork Nehalem River.

Removing the Bandy Slough tide gate will restore hydrological function and allow for natural seasonal and tidal cycles. This action will significantly improve the slough's currently altered hydrology and reduced water quality. . Restored tidal connectivity with the North Fork Nehalem River will improve water and habitat quality in Bandy Slough for rearing salmonids as well as salmon prey species that are critical for juvenile salmonid growth and survival. This project will contribute to the reconnection of tidal wetlands in the Lower North Fork Sub-basin 6th Field identified as a priority in the Nehalem Strategic Action Plan for Coho.

This project will include a Site Assessment, Alternatives Analysis, and development of Preliminary Design to procure project permits. The Site Assessment will examine topography, design flow depths in the North Fork Nehalem River and Bandy Slough, active channel width of Bandy Slough and more. The Alternatives Analysis will examine options to replace the tide gate with a bridge, connect Bandy Slough to the adjacent slough upstream, realign the easement access, and consider other potential options. The preliminary design will be sufficient for the fill/removal permits, fish passage approval, and a no-rise certification.

Project partners include: PacifiCorps, Tillamook Estuaries Partnership, Oregon Department of Fish and Wildlife, the Wild Salmon Center, and the three landowners.

Review Team Evaluation

Strengths

- The North Fork Nehalem estuary is a high priority location for restoration. Resulting restoration will provide important benefits to juvenile salmon, including Oregon coast coho.

- The application is clearly written with realistic goals and objectives.
- The resulting restoration will remove a tide gate on private property and has ancillary benefits for landowner outreach in the area.
- There are limited opportunities for restoring tidal rearing habitat in the north coast; it is important to take advantage of such opportunities when available.
- The property is adjacent to an existing tidal Sitka spruce swamp which is a priority for conservation.
- Removing the tide gate and restoring full tidal exchange will result in the maximum possible water quality benefits for Bandy Slough.
- The applicant had success implementing similar design projects.
- The budget is appropriate given the understandable complexities with estuarine restoration and the type of analysis proposed.

Concerns

- The size of the site is small for the expected cost of design and restoration.
- The monitoring objectives described in the application may need additional focus to be successful. A more extensive longitudinal profile will be helpful to characterize more of the project reach and adaptively manage any impacts to the tidal channel.

Concluding Analysis

Removal of the Bandy Slough tide gate presents a rare opportunity to restore tidal habitat in the Nehalem estuary. The restoration project involves a small geography, but the ecological benefit is significant given its proximity to other conservation areas and the critical habitat for juvenile fish the site will provide once restored. The applicant has the capacity to facilitate a successful design process.

Review Team Recommendation to Staff

Fund

Review Team Priority

2 of 2

Review Team Recommended Amount

\$74,990

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Fund

Staff Recommended Amount

\$74,990

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering

North Coast (Region 1)

Application Number: 222-1022-22354

Project Type: Technical Assistance

Project Name: Central Coast Land Use Survey and Prioritization

Applicant: Lincoln SWCD

Region: North Coast

County: Lincoln

OWEB Request: \$70,180

Total Cost: \$88,398

Application Description Lincoln SWCD (LSWCD) intends to conduct a comprehensive land use survey across the five basins within Lincoln County. Our survey will grow our organizational knowledge on the types and intensity of land use and agricultural practices which impact surface waters across Lincoln County. Surveys will be conducted on Drift Creek, Schooner Creek, Siletz River, Yaquina River, Alsea River, and the Yachats River.

This watershed scale land use survey will employ the Water Quality Monitoring and Assessment Program Specialist and Watershed Restoration Technicians to perform in- car surveys of land use adjacent and visible from public roads. To further support our in-car survey, desktop review of zoning and land ownership data will be completed to validate survey data and fill in missing gaps on land use within each HUC. Tax lot land use outside of the ½ mile access and within the HUC will be extrapolated via a desktop analysis by ownership and zoning Our survey assesses primary and secondary agricultural and forestry land use types and associated typical contaminants (DEQ Typical Contaminants from Land Uses/Sources), an estimate of agricultural intensity, visible surface water connection type, land use activity, and the presence of open or unconstrained manure piles. Staff will collect field data through in-car surveys using ArcGIS and Arc Collector.. This data will be summarized with a prioritization of practices and locations the District will target for future outreach, technical assistance, and implementation of conservation practices to address expected typical contaminants.

Review Team Evaluation

Strengths

- The proposed work could garner a better understanding of land use issues across 5 basins in Lincoln County.
- The application collector GIS technology is an appropriate tool to use for this type of survey work.

Concerns

- It is unclear how the work will directly lead to restoration.
- The application lacks detail about the expected results from the windshield surveys and how the non-designated agricultural lands will be assessed.

- The survey work is limited to only that which can be seen from major roads, and as such the quality and usefulness of the data product is uncertain. It is unclear why desktop processes were not considered as a viable alternative.
- Windshield surveys may not be the best method to engage with the community in the project area.
- There is no mention of how the proposed work connects to the already funded Stakeholder Engagement project with the same applicant in the same geography.
- The applicant organization has experienced significant staff turnover; their capacity to conduct the proposed work is uncertain.
- The application describes partnering agencies that are interested in the data, but does not explain how they will be participating.

Concluding Analysis

Understanding land use on a watershed scale is important for an organization working in rural and rural residential areas to implement restoration projects. This windshield survey may be a positive first step toward reaching that understanding and planning future work, but the application does not successfully make a link between how the project will inform project prioritization and implementation. There is concern that the drive by surveys may miss significant issues and might be a counterproductive way of engaging with landowners. More details are needed about the overall restoration strategy in the county and how this project will help inform the strategy.

Review Team Recommendation to Staff

Do Not Fund

Review Team Priority

n/a

Review Team Recommended Amount

\$0

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Do Not Fund

Staff Recommended Amount

\$0

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering North Coast (Region 1)

Application Number: 222-1023-22265

Project Type: Monitoring

Project Name: Coho Response to Beaver Dam Analogues

Applicant: Upper Nehalem WC

Region: North Coast

County: Washington

OWEB Request: \$117,568

Total Cost: \$156,768

Application Description 1) The "Pilot" Beaver Dam Analogue (BDA) Pilot Study project is located in the upper Nehalem watershed (HUC#: 17100202) on public lands managed by the Oregon Department of Forestry (ODF) Forest Grove and Astoria Districts, and private lands managed by Oregon State University (OSU) College of Forestry and private timber co. Olympic Resource Management (ORM).

Uploads: Maps - BDA locations.

2) This pilot study is designed to determine the effectiveness of using BDAs on the Oregon coast to create critical over-winter rearing habitat for ESA-listed OC Coho Salmon. BDA design, implementation and three years of monitoring have been completed. The study design was developed to evaluate the efficacy of the BDAs over a 10-year period. Additional funding is needed to fully evaluate the BDA structure longevity and their associated morphological and biological relationships. The first three- years of monitoring exhibited improving responses over time in many categories. It would be important to understand structure longevity for application in Coast Range Watersheds because it directly effects the final cost / benefit analysis of implementing this technique for Coho salmon. Additionally, evaluation of the effectiveness of using BDAs to aid in creating more high quality, low velocity rearing habitat needs to be completed so that we can determine its efficacy in creating a more resilient landscape for OC Coho in the face of climate change.

3) Biological survey by RBA summer/winter snorkel surveys for juvenile abundance at select BDA pilot study sites and physical attribute surveys at all of the BDA pilot study sites. In addition, UNWC project manager will coordinate 3 guided field trips to select BDA sites over the course of the study with a wide variety of participants and produce an instructional video with high quality drone footage.

4) Project partners include: UNWC, WSC, NOAA, ODF, ODFW, NFWF, OWF, OSU, ORM, Trask Consulting, and BioSurveys.

Monitoring Team Evaluation

Monitoring Team Strengths

- The proposed project will complement the three years of monitoring data that has already been collected at restoration sites.
- The previous monitoring project developed lessons learned that informed adaptive management of the applicant's monitoring and restoration efforts.
- The proposed monitoring methods and study design were developed collaboratively with NOAA and ODFW.
- The proposed project will complete a ten-year data set, which is sufficient to evaluate the effectiveness of the beaver dam analogs (BDAs) and beaver activity.
- The single restoration action in the project area has been BDA installation, which will make it easier to attribute any improvements to habitat and fish abundance to this restoration action.
- The consultants collecting the field data will be consistent throughout the project and have extensive experience doing this work.
- The proposed project incorporates video footage to communicate restoration effectiveness to a variety of audiences, including the public.
- The applicant will host three guided field trips for interested agencies, stakeholders, and practitioners to explain the project's design concepts, goals, and objectives.
- The project's budget was informed from collecting data at the same sites over three years, so it is likely to be appropriate for the work necessary to accomplish the objectives.

Monitoring Team Concerns

- The application proposes to answer many monitoring questions and it was challenging to follow the logic throughout the application to understand how the different questions were being answered.
- There is a brief mention that the applicant will monitor water temperature at 10 sites, but there are no monitoring questions or information on the study design, sampling methods and analysis to understand how and/or why this data will be collected to determine if the proposed approach is appropriate.
- It is not clear if the applicant plans to write a Sampling and Analysis Plan (SAP) to collect water temperature data and if it will be submitted to the Oregon Department of Environmental Quality (DEQ).
- The project timeline didn't include time for the development of a final report; it was unclear how the applicant plans to summarize the findings across ten years in a comprehensive manner.
- The data analysis will be done in Excel and it was unclear if this software tool is sufficient to ensure all of the covariates being evaluated will be incorporated to clearly answer their monitoring questions.

Monitoring Team Comments

Recommendation:

- Write a Sampling and Analysis Plan (SAP) early in the life of the project and have it approved by DEQ to reflect water temperature monitoring sites.

Review Team Evaluation

Strengths

- The proposed project will produce clarifying information to advise practitioners on Beaver Dam Analogue (BDA) use in the future.
- The proposed monitoring addresses an identified data gap with regards to BDA installation and functionality long term.
- The application is a resubmittal from a previous cycle. This submission contains a greater level of detail and thoroughly addresses reviewer comments from the previous submission.
- The project is cost-effective for the proposed 7 years of monitoring and the amount of data collected for each objective.
- The need for this monitoring is timely, with burgeoning interest in the BDA technique throughout the Oregon coast coho range.

Concerns

- The application would benefit from some additional clarity regarding the proposed metrics and how they track to the monitoring questions.
- The project aims to address a wide array of monitoring questions. Identifying the critical questions to be addressed and the related metrics would help bring more focus and clarity to the application.
- The project will produce a large volume of data and there is some uncertainty how the data will be stored and maintained in the long term.
- Information about the proposed report of findings is lacking including details about how the data will be analyzed and what the report will encompass.

Concluding Analysis

Beaver Dam Analogues (BDAs) are growing in popularity as a restoration technique and there is limited information available about their long-term functionality within the coastal watersheds that comprise the habitat range of Oregon coast coho salmon. The proposed project will address that data gap in a cost-effective manner over the course of a ten-year study. The application provides an additional level of detail and clarity over the previous submission, but would still benefit from some additional clarity around the monitoring questions and metrics. There are uncertainties as to how the data will be analyzed and how the information will be incorporated into future restoration work.

Review Team Recommendation to Staff

Fund

Review Team Priority

6 of 6

Review Team Recommended Amount

\$117,568

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Do Not Fund; falls below staff-recommended funding line

Staff Recommended Amount

\$0

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering North Coast (Region 1)

Application Number: 222-1024-22274

Project Type: Monitoring

Project Name: Long-Term, Watershed-Scale
Temperature Monitoring for Nehalem and Tillamook
Bay Watersheds

Applicant: Tillamook Estuaries Partnership

Region: North Coast

County: Tillamook

OWEB Request: \$54,408

Total Cost: \$77,982

Application Description Tillamook Estuaries Partnership (TEP) in collaboration with the Upper Nehalem Watershed Council (UNWC), Lower Nehalem Watershed Council (LNWC), and Oregon Department of Environmental Quality (ODEQ) proposes to monitor annual summer stream temperatures at 46 sites in the Nehalem and Tillamook Bay watersheds from 2023-2027. Recent planning work has reinforced the importance of cold-water refugia for fish, especially with the ongoing impacts of climate and land-use change. Current temperature monitoring efforts in these watersheds do not cover sufficient sub-watersheds, have data gaps, or cover only a particular sub-watershed, and therefore do not fulfil the needs of the restoration project planning, implementation, or effectiveness monitoring. This need was clearly laid out in the recent Nehalem Coho Strategic Action Plan (SAP) and the data will contribute to the recently funded Tillamook Bay Coho SAP.

To develop a reliable, long-term temperature monitoring program across sub-watershed and watershed scales in the Tillamook Bay and Nehalem watersheds, TEP will deploy temperature loggers annually at 46 sites. Site selection has involved UNWC, LNWC, and ODEQ and prioritizes areas with prior data that represent critical sub-watersheds, harbor cold-water refugia, or contribute hot water to the mainstem rivers.

Temperature monitoring efforts in the region are ongoing and important to understand the context of stream temperature changes. To support regional efforts, TEP is coordinating with other regional partners, including Oregon Department of Fish and Wildlife (ODFW), the Nestucca, Neskowin, and Sand Lake Watershed Council (NNSLWC), the North Coast Watershed Association (NCWA), and the US Forest Service (USFS) to ensure that data collection methods and long-term goals are aligned with the needs of these stakeholders.

Project partners: UNWC, LNWC, ODEQ

Coordinating partners: NNSLWC, NCWA, USFS, ODFW

Monitoring Team Evaluation

Monitoring Team Strengths

- The proposed project will complement existing water temperature data and current monitoring efforts in these watersheds.
- The applicant coordinated with the Upper and Lower Nehalem Watershed Councils to identify monitoring sites to fill data gaps and build off existing sites.
- The applicant will follow standard water temperature monitoring methods and has built in time to develop a SAP and submit it to DEQ for approval early in the life of the project.
- The applicant will store the project data on their servers and submit it to DEQ.
- The applicant will write annual summary reports and complete a comprehensive five-year summary report at the end of the project.
- The applicant will analyze the status of the water temperatures in these watersheds using standard summary statistics and will complete a trend analysis once sites have at least eight years of data.
- The applicant and their partners have sufficient expertise to implement this project as proposed.

Monitoring Team Concerns

- The period (deploy in May and retrieve in September) to measure water temperature is too short, especially to track changes associated with climate change. The critical period to collect water temperature is extending due to climate change. Data collection in April and October may be needed to fully capture water temperature dynamics.
- It is unclear how the applicant plans to relate changes in water temperature to land use and climate change; stream flow data may be needed for this analysis.
- The application did not describe how the reports will be made available to the partners and public.
- It is not clear how the project partners will use the data.
- The budget includes excessive costs to purchase two NIST certified temperature sensors for \$6,000; there are cheaper options that meet DEQ's standards.
- The budget includes funds to replace temperature loggers at 10% of the sites, indicating that the applicant plans to lose 4-5 loggers each year, which seems excessive.

Monitoring Team Comments

Recommendation:

- Submit water temperature data to DEQ annually.

Review Team Evaluation

Strengths

- The proposed monitoring fits in well with other long-term monitoring currently taking place in the watershed, including the bacteria monitoring program operated by the applicant and partners.
- Recent planning for Oregon coast coho salmon habitat improvements indicated a need for more temperature information. The proposed work is timely with the development of the strategic action plan for the species.
- The applicant is highly qualified to do the work and has a track record of success with similar monitoring projects.

- The timing of the data collection is appropriate to capture needed information relevant to fish habitat and restoration needs.

Concerns

- The use of the data to inform restoration projects is not well-described.
- The application does not describe how temperature will be incorporated into Strategic Action Plan efforts in both the Nehalem and Tillamook watersheds.
- Information about existing data collection would have been helpful in the application to understand how the project overlaps with other nearby monitoring efforts.
- The costs of the sensors and temperature loggers are high and no explanation is given for the need for equipment of this grade.

Concluding Analysis

Temperature data is a known data gap in many areas of the Tillamook watershed and is critical information for planning restoration projects and understanding aquatic habitat quality. The effort could complement other monitoring efforts and restoration planning underway in the region. The project partners are experienced in designing and implementing projects of this nature and there is high confidence in the likelihood of success.

Review Team Recommendation to Staff

Fund

Review Team Priority

4 of 6

Review Team Recommended Amount

\$54,408

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Fund

Staff Recommended Amount

\$54,408

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering North Coast (Region 1)

Application Number: 222-1025-22277

Project Type: Monitoring

Project Name: 2022-23 Continuing Columbia
SWCD Water Quality Monitoring Program

Applicant: Lower Columbia Estuary Partnership

Region: North Coast

County: Columbia

OWEB Request: \$33,324

Total Cost: \$90,375

Application Description The Lower Columbia Estuary Partnership (LCEP), the Columbia SWCD and partners request \$33,324 to continue and build upon water quality monitoring in six key subbasins in Columbia County. At the recommendation of the OWEB Technical Review Committee, this grant will support these efforts for the SIXTH of eight total years. In addition to continuing past monitoring efforts in Milton Creek, Scappoose River, Beaver Creek and Clatskanie River watersheds, the LCEP proposes to add six additional water quality monitoring sites to the Milton Creek sub-basin to answer questions about contributing conditions and potential sources. We also propose adding two monitoring sites to the McNulty Creek watershed, a sub-basin of the larger Scappoose Creek Watershed. These watersheds provide spawning, rearing and refugia habitat for four ESA-listed groups of salmon and steelhead, and the Lower Columbia River (LCR) ESA Recovery Plan lists degraded water quality, elevated temperatures, and excessive fine sediments, as two limiting factors to their recovery.

This project will build on existing data from 2008-2010 (Scappoose/Milton) and 2017-2021 (all subbasins) by measuring bacteria, temperature, turbidity, conductivity, dissolved oxygen, and pH. Results will be used to analyze trends, detect changes, identify water quality issues and potential sources, and determine priority stream reaches for restoration. We will produce an updated annual report, and results will be distributed to Columbia SWCD's community members to educate and engage them in conservation, restoration, and best management practices. Through continued stakeholder engagement, this water quality monitoring project remains a high priority in identifying issues and addressing limiting factors to watershed health and ESA-listed species recovery. Partners include: Columbia SWCD, Columbia County Public Health, City of St. Helens, ODFW, LCR Watershed Council, Scappoose Bay Watershed Council and Oregon DEQ.

Monitoring Team Evaluation

Monitoring Team Strengths

- The proposed project will build on previous water quality monitoring data that has been collected by the applicant and partners.

- The applicant will collect and manage the data consistent with DEQ-approved procedures and has an approved SAP which they will amend to add the new sites proposed in the application.
- The applicant will produce an annual report to summarize the data and answer the monitoring questions posed in the application.
- The applicant will provide a publicly accessible internet-based tool to visualize the water quality data.
- The applicant has the qualifications and proven performance history to collect and report the data.
- The applicant and their partners are engaging the community by coordinating with the local municipalities and landowners to apply the data in a meaningful way, which were demonstrated in part by the letters of support that were uploaded to the application.
- The applicant is partnering with the City of St. Helens Wastewater Treatment facility to analyze E. coli samples in 2022-23, which will help keep costs to a minimum.

Monitoring Team Concerns

- While the application notes the importance of fish habitat in this area, it does not mention if fish and habitat data are being collected in these watersheds by other partners and if and/or how the proposed water quality data can complement those efforts.
- The monthly and bi-monthly monitoring of the proposed parameters are not likely to identify where restoration should occur.
- The discreet dissolved oxygen (DO) data that is proposed to be collected in this application is of limited value due to a recent policy change at DEQ which requires continuous DO data to be used in future Integrated Reports for the purpose of delisting waters on the 303(d) list.
- It is unclear if stream habitat condition data is available to meet Objective 2, which is “to look at how results throughout the Milton Creek sub basin correlate with land use (residential, agricultural, etc.), septic system density and streambank conditions for areas above these sites/reaches.”
- The application does not describe how the data will be analyzed to understand how water quality results correlate with land-use and environmental conditions.
- The application references a Columbia County Water Quality Team, but it is unclear who is represented on this team and how it is relevant to the project.

Monitoring Team Comments

Recommendation:

- In the future, consider applying for more than one year of data collection to meet the overall intention to collect data to May 2025.

Review Team Evaluation

Strengths

- This is a continuation of a project with a successful track record. The project sites have expanded over recent years and the team is developing valuable status and trend information.
- Completion of this project phase will produce a total of 8 years of baseline data, enough to characterize trends in the sampled watersheds.

- The data being collected is needed and suitable to answer the monitoring questions. Continuous year-round temperature monitoring is valuable for this watershed.
- Data is stored in a state database and accessible to interested parties.
- The partnership is expanding around the project and the opportunity to connect with public health organizations broadens the potential impact of the work.
- Bacteria sampling rates in the budget are reasonable and the overall project is cost-effective for the level of monitoring proposed.

Concerns

- The collection of dissolved oxygen and pH is not being completed at a sufficient frequency to provide a valuable data assessment of those parameters.
- The application mentions expanding bacteria monitoring to identify sources, but source assessment is challenging and likely to require a much more robust project than the one described in the application.
- E-coli grab sampling is needed at a minimum of two times per month to meet state standards. In the winter, the application only proposes sampling once per month.

Concluding Analysis

This project is a long-running partnership between organizations throughout the lower Columbia watershed that focuses on establishing baseline status and trend data. The data being collected is needed and pertinent, and the expansion of the effort in recent years has enabled additional partners to come on board and for the addition of sampling locations. There are some minor technical refinements to the data collection that may increase the value of the data, such as increasing bacteria sampling intervals in the winter and establishing continuous dissolved oxygen monitoring in select locations. The project team is experienced with this type of work and the proposed project will continue to have a high likelihood of success.

Review Team Recommendation to Staff

Fund

Review Team Priority

2 of 6

Review Team Recommended Amount

\$33,324

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Fund

Staff Recommended Amount

\$33,324

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering

North Coast (Region 1)

Application Number: 222-1026-22319

Project Type: Monitoring

Project Name: Southern Flow Corridor Wetlands
Post-Restoration Effectiveness Monitoring: Years 7
& 8

Applicant: Tillamook Estuaries Partnership

Region: North Coast

County: Tillamook

OWEB Request: \$330,682

Total Cost: \$667,101

Application Description Tidal wetland restoration is a valuable tool to increase wetland acreage and restore important ecosystem services including fisheries support and carbon sequestration to the coastal zone. Lessons learned from periodic monitoring of restoration projects can shed light on the pace and direction of ecosystem development, help identify any potential needs for adaptive management, and help set benchmarks and metrics for evaluating restoration success in new projects. In this proposed monitoring project we will evaluate the current status of the large Southern Flow Corridor project in Tillamook Bay which restored 179 hectares of brackish tidal wetland by levee removal and channel excavation. We will build upon past baseline and early restoration monitoring data by assessing fish abundance, vegetation development, wetland elevation and accretion, hydrology, and blue carbon functions 7-8 years after project implementation. We anticipate that the results will help answer important questions about ecosystem function, vegetation development and blue carbon in one of the largest coastal wetland restoration projects on the Oregon coast. The monitoring will also lend valuable information that can be applied across the region to better maximize investment in estuarine restoration.

Project Partners: Oregon State University, Confederated Tribes of Siletz Indians, Institute for Applied Ecology, University of Oregon, Oregon Department of Fish and Wildlife, Tillamook County

Monitoring Team Evaluation

Monitoring Team Strengths

- The proposed project will complement the existing data that were collected at the restoration site and reference sites before restoration and 2- and 4-years post restoration.
- The application's objectives and monitoring questions are well organized and clear.
- The applicant will follow professionally accepted protocols and a DEQ-approved SAP will be developed for the surface water quality parameters.
- The proposed project will repeat many of the monitoring efforts established at this site and the reference site which will help in the successful implementation of the study design.

- The data will be managed and stored with a shared drive and backed up on external hard drives which is following a system that was set up for this project in the past.
- The staff and consultants are highly qualified and have a successful history collecting and reporting data at this project site as demonstrated by past reports included in the application.
- The applicant will create a summary report of the project findings and make it available on partner websites, present it to watershed groups, at scientific meetings, and conferences. In addition, the applicant will develop a peer reviewed journal article for the blue carbon component.
- The applicant has pulled together a strong group of technical experts that are involved with different components of this project to collect, analyze and or review data products.
- The applicant has engaged with the appropriate community stakeholders and the letters of support demonstrate how they are involved and will use the data.
- The budget was developed based on past efforts at this site and a comparable site which allows them to estimate their budget expenses to be appropriate to accomplish the objectives.

Monitoring Team Concerns

- The application describes analyzing macroinvertebrate data, but there is no mention of collecting this data in other parts of the application.
- The budget lacked details on how the total number of hours were estimated for the contractor.

Monitoring Team Comments

n/a

Review Team Evaluation

Strengths

- The proposed project builds on years of baseline data to evaluate the status of the Southern Flow Corridor Wetlands Restoration, a prominent estuarine restoration project. The proposed work could inform adaptive management of the existing project as well as future similar restoration projects.
- The monitoring project will produce a peer-reviewed technical report that includes the engagement of the end users of the data.
- After restoration, several questions remain about plant communities and diversity as well as the speed at which the project is moving toward reference conditions. This work will help answer those questions with valuable long-term vegetation monitoring.
- The Southern Flow Corridor project was constructed as a landowner-preferred alternative. Capturing the data that can tell the story of the project in a way that is publicly accessible is important.
- The project team highly qualified and designed the original baseline data collection that occurred pre-project.
- There have been considerable efforts to document the flood reduction benefits that have resulted from the project. The proposed project will contribute to that body of data and enhance the understanding of the ecological benefits that accompanied flood reduction.
- The partnership is strong with OSU and tribal involvement, including several qualified researchers. The Confederated Tribes of Siletz Indians will participate in the fish monitoring component.

- The proposed project will help understand the sediment accretion rates occurring on site and how sea level rise and accretion are intersecting in the Tillamook Bay watershed.

Concerns

- Details about how the research would be disseminated in a publicly digestible way are lacking in the application.

Concluding Analysis

The proposed project builds on baseline data collected prior to the implementation of a comprehensive estuary restoration and flood reduction project in the Tillamook watershed. Revisiting the project 8-10 years after construction, researchers have a comprehensive monitoring plan that will answer some of the important remaining questions about the effectiveness of the project. The project will produce information that will assist in communicating about the project with community stakeholders as well as help inform future estuarine restoration projects on the Oregon coast.

Review Team Recommendation to Staff

Fund

Review Team Priority

1 of 6

Review Team Recommended Amount

\$330,682

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Fund

Staff Recommended Amount

\$330,682

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering

North Coast (Region 1)

Application Number: 222-1027-22360

Project Type: Monitoring

Project Name: North Coast Watershed Association and Necanicum Watershed Council RBA and LFA Light

Applicant: North Coast WS Assn

Region: North Coast

County: Clatsop

OWEB Request: \$274,980

Total Cost: \$343,779

Application Description 1)The North Coast Watershed Association (NCWA) incorporates two watershed councils in Clatsop County: the Coastal Council serving Ecola, Arch Cape, Short Sands, and other coastal drainages; and the River Council serving Skipanon, Youngs Bay, Nicolai-Wikiup, and other Lower Columbia River drainages. The Necanicum Watershed Council (NWC) serves the Necanicum River drainage. The Necanicum drainage sits between the NCWA River Council watersheds to the North and the NCWA Coastal Council watershed to the South. Together the NCWA and NWC Watersheds encompass a contiguous drainage area of approximately 297,244 acres of Oregon's North Coast. This expansive territory provides habitat for ESA listed coho, chinook, and chum salmon; non-listed steelhead and coastal cutthroat trout; and Pacific and brook lamprey.

2) Watershed assessments and plans drafted by local, state, tribal and federal entities have identified the lack of basin-scale inventories of salmonid distribution, abundance, and habitat distribution in the North Coast watersheds as significant data gaps in efforts to prioritize areas for restoration and conservation. Previous assessments within the NCWA and NWC watersheds are outdated and/or do not provide the detail needed to establish restoration goals for specific sub-watersheds or reaches within those streams.

3) This project proposes to conduct a Rapid Bioassessment and Limiting Factors Analysis Light of 332 stream miles throughout the combined watersheds of the NCWA and NWC. The project will collect essential data regarding salmonid distributions and abundance, and associated watershed characteristics that may serve as limiting factors for salmonids. The goal is to determine seasonal habitat limitations for salmonids and develop a systematic approach to identify and implement restoration actions that address those limiting factors.

4)

1. NCWA and NWC
2. Bio-Surveys, LLC
3. ODFW
4. ODF

5. GreenWood Resources
6. Technical Advisory Committee

Monitoring Team Evaluation

Monitoring Team Strengths

- The proposed project will complement existing fish distribution and habitat data and previous Rapid Bioassessments (RBAs) completed in the same project areas.
- The Limiting Factors Assessment (LFA) Light data that will be collected will be used to validate the NetMaps model data layers that will be generated by Terrain Works using ArcGIS Pro through a current OWEB stakeholder engagement grant.
- The protocols to collect the RBA data are well established and the contractor has extensive experience applying them.
- The applicant will provide GIS data, meta data, and a list of base layers and layer sources in a web-based application to display results using an in-house interactive map tool that allows the partners to use information and update project data.
- The applicant will use the monitoring results to develop a restoration work plan that will be presented to the public at NCWA's meetings and will be posted on the Watershed Council's website. A scaled-down version of this workplan will be developed to perform outreach to landowners.
- The application includes convening a technical advisory committee, which will be useful when interpreting the results to develop restoration priorities.
- The applicant has accounted for adequate time to coordinate landowner access across the watersheds.
- The costs are developed from a contractor and broken out by task and seem reasonable given that 330 stream miles will be monitored and data to be analyzed which will create several products to inform future restoration efforts.

Monitoring Team Concerns

- It is not clear how the proposed project will complement the continuous water temperature monitoring data the applicant has collected in the same watersheds for many years.
- The protocol does not include snorkeling side channel pools, alcoves, and backwaters, which could be a significant omission given the productivity of these habitats for juvenile salmonids. It is not clear if the protocol has a component that documents these habitats, if they are encountered.
- The monitoring question related to thermal refugia implies monitoring of side channels, but the protocol explicitly states this habitat is not monitored.
- The application lacks a clear description of how the monitoring protocols incorporate quality assurance and control measures, given how well established this monitoring protocol is.
- The drone flight methods and objectives are not well described to understand if they are adequate to capture aerial riparian cover and link it to anchor habitat characteristics.
- The data analysis section does not provide a clear path to describe how the monitoring questions will be answered.
- The qualifications and experience of the Necanicum Watershed Council are not described, and it is unclear if they are suitable to complete their assigned project component.

- The applicant describes why one year of RBA data is not an issue (data from previous RBAs), but no report citation was provided to better understand the context for this statement.

Monitoring Team Comments

Review Team Evaluation

Strengths

- Conducting a Rapid Bioassessment (RBA) in multiple basins in the north coast will provide important information that can be utilized to effectively plan and prioritize restoration projects.
- Land ownership in these basins is predominantly private, creating a shortage of technical resources from government agencies that this monitoring project could help to address.
- The proposal is well-organized, with clear project goals and objectives.
- RBA data is widely used by ODFW and has been an effective tool for baseline data.
- The project will build a collaboration between the involved organizations and could lay the foundation for a stronger partnership in the future.

Concerns

- Some of the costs in the proposal seem high for the proposed monitoring, particularly the landowner outreach line item. More details would be helpful in evaluating the need for the expense.
- The project proposes snorkeling only in every 3rd pool and only on the mainstem. Some areas of high-quality habitat may be overlooked by this approach.
- The application is missing some detail about how the juvenile distribution data will be utilized.
- Information on data analysis is lacking in the proposal.

Concluding Analysis

A basin-wide RBA monitoring effort in the north coast watersheds will help complement existing fish distribution and habitat data as well as provide important tools for restoration planning and prioritization. The assembled project team has the expertise to implement a successful project with the well-established RBA protocols. More details on the process for analyzing and utilizing the data are needed to ensure a useful product.

Review Team Recommendation to Staff

Fund

Review Team Priority

5 of 6

Review Team Recommended Amount

\$343,779

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Fund with Conditions

Staff Recommended Amount

\$343,779

Staff Conditions

Prior to first payment, submit a data analysis and dissemination plan.

Open Solicitation-2022 Spring Offering North Coast (Region 1)

Application Number: 222-1028-22365

Project Type: Monitoring

Project Name: North Coast Water Quality
Monitoring 2023-25

Applicant: North Coast WS Assn

Region: North Coast

County: Clatsop

OWEB Request: \$23,571

Total Cost: \$31,458

Application Description This project continues and strategically expands temperature monitoring in 4 watersheds in Clatsop County: Youngs Bay, Skipanon, Nicolai-Wikiup, and Ecola Creek, which began in 2016-18, to the fall of 2025. This will mark 8 years of data collection for all 22 original sites, reaching Oregon Department of Environmental Quality's (DEQ's) goal for long-term monitoring. We've added turbidity as a parameter due to equipment availability and in light of studies indicating that the North Coast of Oregon likely carries the greatest sediment loads in the state, which can affect salmon spawning and health.

Oregon DEQ has major data gaps in these watersheds and our continuous temperature monitoring assists DEQ in establishing Total Maximum Daily Load (TMDL) data. Turbidity data ground-truths models, contributes to DEQ's dataset, and can help target future projects. NCWA is currently using temperature data to help inform restoration decisions and hopes to hone our approach with the addition of turbidity information.

Resulting data are analyzed and reported by NCWA and DEQ.

This project will:

1. Collect time-series temperature data from 22+ sites in 4 watersheds from June-October
2. Collect turbidity data at the time of logger deployment and retrieval from all 22+ sites
3. Follow DEQ approved 2022 Sample and Analysis Plan (SAP)
4. Submit all temperature and turbidity data to DEQ for processing and uploading to AWQMS
5. Make data publicly accessible using maps and graphs on NCWA website and promote its availability to the community
6. Present findings at local schools and events to increase volunteer participation

This project is a collaboration between NCWA, Oregon DEQ, ODFW, Oregon State Parks, Lewis & Clark National Historical Park, and volunteers.

Monitoring Team Evaluation

Monitoring Team Strengths

- The proposed project will complement the continuous water temperature data the applicant has collected with OWEB funds starting in 2016.
- The proposed monitoring will be sufficient to understand the water temperature dynamics during the summer period.
- The applicant has a DEQ-approved SAP that was updated to incorporate turbidity monitoring and the two new sites that have been added.
- The data will be submitted to DEQ to store in AWQMS and will make it available on their website and present data to local community at schools and the watershed council board.
- The staff have appropriate experience to collect the data and submit it to DEQ.
- The addition of turbidity monitoring has provided an opportunity to engage with Lewis and Clark National Historical Park and recruit volunteers to assist in data collection.

Monitoring Team Concerns

- It is not clear how this project complements the RBA application that was also submitted to OWEB to collect data in some of the same watersheds.
- The collection of turbidity grab samples at the sites is not sufficient to answer the monitoring question posed in the application.
- There is no information describing the trend analysis that will be completed at the end of this 3-year monitoring grant given that some sites will have 8 years of water temperature data.
- The applicant does not describe the completion of a final technical report to be completed at the end of the project to discuss and interpret the monitoring results.
- It is not clear how much technical input ODFW provided beyond access to one of the sites.
- The budget may be inadequate to complete the analyses and a comprehensive report since these tasks were not included in the timeline.

Monitoring Team Comments

n/a

Review Team Evaluation

Strengths

- The proposed project builds on a successful effort that has conducted temperature monitoring in the watershed since 2017.
- Expansion of turbidity data collection could help fill identified data gaps and has the potential to engage the public.
- Data is compiled into the DEQ database and assists with analysis of larger status and trends across the landscape. This information is useful for TMDL processes.
- The project engages students in monitoring, increasing community awareness around water quality and watersheds.
- The project is cost-effective for the proposed work.

Concerns

- The application would benefit from additional detail around how the sites were selected.
- The proposed turbidity monitoring is not structured in a robust enough way to achieve meaningful data.
- There is no budget for replacement of missing or nonfunctional data loggers. The loggers may be reaching the end of their useful life span.

Concluding Analysis

The proposed project has collected five years of high-quality temperature data that has been successful in filling a known data gap and establishing baseline temperature information for the north coast watersheds. The proposed turbidity expansion may not be of sufficient scale, but the data is a minor project component and will still be valuable as a point of interest and engagement for the public. The project team has successfully implemented this water quality monitoring project since 2017.

Review Team Recommendation to Staff

Fund

Review Team Priority

3 of 6

Review Team Recommended Amount

\$31,458

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Fund

Staff Recommended Amount

\$31,458

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering North Coast (Region 1)

Application Number: 222-1029-22352

Project Type: Stakeholder Engagement

Project Name: Tillamook River Wetlands
Stakeholder Engagement

Applicant: Tillamook Estuaries Partnership

Region: North Coast

County: Tillamook

OWEB Request: \$14,560

Total Cost: \$18,972

Application Description The “Tillamook River Wetlands” project (TRW), is a significant opportunity to improve tidal wetland function, habitat complexity, species diversity, and water quality in Tillamook Bay. TRW is a 73-acre property owned by the North Coast Land Conservancy (NCLC) located in a unincorporated section of Tillamook County. TRW is situated at river mile three of the Tillamook River, one of five major rivers entering Tillamook Bay. Receiving landowner support is the next step before approaching the Tillamook County Commissioners in order to move forward with funding the final engineering designs. TRW is tidally influenced and represents historic spruce swamp, emergent wetland, and tidal channel habitat. Tidal wetland loss is estimated at 68% between 1870-1970 on the Oregon Coast (Oregon, 2000). This number is more severe in Tillamook Bay with an 85% loss due to levee construction, draining, and filling (Brophy 2012). Tillamook Bay is critical habitat for federally threatened Oregon Coast Coho salmon (ESU). NOAA’s recovery plan states the primary limiting factor for recovery is access to intact rearing habitat in tidal wetland. Tillamook Bay, Oregon’s second largest estuary is located along the Pacific Flyway, providing indispensable habitat for migratory bird species. In total, the project area supports 17 federal and/or state species of concern, 13 of which are OWEB North Coast priority species. Having recently completed the 60% designs for TRW in late 2021, TEP in partnership with the North Coast Land Conservancy (NCLC) is seeking funding to present the preferred design plans with all associated landowners in order to garner their support for moving forward with the project.

Review Team Evaluation

Strengths

- The Tillamook River Wetlands project is a high priority site for tidal restoration, with the opportunity to improve watershed health in the Tillamook Bay watershed through the return of estuarine hydrology.
- Significant restoration planning has occurred on the for the site and a restoration alternative has been selected. The preferred alternative will require the need for substantial stakeholder engagement, with the possibility of altering transportation patterns in the area through a major infrastructure project.
- Engaging the community is a necessary step to facilitating restoration at this site, and the project team is considering a thoughtful approach to the outreach effort.
- The application clearly describes the need for the project.
- Relocating the road as the preferred alternative also resolves an important public safety issue in the region.

- The cost for the engagement effort is nominal considering the investments already made in this site.

Concerns

- No significant concerns noted during review.

Concluding Analysis

Stakeholder engagement is an important and necessary step in facilitating the implementation of this complex tidal restoration project in the Tillamook River watershed. This project builds on extensive previous OWEB investment of an Acquisition grant and several Technical Assistance grants, and this community outreach is what is needed to get the project to construction. The application is clear and thorough in its goals and objectives and there is confidence that the applicant will utilize this project phase to build the necessary support for the preferred alternative.

Review Team Recommendation to Staff

Fund

Review Team Priority

1 of 1

Review Team Recommended Amount

\$18,972

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Fund

Staff Recommended Amount

\$18,972

Staff Conditions

n/a

Southwest

South Coast - Region 2 Spring 2022 Funding Recommendations



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Funding Recommendation

- Staff Recommendation For Funding (SRF)
- Below Funding Line (BFL)

Previous Grants 1998 - Fall 2021

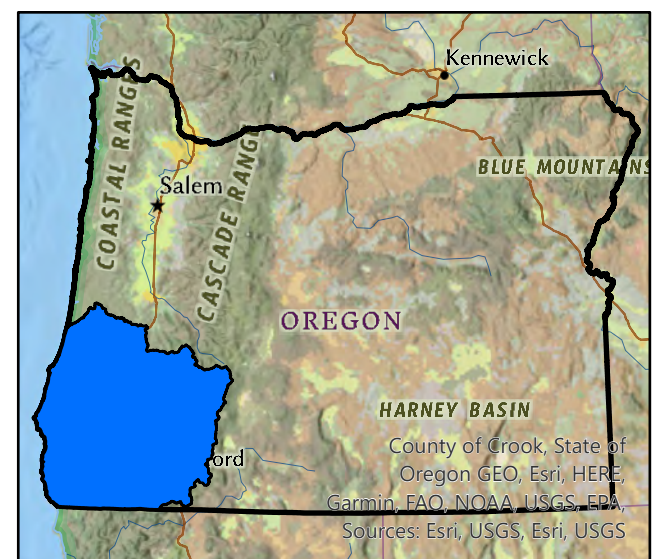
- Land Acquisition
- ◆ Restoration
- ▲ Region 2 Cities
- Region 2 Streams
- ▭ OWEB Region 2 Boundary



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Region 2 - Southwest Oregon Restoration					
Projects Recommended for Funding in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
222-2018	Rogue River WC	Elk Creek River Mile (RM) 5.6 Ecological Restoration	Instream habitat conditions will be improved for salmon in Elk Creek by implementing a combination of restoration actions that includes placing large wood structures in the creek, re-activating historic side-channels, and rehabilitating the streamside forest to recover the native plant community.	193,710	Jackson
222-2022	Coquille Watershed Association	Coaledo Tide Gate Replacement and Beaver Slough Fish Passage Project	Stream water quality will be improved by removing non-native vegetation and planting native tree species along Beaver Slough; and installing exclusion fencing to prevent livestock from accessing the stream. These restoration activities will enhance the benefits from the tidegate replacement work occurring within the project area.	683,876	Coos
222-2024	Coos Watershed Association	Palouse Slough Primary Tide Gate Upgrade	The project is ineligible for Open Solicitation and will be considered as part of the recently awarded Coos Basin Coho Strategic Action Plan Implementation Focused Investment Partnership.	0	Coos
222-2020	Partnership for the Umpqua Rivers	Olalla Creek and Tributaries Fish Passage and Enhancement Project	Coho access to restored spawning and rearing habitat will be improved by removing fish passage barriers, adding large wood to Olalla Creek tributaries, and installing streamside plantings.	47,887	Douglas
222-2021	Smith River WC	South Sisters Instream Habitat Restoration	Habitats necessary for the survival of salmon will be improved through placement of log and boulder structures instream in areas of the South Sister watershed to create spawning and rearing areas.	143,528	Douglas
222-2025	Coquille Watershed Association	Lower Steel Creek Restoration Project	Fish habitat and water quality will be restored on lower Steel Creek by placing large wood habitat structures in the stream, removing fish passage barriers, and planting streamside areas with native vegetation.	180,878	Coos
Total Restoration Projects Recommended for Funding by RRT and OWEB Staff				1,249,879	

Projects Recommended but Not Funded in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
222-2023	Coos SWCD	Bear Creek Riparian and Water Quality Improvement (SIA Project)	Water quality conditions in Bear Creek will be improved by implementing agricultural best management practices, including installing a fence to exclude livestock from accessing the stream and planting native trees to enhance native streamside plant communities.	417,415	Coos

Projects <i>Not Recommended</i> for Funding by RRT					
Project #	Grantee	Project Title	Amount Requested	County	
222-2026	Coquille Watershed Association	Lower North Fork Riparian Restoration Phase II: Streambank Stabilization	248,730	Coos	

Region 2 - Southwest Oregon Technical Assistance

Projects Recommended for Funding in Priority Order

Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
222-2028	South Umpqua Rural Community Partnership	Highland Ditch Irrigation and Fish Protection Project	Preliminary design and alternatives will be developed to improve fish passage and ditch conveyance efficiencies at Highland Ditch on Clear Creek, which will eliminate adverse impacts of a dilapidated diversion structure on water quantity and salmon.	34,333	Douglas
222-2030	Coos Watershed Association	Palouse Slough Internal Infrastructure Upgrade Development	The project is ineligible for Open Solicitation and will be considered as part of the recently awarded Coos Basin Coho Strategic Action Plan Implementation Focused Investment Partnership.	0	Coos
222-2027	Curry SWCD	Rogue Estuary TA 2022	Design alternatives for restoring tidal wetland areas in the Rogue River estuary will be developed by project partners.	74,529	Curry
222-2031	Coos SWCD	Randolph Island Tidal Floodplain Enhancement Technical Assistance	A restoration approach will be developed to replace a failing tidegate and restore tidal wetland habitats and plant communities on a property in the lower Coquille River estuary, which will improve water quality and salmon access to important rearing habitats.	74,524	Coos
Total Technical Assistance Projects Recommended for Funding by RRT and OWEB Staff				183,386	

Projects Recommended but Not Funded in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
None					

Projects Not Recommended for Funding by RRT					
Project #	Grantee	Project Title	Amount Requested	County	
222-2029	Partnership for the Umpqua Rivers	Cougar Creek Fish Passage and Instream Enhancement Technical Design	68,056	Douglas	

Region 2 - Southwest Oregon Stakeholder Engagement					
Projects Recommended for Funding in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
222-2036	Trout Unlimited Inc	Engaging Stakeholders in Rogue Basin Flow Restoration	The pace and scale of instream flow restoration in the Upper Rogue Basin will be improved by engaging stakeholders to increase their knowledge on the need for flow restoration and the opportunities, tools, and incentives available to voluntarily reduce or conserve out of stream water use in prioritized reaches of the watershed.	148,635	Jackson
222-2037	Applegate Partnership, Inc.	Applegate Irrigation WU-LO Engagement P1	Project partners will engage with water users to help determine where efficiencies can be made through improved water user group organization and coordination, and ditch maintenance issues that can result in natural resource benefits that include water quantity, water quality, and fish passage on tributaries.	22,752	Jackson
Total Stakeholder Engagement Projects Recommended for Funding by RRT and OWEB Staff				171,387	

Projects Recommended but Not Funded in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
None					

Projects <i>Not Recommended</i> for Funding by RRT				
Project #	Grantee	Project Title	Amount Requested	County
None				

Region 2 - Southwest Oregon Monitoring					
Projects Recommended for Funding in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
222-2034	Coquille Watershed Association	Lower Coquille Tide Gate and Fish Passage Monitoring Expansion	Data will be collected to better understand how juvenile coho and Chinook salmon respond to tidegate replacement and associated wetland habitat improvement projects to inform future tideland restoration.	315,058	Coos
222-2033	Partnership for the Umpqua Rivers	Umpqua Basin Collaborative Monitoring 2023-2024	Monthly water quality monitoring activities will occur for three years in areas of the Umpqua Basin to provide status and trends data that will help guide restoration actions.	236,900	Douglas
222-2035	Curry SWCD	Storm Chasers: Volunteer Storm Sampling on the South Coast - Resubmit	Sediment mobilization during storm events will be monitored by volunteers trained to collect water samples that will help to identify areas contributing excess sediment to streams and prioritize restoration projects that address resulting water quality impacts.	56,769	Curry
Total Monitoring Projects Recommended for Funding by RRT and OWEB Staff				608,727	

Projects Recommended but Not Funded in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
None					

Projects <i>Not Recommended</i> for Funding by RRT				
Project #	Grantee	Project Title	Amount Requested	County
222-2032	Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians	CTCLUSI Tenmile Lakes Wetland Restoration Effectiveness Monitoring	378,383	Coos

Region 2 Total OWEB Staff Recommended Board Award	2,213,379
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Region 1 - 6 Grand Total OWEB Staff Recommended Board Award	12,111,567
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Open Solicitation-2022 Spring Offering Southwest Oregon (Region 2)

Application Number: 222-2018-22253

Project Type: Restoration

Project Name: Elk Creek River Mile (RM) 5.6
Ecological Restoration

Applicant: Rogue River WC

Region: Southwest Oregon

County: Jackson

OWEB Request: \$193,710

Total Cost: \$714,710

Application Description The project at Elk Creek River Mile (RM) 5.6 is Phase 2 of multi-year actions throughout the sub-basin. With a drainage area of 134 square miles, Elk Creek joins the Rogue River 3 miles upstream of Trail. Elk Creek has degraded water quality, stream processes, and aquatic and terrestrial habitats that negatively affect ecosystems. Riparian forests are reduced, grazed, and infiltrated with noxious weeds. Unimpeded livestock access to the creek increases sedimentation and nutrient inputs. Simplified channels and large wood removal eliminate channel complexity, aquatic habitat, and floodplain interactions. Excessive winter runoff from land-use and irrigation practices during the growing season decrease water quantity available during the summer. These cumulative impacts also elevate summer water temperatures, threatening cold water fish populations. Rogue River Watershed Council (RRWC) proposes a combination of significant ecological restoration actions, covering 1.45 miles of creek, by enhancing 0.55 miles of winter secondary channels, placing large wood at 23 strategic locations in the mainstem and secondary channels, and rehabilitating 16.8 acres of riparian forest to recover the native plant community through noxious weed control, natural recruitment of native species, and native nursery stock planting. These actions will restore critical stream processes and improve water quality and habitat conditions by increasing floodplain interactions. Public awareness is also an essential component to promote restoration efforts and generate interest through media outlets and project tours. The project area is identified in the Upper Rogue Coho Salmon Strategic Action Plan, developed with partners to address limiting factors and stressors. This project is supported by the US Army Corps of Engineers and Wild Salmon Center/ NOAA Restoration Center with input from US Forest Service and Bureau of Land Management biologists.

Review Team Evaluation

Strengths

- Elk Creek is a high priority area for restoration and is designated as “core” habitat in the Upper Rogue Coho Strategic Action Plan (RRWC, 2022). The enhancement actions proposed are identified in the federal recovery plan for coho.
- The project promotes upland forest health by utilizing conifers from a nearby thinning project that will target removing dead and dying trees for the instream logs.
- The proximity of the wood source to the project site allows for longer logs to be selected for the instream structures and is cost effective by minimizing haul prices.

- The tree lengths that will be used for the instream structures will meet the Oregon Department of Fish and Wildlife instream log placement guidance. The design drawings included in the application articulate a clear method for installing wood structures and allows for some adaptive field fitting to ensure resulting instream structures are site appropriate resulting in and maximize interaction with the stream.
- The instream structure design will encourage the stream to migrate and form sinuous channels that will create improved instream and floodplain habitats.
- Selection of the large wood sites was driven by temperature data and confirmed fish use.
- The video links included in the application provide useful context on telling the restoration story.
- The design staff have relevant experience for designing the project and they incorporate adaptive management into their approach.
- The riparian revegetation plan is technically sound and focuses on using native drought tolerant species.
- The landowner commitment and interest in the work is evident by letters of support provided with the application along with their active involvement in developing the project.
- There are multiple partners contributing to the project, including the Wild Salmon Center and Bureau of Land Management.

Concerns

- It is unclear how useful the proposed fish monitoring will be to evaluate project effectiveness because only one year of pre-project data will be collected.
- Free range cattle frequently trespass into the project footprint. The Army Corps of Engineers is working to restrict access through fencing.

Concluding Analysis

The project targets critical limiting factors impacting federally listed coho. The design approach is technically sound and has a high likelihood of restoring stream and floodplain function along with improving instream habitat in the project reach.

Review Team Recommendation to Staff

Fund

Review Team Priority

1 of 7

Review Team Recommended Amount

\$193,710

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$193,710

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Southwest Oregon (Region 2)

Application Number: 222-2020-22283

Project Type: Restoration

Project Name: Olalla Creek and Tributaries Fish Passage and Enhancement Project

Applicant: Partnership for the Umpqua Rivers

Region: Southwest Oregon

County: Douglas

OWEB Request: \$47,887

Total Cost: \$346,580

Application Description Olalla Creek and three tributaries, located in the southern part of the 103,000-acre Olalla-Lookingglass Creek Watershed, need improved fish passage and fish habitat enhancement. During 2022, Bureau of Land Management (BLM) and Oregon Department of Fish and Wildlife (ODFW) funds will be spent to replace two failing culverts that block fish passage into two of the tributaries. OWEB funds will be spent in summer 2023 to fund instream and riparian habitat enhancement in an adjacent tributary. This project is a high priority for this region because of the fisheries values it offers, positive impact it will have on local business owners and the opportunity to recruit other landowners for future projects. According to ODFW High Intrinsic Potential (HIP) maps, Olalla, Byron and Bushnell creeks have high potential to provide quality spawning and rearing habitat for coho salmon and steelhead, but currently have low quality habitat and poor fish passage. Old Lane Creek was not modeled for HIP but is surveyed for salmon and steelhead spawning. Our project partners, ODFW, BLM and the Byron Creek Estates worked together on a technical assistance project that resulted in designs for the culverts, instream enhancement and riparian work. ODFW views this project as a high priority and funded the gap needed for the culvert replacements. ODFW and BLM fish passage funds will be spent this year and OWEB instream funds will be spent during summer 2023. OWEB funds will be used to 1) fund the staff time needed to implement the instream and culvert replacements, 2) Place 36 logs, donated by Mr. Hanek of Byron Creek Estates, and 25 trees, donated by BLM, into 0.5 miles of Byron Creek on private and BLM land and 3) plant willow wattles and streambank shaping to facilitate willow plantings on Mr. Hanek's property.

Review Team Evaluation

Strengths

- The project addresses limiting factors affecting federally listed coho, including fish passage, habitat complexity, riparian structure, and water quality.
- The project area is critical habitat for federally listed coho.
- The fish passage designs meet Oregon Department of Fish and Wildlife and National Marine Fisheries Service criteria.
- Restoration efforts implemented upstream, including instream structure placement, remain effective after twenty years by maintaining deep pools, channel sinuosity, and habitat complexity.
- The design team has relevant experience for designing the project and the capacity to keep the project on track for implementation during the 2023 instream work window.

- Appropriate partner engagement is demonstrated by secured in-kind contributions.

Concerns

- The incised streambanks will make planning for how heavy equipment accesses the stream corridor during implementation very important to minimize bank failures.
- It is unclear if communication with adjacent landowners has occurred regarding the potential impacts that could occur from the stream restoration work so that they know what to expect.

Concluding Analysis

The project is a resubmit and the application contains additional information to clarify expected watershed benefits and the habitat conditions creating the basis for the work in restoration plans. The restoration activities are likely to improve water quality conditions and salmonid access to two miles of cool water refugia located upstream of the project site. The project demonstrates the applicant's thoughtful approach to achieve and maintain effective working relationships with landowners.

Review Team Recommendation to Staff

Fund

Review Team Priority

4 of 7

Review Team Recommended Amount

\$47,887

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$47,887

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering

Southwest Oregon (Region 2)

Application Number: 222-2021-22284

Project Type: Restoration

Project Name: South Sisters Instream Habitat Restoration

Applicant: Smith River WC

Region: Southwest Oregon

County: Douglas

OWEB Request: \$143,528

Total Cost: \$362,778

Application Description

South Sisters Creek is a tributary of the Lower Smith River located 41 miles east of Reedsport, Oregon. Historic land-use practices have had lasting impacts on the natural functions of streams throughout the Smith River Watershed. These impacts have created simplified bedrock dominant systems lacking substrates, reduced subsurface flows leading higher peak temperatures, and limited large wood recruitment. These legacy impacts have led to declining production of native anadromous trout, salmon, lamprey, and other aquatic species. This project seeks to maximize ecological uplift by providing a trajectory for rehabilitating stream processes formally present.

Project funding will be utilized to mitigate detrimental historic impacts, increasing anadromous species production and improve overall habitat and stream function through the use of log and boulder structures. Instream log and boulder placements have been designed for specific locations within the project area by SRWC personnel and an ODFW Western Oregon Habitat Restoration Biologist.

This is Phase 1 of 3 of a sub-basin scale instream restoration plan. 53 structures containing 447 logs and 1845 boulders will be placed over 6 miles of stream. Project partners are the Coos Bay District BLM, Roseburg Forest Products, and Oregon Department of Fish and Wildlife – these partners will be donating staff time for technical assistance, project funding, or in-kind materials and supplies.

Review Team Evaluation

Strengths

- The project location is in designated Oregon coast coho critical habitat and there are strong adult coho returns to the Smith River watershed.
- The use of four boulders per large wood site as ballast is technically sound for the site characteristics and flow conditions. The approach is likely to succeed in achieving substrate deposition in the treatment area.

- The project builds on earlier boulder weir construction projects that have proven to be effective at trapping bedload material. Salmonids are using the depositions for spawning and the hyporheic flow created by the gravel accumulation helps cool water temperatures.
- The boulders will be sourced locally from a quarry with harder volcanic source material, making it more structurally sound than the native sandstone. The boulder structures work best when placed in tandem with large wood as proposed for most of the instream structures that will be installed.
- Historic logging and a high intensity fire has contributed to the current simplified stream conditions in South Sisters Creek.
- The project design and implementation team are experienced in delivering instream restoration projects and have incorporated lessons learned from previous instream structure placement to refine their design approach.

Concerns

- General restoration prescriptions that have previously been effective for installing instream structures at nearby locations are described in the application; however, site-specific designs are not included. It is unclear without these designs if the four structures that will be comprised only of boulders will meet Oregon Department of Fish and Wildlife and National Marine Fisheries Service fish passage criteria. Additional detail describing the rationale for using the large number of boulders for the instream structures and how fish passage criteria are considered in the design approach would be helpful to better understand project technical soundness.
- The application indicates monitoring will occur but there are no details on the scope of these monitoring activities.
- South Sisters Creek is listed on the Oregon Department of Environmental Quality 303(d) list of water quality impaired waterbodies for high temperature; however, the stream temperature is not identified as a water quality parameter of concern in the application. The project misses an opportunity to portray water quality benefits that can be realized from project implementation.
- More detailed information describing how the project meets priorities identified in watershed action planning documents would be helpful for understanding why the project is timely and a priority for the South Sisters geography.

Concluding Analysis

The project builds on extensive work to improve instream habitats within the Smith River watershed. The project team incorporated lessons learned from previous projects that utilize similar design approaches that they have used to effectively improved spawning conditions for salmonids. The project has a high likelihood of achieving the project goals.

Review Team Recommendation to Staff

Fund

Review Team Priority

5 of 7

Review Team Recommended Amount

\$143,528

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund with Conditions

Staff Recommended Amount

\$143,528

Staff Conditions

The Grantee will provide documentation at the time of the first fund request that the boulder only structures meet Oregon Department of Fish and Wildlife and National Marine Fisheries Service criteria for juvenile fish passage.

Open Solicitation-2022 Spring Offering Southwest Oregon (Region 2)

Application Number: 222-2022-22285

Project Type: Restoration

Project Name: Coaledo Tide Gate Replacement and Beaver Slough Fish Passage Project

Applicant: Coquille Watershed Association

Region: Southwest Oregon

County: Coos

OWEB Request: \$683,876

Total Cost: \$2,615,230

Application Description Lack of slow-water refugia and off-channel habitat is a critical limiting factor affecting Oregon Coast coho populations with the access and restoration of tidal wetlands being a top priority action for recovery. This project in Coquille, Coos County will address this limiting factor by upgrading deleterious tide gate infrastructure and restore fish passage to a 9,800 acres sub-watershed containing 11.4 miles of coho habitat and 490 acres of tidal wetland habitat, of which 289 acres are restored wetlands protecting in perpetuity by ODFW. Prioritized as a high potential restoration project by a tide gate optimization tool, this phase is a key step in implementing critical habitat restoration for anadromous fish.

This project will enhance fish passage by replacing current infrastructure with three 8'x10' box culverts, each fitted with an aluminum side-hinged tide gate and Muted Tidal Regulators to control upstream inundation and duration of gate door openness. Additional channel enhancements will include removal of non-native vegetation and sediment, restoration of the channel flowline, placement of bank stabilization logs, and removal of instream debris. Furthermore, 3 miles of riparian buffer with livestock exclusion fencing will be placed following construction, providing a thermal corridor for cold water moving from the ODFW wildlife area to the Coquille River. This project seeks to have no negative impacts on landowner, as demonstrated in the agreed-upon Water Management Plan; therefore, we will also include alternative off-channel watering sources for livestock and the replacement of a farm access bridge slated to fail following restored hydrologic connectivity.

CoqWA is partnering with the Coaledo Drainage District, ODFW, and the Coos SWCD, with the assistance of River Design Group and Nehalem Marine to implement a working lands restoration project that promotes ecological, economic, and social resiliency in the Coquille watershed.

Review Team Evaluation

Strengths

- The application has clearly defined methods and a description of how project objectives will be met. The maps included in the application provide detail for understanding the project site, and examples of previous projects are helpful for understanding the restoration approach.

- The project is within Oregon coast coho critical habitat and the actions proposed are identified in the federal recovery plan for coho.
- There is high intrinsic potential habitat for coho located upstream of the tide gate. The current tide gate is not functional and replacing it will open coho access to previously un-used or partially used tidal wetland and stream habitat.
- A water management plan for tide gate operation based on other water management plans in this area will be developed to support fisheries benefits.
- The proposed restoration approach resulted from two technical assistance grants.
- The fifty-foot fencing setback from the stream channels is appropriate for the site and will allow room for successful establishment of riparian vegetation by providing protection from livestock impacts. The fence will also have a wildlife friendly design.
- The project fits well with other tide gate and habitat development projects completed nearby.
- The applicant has relevant experience implementing similar projects.
- Project support is evidenced through in-kind match and support letters from the landowners and the drainage district, which also demonstrates the applicant and partnership have capacity needed to implement the project.
- The project site will be folded into ongoing fish passage monitoring efforts and a passive integrated transponder array will be installed to track fish movement.

Concerns

- Channel dredging is a necessary component for implementing the restoration approach. Measuring bathymetry over time will be critical to understand the channel response to this project element and this monitoring is not part of the proposed work.
- A portion of the fencing that will be funded by in-kind match has a fifteen-foot setback from the creek, which falls short of the Natural Resources Conservation Service standards.
- The status of the permitting process is unclear in the application.
- Water pumps will need to be screened and cleaned to meet fish passage criteria; however, these project elements are not described in the proposal.
- Oregon ash is included in the revegetation plan. The applicant is encouraged to consider an alternative tree species due to the recent discovery of the presence of invasive emerald ash borer in Oregon, an insect known to kill Oregon ash.
- The application has costs grouped into lumps sums in the budget. Additional detail is needed to better understand whether costs are reasonable, necessary, and sufficient for the proposed work.

Concluding Analysis

The project dovetails into the larger restoration efforts in the Winter Lake area of the Coquille River valley. The work will compliment similar efforts throughout the tidal zone of the Coquille River by adding significant winter rearing opportunities for federally listed coho. The proposed restoration design was informed by data collected for a monitoring project that is being used to evaluate the effectiveness of tide gate replacement and tidal wetland restoration. The project has a high likelihood of achieving the proposed restoration goals.

Review Team Recommendation to Staff

Fund

Review Team Priority

2 of 7

Review Team Recommended Amount

\$683,876

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$683,876

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Southwest Oregon (Region 2)

Application Number: 222-2023-22305

Project Type: Restoration

Project Name: Bear Creek Riparian and Water Quality Improvement (SIA Project)

Applicant: Coos SWCD

Region: Southwest Oregon

County: Coos

OWEB Request: \$417,415

Total Cost: \$591,791

Application Description

Bear Creek is a large Coquille River tributary entering the lower estuary at River Mile (RM) 8.4, east of the city of Bandon, OR. This sub-basin was selected by a team of local partners and the Oregon Department of Agriculture (ODA) in 2019 as a Strategic Implementation Area based on its importance for both fish and wildlife habitat, and for agricultural use. Bear Creek provides highly important spawning and rearing habitat for native anadromous coho salmon, fall Chinook, winter steelhead, coastal cutthroat trout, Pacific lamprey, and other native fish. However, the stream has been subjected to substantial human impacts that directly and indirectly contribute to reduced water quality and habitat conditions. Bear Creek was a 2010 addition to the 303(d) list, for exceedances of the salmonid rearing criterion (18C) as high as 20.8 C in July 2003. DEQ data from 1998 had Bear Creek previously 303(d) listed (Category 5) for dissolved oxygen, as well. Additional limiting factors include high levels of sediment loading and bacteria, which appear to stem primarily from agricultural sources.

This project will address these limiting factors by re-establishing processes, functions, and biological and physical linkages between the aquatic, riparian, and adjacent floodplain ecosystems. Proposed activities include constructing 3.41 miles of fence to exclude livestock from 10 acres of riparian habitat and 2.76 miles of Bear Creek, planting 5000 native trees/shrubs to enhance and strengthen existing native riparian plant communities, and implementing agricultural best management practices (BMPs) designed to reduce livestock impacts to the watershed. This project will install 6 stream crossings (including 2 bridges), 5 off-channel watering systems, and improve surface and drainage on 0.25mi of farm access roads. Project partners include ODA, Oregon Dept. of Fish and Wildlife (ODFW), Natural Resources Conservation Service (NRCS), the Coos & Coquille Watershed Associations.

Review Team Evaluation

Strengths

- Some of the previous application evaluation concerns are addressed by including design information for the bridge and a riparian planting plan.
- Beavers may benefit from the enhanced riparian areas and protected stream corridors expected to result from the project.
- The project is located within Oregon coast coho critical habitat.

- The applicant and partners have relevant experience implementing similar work.
- The project is a coordinated effort with landowners who are supportive of the proposed conservation activities.

Concerns

- Some of the previous evaluation concerns are not addressed. The watershed benefit expected from the bridge crossing remains unclear, the proposed riparian buffer widths between 10 to 25 feet is not sufficient to establish a functioning riparian system that accommodates stream dynamics, and portions of the buffer will remain unfenced and unprotected from potential impacts from livestock grazing.
- The section of livestock fencing that will be installed as landowner in-kind match will be located close to the stream and may not fully exclude livestock from the riparian area. The expected watershed benefits from the OWEB investment will be limited if livestock can access the stream and impact the riparian area.
- The hardened low-water crossings will be heavy use areas that serve as a water gap for livestock. Runoff from these crossings will likely occur during storm events that contributes fine sediment inputs into the stream. As a result, hardened crossings in coho streams are not desirable because of this impact to water quality.
- Fencing is not proposed for site 7 of the project and it is unclear what the grazing pressure will be at this site. The ecological outcomes may be limited if livestock is not effectively excluded from the riparian area.
- It is unclear if there are grazing management plans in place or planned for development.
- Fish access to habitat in Bear Creek is likely impacted by the tide gate at the mouth of the system. Including additional fish use information in the application would provide helpful context for understanding the potential for the project reach to provide habitat for native fish.

Concluding Analysis

The proposed approach for fencing will provide limited water quality benefits because there will be minimal setback from the stream and locations that will remain unfenced and riparian areas unprotected. Additional explanation describing how the fencing approach will effectively address water quality concerns identified as the primary problem to be addressed by the proposed work would be helpful for understanding the expected ecological benefits. The proposed work could generally be beneficial due to the priority need to address water quality in a Strategic Implementation Area and the cooperative nature of landowners in the watershed. The work builds on the current momentum of tidal wetland restoration efforts in the lower Coquille River and would provide additional outreach opportunities for landowners in the area.

Review Team Recommendation to Staff

Fund

Review Team Priority

7 of 7

Review Team Recommended Amount

\$417,415

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Do Not Fund; falls below staff-recommended funding line

Staff Recommended Amount

\$0

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering

Southwest Oregon (Region 2)

Application Number: 222-2024-22314

Project Type: Restoration

Project Name: Palouse Slough Primary Tide Gate Upgrade

Applicant: Coos Watershed Association

Region: Southwest Oregon

County: Coos

OWEB Request: \$518,649

Total Cost: \$2,166,545

Application Description Palouse Slough drains into Haynes Inlet in the Coos basin and is one of the highest producing coho anchor habitat streams on the Oregon Coast. Its primary tide gate consists of a collapsing, undersized tide box with two top-hinged wooden doors located under a county bridge. Upgrading this tide gate will improve hydrological function, restore fish passage and improve estuarine water and habitat quality for coho. The upgrade of the primary tide gate is the first step toward a comprehensive basin scale restoration to expand this critical area of Oregon Coast coho anchor habitat as it controls the hydraulics and fish access for the entire Palouse basin.

This project builds upon previous technical assistance projects that selected and designed the best long-term solution for the Palouse primary tide gate. After a robust review including local and regional ecological experts, Haynes Drainage District (HDD) selected the preferred design alternative which consists of a sheet pile structure with a 4-bay modular gate just upstream of the existing infrastructure. The main objectives for the Palouse Slough Primary Tide Gate Upgrade project are to 1) improve fish passage to 60 miles of high quality spawning and rearing habitat and 2) improve water quality by promoting regular tidal exchange. To achieve these objectives, a modular 4-bay tide gate will be installed on a sheet pile structure 50 ft upstream of the existing North Bay Rd infrastructure. OWEB funds will be used for project management, travel, supplies, contracted services and indirect costs. The HDD, Coos County, ODFW, and NFWF will provide match to cover project management, contracted services, supplies and indirect costs. The HDD and Coos County are committed to this project and will renew their MOUs with CoosWA for this phase.

Review Team Evaluation

Strengths

- The application illustrates a well thought out restoration approach developed from two technical assistance projects. The conditions at the tide gate are clearly articulated and indicate the tide gate doors are negatively impacting coho smolts passage to tidal wetland habitat.
- The project was identified and prioritized based on data from the applicant's coho life cycle monitoring program.

- The tide gate structure will be de-coupled from the Coos County bridge and moved fifty feet upstream. This approach is technically sound and appropriately separates maintenance responsibilities for the structures.
- The new tide gate doors will offer improved fish passage. A water management plan is being developed to ensure there is seasonal inundation of the low-lying floodplains during critical rearing periods, which will be monitored by Oregon Department of Fish and Wildlife.
- Water quality will be improved through the improved flow regime created by the new structure by reducing sedimentation and stream temperatures.
- The project is identified in a federal recovery plan for coho and in the Coos River Coho Strategic Action Plan (Coos Watershed Association, 2022).
- A walkway will be incorporated into the main tide gate wall with monitoring equipment fixtures added into the design. Initial structure construction is the most cost-effective time to do this.
- There is a technical assistance application submitted to design upgrades to the smaller internal tide gates. This will continue the forward momentum to improve fish access to important off-channel habitats.
- The failing structure makes the timing of the project appropriate. The use of muted tide gate regulators is appropriate and incorporates lessons learned from previous projects.
- The applicant has capacity to complete the project because a suite of partners is involved in all project aspects.
- The project team has relevant experience for implementing the project.
- The applicant has a Memorandum of Understanding with Coos County that will facilitate project implementation and safeguard the applicant from liability associated with the County bridge following project construction.

Concerns

- The application does not provide detailed information on permitting.
- Benefits listed in the application includes those expected from implementing future project phases and will not be achieved with the work currently proposed.
- Substantial match is pending, which may indicate the project is not ready to implement.

Concluding Analysis

The Palouse Creek watershed is a high coho producer and scores high in intrinsic habitat potential. The current tide gate is heavily degraded and impeding fish passage. The resulting work will facilitate connecting fish to sixty miles of high-quality habitat.

Review Team Recommendation to Staff

Fund

Review Team Priority

3 of 7

Review Team Recommended Amount

\$518,649

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

Following the submission of the application, the applicant's partnership was awarded a FIP. The proposed project falls into the geographic footprint of the FIP and implements actions identified to be undertaken under the FIP. As such, the project is now ineligible for Open Solicitation funds and must be funded under the FIP.

Staff Recommendation

Do Not Fund

Staff Recommended Amount

\$0

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Southwest Oregon (Region 2)

Application Number: 222-2025-22328

Project Type: Restoration

Project Name: Lower Steel Creek Restoration Project

Applicant: Coquille Watershed Association

Region: Southwest Oregon

County: Coos

OWEB Request: \$180,878

Total Cost: \$331,501

Application Description Steel Creek is a highly productive tributary of the East Fork Coquille River (EFCR) and has important spawning and rearing habitat for coho, Chinook, Steelhead, cutthroat and Pacific lamprey. Steel Creek is a part of the Yankee Run 6th field sub-watershed and enters downstream of Brewster Canyon, near the rural community of Dora. The Steel Creek drainage is 2,646 acres with ~1,500 acres under BLM management. This sub-watershed is listed as a Focus Watershed in the BLM Western Oregon Aquatic Restoration Strategy. Since 2017, the partners have focused a number of high priority watershed improvement actions in Steel Creek, including: sediment abatement (GRAIP surveys, non-fish culvert replacements, road decommissioning), in-stream aquatic habitat improvement (wood placement), and invasive species control (English ivy, Himalayan blackberry, gorse removal and treatment). While water quality and mobilized sediment loads appear better than other nearby streams, the Steel Creek drainage has been altered by anthropogenic activities, including: historic logging practices, road building, agriculture, and introduction of invasive plant species. Currently, Steel Creek is Oregon Department of Environmental Quality-listed (DEQ 303-d) for biological criteria. Restoration actions proposed in this application focus on lower Steel Creek and include large wood and boulder placement, removing five small concrete weirs that are barriers for juvenile fish, and treating and planting the riparian area. Restoration will improve water quality & quantity and fish & wildlife habitat in a holistic and whole-watershed approach. OWEB funding will be used to support the instream and riparian habitat enhancements with match through BLM, CREP, USFWS, ODFW, and the private landowner. This application is a final phase of a holistic watershed restoration approach in the Steel Creek drainage that has been supported by a collaborative of several partners to address all priority limiting factors.

Review Team Evaluation

Strengths

- Previous application evaluation concerns are addressed by describing how large wood structures will be stabilized to prevent the risk of it moving and impacting downstream road crossings.
- The large wood placement is key to aggrade streambed material after the fish passage barrier is removed because the concrete weirs have restricted sediment movement, in addition to blocking fish passage, which has prevented important stream habitat features to form.
- The project area is enrolled in the Conservation Reserve Enhancement Program, which provides stream and riparian area protection from domestic livestock.

- Lower Steel Creek has high intrinsic potential habitat for federally listed coho and is a highly productive tributary for native fish.
- Steel Creek is on the Environmental Protection Agency's 303(d) list of water quality impaired waterbodies for temperature. The proposed work to improve riparian conditions and instream habitat conditions will benefit the water quality health of the stream.
- A large portion of the upper drainage is managed as late seral reserves by the Bureau of Land Management, which increases the opportunity for natural large wood recruitment into the stream system.
- The project builds off previous habitat enhancement efforts on Steel Creek.
- Project team is experienced and suited to deliver the proposed objectives.

Concerns

- The plan for addressing runoff from the elk crossing is not likely to have a long-term impact on improving the localized sediment inputs resulting from elk use.
- Additional information describing the best management practices that will be used when the concrete weirs are removed would be helpful to understand plans to avoid potential impacts caused by restoration implementation.

Concluding Analysis

The project is likely to succeed in achieving the restoration objectives to improve the health of Steel Creek and benefit the fish species using the system.

Review Team Recommendation to Staff

Fund

Review Team Priority

6 of 7

Review Team Recommended Amount

\$180,878

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$180,878

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Southwest Oregon (Region 2)

Application Number: 222-2026-22367

Project Type: Restoration

Project Name: Lower North Fork Riparian
Restoration Phase II: Streambank Stabilization

Applicant: Coquille Watershed Association

Region: Southwest Oregon

County: Coos

OWEB Request: \$248,370

Total Cost: \$332,450

Application Description The North Fork is a main tributary of the Coquille River in Coos County, Oregon near the town of Myrtle Point. The North Fork Coquille River (NFCR) basin has experienced negative historic land use practices, such as deforesting of riparian vegetation, removing instream large wood, and logs drives that have exacerbated bank erosion and sediment inputs. Combined, these have been detrimental to both native fish habitat and water quality. This project builds upon Phase I (OWEB # 220-2038-17452) and seeks to address bank stabilization issues located 3,000 ft. (0.57 river miles) upstream from the Myrtle Point drinking water intake plant. This project will directly prevent thousands of cubic yards of sediment from entering the stream. Restoration activities will include constructing a large wood habitat matrix, bank slope restoration (3:1), and revegetation. This project will utilize a minimum of 20 large wood pieces with rootwads, 30 pieces of additional large wood, 130 boulders for ballast, small wood and debris as additional roughage, and planting 400 native species within the affected area. Conceptual designs are complete and finalized designs will be complete in fall 2022 with match through the BLM (secure) and the City of Myrtle Point (secure). Pending match funding will be used for engineer construction management. OWEB funding will be used to support project implementation and an educational component to NFCR landowners within the Coos SWCD's Strategic Implementation Area (SIA). The Lower North Fork Riparian Restoration Phase II: Streambank Stabilization project is part of a holistic, process based watershed restoration approach in the NFCR that has been supported by a collaborative of several partners to address all priority limiting factors. Partners include the BLM, City of Myrtle Point, ODFW, Coos SWCD, and NFCR landowners.

Review Team Evaluation

Strengths

- The project site is located within a fenced riparian restoration area.
- The project site is above the drinking water intake for the City of Myrtle Point, elevating the need to stabilize streambanks to limit sediment inputs.
- The project team is experienced in implementing similar projects.

Concerns

- The causes of streambank failure are complex and likely due to multiple factors influencing the project site. These include a stream entering through a culvert across from the site, an instream gravel bar below that stream confluence, and the surface and subsurface drainage of the swale that deposits into the initial streambank failure area. The methods proposed to address the problem do not consider all the factors influencing the bank stability.
- Streambank failure appears to be common across the North Fork Coquille River. It is unclear why the project site was selected and will strategically address this issue impacting the stream at a broader scale.
- Extending the existing drain tile as noted in Objective 3 of the application may be problematic and exacerbate the bank failure.
- It will be helpful to understand the fencing setback once the site fix is installed to determine the ability for the riparian vegetation to have adequate room to help stabilize the project area.
- A comprehensive geomorphic description of the North Fork Coquille would help in understanding the root cause of the bank failures.

Concluding Analysis

The streambank failure is negatively impacting a riparian restoration project. Streambank failure appears common throughout the lower sections of the North Fork Coquille River. A basin-wide assessment that considers climate change may offer a holistic insight on the watershed issues and result in a viable solution that addresses the root causes of the streambank failure.

Review Team Recommendation to Staff

Do Not Fund

Review Team Priority

N/A

Review Team Recommended Amount

\$0

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Do Not Fund

Staff Recommended Amount

\$0

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Southwest Oregon (Region 2)

Application Number: 222-2027-22256

Project Type: Technical Assistance

Project Name: Rogue Estuary TA 2022

Applicant: Curry SWCD

Region: Southwest Oregon

County: Curry

OWEB Request: \$74,529

Total Cost: \$111,529

Application Description Estuaries are listed as an Oregon Conservation Strategy Habitat, and the Rogue River Estuary is specifically listed as a Conservation Opportunity Area within that strategy. Estuaries provide an essential nexus for a variety of freshwater and saltwater species. This project addresses two locations - Elephant Bar and Saunders Slough, which are located on the south side of the lower Rogue River estuary, and adjacent to the town of Gold Beach, in Curry County.

This type of rearing, shallow water environment provides critical over-wintering habitat for coho salmon, and rearing habitat for steelhead, cutthroat, Pacific lamprey, and Chinook salmon (many listed are Oregon Conservation Strategy Species). ODFW Biologists have also identified these areas as having high intrinsic potential for coho salmon production. Due to the high intrinsic potential of the area for anadromous fish production and the need to improve stream complexity, the Rogue River Estuary Strategic Plan (LRWC, 2015) identifies this area as high priority for restoration. In addition, riparian areas are mainly composed of small shrubs and hardwoods and lack large conifers needed for future contributions of large wood to the estuary.

The request for technical assistance is to fund a hydrologic model with existing datasets, a design for a restoration plan, review of cultural resources, identify necessary permits, and draft construction implementation estimates. We plan to contract with a firm to do this work.

Project partners include private landowners, ODFW, and BLM.

Review Team Evaluation

Strengths

- The project implements high priority activities identified in multiple strategic restoration action plans, including the Rogue-South Coast Multi-Species Conservation and Management Plan (Oregon Department of Fish and Wildlife, 2021) and the Rogue River Estuary Strategic Plan (Lower Rogue Watershed Council, 2015).
- The project focuses on designing stream channel, instream habitat, and riparian vegetation restoration that will result in improved hydrologic function and year-round habitats for salmonids.
- The project is within an area of high coho habitat intrinsic potential as determined by the National Marine Fisheries Service and Oregon Department of Fish and Wildlife.

- The success of tidal wetland restoration completed in 2021 led to the landowner expressing interest in developing a conservation easement on 8-10 acres of potential tidal wetland as part of the proposed technical assistance.
- The project cost estimates are based on two local contractors' estimates and lessons learned from restoration work implemented in 2021.
- The project's scope and scale are reasonable and has a high likelihood of success.

Concerns

- It is unclear from the application if the acreage proposed for the easement is the same as the acreage slated for the proposed enhancement design work.

Concluding Analysis

Southern Oregon estuaries located within the geography of the Northern California salmon Evolutionary Significant Unit (ESU) are younger and of a different geological province than those of the Oregon Coast ESU and have a shorter, less developed tidal environment. These smaller estuaries have been degraded similarly to those in the North and the impact is significant because the geology limits the size of these estuaries that are critical to the health and survival of threatened and listed anadromous species. Opportunities to improve tidal function and habitats for multiple salmonid and trout species are very important. The restoration actions resulting from this project will reconnect and enhance degraded off-channel habitats and revegetate sites to promote long-term recovery and functionality of riparian areas, floodplains, and fluvial processes.

Review Team Recommendation to Staff

Fund

Review Team Priority

3 of 4

Review Team Recommended Amount

\$74,529

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$74,529

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Southwest Oregon (Region 2)

Application Number: 222-2028-22267

Project Type: Technical Assistance

Project Name: Highland Ditch Irrigation and Fish Protection Project

Applicant: South Umpqua Rural Community Partnership

Region: Southwest Oregon

County: Douglas

OWEB Request: \$34,333

Total Cost: \$48,339

Application Description The South Umpqua Rural Community Partnership (501(c)3) is partnering with 11 stakeholder water users of the Highland Ditch to improve irrigation efficiency, water quality, and fish passage safety on the main stem of Clear Creek below Galesville reservoir near Azalea in Douglas County. As a result of an OWEB outreach grant stakeholders are in the process of petitioning to form a water district. The stakeholders have resolved to correct an egregious and chronic condition of water mismanagement, threats to ESA listed Oregon Coastal Coho salmon and other species of concern located in the South Umpqua basin. The senior 1911 water right is distributed via a 3.2 mile open ditch that is subject to evaporation, transpiration, inefficient water distribution, pollution from livestock and frequent ditch containment failures. The Clear Creek stream reaches on each side of the ditch's diversion dam are prime spawning habitat for Coho, Steelhead, and other species of concern. The Galesville reservoir is a critical source of Umpqua basin water urban and agricultural water supplies. The Highland Ditch Irrigation and Fish Protection Project will secure professional engineering services to develop innovative alternatives and preliminary design options intended to eliminate adverse impacts on water quantity, quality and potential threats to Coho, Steelhead, Pacific lamprey, the Umpqua Chub etc. Of particular interest is the removal of the ditch's primitive diversion dam that will benefit multi-season multi-species fish migrations. Project partners include the Oregon Water Resources Department, Oregon Department of Fish and Wildlife, The US Fish and Wildlife Service and the Bureau of Land Management.

Review Team Evaluation

Strengths

- The project builds on a successful stakeholder engagement effort.
- The project is timely because failing irrigation infrastructure is creating a situation that can result in fish mortality, demonstrating that immediate action is required to address the irrigation diversion and fish passage issues.
- The project partners are engaging appropriate technical experts, agency staff, and landowners to correct the site-specific problems.
- Federally listed coho utilize the stream in the project reach along with Pacific lamprey.
- The design engineer has a track record of developing solutions to fish passage issues created by water diversion structures.

- The project coordinator is very successful at engaging with landowners to develop and implement restoration actions.

Concerns

- No significant concerns are identified.

Concluding Analysis

Concerns for potential juvenile salmonid stranding led to the decision by the landowners to not divert water in 2022. The application clearly documents the immediate need for restoration actions and technical assistance funds to support the investigation of three design alternatives to improve irrigation ditch conveyance efficiencies, fish passage, and water quality.

Review Team Recommendation to Staff

Fund

Review Team Priority

1 of 4

Review Team Recommended Amount

\$34,333

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$34,333

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Southwest Oregon (Region 2)

Application Number: 222-2029-22294

Project Type: Technical Assistance

Project Name: Cougar Creek Fish Passage and Instream Enhancement Technical Design

Applicant: Partnership for the Umpqua Rivers

Region: Southwest Oregon

County: Douglas

OWEB Request: \$68,056

Total Cost: \$99,556

Application Description The Partnership for the Umpqua Rivers, Roseburg BLM and Oregon Department of Fish and Wildlife are partnering to focus on a set of culverts and instream design on Cougar Creek, located in the Upper Umpqua watershed. Cougar Creek supports 14 miles of Coho salmon habitat. Steelhead trout, Pacific Lamprey and cutthroat trout are also found in in Cougar Creek and its tributaries. These species, along with other important native and endemic aquatic species, are what make the Umpqua so special. The Upper Umpqua Watershed Assessment and Action Plan (2006) identified lower Cougar Creek as one of the highest priority streams for instream enhancement. The culverts on Cougar Creek were identified as high priority fish passage barriers based on previous culvert assessment results. This technical assistance project will focus on efforts to assess the lower 1.5 miles of coho salmon habitat in Cougar Creek, design fish habitat improvement projects based on survey results, and work with an engineering firm to design replacements for culverts blocking 2.0 miles of coho habitat. The end results of this project will significantly benefit the aquatic life and hydrologic function in this watershed. This effort will be accomplished through the work of ODFW, BLM and PUR biologists and technicians and a contract engineering firm. The outcome of this project will be complete designs for two culverts and instream structure designs for the lower portion of Cougar Creek.

Review Team Evaluation

Strengths

- The project is Identified as a high priority to provide fish passage and create instream habitat in multiple restoration action plans, like the Upper Umpqua River Assessment and Action Plan (E&S Environmental Chemistry, Inc., 2006).
- The habitat upstream of the project has potential for restoration because it is a low gradient, good quality stream that is ideal for steelhead.
- The Cougar Creek tributaries where two culverts will be replaced have intrinsic potential for providing habitat for steelhead.
- The applicant has a proven track record implementing instream and culvert replacement projects.

Concerns

- The restoration plans cited are over 15 years old and it is unclear why work has not been started earlier in Cougar Creek.

- The benefits to coho from addressing fish passage at the two culverts may be limited or non-existent because it is unclear if coho use the Cougar Creek tributaries located above the culverts. The intrinsic potential of the Cougar Creek tributaries to provide habitat for coho is low.
- There are discrepancies in the application narrative and maps. For example, the culverts marked on the map included with the application do not indicate two miles of habitat are blocked to fish passage as noted in the application narrative. A better understanding of the quality and amount of habitat above the culverts, the extent of the culvert blockage and the potential for fish usage after addressing the barriers would help determine the cost benefit of the restoration proposed.
- Future management and maintenance plans for the roads where the culvert replacements will occur are unclear.
- Additional information describing water temperatures in the project area and the potential for the proposed culvert replacements to connect cold water refugia could provide a better understanding of the potential value of the proposed work to address habitat limiting factors.

Concluding Analysis

The application lacks detail describing the potential ecological uplift expected from replacing the two culverts. This information is needed to better understand the extent to which the future restoration project is likely to succeed in resulting in quantified watershed benefits.

Review Team Recommendation to Staff

Do Not Fund

Review Team Priority

N/A

Review Team Recommended Amount

\$0

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Do Not Fund

Staff Recommended Amount

\$0

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Southwest Oregon (Region 2)

Application Number: 222-2030-22335

Project Type: Technical Assistance

Project Name: Palouse Slough Internal Infrastructure Upgrade Development

Applicant: Coos Watershed Association

Region: Southwest Oregon

County: Coos

OWEB Request: \$74,990

Total Cost: \$232,420

Application Description Palouse Slough drains into Haynes Inlet in the Coos basin and is one of the highest producing coho anchor habitat streams on the Oregon Coast. The lower Palouse basin has a series of tide gates, including a primary gate at the Haynes Inlet confluence and multiple internal tide gates to protect the upstream properties from tidal inundation. Since 2019, the Haynes Drainage District (HDD) has been working with CoosWA to restore fish passage, habitat connectivity, productivity and water quality in the Palouse basin and Haynes Inlet. The primary gate controls the hydraulics and fish passage to the entire basin, so upgrading the primary tide gate before upgrading the internal tide gates and implementing additional restoration projects was necessary. With primary tide gate construction projected for 2023, the focus has shifted to the undersized internal tide gates that function poorly, reduce water quality and flow conveyance, and restrict fish access to 4.5 miles and up to 50 acres of off channel overwintering rearing habitat. Upgrading these internal gates will improve water quality, flow conveyance, fish passage, and release more benefit of the primary tide gate upgrade by improve the connection to critical off-channel rearing habitat. Greater tidal connectivity will improve estuarine water and habitat quality for coho juveniles and forage species that accelerate juvenile survival rates.

The main objectives for this project are to 1) design 5 internal tide gate upgrades, 2) secure all necessary permits for construction, and 3) draft construction bidding documents. CoosWA will continue to work with the established Palouse technical team on these internal upgrades to ensure they function effectively with the primary gate upgrade. The HDD and the Coos County are committed to providing technical assistance for this next phase of Palouse restoration and will renew their MOUs with CoosWA for this new project phase.

Review Team Evaluation

Strengths

- The applicant is working closely with a technical advisory team and is engaging with local Tribes in the project development.
- The project is identified in the Coos River Coho Strategic Action Plan (Coos Watershed Association, 2022).

- The application clearly illustrates the project need and includes an alternatives analysis along with metrics quantifying expected fish benefits from the future restoration implementation.
- Ongoing monitoring efforts provided information that was used to help select the type of tide gates proposed in the alternatives.
- The tide gates are failing badly in Palouse Creek watershed, which is an area that is a huge producer of federally listed coho.
- The applicant has a proven track record working with partners to develop and implement solutions for addressing tide gates impacting fish passage, habitat connectivity, water quality, and fish productivity in off-channel tidal habitats.

Concerns

- The application lacks information describing the development of a water management plan. The plan will be key to maximizing the benefits to the fisheries.
- The application lacks a description of site-specific habitats, stream channel characteristics, and maps of the drainage basin that would be helpful to better understand site conditions.

Concluding Analysis

The project will develop designs to address five smaller internal tide gates that are poorly functioning behind a larger mainstem tide gate. This mainstem structure is poised for replacement through a restoration application. These internal tide gates restrict fish access to four and a half miles of stream and fifty acres of tidal wetland. The proposed technical assistance will result in implementation-ready designs and is well timed with the replacement of the mainstem tide gate structure moving forward in 2023. Three of five landowners are currently engaged and support the project.

Review Team Recommendation to Staff

Fund

Review Team Priority

2 of 4

Review Team Recommended Amount

\$74,990

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

Following the submission of the application, the applicant's partnership was awarded a FIP. The proposed project falls into the geographic footprint of the FIP and implements actions identified to be

undertaken under the FIP. As such, the project is now ineligible for Open Solicitation funds and must be funded under the FIP.

Staff Recommendation

Do Not Fund

Staff Recommended Amount

\$0

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering

Southwest Oregon (Region 2)

Application Number: 222-2031-22343

Project Type: Technical Assistance

Project Name: Randolph Island Tidal Floodplain Enhancement Technical Assistance

Applicant: Coos SWCD

Region: Southwest Oregon

County: Coos

OWEB Request: \$74,524

Total Cost: \$167,484

Application Description

The 81.4-acre Randolph Island Floodplain Enhancement Project is located at River Mile 7.0 on the Coquille River, in Coos County, OR. The Island was historically tidal saltmarsh, but has been highly altered by historical actions, including diking, channelizing, draining, and installation of undersized culverts and tidegates. These actions have resulted in reduced fish use and ecological productivity of the area.

Key ecological limiting factors for the project area include the following: Highly simplified and poorly connected hydrology that precludes successful ingress and egress of native salmonids; lack of channel habitat complexity; lack of native plant community species diversity; and ponding of water in isolated low-lying areas, which leads to fish stranding and mosquito production, as well as reduced productivity of forage species; and areas of bare soil prone to erosion.

OWEB Technical Assistance funds will provide capacity for project partners to collect data and perform investigations necessary to select the best restoration alternatives and to move forward with development of a full restoration proposal to address these limiting factors. Primary project partners include the Coos SWCD, ODFW, and the landowners. Anticipated restoration project actions will include:

- Replacement and relocation of current top-hinged, cast iron tidegates with modern side-hinged, aluminum models; number and sizing to be determined based on hydraulic analysis, ecology, and land management needs.
- Reconstruction of ~1 mi of sinuous, graded, tidal channels, including 2 acres of tidally influenced ponds, to increase habitat area and complexity and improve drainage for agricultural production.
- Installation of ~1 mi of livestock exclusion fencing along channels to protect native vegetation,
- Planting of native, woody vegetation along the banks of tidal channels to establish 3.5 acres of riparian buffers that will improve aquatic habitat and water quality.

Review Team Evaluation

Strengths

- The detailed project timeline provides helpful context in understanding the thought process and approach to implementing each step of the project.

- Utilizing a technical assistance grant to collect information to better understand the complexities of the project site and inform designs is a technically sound approach.
- Oregon Department of Fish and Wildlife is part of the project team and the landowners support for conservation actions is demonstrated by match, all of which indicate appropriate partner engagement in the project.
- Replacing tide gates offers multiple benefits for salmonids and water quality, such as access to critical wetland habitats and restoring a more natural tidal water exchange.
- The applicant is experienced in developing and implementing similar projects.
- The project builds off similar restoration efforts in the area.
- Improved access to floodplain habitat will provide additional juvenile salmonid rearing habitat.
- Expected outcomes from implementing the resulting restoration design is likely to improve water quality by reducing stream temperature and increasing dissolved oxygen.
- A water management plan will be developed with the landowners. The plan will be key to maximizing the benefits to the fisheries.
- Similar project work nearby was used to help estimate project costs.

Concerns

- Additional detail describing current and future agricultural land use is needed to better understand how the future restoration project fits within the context of long-term plans for the property and can be successful if the agricultural use changes.
- It was unclear if there would be livestock in the project area making it unclear if fencing was needed. Fencing will be subject at risk from damage by high river levels during the winter.
- The Natural Resources Conservation Service is not engaged in the project, partnering with them may provide access to programs that work in concert with other funding partners.

Concluding Analysis

The project is on a property located between the Coquille River and Randolph Slough. This island property was historically tidal saltmarsh that has been highly altered by diking, channelizing, draining, and installation of undersized culverts and tide gates. As a result, fish access to tidal wetland habitat was reduced, which impacted the productivity of salmonid populations. The proposed technical assistance project will develop restoration actions that will restore this tidal wetland habitat to improve the ecological productivity of the site and is the right approach given the technical complexities involved in developing a sound restoration project.

Review Team Recommendation to Staff

Fund

Review Team Priority

4 of 4

Review Team Recommended Amount

\$74,524

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$74,524

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Southwest Oregon (Region 2)

Application Number: 222-2032-22255

Project Type: Monitoring

Project Name: CTCLUSI Tenmile Lakes Wetland
Restoration Effectiveness Monitoring

Applicant: Confederated Tribes of Coos, Lower
Umpqua, and Siuslaw India

Region: Southwest Oregon

County: Coos

OWEB Request: \$378,383

Total Cost: \$525,634

Application Description The Confederated Tribes of the Coos, Lower Umpqua, and Siuslaw Indians (CTCLUSI) are seeking multi-year funding to monitor the water quality at Tenmile Lakes, the historic homelands of our Tribe. Monitoring water quality is important to understand how a changing climate and harmful algae blooms (HABs) are affecting our natural resources, especially as we work to implement interventions to reduce the impacts of these challenges and increase Coho salmon habitat in the Lakes.

The area in and around Tenmile Lakes has been home to our people since time immemorial. This unique ecosystem supports one of the few existing fisheries for ESA-listed Coho salmon, provides habitat for other native flora and fauna, and is of cultural and spiritual importance to our Tribe. Since the 1990s, Tenmile Lakes have suffered from HABs that render the water unsafe for humans and animals. A TMDL was designed alongside the OR Dept. of Environmental Quality in 2007, but without funding to fully implement the recommended strategies, HABs have only been occurring with more frequency and severity each year. In bad years, that can mean the water is unsafe for up to seven months.

Working with the Tenmile Lakes Basin Partnership (TLBP) and Partners, we are pursuing funding to restore water quality through the restoration of historic wetlands, to improve native salmonid lake habitat and reduce the impact and severity of HABs.

To ensure the effectiveness of these interventions, CTCLUSI is seeking this funding to oversee the restoration projects and monitor water quality at Tenmile Lakes over the next two years. The CTCLUSI Water Quality Lab now has the equipment to analyze water quality samples for all important water quality parameters and now is the only lab on the South Coast that will be able provide enumerate algae toxics and work with Coos County Health Department to provide alerts when Tenmile Lake algae toxins are at harmful levels.

Monitoring Team Evaluation

Monitoring Team Strengths

- This proposed monitoring project will complement the historic nutrient and algae data collected in the lake by the Tenmile Lakes Basin Partnership (TLBP) and coho data that is collected by ODFW.

- The applicant has an EPA-approved Quality Assurance Project Plan (QAPP) and will update it to include the lake monitoring elements that are currently not in this QAPP.
- The proposed project will collect water quality data that informs the Tenmile Lakes TMDL and plan to submit it to ODEQ.
- The local community stakeholders and technical experts have developed a water quality steering committee and signed a fisheries and water quality restoration plan MOU that provides a framework to review and interpret the monitoring data.
- The applicant has the qualifications to collect the data that is proposed in the application.
- The applicant will communicate findings to the TLBP board members, OWEB, City of Lakeside, Coos County, DMA partners, and the general public.

Monitoring Team Concerns

- The monitoring activities described are difficult to understand given that there are multiple objectives and tasks proposed in a single objective.
- The monitoring questions are overly broad and the application does not describe a clear path to understand how the questions will be answered.
- The application lacks details on pesticide sampling; it is not clear what monitoring question they plan to answer related to pesticide sampling. It is not clear how pesticide sampling relates to the overall efforts to monitor the nutrient and algae dynamics in the lake.
- The application does not describe the monitoring methods for the variety of sampling proposed in the application. The attached QAPP is too extensive to review to ensure all methods in this document are appropriate for answering the monitoring questions posed.
- Portions of the study design were challenging to understand. For instance, it was not clear why the applicant plans to place datasondes 0.5m from the bottom of the lake. It would have been helpful to understand how deep the lake is at the monitoring sites and if the lake stratifies.
- The applicant proposes to collect drone imagery, but it is not clear what they plan to measure with this imagery.
- It will be challenging to make a linkage between the proposed restoration action and annual coho salmon runs due to a variety of factors affecting fish returns.
- It is not clear that the applicant has the related qualification and experience to analyze the laboratory samples including operating the FlowCam to identify the phytoplankton and zooplankton species.
- The budget includes extensive funding for staff, and it is not clear who their field monitoring project manager and Quality Assurance technician is and how their hours on the proposed project were calculated.

Monitoring Team Comments

Recommendations:

- Resubmit the monitoring application and narrow the focus to one or two monitoring activities.
- Work with DEQ to develop a Sampling and Analysis Plan (SAP).

Review Team Evaluation

Strengths

- The application illustrates how partners, including a range of public agencies and private stakeholders, are committed to making the project successful by signing a fisheries and water quality restoration plan memorandum of understanding.
- The monitoring will build on the long-term water quality data sets developed by Tenmile Lakes Basin Partnership.
- The proposed data collection will be used to evaluate the effectiveness of restoration actions that have been implemented to improve water quality and salmonid habitat.
- The applicant uses a water quality lab that is local and can provide information back quickly.

Concerns

- Additional detail describing the restoration actions to be monitored, including the identity of those projects, the project locations, and an explanation of why they were prioritized for implementation, would be helpful for understanding how the monitoring will be used.
- The application has an ambitious number of monitoring objectives that will require significant organizational capacity to implement. A more focused monitoring effort looking at fewer monitoring activities may be a more feasible approach while also providing data that can provide information about the effectiveness of wetland restoration projects.
- Resuming measurements at the deltas located on the mouths of select tributaries where previous data was collected may be problematic. Markers for monitoring sites may have moved on the deltas due to sediment deposition at the mouth of the streams and some landownerships have also changed. The locations of the sediment sources creating the deltas are not identified.
- Evaluating the relationship between wetlands and coho juvenile survival is very challenging with so many factors impacting salmonid survival, such as the non-native warm water fish species in the lakes.
- Additional detail describing how equipment listed in the budget relates to the proposed work is needed to evaluate whether the estimated costs are necessary to accomplish the proposed monitoring objectives.

Concluding Analysis

The Tenmile Lakes Basin Partnership has long history of monitoring water quality in the lake to understand impacts from a changing climate and harmful algal blooms. The project will support the applicant in taking a long-term lead role in restoration and monitoring efforts in the Tenmile Lakes watershed. If the application is resubmitted, the applicant is encouraged to address the concerns described including narrowing the focus to fewer monitoring activities and working with the Department of Environmental Quality to develop a Sampling and Analysis Plan.

Review Team Recommendation to Staff

Do Not Fund

Review Team Priority

N/A

Review Team Recommended Amount

\$0

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Do Not Fund

Staff Recommended Amount

\$0

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering

Southwest Oregon (Region 2)

Application Number: 222-2033-22280

Project Type: Monitoring

Project Name: Umpqua Basin Collaborative
Monitoring 2023-2024

Applicant: Partnership for the Umpqua Rivers

Region: Southwest Oregon

County: Douglas

OWEB Request: \$236,900

Total Cost: \$466,279

Application Description Our project location is the Umpqua Basin (all of Douglas County), encompassing 2,569,527 acres of land and 1,740 stream miles of anadromous fish habitat, the largest watershed draining into the Pacific Ocean south of the Columbia River. The Umpqua River system originates just north of Crater Lake in the Cascade Mountains, cuts through the Coastal Range, and enters the Pacific Ocean near the town of Reedsport.

There is a lack of water quality data on many streams in our basin. This information is essential for fish, wildlife, and human health and survival. Identifying stream-specific limiting factors will inform and prioritize areas most in need of restoration and identify areas most in need of preservation.

Activities under this grant consist of staff and volunteers performing standard monthly water quality monitoring runs in 5th field watersheds for three years in the Umpqua Basin plus monitoring reference sites from watersheds where three years of monitoring have been completed. All runs will be monitored once per month, collecting water quality data on temperature, turbidity, conductivity, dissolved oxygen (DO), pH, E. coli bacteria, blue-green algae, nitrate, and photo points at 8 to 20 sites per 5th field watershed depending on access and watershed complexity. In addition, summer instream continuous temperature loggers (about 30 units recording every 30'). Results will be submitted to DEQ, and the final OWEB report will give a detailed analysis of the data and prioritize sites for restoration and preservation.

Partners include the Bureau of Land Management (BLM), Department of Environmental Quality (DEQ), US Forest Service (USFS), Natural Resources Conservation Service (NRCS), Oregon Department of Fish and Wildlife (ODFW), Tribes, Soil and Water Conservation Districts (SWCD), Oregon Water Rescores Department (OWRD), cities, county, water treatment plants, private landowners and area residents.

Monitoring Team Evaluation

Monitoring Team Strengths

- The proposed project will complement existing water quality data the applicant and DEQ has collected in these parts of the Umpqua Basin.
- The water quality status question is clearly stated, and the data collection and analysis approach is adequate to answer this monitoring question.

- The rotating study design to prioritize sub-basins for three years of monitoring is well established and provides a programmatic approach to strategically implement monitoring across the entire Umpqua Basin.
- The applicant has an existing SAP and recently submitted a revised version to ODEQ for review and approval.
- The applicant has the necessary qualifications and experience to implement the project as proposed.
- The applicant will submit the data to DEQ annually and develop a comprehensive two-year report and make it available through a variety of venues to share it with natural resource professionals and the general public.
- Community stakeholders are engaged through the applicant's Board of Directors, which includes representation from timber, aggregate, construction & mining; agriculture and livestock; fishing, recreation & conservation; special districts; public education; local tribes; and the county.
- Technical experts are engaged one on one and through regular local hydrologists' breakfast gatherings, and is made up of state, tribal and federal agencies.

Monitoring Team Concerns

- The application mentions that this project complements other agency data collection efforts but does not describe how, particularly for salmonid monitoring.
- The discreet dissolved oxygen (DO) data that is proposed to be collected in this application is of limited value due to a recent policy change at DEQ which requires continuous DO data to be used in future Integrated Reports for the purpose of delisting waters on the 303(d) list.
- The period to measure water temperature (June to September) is too short, especially to track changes associated with climate change. The critical period to collect water temperature is extending due to climate change. Data collection in April and October may be needed to fully capture water temperature dynamics.
- The E. coli sampling frequency (monthly) will not allow the data to be assessed against ODEQ's geometric mean which requires a minimum of 5 samples to be collected in a 90-day period.
- The monitoring methods were not described in detail and the link to the Draft SAP cited in the application did not work. The DEQ QAPP cited does not contain methods on nitrate and Blue-Green Algae (BGA) sensors that are proposed to be used in the proposed project.
- The application does not provide adequate justification on why discreet nitrate and blue-green algae data is being collected and what they plan to do with it.
- The application does not describe the quality assurance/quality control (QA/QC) measures incorporated to ensure the data that the volunteers are collecting is high quality data.
- The application lacks details on how the data will be analyzed to determine if conditions are changing over time and to answer the question related to climate change.
- The application does not describe how the data will be analyzed to identify sites to be prioritized for restoration and preservation. It is not clear how the final product will inform future restoration or protection.
- The application did not include a narrative description to understand how the budget was developed to determine if the costs are appropriate. The application lacked detail on the role volunteers play to understand how match contribution was determined.

Monitoring Team Comments

Recommendation:

- Coordinate with ODFW on the placement of water temperature loggers in the mainstem and South Fork Umpqua Rivers to reduce duplication of efforts.

Review Team Evaluation

Strengths

- The application presents examples of how the data collected is used to identify project opportunities and prioritize restoration work that benefits fish and water quality.
- A Department of Environmental Quality approved Quality Assurance Plan is in place for the temperature monitoring.
- The data will aid in the Umpqua Total Maximum Daily Load implementation.
- The information collected is used to assist in a lamprey assessment effort.
- The applicant is working with a suite of partners, many whom have collected temperature information, to build a larger data set.
- The project team is experienced and have completed similar project types with two full time staff dedicated to the monitoring work.
- Interest is cultivated through 'Hydrologists'-Breakfasts' that engages local professionals in local restoration and monitoring efforts. This helps coordinate efforts more broadly, share the results and keep the program current with monitoring science.

Concerns

- The application does not describe how E. coli and blue green algae sampling data will lead to future restoration.
- Additional information describing how data collected through this long-term monitoring effort informs decisions to remove waterways from the 303(d) list of water quality impaired water bodies is needed to better understand the impacts of the work.
- The monitoring locations are appropriate for trend monitoring, but it will be difficult for the data to pinpoint site-specific restoration upstream.

Concluding Analysis

The Umpqua Basin is home to seventeen hundred miles of anadromous fish habitat. The lack of water quality data hinders effective prioritization of areas to focus restoration efforts for salmon restoration and water quality improvement. The monitoring project will build on ongoing water quality and temperature monitoring efforts and add information to a growing data set. The monitoring will build a foundation to help direct restoration implementation and determine the effectiveness of those efforts.

Review Team Recommendation to Staff

Fund

Review Team Priority

2 of 3

Review Team Recommended Amount

\$236,900

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$236,900

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Southwest Oregon (Region 2)

Application Number: 222-2034-22290

Project Type: Monitoring

Project Name: Lower Coquille Tide Gate and Fish Passage Monitoring Expansion

Applicant: Coquille Watershed Association

Region: Southwest Oregon

County: Coos

OWEB Request: \$315,058

Total Cost: \$406,838

Application Description The Lower Coquille Tide Gate and Fish Passage Monitoring (LCM), located in the Coquille watershed on the Mid-South coast, leverages the close proximity both temporally (completed within a 2 yr period) and spatially (7 river miles) of three tide gate upgrade and tidal habitat restoration projects within the lower Coquille River. The overarching goal is to work collaboratively to examine not only the functionality of individual tide gate projects but how their compounded uplift promotes recovery of the Oregon Coast ESU coho and the Coquille fall Chinook population. It is important to complete this effectiveness monitoring at the forefront of the tide gate replacement movement that is growing along the Oregon Coast to ensure we are maximizing ecological benefits and return on investment. These three tide gated projects are in the freshwater-marine ecotone, which makes it well situated to examine the cumulative benefit provided to overwintering juvenile coho and Chinook salmon. A secondary goal that builds upon the monitoring completed in the freshwater estuary is examining the migration from the freshwater estuary into the saltwater estuary. Identifying how and when juvenile salmonids access a non-gated habitat in the saltwater estuary, specifically the restored Ni'les'tun (Bandon Marsh) habitat, will further aid in directing restoration priorities and practices. The foundation of this monitoring relies on an intensive fish sampling strategy and the Passive Integrated Transponder (PIT) technology to track individual coho and Chinook throughout the estuary. Specifically, this funding will extend the current LCM project an additional two years therefore it will include two years of water quality sampling, fish sampling and PIT tagging. In addition, the proposed project would fund an additional PIT antenna at Bandon Marsh and operate the eight existing PIT antennas for two years. Project Partners: landowners, ODFW (Charleston, Dalles Research Station, REDD Group) and DEQ.

Monitoring Team Evaluation

Monitoring Team Strengths

- The proposed project will complement the data that has been collected in tide gate restoration sites and leverage the existing monitoring network in the Lower Coquille River.
- The proposed project will complement the data collected at Ni'les-tun and adds a tide gate removal project in the salt water/tidally influenced zone to the study design.
- The application provides a clear description of how the monitoring questions will be answered.
- The monitoring methods are appropriate and will clearly address the monitoring questions.

- The applicant will follow a DEQ-approved SAP that was recently amended. QA/QC procedures will be followed to ensure PIT tag numbers are accurately recorded and used for future data analysis using field tablets.
- The applicant will employ several steps to manage and store the different data sets including storing all digital data on a database that is backed up. PIT antenna data will be sent remotely via cellular modem to the cloud, then automatically populated into an Access database and saved on Dropbox with access to all project partners.
- The applicant and contractors have the necessary experience and proven work history to complete this project as proposed.
- The applicant is engaging a broad range of community stakeholders and technical experts through regular communication with a Technical Advisory Team and a Monitoring Committee.
- Results from this monitoring project will be shared through the distribution of annual and final reports to all project partners as well as presentations at various venues including the applicant's public monthly meetings, drainage district meetings, and quarterly project monitoring meetings.
- Statewide outreach will occur through report sharing and presentations at the Oregon Chapter American Fisheries Society annual meeting, the Statewide Tide Gate Partnership meetings and the Tide Gate Affinity Group.
- The budget costs are broken down by staff and contractor by task. The supplies and equipment are detailed and are appropriate given the intensity of this monitoring project.

Monitoring Team Concerns

- The application lacks detail on the water level, water temperature, conductivity and water velocity data collection methods.
- The application does not describe how the LiDAR data will be analyzed and there is no monitoring question related to using this data to assess habitat quantity.
- The application does not describe the qualifications related to the LiDAR contractor that will be working on this project.
- There is no information on how the LiDAR expenses were calculated.

Monitoring Team Comments

Review Team Evaluation

Strengths

- The project builds off an existing monitoring project by adding two years of water quality and fish sampling data. Fish movement at Bandon Marsh will also be tracked with a passive integrated transponder antenna.
- The application provides a detailed rationale for supporting additional years of effectiveness monitoring of tide gate fish passage restoration projects. There is limited information about coho response to these projects that are designed to increase fish access to the critically important tidal floodplain habitats. Monitoring results to date suggest juvenile coho are quickly utilizing newly created habitat; however, additional data is needed to fully understand the effectiveness of tide gate project investments.

- Project support from private landowners and Oregon Department of Fish and Wildlife is demonstrated by letters of support included in the application along with active involvement in project implementation, the analyzing of data collected and dissemination of project results.
- The applicant has experienced staff that can successfully deliver the project objectives.
- Project partners are coordinating with the Institute for Applied Ecology who are undertaking effectiveness monitoring activities at the restored Ni-les 'tun unit of the Bandon Marsh.

Concerns

- It is unclear from the application how the LiDAR data will be used to assess habitat quantity resulting from completed restoration projects.
- It is unclear why only water level monitoring will occur at Bandon marsh when other parameters, like conductivity, will be collected on other sites.
- Field audits for monitoring equipment is scheduled for every quarter; however, a more frequent audit is necessary because conditions change quickly in tidal influenced areas.
- All the monitoring objectives in the application are focused on juvenile salmon. Incorporating objectives to track water quality changes due to wetland restoration, such as reduced temperature and increased dissolved oxygen, could provide additional information to understand restoration project effectiveness.
- There may be a missed opportunity to better understand potential risks to native fish by not including invasive species sampling in the fish monitoring work.
- The proposed netting activities to sample fish populations could negatively impact Fall chinook that are already experiencing depressed numbers.

Concluding Analysis

Scientifically based monitoring data is limited for tide gate restoration. The proposed data collection is needed and timely to determine the effectiveness of tide gate replacements and habitat improvement activities.

Review Team Recommendation to Staff

Fund

Review Team Priority

1 of 3

Review Team Recommended Amount

\$315,058

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$315,058

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Southwest Oregon (Region 2)

Application Number: 222-2035-22325

Project Type: Monitoring

Project Name: Storm Chasers: Volunteer Storm Sampling on the South Coast - Resubmit

Applicant: Curry SWCD

Region: Southwest Oregon

County: Curry

OWEB Request: \$56,769

Total Cost: \$126,157

Application Description Storm Chasers is a volunteer synoptic storm water monitoring project that leverages citizen science to collect water quality and quantity data on large storm events throughout the southern Oregon coast (New River to the Winchuck). Southern Oregon coastal watersheds are flashy systems with complex geology and historic land use practices that, when acted on by common short-term, high intensity storm events, can mobilize significant amounts of sediment in short periods of time. These sediment mobilization events often have negative impacts downstream such as deterioration of aquatic habitat quantity and quality, and increased erosion and stream aggradation on working lands.

The Curry Watersheds Partnership (Curry SWCD, Lower Rogue Watershed Council, and South Coast Watershed Council) monitors sediment mobilization during storm events with Storm Chasers. Synoptic storm water quality grab samples are collected by trained citizen science volunteers, and samples are processed for turbidity and specific conductivity and analyzed by experienced staff members. Stage and discharge data are also collected by staff to quantify storm intensities and conduct comparative water quality analysis between sites and over time. The results of this project will be used to identify and prioritize areas for sediment abatement restoration actions and engage and educate our community on issues related to sediment mobilization. We will share the results of these efforts with local partners (ex. USFS, BLM, ODFW, ODEQ, CWP board members) to ensure that data from this project leads to on-the-ground results on both public and private lands.

Storm Chasers is active in the northern portion of the CWP's service area (New River, Elk, and Sixes). We recruited and trained 20 volunteers in the 2021-2022 wet season who successfully collected samples at 49 sites during 3 large storm events. Funding from this opportunity will allow us to expand Storm Chasers to include the rest of our service area.

Monitoring Team Evaluation

Monitoring Team Strengths

- The proposed project will complement the storm event data that the applicant has collected in the past, including a project that was initiated last year.

- The monitoring questions are answerable with the proposed study design, data collection and analysis methods.
- The applicant addressed the concerns identified in the previously submitted monitoring application.
- The applicant plans to collect data during three periods across the wet season including first flush, the middle of the wet season and near the end of the season to understand how sediment mobilization varies.
- The rainfall conditions that must be met to trigger a storm sampling event are clearly defined.
- The applicant will follow monitoring methods established by DEQ and USGS and have an existing SAP and will revise the SAP to include all sampling sites.
- The applicant implemented a storm chasing project in a smaller sample area with volunteers last year and established QA/QC measures to ensure data is of sufficient quality to meet their objectives.
- The applicant has the necessary qualifications and experience to complete the data collection as proposed.
- The applicant has engaged a USGS technical expert to assist in the development of the streamflow and water level monitoring approach.
- The uploaded letters of support demonstrate how the BLM and USFS have been involved in this project to date and how they will use the data to inform future actions.
- A final report will be written and will include the results and data analysis. A data interpretation and discussion section will explore both the results of each storm event, and results over time, and highlight areas that will be investigated for potential restoration actions based on those results.
- The water quality data will be incorporated into a spatial dataset of site locations in an ArcGIS geodatabase. All water quality data will also be shared with ODEQ to be reviewed and stored in AWQMS.
- The results of this project will be shared annually with the Curry Watersheds Partnership (CWP) staff, boards, and partners such as the volunteers that participate in this project. Results will also be shared with the general public via reporting made available on the CWP website, and potential outreach via local media outlets and social media.
- The budget is detailed and appropriate to complete the work necessary to accomplish the objectives.

Monitoring Team Concerns

- The application lacked detail on how the watershed conditions and management history will be incorporated to interpret the turbidity data.
- The proposed project will expand to a total of 109 sites, which will require significant volunteer participation, volunteer management, and data analysis.
- It is not clear that there is a need to collect data at 109 sites and if the volunteer base would persist over the life of the monitoring grant to meet the monitoring objectives.
- The application lacked detail to understand how the flow weighted data analysis of the turbidity data will be done. Providing a summary of the past year's data analysis would have been helpful to demonstrate this.
- It was not clear how the data will be analyzed to quantify how the sites vary over time and space.

Monitoring Team Comments

Review Team Evaluation

Strengths

- The application addresses previous evaluation concerns by clarifying the number of sites and how volunteers can effectively sample a high number of sites, and by providing details describing the timing of data collection within storm events.
- There is a clear pathway from the monitoring efforts to restoration actions.
- The applicant has already trained twenty volunteers and is looking to train more, which adds capacity to the monitoring program.
- Project partners have ample capacity to implement the scope of work.
- The Bureau of Land Management (BLM) and United States Forest Service provided letters of support, and a BLM Resource Advisory Committee grant is secured for the project.
- The use of volunteers is cost effective for the achieving the anticipated outcomes of the project.
- The information collected will be shared widely with interested parties.
- The data collection methods along with the Quality Assurance/Quality Control and Sampling Analysis Plan are technically sound.
- The project builds on a long-term data set that began in 2004 and may provide insight on climate change impacts and severity.
- The opportunity to identify the sources of sediment is usually short lived. The proposed monitoring approach may provide data that will fill this knowledge gap. The proposed storm pulse data has potential to provide information that could lead to identifying locations for simple fixes to forest roads that could reduce sediment inputs into streams.

Concerns

- Some sampling opportunities will be missed because data collection will only occur during the day due to safety considerations. Trail cameras could offer additional “eyes” during storms when sampling is not feasible.
- It can be difficult to discern the specific sediment sources when storm events occur.
- An example of how the previous data was used to target restoration actions would provide a helpful illustration for understanding the process from collecting monitoring data to identifying restoration projects.
- It is unclear why the project timeline limits data analysis to the end of the project instead of occurring as the data is collected.

Concluding Analysis

The project is a volunteer-driven, citizen science effort to collect data on high intensity storms that can have negative water quality impacts downstream of their occurrence. A suite of partners utilizes volunteers to collect grab samples along with stage and discharge data to identify areas with high sediment inputs. The data is used to further investigate and develop restoration projects that address downstream impacts.

Review Team Recommendation to Staff

Fund

Review Team Priority

3 of 3

Review Team Recommended Amount

\$56,769

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$56,769

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Southwest Oregon (Region 2)

Application Number: 222-2036-22263

Project Type: Stakeholder Engagement

Project Name: Engaging Stakeholders in Rogue Basin Flow Restoration

Applicant: Trout Unlimited Inc

Region: Southwest Oregon

County: Jackson

OWEB Request: \$148,635

Total Cost: \$198,294

Application Description This project will increase the pace and scale of instream flow restoration in the Upper Rogue Basin by engaging stakeholders to increase their knowledge of the need for flow restoration and the opportunities, tools and incentives available to voluntarily reduce or conserve out of stream water use in prioritized reaches of the watershed. Flow restoration tools include leasing and transfer of water, irrigation efficiency upgrades, and creative tools like minimum flow agreements which help assure fish passage and water quality needs are met for particular life stages of fish. Insufficient instream flow is identified as a key limiting factor in the NOAA Fisheries SONCC Coho Salmon recovery plan (2014), which calls for education on water conservation and instream leasing (p 32-27), increasing instream flow through water rights leasing, retirements, and conservation (p 32-29), and eliminating low flow barriers in the summer to facilitate juvenile movement (p 32-29) as needed activities to recover coho salmon. Similar needs are identified in ODFW's 2021 Rogue South Coast Multi-Species Management Plan for spring Chinook and winter steelhead.

TU proposes to increase staff capacity in the watershed to provide technical expertise in water transactions. TU currently operates similar flow restoration programs in the Grand Ronde, Willowa, Umatilla, John Day and Klamath Basins and has completed several flow restoration projects over the last 5 years in the Rogue Basin utilizing borrowed capacity from other watersheds. There is not currently any dedicated capacity in the Upper Rogue Basin to develop or support flow restoration projects and as a result many opportunities are over-looked or not fully implemented. This project will collaborate with ODFW, Rogue River Watershed Council, Medford Water Commission, and Jackson SWCD. In addition it supports work related to the piping and system modernization by the major Rogue Basin Irrigation Districts.

Review Team Evaluation

Strengths

- Trout Unlimited Incorporated (TU) will work collaboratively with watershed councils, soil and water conservation districts, and agencies to fill a gap in technical expertise needed for successful flow restoration in the Rogue Basin.

- The location of where the work will occur is appropriate. Lack of adequate instream flow is a critical limiting factor in every sub-basin of the Rogue River watershed and affects water quality and all native fish, including federally listed coho salmon.
- The application provides examples of successful work that resulted in putting water back instream.
- The pathway from stakeholder engagement to implementation of streamflow restoration is clear.
- TU is experienced and qualified to provide technical support in water transactions.

Concerns

- The OWEB request will go towards supporting the staff position and no funding is designated to support outreach materials.
- It is unclear how long-term funding support for the work will be secured.

Concluding Analysis

In the Rogue River basin, there is less water available due to drought, climate change, increasing demand for water for legal agricultural use, and increases in illegal water use. Streamflow is a key limiting factor for salmonids, lamprey, and other native fish in the Rogue Basin. Currently, there is no local capacity to support working with interested stakeholders in developing water leases or instream transfers. Increasing capacity and technical support to identify conservation opportunities and support water conservation efforts would fill this gap.

Review Team Recommendation to Staff

Fund

Review Team Priority

1 of 2

Review Team Recommended Amount

\$148,635

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$148,635

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Southwest Oregon (Region 2)

Application Number: 222-2037-22344

Project Type: Stakeholder Engagement

Project Name: Applegate Irrigation WU-LO
Engagement P1

Applicant: Applegate Partnership, Inc.

Region: Southwest Oregon

County: Jackson

OWEB Request: \$22,752

Total Cost: \$36,553

Application Description This project focuses on seven mainstem Applegate River points of diversion (POD) in the Middle Applegate, in Jackson and Josephine counties. These PODs are located above the town of Applegate downstream to Provolt Recreation Site and can take up to a combined 70 cubic feet per second (cfs) of the Applegate River water during the irrigation season; the bulk of these water rights date back to the late 1800's. The local watermasters for Oregon Water Resource Department (OWRD) Districts 13 and 14 have stated that all tributaries in the Applegate are over allocated. In the last two years we can see the negative impact the drought conditions and irrigation water use has had on the mainstem flows, with late season low flows reaching as low as 116 and 88 cfs at the Applegate and Wilderville USGS gauging stations (14366000 & 14369500) in 2020 and 2021, respectively. This area has been identified by OWRD as high priority and the water users in three of the seven PODs have requested assistance in irrigation efficiency. We will engage with water users through outreach and data gathering efforts to help determine where efficiencies can be made through improved water user group organization and coordination, and ditch maintenance issues that can result in natural resource benefits that include water quantity, water quality, and fish passage on captured tributaries.

Project partners include the APWC, OWRD Districts 13 and 14 (Jackson/Josephine Counties), Jackson Soil & Water Conservation District (SWCD), Two Rivers SWCD, BLM, and local water user groups from the seven irrigation ditches.

Review Team Evaluation

Strengths

- The application clearly identifies the project need and the proposed engagement with water users was developed in response to requests for assistance by the target audience.
- The applicant is engaging the appropriate partners to successfully deliver the project objectives.
- Jackson Soil and Water Conservation District will provide on farm irrigation efficiency consultation.
- In the face of climate change and drought, water conservation conversations are a key start to look at developing meaningful restoration solutions.
- The applicant has the experience needed to implement these types of complex projects from start to finish.

Concerns

- The project scope is large, encompassing seven different points of diversion with each having its own set of challenges, such as different priority dates and conveyance approaches.
- The project appears more geared towards on farm irrigation efficiency rather than increasing stream flows, which may result in missing opportunities to achieve the best potential watershed benefits through instream flow protection.

Concluding Analysis

The seven points of diversion divert a combined amount of 70 cfs during the irrigation season and have a variety of priority dates as far back as the mid-1800's. Live streamflow typically cannot meet the legal water rights of the users due to over-allocation in the basin and drought conditions. Irrigation efficiencies are needed and this engagement effort will be a critical step to develop conservation actions. The applicant is encouraged to consider engaging Oregon State University Extension to partner in developing on farm alternatives.

Review Team Recommendation to Staff

Fund

Review Team Priority

2 of 2

Review Team Recommended Amount

\$22,752

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

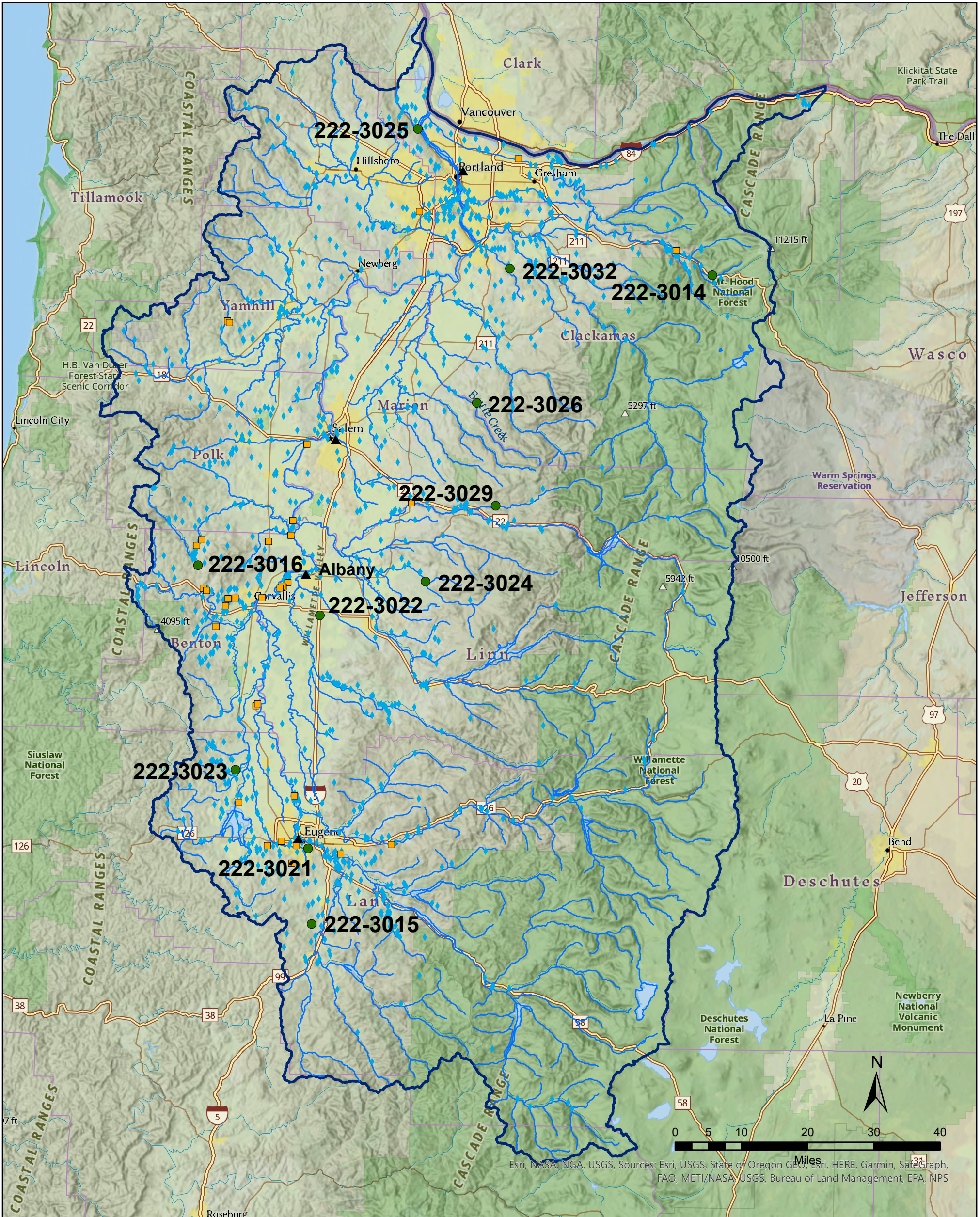
\$22,752

Staff Conditions

N/A

Willamette Basin

Willamette Basin - Region 3 Spring 2022 Funding Recommendations



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Funding Recommendation

- Staff Recommendation For Funding (SRF)
- Below Funding Line (BFL)

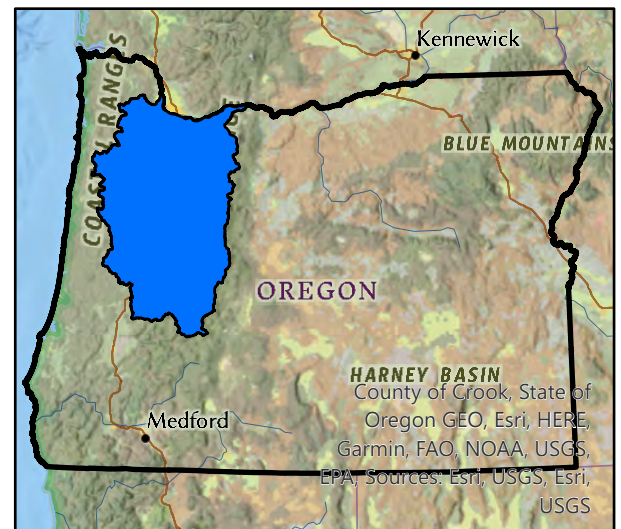
Previous Grants 1998 - Fall 2021

- Land Acquisition
- ◆ Restoration
- ▲ Region 3 Cities
- Region 3 Streams
- ▭ OWEB Region 3 Boundary



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Region 3 - Willamette Basin Restoration					
Projects Recommended for Funding in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
222-3014	The Freshwater Trust	Upper Sandy River Basin Habitat Restoration Project	Fish access to stream habitat will be restored by removing a dam and returning flows to side-channels, which will accelerate the recovery of naturally functioning conditions within the stream channels and floodplain areas of the Zigzag River and its tributary and increase the abundance and productivity of Sandy basin salmon and steelhead populations.	293,995	Clackamas
222-3016	Benton SWCD	Mitchell Oak Woodland and Savanna Restoration	Historic oak savanna and prairie plant community restoration and grazing that mimics historic fire regimes will be used to improve and maintain critical habitat for Taylor's checkerspot butterfly, Fender's blue butterfly, and the vesper sparrow along the eastern coast range in Benton County.	96,646	Benton
222-3021	Long Tom WC	Urban Stormwater Improvements & Climate Resilience Demonstration	A sustainable landscape design will be installed to reduce urban runoff and stormwater flooding on Amazon Creek that will also demonstrate climate resiliency strategies in a residential neighborhood in Eugene.	101,879	Lane
222-3015	Coast Fork Willamette WC	Madrone Hills: Oak Woodland Restoration	Oregon white oak woodland will be restored on private land south of Creswell to retain legacy oaks, restore native plant communities, and provide habitat for wildlife.	381,625	Lane
Total Restoration Projects Recommended for Funding by RRT and OWEB Staff				874,145	

Projects Recommended but Not Funded in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
None					

Projects Not Recommended for Funding by RRT					
Project #	Grantee	Project Title	Amount Requested	County	
222-3017	Tualatin River WC	Coffee Creek Fish Passage Barrier Removal and Aquatic Enhancement	163,753	Washington	
222-3018	Parrott Creek Child & Family Services	Parrott Creek Child & Family Services Cultural Ecology Project	60,566	Clackamas	
222-3020	Long Tom WC	Lower Upper Long Tom Floodplain and Bottomland Oak Restoration	270,511	Lane	

Region 3 - Willamette Basin Technical Assistance					
Projects Recommended for Funding in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
222-3022	Luckiamute WC	Mid-Valley River Connections: Advancing Restoration in the Mid-Willamette	Priority restoration actions will be developed to address factors limiting salmon, steelhead, cutthroat trout, and lamprey populations across four key mid-Willamette watersheds to secure large-scale, regional funding for project implementation.	74,508	Linn

Oregon Watershed Enhancement Board: Restoration, Technical Assistance, Stakeholder Engagement, and Monitoring

222-3025	Oregon Wildlife Heritage Foundation	Harborton Wetland Amphibian Underpass Project	A wildlife underpass will be designed to provide state sensitive Northern red-legged frogs a safe path as they migrate to breeding habitat in Harborton Wetland along Highway 30.	74,800	Multnomah
222-3023	Long Tom WC	Lower Bear Creek Floodplain Restoration Design at Turtle Pond Farm	Restoration designs will be developed to restore ecological function and habitat for native fish and wildlife on a private land near the confluence of Bear Creek and Long Tom River.	72,229	Lane
222-3024	South Santiam WC	Changing Channels: Fish Screening, Passage and Restoration on Crabtree Creek	Designs will be developed to address multiple challenges along Crabtree Creek, including channel stability, irrigation water delivery systems, and fish passage.	75,000	Linn
Total Technical Assistance Projects Recommended for Funding by RRT and OWEB Staff				296,537	

Projects Recommended but Not Funded in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
None					

Projects <i>Not Recommended</i> for Funding by RRT					
Project #	Grantee	Project Title		Amount Recommended	County
None					

Region 3 - Willamette Basin Stakeholder Engagement					
Projects Recommended for Funding in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
222-3032	Greater Oregon City WC	Beaver Lake Mompano Dam Restoration Approaches to Abernethy Creek	Methods for addressing water quality and fish passage issues in the Abernethy Creek and Beaver Lake area will be explored through landowner engagement to better understand potential habitat restoration solutions and opportunities.	39,551	Clackamas
Total Stakeholder Engagement Projects Recommended for Funding by RRT and OWEB Staff				39,551	

Projects Recommended but Not Funded in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
None					

Projects <i>Not Recommended</i> for Funding by RRT					
Project #	Grantee	Project Title		Amount Requested	County
222-3031	North Clackamas	Walta Visit & River Roads Culvert Replacement		63,573	Clackamas

Region 3 - Willamette Basin Monitoring					
Projects Recommended for Funding in Priority Order					

Oregon Watershed Enhancement Board: Restoration, Technical Assistance, Stakeholder Engagement, and Monitoring Grant Cycle

Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
222-3029	Willamette Riverkeeper	Informing Willamette Basin Restoration through Freshwater Mussel Monitoring	Data will be collected for native western ridged mussels and western pearl mussels to better understand mussel locations and abundance in the North Santiam River and target future habitat restoration that will benefit these species.	83,634	Marion
222-3026	Pudding River WC	Rapid Bio-assessment/LFA Light of the Pudding River Streams 2023	Habitat and salmon abundance and distribution data will be collected in the Pudding River to prioritize collaborative landscape-scale restoration actions.	95,902	Marion
Total Monitoring Projects Recommended for Funding by RRT and OWEB Staff				179,536	

Projects Recommended but Not Funded in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
None					

Projects <i>Not Recommended</i> for Funding by RRT					
Project #	Grantee	Project Title		Amount Requested	County
222-3027	Marys River WC	Marys River Watershed Council Monitoring Phase I		97,923	Benton
222-3028	Lake County Resources Initiative	Status and Trend (LCRI & PNW Research Station)		281,116	Marion
222-3030	OSU Office of Sponsored Research & Award Admin	Assessment of Anchor Habitat Restoration in the upper Willamette River Valley		497,070	Linn

Region 3 Total OWEB Staff Recommended Board Award	1,389,769
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Region 1 - 6 Grand Total OWEB Staff Recommended Board Award	12,111,567
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Open Solicitation-2022 Spring Offering Willamette Basin (Region 3)

Application Number: 222-3014-22317

Project Type: Restoration

Project Name: Upper Sandy River Basin Habitat Restoration Project

Applicant: The Freshwater Trust

Region: Willamette Basin

County: Clackamas

OWEB Request: \$293,995

Total Cost: \$855,713

Application Description The Freshwater Trust (TFT) and US Forest Service (USFS) are taking the lead on the Upper Sandy River Basin Habitat Restoration Project on behalf of the Sandy River Basin Partners (the Partners). The Sandy River originates on Mt. Hood and flows 56 miles northwest before entering the Columbia River near Portland, Oregon. The proposed project will address primary limiting factors by increasing off channel habitat/floodplain connectivity and large wood abundance on the Zigzag River (located within the upper Sandy sub-watershed), and by increasing off channel habitat/floodplain connectivity and large wood abundance and restoring fish passage on Zigzag River tributary Lady Creek. Proposed work is on public land managed by the USFS located near Zigzag, Oregon in Clackamas County.

Sandy River salmon and steelhead populations have declined over the last century due to degradation of habitat and other factors. The Partners have identified the upper Sandy sub-watershed among the top areas providing high quality habitat for the basin's native fish. The Partners are aligned on a near term goal of restoring this priority watershed to advance Sandy basin-scale restoration.

Restoration actions to be undertaken as part of the proposed project include: small dam removal to restore fish passage (Lady Creek), reactivation of flow to historic side channels and floodplain habitat (Lady Creek and Zigzag River), construction of large wood habitat structures (Zigzag River), placement of additional large wood in side channels and on stream margins (Lady Creek and Zigzag River) and dike removal (Zigzag River). This project is part of a larger, multi-year, watershed-scale restoration effort and builds on similar successful projects completed in the basin by TFT and the Partners since 2008. OWEB funding will support TFT staff time for project design/permitting, project management, construction, travel, administration, and reporting.

Review Team Evaluation

Strengths

- Previous application evaluation concerns are addressed by providing design information, including a longitudinal profile, that clearly defines restoration methods that are appropriate for the site.
- State and federal fisheries regulatory agencies have reviewed and approved the project and permits have been secured, indicating the project is ready for implementation.

- The proposed restoration actions will address watershed limiting factors to Endangered Species Act (ESA)-listed fish recovery.
- The proposed work is part of a large scale, multi-year project that builds on momentum from and leverages investments in previously successful restoration.
- The application includes information that indicates the applicant considered risks associated with potential impacts to the site and adjacent properties when planning the project.
- The project team has a consistent track record for implementing similar high-quality projects.
- The application includes a summary of post-project effectiveness monitoring results from previous project phases that indicate the stream restoration approach is successful in restoring fish habitat. These results demonstrate a measured fish response with increased salmon returns and spawning.
- The project cost to restore 1.2 stream miles reflects the quantified watershed health benefits expected from the investment.

Concerns

- The applicant team is encouraged to bring diversity into the project team or extend project learning opportunities to underrepresented organizations or groups.

Concluding Analysis

The proposed project builds on a phased stream restoration strategy that has been implemented since 2012 and has a record of producing a quantified fish response to habitat improvements. The Sandy River watershed provides habitat to numerous ESA-listed fish species, making it a priority area for instream habitat restoration. Significant ecological benefits will result from reconnecting 15 acres of floodplain with Zigzag River and Lady Creek, opening 1.2 miles of stream habitat by removing the Lady Creek dam, and restoring side channel habitat. The project has a high ecological benefit-cost ratio and certainty of success, which is documented by monitoring data from previous phases of restoration.

Review Team Recommendation to Staff

Fund

Review Team Priority

1 of 4

Review Team Recommended Amount

\$293,995

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$293,995

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Willamette Basin (Region 3)

Application Number: 222-3015-22322

Project Type: Restoration

Project Name: Madrone Hills: Oak Woodland Restoration

Applicant: Coast Fork Willamette WC

Region: Willamette Basin

County: Lane

OWEB Request: \$381,625

Total Cost: \$620,998

Application Description This 99-acre oak woodland restoration project is in Lane County, south of Creswell, in the Hill Creek sub basin. The property (208.4 acres) known as the Madrone Hills is owned by private landowners, the Johnson Family. This property contains rare and degraded Willamette Valley oak woodland and prairie habitats. The lack of disturbance has allowed open-grown Oregon white oaks within the project area to be threatened by conifer encroachment and overtopping and the establishment of woody vegetation in the understory. This loss of native habitat reduces biodiversity and negatively impacts important species that rely on these open canopy habitats including acorn woodpecker, white-breasted nuthatch, and western gray squirrel. The proposed project will implement oak woodland restoration on 99 acres by: (1) thinning firs and small diameter oaks around legacy oak trees; (2) enhancing the herbaceous understory by controlling undesired species and reseeding with native forbs and grasses; (3) converting closed canopy oak woodland to a 20-60% open canopy thereby reducing the rate of Oregon white oak woodland loss and habitat fragmentation, with the long-term goal of increased recruitment, structure and function; and (4) slow encroachment of woody vegetation into prairies. Partners include Coast Fork Willamette Watershed Council (CFWWC), Johnson Family (NAVN LLC), and Natural Resources Conservation Services (NRCS).

Review Team Evaluation

Strengths

- The application has clearly defined project goals and objectives.
- The project site has a unique mix of diverse habitat types and hydrology, including legacy oaks, ash, and prairie habitats, that provide a mosaic structure for restoration.
- The proposed restoration investment will leverage and expand habitat connectivity with previous restoration projects near the proposed project site.
- The proposed seeding of native plant species will provide significant ecological benefits because there is a considerable population of weeds throughout the project site, such as false brome.
- The applicant has a proven track record with similar projects.
- The landowner has demonstrated an ecologically focused land management through previous investment in restoration and has demonstrated capacity for long-term stewardship and maintenance of restoration.
- The project will leverage Natural Resource Conservation Service (NRCS) Environmental Quality Incentives Program (EQIP) program investment.

Concerns

- The application lacks details describing specific restoration treatments. Restoration practices instead are lumped across ecotypes with generalized treatment descriptions, which may be an indicator that additional planning must be completed before the project is ready for implementation. More information on the specific methods planned for managing the mosaic of complex vegetative communities and habitat types present on the project site would be helpful for better understanding technical soundness of the proposed restoration approach. For example, details describing different tree stocking and target canopy cover for the ash versus oak stands instead of providing one broad range of target percent cover would be helpful for better understanding restoration treatments. The applicant will be teasing out details for the final design in the Fall through EQIP planning. It will be important for the applicant to communicate with the landowner to ensure there is a common understanding of treatments and target stocking rates that will result after implementation.
- There is potential that the estimated project costs are not final and could change during remaining EQIP planning. Since the costs in the application budget are based on the NRCS cost lists that is evaluated annually, the project costs are likely in the right ballpark.
- A permanent easement would increase the likelihood for ensuring long-term stewardship and maintenance of the proposed significant investment of public dollars in upland restoration. The landowner, however, indicated a commitment to maintaining habitat gains resulting from the proposed restoration and is potentially interested in a long-term conservation easement.

Concluding Analysis

The project property offers significant restoration opportunities to restore diverse native habitat types, and the investment will be further leveraged by restoration already completed both on the site and in the region. The landowner is actively engaged in restoration planning and implementation. As a result, the project is likely to succeed in demonstrating effective voluntary conservation on private lands.

Review Team Recommendation to Staff

Fund

Review Team Priority

4 of 4

Review Team Recommended Amount

\$381,625

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$381,625

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Willamette Basin (Region 3)

Application Number: 222-3016-22326

Project Type: Restoration

Project Name: Mitchell Oak Woodland and
Savanna Restoration

Applicant: Benton SWCD

Region: Willamette Basin

County: Benton

OWEB Request: \$96,646

Total Cost: \$271,697

Application Description 1) The 146 acre Mitchell property is located in the Willamette Valley foothills on the eastern slope of the coast range, within the Upper Luckiamute / Vincent sub-basin. Benton County Beazell Memorial Forest (607 acres) is directly across Hwy 228 from this project. J2E River to Ridge Diversity Project (OWEB funded) is located 1 mile to the north. (see attached maps)

2) Like much of the surrounding area, the site was historically Oregon oak savanna and prairie with very little conifer. The original oaks that occupied the site were very widely spaced, large diameter trees with native grasses/forbs. The current forest cover is a mosaic of white oak, Douglas-fir and grass-dominated openings surrounded by pastures and managed Douglas-fir forests and appeared following the end of indigenous burning and homesteader grazing. The mixed woodlands that dominate the site are the first forests to occupy the south-facing slopes following decades or centuries of savanna and prairie conditions. Management actions include restoration and maintenance of desired habitat types, reduction of fire risk, habitat resiliency and use of prescribed grazing in habitat management.

3) Four primary forest types are identified on the 82 forested acres. Project work includes: Restoration of historic oak savanna and oak woodland forests and maintenance of a native shrub layer. Maintain and manage Douglas-fir stands in locations where they are well established. Integrate management of forests and savanna areas with restoration of upland prairies in 18 acres. Maintain and enhance diversity of wildlife habitat to support and encourage use by a range of native bird and mammal species throughout habitat types. Manage timing and length of grazing in restored prairie area to enhance native habitats for Taylor checkerspot butterfly and Oregon vesper sparrow.

4) Partners: Benton Soil and Water Conservation District, Natural Resources Conservation Service, landowners, and US Fish and Wildlife Service.

Review Team Evaluation

Strengths

- The application has clearly defined project goals and objectives.
- The project is in an Oregon Conservation Opportunity Area and will provide habitat benefits for conservation strategy species, including Taylor's checkerspot butterfly and Oregon vesper sparrow.

- The proposed project will result in a habitat continuum across the landscape because the site is located adjacent to unique habitat protected in the Beazell Memorial Forest and is near other oak and prairie habitat restoration projects.
- The proposed restoration approach is technically sound.
- Grazing will be used as a restoration technique on a disturbance dependent plant community. The lessee has experience with grazing management on other properties in the vicinity with oak habitat. He has demonstrated success in balancing livestock needs and timing grazing to result in ecological benefits without overgrazing a site.
- There is a long-term grazing management and maintenance plan that indicates the applicant has thought through components such as location for stock watering.
- The applicant is engaging a project team with relevant experience for achieving the restoration objectives.
- The project will leverage Natural Resource Conservation Service (NRCS) Environmental Quality Incentives Program (EQIP) program investment.

Concerns

- The application lacks details describing the restoration approach for the prairie habitat. Additional information explaining the herbicide applications and alternatives that were considered would be helpful to understand the methods that will be used to restore the prairie habitat. Partners involved in the project have the appropriate expertise to provide technically sound guidance on the herbicide application and restoring the prairie.
- The restoration approach could be missing opportunities to restore often overlooked understory plant communities. The project appears to be built primarily around a NRCS forestry project with other habitat elements grafted onto it opportunistically. Stepping back and taking a holistic view of the site could result in a more comprehensive and effective plan for restoring multistory plant communities with greater benefits to species such as the Oregon vesper sparrow.
- A permanent easement would increase the likelihood for ensuring long-term stewardship and maintenance of the proposed investment of public dollars in upland oak and prairie restoration.

Concluding Analysis

The project will demonstrate how working lands can effectively be balanced with restoring native plant communities by managing grazing as a restoration technique that mimics disturbance cycles necessary for some native plant communities to thrive. The proposed project also offers an opportunity to expand connectivity of oak habitat in the region, therefore, leveraging the benefit from this restoration investment.

Review Team Recommendation to Staff

Fund

Review Team Priority

2 of 4

Review Team Recommended Amount

\$96,646

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$96,646

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Willamette Basin (Region 3)

Application Number: 222-3017-22329

Project Type: Restoration

Project Name: Coffee Creek Fish Passage Barrier
Removal and Aquatic Enhancement

Applicant: Tualatin River WC

Region: Willamette Basin

County: Washington

OWEB Request: \$163,753

Total Cost: \$662,658

Application Description This project is located on Coffee Creek, a 4th order tributary of Gales Creek in the Tualatin River basin. The site is in Washington County and approximately 13 miles NW of the Forest Grove city limits, just north of Hwy 6. Coffee Creek has been identified as containing a high priority fish passage barrier in both the 2014 RBA Final Report and the 2015 Gales Creek Action Plan. As cited in the 2014 RBA Final Report, Gales Creek is temperature limited for anadromous summer rearing habitat. The project treatments will open 4.1 miles of habitat to anadromous and fluvial salmonids, providing access to both spawning and summer rearing habitat as well as access to thermal refuge from the temperature limited Gales Creek mainstem. A large, forested wetland (~16 acres) within the project reach is a source of cold thermal refuge currently inaccessible due to fish passage barriers. Project work includes the removal of two barriers creating immediate access to 4.1 miles of habitat; installation of 86 logs into 12 full spanning LWD structures designed to aggrade mobile bedload and create channel complexity; 6 cross drain removals to restore hillslope stability to an abandoned logging road; 4 BDA installations to restore a legacy beaver flat, maintain winter stability, and prevent incision in a depositional floodplain below the forested wetland; termination of progressive headcutting below the forested wetland; revegetation to promote beaver recolonization as well as long-term large wood recruitment in the Riparian Management Area (RMA). It is essential to implement these actions in order to retain the observed high function of this forested wetland in Coffee Creek to protect one of the few remaining legacy cold-water sources known to exist in the headwaters of the 6th field HUC. This project includes participation from 2 private landowners, Stimson Lumber Co, Bureau of Reclamation, Tualatin Soil and Water Conservation District, and the Tualatin River Watershed Council.

Review Team Evaluation

Strengths

- Coffee Creek is a tributary to Gales Creek, which provides critical habitat for Endangered Species Act (ESA)-listed fish and is known to have the highest numbers of steelhead in the Tualatin Basin. Gales Creek is one of two primary basins in the Tualatin River Basin with steelhead and coho spawning.
- Restoration objectives are clearly stated in the application. The applicant is taking a holistic approach by prioritizing restoration actions across the entire Coffee Creek watershed.

- The proposed restoration will leverage the downstream removal of Balm Grove Dam by expanding stream habitat connectivity. Addressing fish passage in Coffee Creek is the next logical fish passage project in the Gales Creek watershed.
- The project area includes a unique forested wetland that is at risk of being lost to erosion from a head cut that is migrating toward this wetland. It is important to stabilize this forested wetland habitat because it serves as a cold-water source that will provide downstream water quality benefits where warm summer water temperatures are affecting native fish.
- The application includes a clear explanation of the potential habitat opportunities lost if the project is not implemented.
- The project site is included in Clean Water Services' ten-year maintenance plan for vegetation establishment, and the application includes details describing long-term maintenance of the restoration investment in plantings.
- The applicant is engaging a project team with relevant experience for achieving the restoration objectives.
- Support for the project is demonstrated by match from diverse partners.

Concerns

- The application lacks technical details for some project components needed to evaluate whether all the restoration approaches are appropriate solutions for the project sites. For example, design details are unclear for removing the cross drains described in Objective 3 and installing hardened graded channels described in Objective 2. It is also unclear how Beaver Dam Analogs (BDA) will be installed and how sites were selected for BDA installation.
- The application lacks design information to determine whether the project approach will achieve the proposed restoration objectives. For example, an expected outcome described in the application for the proposed restoration treatments is reconnecting the floodplain with the stream channels; however, it is unclear if the proposed large wood addition and BDA installation will successfully raise the streambed elevation enough to provide and sustain this floodplain functionality.
- It is unclear what information will be collected and used to reach final designs to determine whether these designs will incorporate technical information that needs to be considered for the design approach to be effective. For example, a longitudinal profile would be important to understand current elevations and to plan target elevations needed for the completed restoration to successfully achieve floodplain reconnection goals.
- The application does not include enough technical information to understand whether the approach for addressing head cuts in the upper section of Coffee Creek will successfully protect the forested wetland that provides cold source water protection. The proposed engineered riffles are designed to arrest head cutting at knickpoints, which are locations where a head cut begins that can lead to additional stream channel erosion. While the riffles may temporarily slow the head cut problem, there is not enough technical information provided to understand if the approach is likely to succeed long term. The application lacks an explanation describing the range of alternatives that were considered and evaluated for addressing the knickpoints. It is unclear how the selected design approach was determined, what the design rationale is, and whether there may be a different approach to address the head cuts that would provide a long-term solution. For example, a longitudinal profile of the entire valley and an elevation model would facilitate identification of landscape features, such as berms, and determining a range of alternatives for addressing the cause of the head cut, such as using on-site berm material in restoration to connect the floodplain.

Concluding Analysis

The designs and alternatives considered for the fish passage components are clearly described in the application; however, the application lacks details describing the design approach for the forested

wetland needed to understand whether the methods are appropriate for the project site. Effectively addressing the head cuts to protect the forested wetland is a high priority because of the potential long-term stream temperature habitat benefits it will provide for fish migrating upstream after the downstream fish passage barriers are addressed. It is important for the project to be successful to make inroads with landowners that could result in restoration opportunities in the broader region. Additional design work, such as a longitudinal profile, could provide a broader view of the whole stream valley to inform the restoration approach and prevent potentially missing opportunities for a solution with a higher likelihood of success in providing optimal habitat benefits. If the application is resubmitted, the applicant is encouraged to address the concerns described above.

Review Team Recommendation to Staff

Do Not Fund

Review Team Priority

N/A

Review Team Recommended Amount

\$0

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Do Not Fund

Staff Recommended Amount

\$0

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Willamette Basin (Region 3)

Application Number: 222-3018-22340

Project Type: Restoration

Project Name: Parrott Creek Child & Family
Services Cultural Ecology Project

Applicant: Parrott Creek Child & Family Services

Region: Willamette Basin

County: Clackamas

OWEB Request: \$60,566

Total Cost: \$151,136

Application Description Parrott Creek Child and Family Services (PCCFS) recently acquired private ownership of the 80 acres of land at the site of their youth residential program in rural Oregon City. This residential program serves male youth in the juvenile justice and child welfare systems, helping them to gain healthy life skills using therapy, trauma-informed care, and mindfulness practices. The 80 acres feature Parrott Creek and an unnamed tributary, a sizable wetlands area, mixed coniferous forest, and an upper grassland prairie. PCCFS now aims to return this land to an ecologically and culturally functioning site with the use of Indigenous restoration practices and meaningful long-term partnerships. These partnerships currently include but are not limited to the Friends of Tryon Creek, Oregon Food Bank, Greater Oregon City Watershed Council, Clackamas Soil and Water Conservation District, Long Tom Watershed Council, EcoStudies Institute, Confederated Tribes of Siletz Indians, and the Confederated Tribes of Grand Ronde Community of Oregon. Major activities of this project will be the removal of invasive species; removal of fish passage barriers; restoration of Indigenous first food plants such as camas, wapato, and white oak; native plant surveys; fish and wildlife population monitoring; and the reintroduction of prescribed burns. The outcome of this will be ecosystem conservation, public access to natural areas, access to usual and accustomed gathering of first foods and basketry materials for Indigenous communities, and environmental education for both guests and youth in the residential program.

Review Team Evaluation

Strengths

- Parrott Creek is a tributary to Beaver Creek, which is home to multiple native fish species.
- The project site has diverse habitat types, including wetlands, mixed conifer forest, and grassland prairie.
- Multiple actions are proposed, including controlling noxious weed, restoring historic camas beds, restoring wetland and upland oak plant communities, utilizing prescribed burns in the uplands, and installing monitoring systems.
- A diverse set of partners will be engaged in the project.
- An indigenous cultural ecologist will manage the project and youth will be engaged in restoration actions.

Concerns

- The application lacks technical details needed to determine whether restoration methods are appropriate for the site. The application includes limited information that describes how restoration objectives will be met, which may be due to project designs being only at a conceptual phase. The project likely needs additional planning work to be ready for implementation.
- It is unclear the extent to which the dam is still a barrier because a portion has already washed out allowing for some passage for native aquatic species. Removing the dam may have limited benefit to native aquatic species for the investment.
- While a significant number of diverse partners are identified to be involved in the project and help conduct multiple restoration actions, there is little detail provided describing project planning and how partner ideas will be integrated into a restoration management plan. It is unclear how all the partnering organizations will collaborate and contribute to the overall effort. Letters of support from partners engaged in the project would be helpful for understanding partner support and roles in implementing the project.
- A significant amount of work is identified for a modest budget. It is unclear if the estimated costs are sufficient to accomplish the proposed objectives because the application lacks details explaining how costs were determined.
- Effectiveness monitoring is included in the budget; however, the application narrative indicates no effectiveness monitoring will be conducted for this project.
- It is unclear how the line item for hosting partners on site is necessary for achieving the proposed restoration objectives.

Concluding Analysis

The proposed project provides a unique opportunity to engage with a new applicant that is not a traditional OWEB grantee. A diversity of partners will be engaged in the project and the project incorporates a focus on indigenous community and first foods into the restoration approach. The application lacks details describing how restoration objectives will be achieved. With additional planning work, the applicant will be able to develop details for implementing the proposed objectives and ensure cost estimates are sufficient for completing the proposed restoration actions. If the application is resubmitted, the applicant is encouraged to address the concerns described above.

Review Team Recommendation to Staff

Do Not Fund

Review Team Priority

N/A

Review Team Recommended Amount

\$0

Review Team Conditions

N/A

Staff Recommendation
Staff Follow-Up to Review Team

N/A

Staff Recommendation

Do Not Fund

Staff Recommended Amount

\$0

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Willamette Basin (Region 3)

Application Number: 222-3020-22353

Project Type: Restoration

Project Name: Lower Upper Long Tom Floodplain
and Bottomland Oak Restoration

Applicant: Long Tom WC

Region: Willamette Basin

County: Lane

OWEB Request: \$270,511

Total Cost: \$430,516

Application Description The project is located on private property along the Long Tom River just upstream of Fern Ridge Reservoir, west of Veneta in Lane County. Fish passage is blocked to 4 miles of headwater spawning habitat in Wilson Creek, a tributary that enters the Long Tom River on the property, by two barrier culverts. Wilson Creek is also disconnected from its lower 0.5-mile of historic, meandering channel and floodplain, as a previous landowner re-routed it into a 900' long straight channel, which subsequently caused it to downcut and further disconnect it from the floodplain. A 3.5-acre historic mill pond only connects to the Long Tom River during floods, and when flows recede fish get stranded by its constructed berm. 16.8 acres of historic floodplain forest has been converted to pasture and lacks native tree and shrub cover. 52 acres of historic bottomland oak habitat has been encroached on by woody vegetation and non-native pasture grasses. Hybrid poplars were planted on 8.5 acres of the oak savanna area 20 years ago.

The barrier culvert on Wilson Creek will be replaced with a bridge, and the barrier culvert on its tributary Tyler Creek will be replaced with a stream-simulation pipe-arch culvert. Wilson Creek will be reintroduced to its 0.5-mile long historic channel at its confluence with the Long Tom River. The historic channel will be enhanced with log jams and/or beaver dam analogues. 12.4 acres of floodplain along its historic channel will be planted with native trees and shrubs. An additional 4.4 acres of riparian area along the Long Tom River will be reforested. Inlet and outlet channels will be excavated in the floodplain to connect the 3.5-acre mill pond to the Long Tom River and eliminate fish stranding potential. The hybrid poplars will be removed. Woody vegetation and ladder fuels will be removed. Prescribed fire will be brought back to the oak savanna area. Native grasses and forbs will be planted. Partners include the landowner and the Bureau of Land Mgmt.

Review Team Evaluation

Strengths

- The proposed project will restore a mosaic of habitats and habitat connectivity that will benefit multiple native species, including wildlife and pollinator species. Proposed actions include restoring fish passage, stream channel connectivity, and oak and prairie habitats.
- The proposed restoration investment will leverage and expand habitat connectivity with previous restoration projects near the project site.

- Specific actions identified in local and regional plans will be implemented.
- Archeological and botanical surveys will be conducted to inform restoration actions.
- The project provides opportunities for raising public awareness about watershed restoration.
- The landowner is actively engaged in restoration planning and implementation. The applicant has a history of building long term relationships with landowners that result in effective restoration projects.
- The applicant has relevant experience and staff capacity to manage the project.
- The application includes a detailed budget that are reasonable for the proposed restoration actions.

Concerns

- The application has a lot of project components, and it is difficult to understand how some of the objectives will be met.
- The application lacks details describing how the stream work objectives will be achieved because these project components are still to be designed by a consultant. It is difficult to determine whether the restoration approach is appropriate for the site without clearly defined methods.
- The restoration approach for the portion of the project planned for Wilson Creek could be missing an opportunity to more fully restore watershed function across the stream valley. Wilson Creek was historically ditched to drain the valley, similar to unplugging a bathtub to drain the water . The old stream channel that existed before ditches were installed is still present but is hydrologically disconnected. The proposed restoration approach is to build a new channel instead of reconnecting the existing, historic channel. There is a potential alternative to instead restore the water table back to the valley bottom by filling the ditch, which would be like putting the plug back into the bathtub. Wilson Creek provides a fantastic restoration opportunity to restore the historic hydrology. The proposed approach may result in an over-engineered solution that is not necessary to achieve the restoration goals. It is unclear from the application what the rationale is for selecting the proposed engineered approach.
- It is unclear whether timing of the plantings will be sequenced to allow time to monitor how the site hydrology responds after stream restoration objectives are complete so that planting plans will result in installing species that match new site conditions.
- The rationale for the restoration actions described in Objective 4 for the mill pond is unclear. There is a risk for there to be limited flow and fish stranding that will limit the resulting habitat benefits.
- The budget includes significant cost estimates for cultural resources survey that includes contractors and honorariums for individuals from the local indigenous community and Confederated Tribes of Grand Ronde and Confederated Tribes of Siletz Indians to visit the site and provide feedback. Without letters of support from the Tribes, it is unclear if the Tribes prefer to participate in restoration as proposed in the application. Tribes typically engage in restoration projects through review of an Inadvertent Discovery Plan (IDP); however, the application lacks information describing an IDP. Furthermore, if the stream restoration approach can be revised to fill the existing channel to restore the valley hydrology instead of digging a new channel, the proposed level of archaeology is not likely needed.

- It is unclear whether the applicant and landowner have identified a strategy for effective long-term stewardship and maintenance of investment in restoring plant communities. It may not be realistic to achieve the proposed plant community restoration goals without a proactive plan for maintenance. The structural attributes of the prairie habitat are currently maintained by grazing. The landowner plans to reduce grazing in the future and it is unclear how that prairie structure will be maintained long term. The application indicates some possible tools that will be considered for long-term maintenance include some grazing and prescribed fire. Herbicides will not be used in order to facilitate potential opportunities for Tribal plant collection; however, the Tribes would not use a 270-acre geography for collection. Tribes manage lands by identifying portions that will be managed for collection and will selectively use herbicides in other locations to maintain habitats. Maintaining a site of the project size without herbicides will be challenging. Since it is unclear if any portion of the site will be used for collection, the reason for eliminating selective herbicide use as a tool for controlling weeds may not justify the resulting level of risk to achieving proposed habitat goals. It is unclear if the restoration strategies are site appropriate without more information on how Tribes and members of the local indigenous community will utilize the site.
- Final designs for the stream work could result in revised project costs, causing the estimates in the application to no longer be sufficient for completing the restoration.

Concluding Analysis

The project property offers significant restoration opportunities to restore diverse native habitat types with a landowner actively engaged in the restoration project. The applicant has made considerable effort to integrate into restoration approaches protection of cultural resources and Tribal access to culturally important plant communities. Additional information is needed to understand how these efforts are necessary for achieving the restoration objectives and how restoration planning is integrating how Tribes and members of the local indigenous community will utilize the site. Also, there may be a missed opportunity for holistically restoring watershed function on Wilson Creek that would provide a higher benefit for the restoration investment. If the application is resubmitted, the applicant is encouraged to address the concerns described above. The applicant may also consider submitting a technical assistance grant to complete project planning work for the stream restoration components and to work with Tribes and members of the local indigenous community to define how the site will be used so that restoration prescriptions can be more clearly defined.

Review Team Recommendation to Staff

Do Not Fund

Review Team Priority

N/A

Review Team Recommended Amount

\$0

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Do Not Fund

Staff Recommended Amount

\$0

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Willamette Basin (Region 3)

Application Number: 222-3021-22355

Project Type: Restoration

Project Name: Urban Stormwater Improvements &
Climate Resilience Demonstration

Applicant: Long Tom WC

Region: Willamette Basin

County: Lane

OWEB Request: \$101,879

Total Cost: \$157,213

Application Description Location: Eugene Friends Meeting House 2274 Onyx Street Eugene, Oregon

Need: This site impacts the Upper Willamette River (UWR) Chinook evolutionary significant unit (ESU). Eugene is the largest urban area in the Upper Willamette Basin, and the primary contributor of high temperatures, heavy metals, petrochemicals, and emerging pollutants such as PFAS and 6PPD-quinone - all of which are known to impair fish survival, especially coho salmon. Likewise, the best management practice to reduce the impacts of all of these urban stormwater pollutants continues to be green stormwater infrastructure (GSI). In this project, pollutants are conveyed through stormwater generated on and adjacent to this site, entering the UWR through the Long Tom River (via Amazon Creek), which accepts untreated stormwater from over 70% of Eugene's urban areas. The Upper Willamette River, Amazon Creek, the A-3 Drain, the Amazon Diversion Canal, Fern Ridge Reservoir, and the Long Tom River are all 303-D listed Creeks for pollutants including lead, mercury, dissolved oxygen, temperature, and turbidity-all of which are recognized as common urban sourced pollutants. The City of Monroe draws the majority of its drinking water from the surface waters of the Long Tom below the Amazon Creek confluence, making the project within a drinking water source protection area. Site is a vulnerability hotspot with high percentages of people of color and low income. See R2R equity map in uploads.

Proposed Work: is to demonstrate climate resiliency strategies at a gathering space in a residential neighborhood directly adjacent to an elementary school. The site will manage stormwater from the private residences uphill of the Meeting House as well as 100% of the stormwater on site, and, in partnership with the City of Eugene, from the public street.

Partners: Urban Waters & Wildlife Partnership (UWWP) , City of Eugene, Long Tom Watershed Council (LTWC), Eugene Friends Meeting House, Edison Elementary School.

Review Team Evaluation

Strengths

- Previous application evaluation concerns are addressed.
- The application has clearly described restoration goals and objectives.

- The project offers an opportunity to demonstrate how urban stormwater reduction and ecologic restoration can be integrated together to result in sustainable climate friendly landscapes.
- The proposed project builds on work completed through previous OWEB grant investments in stormwater improvements.
- The applicant has ranked over 500 urban projects in the watershed through a previous OWEB Technical Assistance grant. The proposed project ranked toward the top of the project list. This ranking process ensures the applicant is working through the highest priorities among a long list of urban restoration opportunities.
- The proposed restoration will address actions identified in federal, state, and local watershed plans, including the recovery plan for upper Willamette chinook and steelhead, by reducing toxins from urban sources that impact fish.
- While the project footprint is relatively small in which 0.75 acres will be restored with native plantings, the impact to water quality could be meaningful by treating stormwater that will remove urban pollutants that impact fish.
- The project provides opportunities for raising public awareness about benefits of stormwater related projects to watershed health. The site is well suited to serve as a demonstration site with easy public access for tours.
- The project integrates innovative techniques to achieve a sustainable landscape, including use of biochar in soils that provides a number of benefits for new plantings, including increased water holding capacity.
- The application includes an explanation of alternatives that were identified and evaluated while planning the project.
- The applicant is engaging appropriate partners by working with the City of Eugene staff to coordinate with Municipal Stormwater Permit (MS4) activities.
- The applicant has a proven track record with similar projects and the project manager has extensive expertise for implementing the proposed restoration and experience working with the City of Eugene.
- Support for the project is demonstrated by match from diverse partners.

Concerns

- Potential measurable water quality and habitat improvements described in the application may be optimistic for the size of the project footprint.

Concluding Analysis

The proposed project provides an opportunity to demonstrate techniques for reducing stormwater and building a resilient urban watershed landscape at a highly visible location that has potential to raise awareness about stormwater impacts and voluntary retrofit projects. The investment will build on a strategic, programmatic approach to reduce pollutants in stormwater through voluntary measures and will offer an example to the community for sustainable climate friendly landscape.

Review Team Recommendation to Staff

Fund

Review Team Priority

3 of 4

Review Team Recommended Amount

\$101,879

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$101,879

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering

Willamette Basin (Region 3)

Application Number: 222-3022-22321

Project Type: Technical Assistance

Project Name: Mid-Valley River Connections:
Advancing Restoration in the Mid-Willamette

Applicant: Luckiamute WC

Region: Willamette Basin

County: Linn

OWEB Request: \$74,508

Total Cost: \$100,267

Application Description The Luckiamute (LWC), Marys River (MRWC), Calapooia (CWC), and South Santiam (SSWC) watershed councils seek Technical Assistance (TA) funding to advance project development and proposal drafting to support restoration implementation across the four basins. Spanning parts of Benton, Lane, Lincoln, Linn, and Polk Counties, these councils' service areas cover about 21 percent of the Willamette basin. Historical practices such as splash dams, log drives, logging to the water's edge, log removal, and berm development in the floodplain, as well as regulated flow regimes, have impacted aquatic and floodplain habitats in the mid-Willamette basins and mainstem Willamette. Starting with Tier One priority projects, council Project Managers and a shared, contracted Technical Specialist will survey and develop restoration projects in preparation for a large-scale, regional proposal submission in spring 2023. OWEB TA funding will support the councils' efforts to pursue and secure implementation funding made possible through the recent federal infrastructure funding bill and other state and federal opportunities. Priority projects will be focused on addressing limiting factors for recovery of Upper Willamette River Chinook salmon and winter steelhead, listed under the Endangered Species Act (ESA), as well as other native aquatic species. Remaining funding will support development of Tier Two projects and preparation for project proposals following completion of the spring 2023 regional application. Technical Assistance funds will leverage an existing partnership in the mid-Willamette, build upon prioritization processes, and advance restoration in the mid-Willamette. Project partners include the LWC, MRWC, CWC, SSWC, Bureau of Land Management, Oregon Parks and Recreation Department, United States Forest Service, and Meyer Memorial Trust.

Review Team Evaluation

Strengths

- The application describes a clear need for shared planning technical assistance across the Mid-Valley River Connections partnership to secure large-scale funding for restoration implementation in four key mid-Willamette watersheds.
- The proposed approach is technically sound.
- Resulting restoration projects will address limiting factors for Endangered Species Act-listed fish, including Upper Willamette River Chinook salmon and winter steelhead.
- Appropriate partners will be engaged to implement the project.

- The watershed councils participating in the project have a history of collaboratively working together, and each council has a proven track record implementing OWEB-funded projects.
- Costs are reasonable for the proposed work.

Concerns

- It may be challenging to find a contractor that has all the skill sets needed to provide the range of proposed technical assistance products, from project scoping to preparing a federal grant application. The applicant and partners are, however, flexible and will consider breaking up the project scope of work into parts if multiple contractors must be recruited to secure the types of expertise needed to complete the expected products.
- The partnering watershed councils may be missing an opportunity to fund and utilize in-house staff capacity with skills that could effectively complete some of the work. The partnership is concerned they do not have experience without contracted assistance to prepare a strong, competitive federal grant application for the scale of funding that will be requested.

Concluding Analysis

The proposed project is a novel approach for scaling up technical capacity to prepare for the upcoming influx of federal funds expected to become available for restoration projects. By pooling resources to pursue large scale implementation funding, the partnering organizations are more likely to secure funds to move significant projects forward that will benefit priority native fish species.

Review Team Recommendation to Staff

Fund

Review Team Priority

1 of 4

Review Team Recommended Amount

\$74,508

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$74,508

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering

Willamette Basin (Region 3)

Application Number: 222-3023-22339

Project Type: Technical Assistance

Project Name: Lower Bear Creek Floodplain
Restoration Design at Turtle Pond Farm

Applicant: Long Tom WC

Region: Willamette Basin

County: Lane

OWEB Request: \$72,229

Total Cost: \$104,199

Application Description The technical assistance project is located on a 270-acre private property protected by a conservation easement on Bear Creek near its confluence with the Long Tom River, just north of Cheshire, in Lane County. A dam on Bear Creek blocks fish passage to 23.5 miles of habitat for native fish, a series of constructed features alter wetland hydrology, and rare, native plant communities are threatened by non-native plants, encroachment by woody vegetation, and fire suppression. The project will develop hydraulic and hydrologic models for the property, analyze restoration alternatives, develop conceptual restoration designs, and plan for the return of prescribed fire to the project area. Project partners include the private landowner, the Natural Resource Conservation Service, and the U.S. Fish and Wildlife Service Partners for Fish and Wildlife Program.

Review Team Evaluation

Strengths

- The application clearly outlines the proposed project components.
- There is a clear need for the proposed technical assistance because the project site is a complex, highly altered system where the hydrology has been significantly impacted by berms, ditches, water control structures, and a dam. There are multiple built structures that must be considered while examining the potential impacts that could occur from changing the site to restore fish passage and wetland hydrology. For example, the analysis will include an assessment of the potential risk of flooding to the landowner's home site.
- There is significant opportunity to restore interconnected wetlands on the project site, which is located in a flat, low elevation geography that is ideal for improving wetland functions.
- Appropriate data will be collected that will include low-elevation aerial imagery and LiDAR that will provide surface elevation information. Data will be analyzed to inform restoration designs by developing hydraulic and hydrologic models to examine peak flows, low flows, and flow duration. This will allow the applicant to look at water elevations at different flows to determine what actions are needed to meet restoration objectives for connecting wetlands and increasing the floodplain area. The analysis will also be used to evaluate fish passage alternatives and potential impacts of restoration alternatives.
- Botany surveys will be conducted by the applicant to identify plants present on the site and form a plan for restoring and managing native plant communities.
- A combination of qualified consultants and in-house expertise will be utilized to complete the technical assistance work.
- The applicant is working with qualified fire management experts to create a prescribed fire plan.

- Appropriate partners with related expertise are engaged in the project, including United States Fish and Wildlife Service and Natural Resource Conservation Service staff that will assist the applicant with evaluating the cost-benefit of different restoration options.
- An existing permanent conservation easement will protect future restoration investments over the long term.

Concerns

- Additional detail describing restoration alternatives that could be considered and the processes or steps that will be used to create the restoration, fire, and vegetation plans would be helpful for better understanding the planning approach.
- The technical assistance project will result in a 10-30% conceptual design product, and it is unclear how the applicant and partners plan to reach 100% project designs to implement future restoration. Given the complexity of the site, a 10-30% design product that identifies alternatives may be appropriate to provide information that can be used by the applicant, partners, and landowner to determine the most viable restoration approach before advancing the design work.

Concluding Analysis

The project site is located on Bear Creek near the confluence of the Long Tom River with the Willamette River. The dam located on the project site impedes passage to 23 miles of upstream fish habitat; restoring fish passage will result in significant stream habitat connectivity. The proposed technical assistance will provide information needed to understand the potential impacts of restoration alternatives. The project has a high level of complexity along with a high potential for resulting in restoration with significant habitat benefits for native fish and wildlife species and plant communities.

Review Team Recommendation to Staff

Fund

Review Team Priority

3 of 4

Review Team Recommended Amount

\$72,229

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$72,229

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering

Willamette Basin (Region 3)

Application Number: 222-3024-22346

Project Type: Technical Assistance

Project Name: Changing Channels: Fish Screening, Passage and Restoration on Crabtree Creek

Applicant: South Santiam WC

Region: Willamette Basin

County: Linn

OWEB Request: \$75,000

Total Cost: \$107,153

Application Description The work proposed in Changing Channels: Fish Screening, Passage and Restoration on Crabtree Creek would occur on a reach of Crabtree Creek that extends approximately 0.6 miles upstream from the historic Larwood Covered Bridge. Crabtree Creek is a large tributary of the South Santiam River, and is designated critical habitat for federally-listed Upper Willamette spring Chinook Salmon and steelhead. It is also home to other locally important species, such as cutthroat trout and Pacific Lamprey. Over the last four decades, this reach of Crabtree Creek has experienced significant changes in channel morphology and location, due in part to land use practices that have resulted in a simplified channel and reduced riparian function. Lateral channel migration has resulted in active and extensive streambank erosion. This has a deleterious effect on aquatic habitat and water quality, makes operation and maintenance of the unscreened Gaines Irrigation District's headgate problematic, and is threatening to undermine a key county road. On behalf of the stakeholders involved in this project-- GID, ODFW, Linn County Roads Department, and local landowners-- the South Santiam Watershed Council (SSWC) is applying for this TA grant to develop a solution that address the whole suite of challenges present in this reach. We propose to secure the specialized services of a environmental design and engineering firm to evaluate and quantify current conditions, develop actions for treatment areas, and, with feedback and guidance from a technical team, bring actions forward into 30% and then 60% design plans. The 60% design plans would be sufficient to begin the permitting process, and poise SSWC to pursue implementation funding for this work. We intend to add this project to a regional portfolio of projects for consideration under NOAA's CHRP funding opportunity in 2023. The \$1 million threshold for application makes regional coordination critical of shovel-ready projects critical.

Review Team Evaluation

Strengths

- The application describes a clear need for prioritizing the proposed technical assistance design project to restore stream function and resilience in Crabtree Creek.
- The future restoration project will improve fish passage on a stream prioritized for Endangered Species Act (ESA)-listed fish recovery.

- Appropriate technical and engineering approaches, including hydraulic and a geomorphic analysis, will be used to better understand site conditions and determine restoration alternatives that will provide the greatest benefit to fish.
- An alternatives analysis will be completed as part of the technical assistance project.
- The applicant has a well thought out communication strategy that will utilize 30% designs to solicit feedback from stakeholders and make necessary design adjustments before proceeding to 60% designs. This will increase the likelihood for gaining stakeholder buy-in at different design stages and support for the future restoration project.
- The applicant has sufficient capacity to complete the proposed project.
- Costs are reasonable for the proposed technical assistance work.

Concerns

- Road improvement, safety, and protection is a driver for the project that could result in a design approach focused on a revetment solution to address concerns related to lateral stream channel migration that might impact public roads. This would have limited watershed benefit by addressing a symptom of watershed degradation instead of causes.
- The application cites water temperature improvements as a potential benefit from the future restoration project. It is unclear how addressing fish passage will improve water quality.
- There are minor errors in the application budget. For example, a barometer is listed for two line items.

Concluding Analysis

The project is located on a 6/10-mile reach of Crabtree Creek that is highly impacted due to a combination of gravel deposition, influence of dams on water flows, water withdraws, and a history of using push-up dams to divert flows to an irrigation intake. The resulting restoration solution will require a highly engineered approach, which is warranted given the potential benefit to ESA-listed fish trying to use the stream for habitat. The technical assistance product is needed to develop future restoration project proposals for the expected influx of federal funds.

Review Team Recommendation to Staff

Fund

Review Team Priority

4 of 4

Review Team Recommended Amount

\$75,000

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$75,000

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering

Willamette Basin (Region 3)

Application Number: 222-3025-22358

Project Type: Technical Assistance

Project Name: Harborton Wetland Amphibian Underpass Project

Applicant: Oregon Wildlife Heritage Foundation

Region: Willamette Basin

County: Multnomah

OWEB Request: \$74,800

Total Cost: \$245,289

Application Description Annually, hundreds to thousands of Northern red-legged frogs (*Rana aurora*, RAAU) migrate across Highway 30 to get from non-breeding upland habitat in Forest Park to wetland habitat in Harborton Wetland to breed and lay their eggs. It is estimated that cars kill hundreds of RAAU on Highway 30. RAAU are a state sensitive species and a Species of Greatest Conservation Need in the Oregon Conservation Strategy. The conservation status of RAAU makes retention of robust populations throughout their range a priority. Construction of a wildlife underpass would decrease vehicle-related mortality while increasing the size of this population with the aim of maintaining this population into the future. Prior to construction a feasibility study, conceptual, preliminary, and final designs must be created. We are asking for an OWEB technical assistance grant to help fund the design costs. These will detail where an underpass can be constructed given topography, land ownership, and geotechnical constraints, provide a final design that encourages RAAU use and survival, and have Oregon Department of Transportation (ODOT) approval. Our project has support from 10+ partner organizations and 100+ volunteers. These volunteers are part of the Harborton Frog Shuttle, established to reduce vehicle-related mortality of RAAU by moving RAAU across Highway 30. The shuttle has moved and collected data on 6,000+ RAAU in seven years, but the investment to recruit, train, and coordinate volunteers is not sustainable. A wildlife underpass is a long-term solution that provides high conservation outcomes for RAAU and increases habitat connectivity and migratory access between Forest Park and Harborton Wetland, both of which lie within Conservation Opportunity Areas of the Oregon Conservation Strategy.

Review Team Evaluation

Strengths

- The project will benefit Northern red-legged frogs, which is a priority species in the Oregon Conservation Strategy.
- There is a clear need for a design solution that will increase Northern red-legged frog habitat connectivity between Portland's Forest Park and Harborton Wetland, a known priority habitat for breeding frogs.
- There is exceptional community involvement and public engagement in the project that includes an enthusiastic volunteer base that will ensure the future underpass will maintain effective functionality.
- Significant support from partnering agencies is demonstrated by providing permitting assistance, design review, and match contributions.

- Appropriate stakeholders will be engaged as part of the project, including United States Fish and Wildlife Service and Oregon Department of Transportation (ODOT).

Concerns

- The application has a limited number of letters of support documenting partner project support. A letter of support from ODOT would strengthen the application by providing evidence that ODOT is likely to move forward with implementing a future passage restoration project on a major highway.
- The project area includes a railroad grade and it is unclear from the application whether the railroad company will support the future restoration project.
- Additional information on examples demonstrating wildlife crossings that have been successfully used for similar species would strengthen the application. While wildlife crossings are not a completely new concept and have been used in other places and for other species, it would be helpful to see evidence of proven success for similar wildlife crossing approaches.
- Additional details describing the rate of current Northern red-legged frog mortality at the Highway 30 crossing would be helpful to understand the extent of the problem to be addressed and the priority for investment.

Concluding Analysis

A group of volunteers have been shuttling native Northern red-legged frogs since 2014 across Highway 30 after observing significant mortality when the frogs migrated from Forest Park to Harborton wetlands. The highway bisects Northern red-legged frog habitat, disrupting habitat connectivity and migration to breeding habitat. The frog population is not sustainable without successful crossing down to the Harborton wetland for breeding. The proposed technical assistance is likely to position a future restoration project for federal funding to provide passage for Northern red-legged frogs to access their breeding habitat.

Review Team Recommendation to Staff

Fund

Review Team Priority

2 of 4

Review Team Recommended Amount

\$74,800

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$74,800

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Willamette Basin (Region 3)

Application Number: 222-3026-22330

Project Type: Monitoring

Project Name: Rapid Bio-assessment/LFA Light of the Pudding River Streams 2023

Applicant: Pudding River WC

Region: Willamette Basin

County: Marion

OWEB Request: \$95,902

Total Cost: \$126,044

Application Description The Pudding River Watershed is an eastside Mid-Willamette Valley/Western Cascades drainage area in Marion County that encompasses approximately 525 square miles. This ecologically diverse watershed provides crucial flowing water habitat for state and federally listed aquatic species (ESA Upper-Willamette River Winter Steelhead Trout and Spring Chinook Salmon) and culturally relevant species (Pacific Lamprey, Coho Salmon and Cutthroat Trout).

The RBA/LFA Light of the Pudding River Streams 2023 is necessary: to fill data gaps in the salmonid abundance/distribution inventory in the Pudding River Watershed; to provide a second enhanced dataset at Year 9 for streams previously inventoried; to continue monitoring for the protection of Drift Cr, and to visually document the methodology and physical habitat characteristics. Additionally, current and enhanced data will provide information needed to collaboratively prioritize and plan stream restoration at the Molalla-Pudding subbasin scale.

The project will be implemented in three stages: 1) Before summer field season – The Council will compile existing datasets from the technical partners while Bio-Surveys develops a landowner spreadsheet and gathers landowner permissions; 2) During the field surveys – The Council will visually document the survey process and the habitat characteristics for communication with the public while Bio-Surveys conducts approximately 100 miles of snorkel surveys and limiting factors analysis; 3) After the field surveys are complete, the Council and Bio-Surveys will conduct data analysis, data sharing, public engagement, and restoration project prioritization.

The comprehensive collaborative partnership that will oversee the project's success includes state and non-governmental organizations: Clackamas SWCD, Marion SWCD, Native Fish Society, Oregon Department of Forestry, Oregon Department of Fish and Wildlife, Molalla Riverwatch, and PRWC volunteers.

Monitoring Team Evaluation

Monitoring Team Strengths

- The proposed project will complement the redd survey data that the Native Fish Society is collecting in Butte Creek.
- The proposed project will complement the Rapid Bioassessment (RBA) data that was collected in a majority of the same reaches in 2014.
- The applicant will engage a technical advisory committee (TAC) to compile existing data, review results and use the information to inform future monitoring and restoration efforts.
- The applicant recognizes the limitations of collecting a single year of RBA data though some greater justification for the single year approach would strengthen the proposal.
- The applicant's contractor will follow established RBA methods that are professionally accepted.
- The tributaries selected for monitoring were informed by both reviewing the RBA 2014 data and GIS analysis that have appropriate gradients for salmonid rearing.
- The contractor is qualified to collect and analyze the data and have a proven work history to summarize and present the information comprehensively.
- A final report will be produced, and information will be distributed through presentations, engagement with the TAC and posting it on NRIMP and STREAM NET.
- The applicant will be using drone footage and other imaging linked together to provide an outreach product to engage and inform the community before, during and after the data is collected to discuss how the data can be applied to support restoration.
- The budget appears to include appropriate costs to implement all the stated objectives including the community engagement component.

Monitoring Team Concerns

- The application proposes to engage the TAC; however, it is unclear how they will process and review the data to prioritize restoration actions across a large geographic area.
- It is not clear if the community engagement effort will reach and affect the audience's perspective described in the problem statement.
- In general, the application does not describe how the data will be analyzed to determine if the habitat changed by using the 2014 RBA.
- The application does not describe quality assurance and quality control (QA/QC) measures for data collection and management.
- The discrepancy between the federal and state fish distribution data is a versioning issue. STREAM NET is using an older version of the state fish distribution data, so the need to update the STREAM NET layer is not applicable to this project.
- It is unclear if the watershed council can perform all the outreach components proposed in the application.
- It is not clear if the proposed approach to distribute an email survey is sufficient to answer the social engagement questions posed in objective 3.

Monitoring Team Comments

Recommendation:

- Engage the individuals cited in the problem statement to be involved in the project work and results.

Review Team Evaluation

Strengths

- There is a clear need to collect the proposed Rapid Bio-Assessment data to update information from the 2014 Rapid Bio-Assessment.
- The proposed monitoring project is likely to lead to future restoration by providing updated technical information about the Pudding River watershed that will be used to prioritize collaborative landscape-scale restoration actions.
- The proposed monitoring will provide information to better understand the presence and distribution of Endangered Species Act (ESA)-listed fish along with habitat conditions, including locations of thermal refugia and fish passage barriers preventing access to priority stream habitat. The resulting Limiting Factors Analysis will be used to inform strategic restoration prioritization at both the Pudding River Watershed and Molalla-Pudding Subbasin scales.
- The project includes outreach to communicate with landowners and community members about the monitoring work and what the results are indicating about watershed conditions and restoration opportunities, which will likely build energy and support for future restoration.
- The application includes letters of support indicating how partners plan to use the data.
- Appropriate technical experts are engaged in the project.
- The project team has capacity to evaluate the data and compare it with the 2014 conditions.
- The estimated project costs are reasonable to accomplish the proposed monitoring objectives.

Concerns

- The application lacks details describing how new data will be compared with the 2014 data and how restoration projects will be prioritized based on the data collected.
- The community engagement elements for communicating about the monitoring project are unique and require considerable investment in outreach related equipment and materials. There is some uncertainty for whether this investment in high technology equipment will result in the applicant effectively engaging target audiences.

Concluding Analysis

The applicant has effectively used the previous 2014 Rapid Bio-Assessment monitoring results to identify and pursue restoration projects. The proposed monitoring project will provide updated data to inform restoration, and the outreach components provides opportunity to engage community members in monitoring that could lead to early support for future projects.

Review Team Recommendation to Staff

Fund

Review Team Priority

2 of 2

Review Team Recommended Amount

\$95,902

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$95,902

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering

Willamette Basin (Region 3)

Application Number: 222-3027-22334

Project Type: Monitoring

Project Name: Marys River Watershed Council
Monitoring Phase 1

Applicant: Marys River WC

Region: Willamette Basin

County: Benton

OWEB Request: \$97,923

Total Cost: \$125,404

Application Description The Marys River Watershed Council (MRWC) proposes to collect continuous temperature data from surface waters in the Marys River River Watershed during the summer months of 2023 and 2024. This is a continuation of an existing trend temperature monitoring program begun thanks to matching support from Meyer Memorial Trust as part of the Model Watershed program. The goal of this program is to continue to fill a data gap of stream temperatures and trends in key locations to inform prioritization and planning for restoration projects. Sites are selected to characterize priority tributaries and stream reaches, detect trends, and collect baseline data. The MRWC proposes to deploy 35 monitoring stations within Benton and Lincoln Counties. These include the continuation of 15 active stations in the middle and upper Marys River watershed, reactivation of 7 historical monitoring stations, and addition of 13 stations at new locations of interest. Work will include field deployments, midseason checks, and retrieval of loggers, as well as data analysis. The MRWC will also implement appropriate quality assurance and quality control measures to ensure high-quality data that meets A-level standards, as defined by the Oregon Department of Environmental Quality (DEQ). As a result of this proposed work, 15 of the 35 proposed monitoring sites would have a total of 13 years of data. The MRWC will conduct an analysis of the full dataset to assess trends and examine relationships with external drivers of temperature. The MRWC will share data through presentations, landowner summaries, and will submit data to DEQ. Project partners include field and technical volunteers, private landowners, OSU Extension Service, City of Corvallis, Benton County Public Works, and the Luckiamute Watershed Council.

Monitoring Team Evaluation

Monitoring Team Strengths

- The proposed project will complement existing data that the applicant has collected since 1999.
- The proposed project will engage and collaborate with others in the watershed that are collecting water temperature data to ensure consistent methods, identify data gaps, and share data.
- In general, the monitoring questions are answerable with the proposed monitoring approach.
- Site selection was informed by the existing site network to characterize watershed conditions and the monitoring frequency is based on the applicant's interest to capture the warmest part of the year that impacts salmonids.

- The applicant will follow standard procedures to collect continuous data, which is described thoroughly in the application, including pre-deployment accuracy checks, field audits and how the loggers are deployed in the stream.
- The applicant will write a Sampling and Analysis Plan (SAP) and submit it to DEQ for approval.
- The applicant will take a variety of steps to manage the water temperature data and quality control and assurance steps to ensure data is of high quality including storing the data on their office computers, on portable back-up hard drives, and on the Google Drive data cloud.
- The applicant staff have experience collecting water temperature data, and the proposed budget is adequate to cover staff expenses.
- A final report will be written that includes the data analysis and interpretation of results. The findings will be reported to the applicant's staff and Board after analyses are completed.
- The findings will be distributed to the landowners providing access to their properties and agency and local partners such as Benton County, Benton SWCD City of Corvallis, OSU Extension, and Starker Forests.
- The data will be submitted to DEQ to be stored in their database, AWQMS.

Monitoring Team Concerns

- The critical period to collect water temperature is extending due to climate change. Data collection in April and October may be needed to fully capture water temperature dynamics.
- The application proposes to work with technical experts to complete the full dataset analysis to understand trends, but little detail is provided to understand how the trend analysis will be done and who the experts are and if they are committed to assisting in this part of the project.
- The application does not describe how the water temperature data will be analyzed to understand the variables affecting water temperature conditions, such as air temperature, geology, and streamflow.
- Given the lack of capacity that hindered the applicant's ability to successfully manage this monitoring effort when Meyer Memorial Trust was funding this project, it is not clear if there will be sufficient capacity to fulfill the future phases described in the application.
- It was not clear where the water temperature sites, stream flow, and weather stations are located to understand if the data will correlate.

Monitoring Team Comments

Review Team Evaluation

Strengths

- The application is clear and concise.
- Monitoring will occur in areas that were identified as critical habitat for steelhead and chinook salmon.
- The proposed monitoring will support Department of Environmental Quality's (DEQ) Total Maximum Daily Load implementation.
- The applicant will update monitoring protocols and analysis and work with DEQ to include quality assurance and quality control procedures.

- The applicant has capacity for the proposed monitoring project through shared staffing with a neighboring watershed council.

Concerns

- The number of sites proposed for the monitoring project includes a combination of locations where data is currently collected, sites where data was previously collected that will be re-initiated after being dropped due to funding constraints, and new sites. It is unclear how the total number of sites were determined and how the applicant will handle the long-term trend analysis with some sites lacking consistent data.
- It is unclear from the application how the applicant has documented observations from previously collected data and utilized that data to learn about water quality trends to inform future monitoring and restoration. Additional information describing how previous data is being used would be helpful for understanding how the proposed monitoring complements existing data.
- Additional information explaining how the data will be analyzed and used is needed to better understand how the proposed monitoring will lead to information critical to the state of knowledge about the Marys River watershed and will answer key questions to inform watershed restoration planning.
- In addition to stream temperature data, information will be collected for air temperature and streamflow. It is unclear from the application how these factors will be tied together during the data analysis.

Concluding Analysis

Without information describing how previously collected data is being used, it is unclear whether additional monitoring data will be used, how the proposed data collection builds on previous monitoring efforts, and whether the monitoring activities are necessary for informing future restoration

Review Team Recommendation to Staff

Do Not Fund

Review Team Priority

N/A

Review Team Recommended Amount

\$0

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Do Not Fund

Staff Recommended Amount

\$0

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering

Willamette Basin (Region 3)

Application Number: 222-3028-22345

Project Type: Monitoring

Project Name: Status and Trend (LCRI & PNW Research Station)

Applicant: Lake County Resources Initiative

Region: Willamette Basin

County: Marion

OWEB Request: \$282,116

Total Cost: \$461,794

Application Description Recent record large-scale wildfires may influence the trajectory of forest ecosystems in ways that affect achievement of long-term management objectives. Postfire restoration activities (such as salvage logging) are common for building forest resilience following large wildfires yet can be controversial. Most of federal managed forest lands will receive passive (will not be treated) management placing these areas on a trajectory of elevated woody fuel loadings, increased subsequent wildfire behavior, reduced conifer regeneration, reduced habitat loss for species associated with late-seral forests, and potential forest type conversion. Managers need quantitative data to show the long-term ecological consequences of passive management. We are collaborating with many partners to establish a network of permanent long-term monitoring plots to collect local site-specific postfire empirical data. Our proposed monitoring project will use a combination of field measurements, forest simulation and statistical modeling to quantify current and future postfire stand structural characteristics (e.g., snag density, woody fuel loadings, shrub loading, seedling regeneration) of large contiguous, stand-replacing (100% tree mortality) patches within the perimeters of 2020 Labor Day “mega-fires” (e.g., Lionshead, Beachie Creek, Holiday Farm, Riverside, Archie Creek), and 2021 Bootleg wildfire. Project partners include US Forest Service Pacific Northwest Region 6 Ecology group, Umpqua National Forest, Willamette National Forest, Mt. Hood National Forest, Bureau of Land Management Northwest Oregon District, Bureau of Land Management Northwest Roseburg District, Fremont-Winema National Forest, Klamath Watershed Partnership, Lake County Resources Initiative, American Forests, Klamath Tribes, Klamath-Lake Forest Health Partnership (KLFHP), Green Diamond, Collins Pine, The Nature Conservancy Sycan Marsh, and Oregon Department of Forestry.

Monitoring Team Evaluation

Monitoring Team Strengths

- The letters of support describe how local land managers will use the information to inform long-term fuels management for resiliency and help forest managers make informed post-fire management decisions using a defensible basis in future environmental impact analyses.
- The data to be collected in the proposed project will complement the USFS Forest Inventory and Analysis (FIA) data that will help understand fire impacts across extensive landscapes.
- The application provides a thorough explanation of how the sampling sites will be located using GIS and local forest staff information.

- The application proposes to collect data over 2 years to describe current conditions and use predictive models to answer a majority of the monitoring questions.
- The applicant will follow monitoring methods from well established procedures from the US Forest Service Research (USFS) stations, literature, and Bureau of Land Management (BLM).
- The applicant's contractor will follow the USFS Research and Development QA Policy, which includes multiple steps to train field techs on how to follow established standard protocols, pairing experienced crew members with new crew members, and performing frequent calibration checks among field staff during data collection.
- The data will be collected on established data sheets and double-checked in the field before leaving the site. The data will be entered and archived in custom-designed spreadsheets to guarantee proper format and data structure. All manual data entry will be double-checked by a second technician to ensure accuracy.
- The applicant is working with a qualified contractor with relevant experience. The project partners have relevant experience to apply the data collection and analysis methods in a successful manner.
- The applicant has engaged appropriate technical experts and local land managers who are familiar with the landscape and available data to identify monitoring sites and share information to be applied in the intended manner. The letters of support further describe the role the technical experts will play in the project.
- The applicant currently works with community stakeholders in the forest collaborative in OWEB Region 4 so the information will be shared with the relevant groups for the Bootleg Fire.
- The budget includes detailed costs and appears to be adequate to complete the project timeline that spans over four years.

Monitoring Team Concerns

- The application does not describe the available data to understand how post-fire management actions affect fuel loading, tree reestablishment, and fire behavior.
- The application does not describe how the proposed project will complement the monitoring sites that the BLM installed at the Beechie Creek fire.
- The project activities do not always show a clear path on how they will lead to answering the monitoring question posed in the objective.
- The study design does not describe the frequency of data collection and while this project proposes to collect data over 2 years it is not clear what the plan is to return to these long-term monitoring sites over time.
- The last objective and project management table describes that reports, maps and scientific journals will be produced but there is little detail on this in the application. It is not clear if a single final report with all of the monitoring components will be written or if the project results will be documented in several reports grouped by each fire.
- It is not clear how the applicant plans to share information beyond the USFS, BLM and large industrial forest landowners.
- It is not clear how the applicant plans to engage with local community stakeholders near the 2020 Labor Day wildfires, since the application only describes how the community stakeholders will be engaged near the 2021 Bootleg Fire.

Monitoring Team Comments

Recommendation:

- ODFW is proposing a study of wildfire impacts to terrestrial wildlife and may be interested in coordinating on this project.

Review Team Evaluation

Strengths

- The applicant has the technical expertise for implementing the proposed monitoring project.

Concerns

- It is unclear how the resulting monitoring data will lead to on-the-ground restoration projects. The application indicates the data will be provided to managers to prioritize forest management strategies; it is unclear how this can result in watershed restoration projects. Furthermore, it is unclear whether the proposed data has been identified by managers and, therefore, likely to be used to inform management strategies.
- It is uncertain whether two years of data will provide enough information to make any determinations to inform decisions about passive forest restoration versus active post-wildfire management.
- The proposed monitoring focuses on salvage logging and does not include consideration of other types of restoration treatments. As a result, the monitoring approach appears to be designed to arrive at a conclusion indicating salvage logging is needed on federal lands to interrupt a trajectory of elevated woody fuel loadings and increased subsequent wildfire behavior.
- It is unclear from the application whether complicating factors affecting forests, such as the effects of beetle kill areas, will be considered in the monitoring project design.
- Data will be collected in multiple regions of the state, and it is unclear if the applicant is familiar with and will be engaging appropriate community stakeholders in each of these areas to share results.

Concluding Analysis

The utilization of salvage logging as a restoration tool after a wildfire will require more than a management decision. Currently, there is no social license for salvage logging. It is unclear whether the proposed monitoring project includes a plan for engaging community stakeholders in addition to forest managers so that the monitoring results could lead to informing post-fire management with watershed restoration projects that protect or restore native fish or wildlife habitat, natural watershed, or ecosystem function.

Review Team Recommendation to Staff

Do Not Fund

Review Team Priority

N/A

Review Team Recommended Amount

\$0

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Do Not Fund

Staff Recommended Amount

\$0

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Willamette Basin (Region 3)

Application Number: 222-3029-22348

Project Type: Monitoring

Project Name: Informing Willamette Basin
Restoration through Freshwater Mussel Monitoring

Applicant: Willamette Riverkeeper

Region: Willamette Basin

County: Marion

OWEB Request: \$83,634

Total Cost: \$109,766

Application Description Monitoring will occur in anadromous fish-bearing reaches of the North Santiam River basin and lab analyses will take place at Utah State University. Western freshwater mussels provide benefits to streams including improving water quality, stabilizing substrate, and encouraging healthy benthic communities, all of which benefit salmonid populations. Western mussel populations are in decline and have been subject to local die-offs, habitat degradation, and loss of native fish hosts. There is a statewide dearth of information on the locations in which these cryptic animals reside, and their presence and habitat needs have historically not been taken into consideration in restoration planning. Studies of their habitat are necessary to conserve mussels and prioritize restoration of stream reaches. We propose a two-season survey effort to locate western ridged mussels, which have been proposed for listing under the Endangered Species Act, and western pearlshell mussels in the Willamette basin to obtain needed information on habitat associations. During the first season, we will collect water samples by paddle craft for eDNA analysis to gain a broad understanding of population locations. The following year, snorkel surveys to characterize mussel bed characteristics will be done where positive eDNA results were found. Results will inform future restoration actions via locality and habitat association information. A story-style web map will be created to provide information on western mussels and their importance. We will reach out to local watershed councils, land management agencies, and tribes to give context for use of results to prioritize watershed protection and restoration, and how to restore habitat specifically for freshwater mussels. This early phase project will focus on the North Santiam River basin; with the work expanded throughout the Willamette basin in the future.

Project partners: Willamette Riverkeeper ICF and the Molecular Ecology lab, Utah State Univ.

Monitoring Team Evaluation

Monitoring Team Strengths

- The application addresses the concerns identified in the previous application's evaluation including comments related to "why" they chose to focus their efforts in the North Santiam River.
- The proposed project will complement the limited freshwater mussel data collected in North Santiam and Willamette rivers, which was confirmed through a search of Xerces freshwater mussel database.
- The applicant will follow established field methods to collect samples for eDNA and will send samples to a well-established eDNA laboratory for analysis.

- By collecting a replicate at each site, they will help in understanding the detection probability and the inclusion of collecting a field blank at 15% of the sites improves quality assurance and quality control.
- The study design is informed by areas that are likely to have freshwater mussels, have access for paddle craft, and are safe to access.
- The proposed interval of 2 km for collecting water samples for eDNA analysis is based on expert knowledge regarding detectability limits of eDNA and distance from DNA sources.
- All information and data collected in this project will be made publicly available. Results will be graphically displayed on a public-facing, interactive web map for data visualization.
- The staff and contractors working on this project are well qualified and have the relevant experience to successfully collect and report the data.
- The applicant will reach out to local natural resource professionals, Tribes, and land management agencies in and surrounding the surveyed watershed to provide 1) links to the web map; 2) copies of any publications; and 3) the opportunity to follow-up with any more specific information or recommendations.
- The budget narrative describes how proposed costs were calculated and the budget is appropriate for the work necessary to accomplish the objectives.

Monitoring Team Concerns

- All of the habitat data that is being collected during the ground truthing snorkel survey are site specific substrate metrics (% embeddedness and pebble count) and stream velocity, which will not capture the reach scale geomorphic and hydrologic setting in which the mussel beds are found.
- The application does not describe a process to estimate streamflow when eDNA samples are collected.
- The application does not describe how streamflow velocity, embeddedness and pebble counts will be measured and no protocol was cited.
- It is unclear how the data will be analyzed to answer all the monitoring questions. For example, the applicant does not describe how they will determine the health of a mussel bed.

Monitoring Team Comments

Recommendations:

- Consider having the exact location of the freshwater mussels obscured in the online web application given that one of these freshwater mussels was recently proposed to be listed on the endangered species list. ODFW has experience doing this and could provide some examples of how that was done in the past.
- It would be useful to draw comparisons to eDNA and freshwater abundance determined by visual surveys in year 2. In doing so, it is important to pair estimates of stream discharge to eDNA sampling so that eDNA copy numbers can be flow corrected to reflect load, not concentration. Without flow correction, differences in dilution will cloud relationships with abundance. Even something coarse like a basin ratio method to estimate stream discharge based off a nearby gage could be helpful.

Review Team Evaluation

Strengths

- Previous application evaluation concerns are addressed.
- Freshwater mussels are an understudied species and populations are declining to the extent that one native Oregon species could be listed on the Endangered Species Act (ESA) list. There is a lack of diverse age classes among mussel beds, which is an indicator these species are in decline and could be reaching a critical tipping point. The proposed monitoring data is needed to help understand baseline for these populations.
- The proposed monitoring will provide needed information on habitat conditions that can be used to inform and guide salmon and steelhead habitat restoration to ensure these actions “do no harm” for imperiled mussel populations. This monitoring project could serve as a pilot to test the approach for collecting information about native freshwater mussels and assist restoration practitioners in preventing future inadvertent impacts to mussel beds when implementing stream restoration projects.
- Appropriate technical experts are involved in the project and information will be shared with The Xerces Society.
- Estimated project costs are reasonable and appropriate for the work proposed.

Concerns

- The snorkel surveys will likely provide site specific information that may not capture enough data to describe the diversity of existing site conditions.
- It is unclear from the application whether streamflow will be collected, which is needed when eDNA sampling is conducted.
- Additional details describing how data will be analyzed to answer monitoring questions would strengthen the application.
- Additional information describing plans for proactively building partnerships with North Santiam land managers, such as the Tribes and federal agencies managing public lands, to share data so it can inform on-the-ground actions to protect mussels would strengthen the application. This would also clarify what the potential path would be connecting monitoring to future restoration.

Concluding Analysis

Similar to lamprey, information is needed to understand the status of freshwater mussel populations in Oregon. The proposed monitoring could provide a pilot for collecting freshwater mussel population and habitat data in a basin to inform restoration and ensure these populations are not harmed when stream restoration projects are implemented. The proposed monitoring project offers an opportunity to learn more about this rare and declining species that could help prevent species decline or extinction. The resulting monitoring information could be helpful in determining a need for an ESA-listing to protect these species.

Review Team Recommendation to Staff

Fund

Review Team Priority

1 of 2

Review Team Recommended Amount

\$83,634

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$83,634

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Willamette Basin (Region 3)

Application Number: 222-3030-22349

Project Type: Monitoring

Project Name: Assessment of Anchor Habitat
Restoration in the upper Willamette River Valley

Applicant: OSU Office of Sponsored Research &
Award Admin

Region: Willamette Basin

County: Linn

OWEB Request: \$497,070

Total Cost: \$642,374

Application Description In recent decades, the Willamette Anchor Habitats Working Group (AHWG) Focused Investment Partnership (WFIP) has allocated millions of dollars for floodplain restoration in the upper Willamette River Valley. We propose to evaluate these WFIP restoration efforts directly on fish and indirectly on indicators of fish habitat including water quality, birds, canopy, and invertebrates in a cross-ecosystem project.

Our collaborators include a diverse team of local experts from USFWS, USGS, USFS, OSU, land trusts, OPRD, ODFW, watershed councils, and others. We will use the forthcoming WFIP Effectiveness Monitoring Framework to conduct an extensive 4-year program in the upper Willamette River Valley. The primary project spans 4 counties; Benton, Linn, Lane and Polk.

We will implement our synergistic cross-ecosystem project with 5 tasks in 3 phases:
Phase 1 task 1) analyze fish, water quality monitoring, and aquatic invertebrate data from historical, ongoing, and 4 priority anchor habitats and in the mainstem upper Willamette River where the floodplain has been reforested and reconnected to the river to evaluate restoration efforts.

Phase 2 task 2) conduct standardized surveys for the Yellow-billed Cuckoo, an indicator of large-scale floodplain health,

Phase 2 task 3) monitor vital rates of 8 indicator songbirds known to be associated with high quality floodplain habitat,

Phase 2 task 4) monitor terrestrial invertebrate production and associated canopy vegetation, and,

Phase 3 task 5) write a 20-year adaptive management plan informed by monitoring results to prioritize future restoration efforts.

Deliverables include monitoring datasets of fishes, birds, water quality, vegetation, and invertebrates, 3 annual reports, two MS theses, and an adaptive management plan. The monitoring effort is co-led by OSU, USGS, and USFS with project administration by OSU and leverages several Willamette River monitoring datasets that partners are interested in integrating.

Monitoring Team Evaluation

Monitoring Team Strengths

- The proposed project will leverage the existing and planned fish, water quality monitoring, and bird banding efforts. In addition, the project will also complement effectiveness monitoring being performed at some of the restoration sites under the Willamette Focused Investment Partnership.
- Monitoring for invertebrates, birds, and fish that assess an ecosystem holistically are likely to have the best success.
- Objective 4 is a sound, standard bird monitoring approach to assessing efficacy of restoration actions that will be using 8 different songbirds as indicator species of habitat quality.
- The application describes a clear path for results to be published and made available following USGS procedures in Science Base or NWIS and archived through Oregon State University.
- The staff and contractors listed in the application that will contribute to the proposed project are qualified and have the relevant experience to complete the project in a successful manner.
- The applicant has engaged the community stakeholders including those that are actively participating in the restoration and management of the properties and submitted letters of support.
- Two of the landowners, McKenzie River Trust and Greenbelt Land Trust, have volunteers engaged on these properties and will likely be involved in these monitoring efforts.

Monitoring Team Concerns

- It is not clear if the habitat restoration projects that were selected have pre-restoration data to compare the post-restoration data.
- The application is challenging to understand and has several components that have several moving pieces that need to be completed successfully to meet the proposed objectives.
- The proposed timeline is ambitious and a large portion of it hinges on the successful recruitment of two Masters students who have not yet been identified.
- Objective 2 in the application indicates that Yellow-billed Cuckoo “high probability habitats” will be selected for monitoring. It is not clear how high probability habitats will be determined. In a recent analysis to map high probability habitats for Yellow-billed Cuckoo throughout the Pacific Flyway very little habitat was identified throughout Oregon, and this project doesn’t seem to be targeting habitats that were identified in this model as possibilities.
- The Yellow-billed Cuckoo is an appropriate target species for habitat restoration, but counting this bird is not a meaningful measure of habitat quality or restoration success given that it hasn’t been observed breeding in Oregon for over 50 years.
- The application mentions control sites being sampled but it is not clear how many will be established, for what data sets and how they are incorporated into the data analysis.
- There are many variables in the large river system that could impact the results and it is not clear how the applicant will consider these variables. For example, the grab water quality data is likely to have limited value in judging the effects of restoration actions.
- The application states they will strive to collect “A” quality water quality data following DEQ procedures, but the application does not clearly demonstrate they know what these procedures are given the lack of details for the water quality monitoring portion of the proposed project.

- The applicant does not mention writing a Sampling and Analysis Plan (SAP) for the water quality portion of the proposed project and it is not clear if there is resources or time built into the budget for this to be done before monitoring begins.
- The vegetation metrics described in Table 2 are not likely to be a useful way to stratify sample sites and it is unclear if all of those characteristics will exist at all four of the properties being monitored. The vegetation characteristics described in Table 2 are too narrow and seems to be focused on Yellow-billed Cuckoos.
- The applicant states they will have the adaptive management plan reviewed by all collaborators and it will be made publicly available but does not describe how they plan to do that. Engaging the organizations that are performing the restoration and their contribution to the development of the plan is key if they will implement it once it is completed.

Monitoring Team Comments

Review Team Evaluation

Strengths

- The proposed monitoring will occur at existing restoration sites within the Willamette Focus Investment Partnership anchor habitat sites.
- The applicant has the technical expertise for implementing the proposed monitoring project.
- Data will be stored so that it will be accessible to the public.

Concerns

- While the monitoring questions are clearly stated in the application, it is unclear how the project objectives will lead to answering the monitoring questions and how monitoring results will inform the proposed management plan product that will be designed to prioritize restoration.
- The application lacks details describing the protocols that will be used, which is needed to evaluate technical soundness of the monitoring methods.
- The application lacks information describing how the proposed monitoring will integrate existing data from recent monitoring completed in anchor habitats.
- It is unclear how the variability of a large stream system that could cause noise in the data will be addressed for the project to result in a statistically valid analysis that can be effectively used to inform future restoration.
- Estimated costs per monitoring site are high and it is unclear how these costs were calculated; additional information is needed to understand whether rates are reasonable for the proposed monitoring work.
- The budget includes line items for two master's graduate students to implement monitoring elements; however, students have not been selected yet so it is uncertain if the selected students will have experience and skill level comparable to the rate and requirements for the work. The hourly rate for the graduate students is high compared to the contracted services that will utilize technicians with a higher skill level.
- The application lacks a level of detail needed to understand whether the high funding request is reasonable for the proposed work. More information is needed to understand how the project is planned and designed to answer the monitoring questions and determine whether the costs are commensurate with and necessary to successfully implement the monitoring objectives.

Concluding Analysis

The proposed project has potential for providing useful information for better understanding the benefits of riparian restoration actions implemented through the Willamette Focused Investment Partnership. It is, however, unclear how the proposed monitoring project will inform future restoration projects.

Review Team Recommendation to Staff

Do Not Fund

Review Team Priority

N/A

Review Team Recommended Amount

\$0

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Do Not Fund

Staff Recommended Amount

\$0

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Willamette Basin (Region 3)

Application Number: 222-3031-22327

Project Type: Stakeholder Engagement

Project Name: Walta Vista & River Roads Culvert Replacement

Applicant: North Clackamas Watershed Council

Region: Willamette Basin

County: Clackamas

OWEB Request: \$63,573

Total Cost: \$99,160

Application Description The Walta Vista and River Road Culverts on Boardman Creek , 48 km above the Willamette River, are the second highest priority fish barriers for the North Clackamas Watersheds Council, behind only Kellogg Dam. Lower Boardman Creek provides cold water refugia in the summer, being colder than the Willamette River, and winter/spring rearing habitat for all Willamette River salmonids. The culverts are just above the site of the Boardman-Willamette Confluence Large Wood project, currently in design for 2023 construction in partnership with secured funding from the Clackamas Partnership and funded by the Meyer Memorial Trust, Clackamas Focused Investment Partnership, Lamb Foundation, and Meyer Memorial Trust.

The removal of these fish barriers just upstream is the next priority and will increase the value of the project just downstream. A design has existed for this project since 2013, that would replace these culverts with bridges, daylight 520 feet of stream, and open 6000' feet of fish passage to McLoughlin Blvd, including 3000' of high quality habitat between River Road and Stringfield Park (OLSD, 2011), to all life stages year-round. The design has languished due to cost. However, IIJA fnds and staff transitions, and the role of the Watersheds Council provide a window of opportunity.

We will:

1. Reconvene stakeholders & revitalize the planning phase
2. Assess site changes would alter the existing design
3. Work with ODFW & NOAA Fisheries regarding changes to the design required for fish passage & new approaches that could increase efficiency & route to construction
4. Update the Right of Way Programming Estimate
5. Update Cost Estimate
6. Create a critical path and task list *& schedule for implementation
7. Position the project for funding for final design & construction through IIJA (both fish passage & transportation sources)

Partners are Clackamas County Dept. of Transportation & Development, Oak Lodge Water Services, ODF&W, NOAA Fisheries

Review Team Evaluation

Strengths

- There is a clear need to address fish passage because juvenile fish rear at the mouth of Boardman Creek and adult fish cannot access habitat due to the undersized culverts.
- The proposed stakeholder engagement work will position the project for potential funding from the Infrastructure Investment and Jobs Act funds and the applicant has a successful track record in securing similar federal fund sources.
- The project is proximal to other restoration underway in the area.
- The stakeholder engagement outreach plan is technically sound.
- Partners and contractors engaged in the project are qualified for the proposed work.
- Costs are reasonable for the proposed work.

Concerns

- The project was ready for implementation eight years ago and it is unclear why the project was not implemented. Without more information describing the previous barriers to implementation, it is unclear whether the proposed stakeholder engagement is likely to succeed in leading to restoration implementation. If the same barriers to implementation exist today, it is uncertain whether the future restoration project is feasible.
- There are few options for restoring fish passage in the project area due to existing infrastructure, including a private residence and county road. Restoration will require altering the stream channel alignment, which will impact the private residence. The application indicates that the applicant has not contacted the landowner because the county will need to follow Uniform Act processes. As a result, it is unclear if the landowner will be engaged in a voluntary watershed restoration solution.
- Potential benefits to native fish from the future restoration project will be limited because the stream conditions in the project area are marginal for fish habitat.
- If high project costs prohibited implementation eight years ago, costs may continue to limit the feasibility of the project to be implemented since restoration costs have increased significantly. A project that was estimated to cost \$3.4 million in 2013 will be significantly more today.

Concluding Analysis

Since it is unclear why the restoration project was not implemented eight years ago, there is significant uncertainty for whether the proposed stakeholder engagement will address the issues that limited previous implementation and if the future restoration project is feasible. The complex circumstances at the project site will lead to an expensive restoration project with limited watershed and fish habitat benefits for the high cost. Certainty of success could be low given the expected high implementation cost and potential lack of landowner support.

Review Team Recommendation to Staff

Do Not Fund

Review Team Priority

N/A

Review Team Recommended Amount

\$0

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Do Not Fund

Staff Recommended Amount

\$0

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Willamette Basin (Region 3)

Application Number: 222-3032-22337

Project Type: Stakeholder Engagement

Project Name: Beaver Lake Mompano Dam
Restoration Approaches to Abernethy Creek

Applicant: Greater Oregon City WC

Region: Willamette Basin

County: Clackamas

OWEB Request: \$39,551

Total Cost: \$53,951

Application Description Beaver Lake and Mompano Dam are located within the 21,573-acre Abernethy Creek watershed. The creek is a tributary of the Willamette River entering near Oregon City, below Willamette Falls. Modification of the existing fish ladder is needed to ensure native migratory fish have access to over 8 miles of high-quality spawning and rearing habitat upstream of the dam. The current fish ladder does not provide passage to Pacific lamprey, and salmon and steelhead are restricted due to excessive jump heights and turbulent flow in the ladder.

Review of a proposal to seek technical assistance in support of modifying the existing fish ladder identified several key issues related to limited watershed benefits if fish passage is improved without considering approaches to address water quality issues.

The proposed stakeholder engagement project will work to bring together multiple parties including members of the Beaver Lake HOA and surrounding community with local, state, federal and tribal natural resource managers to explore methods for addressing water quality issues in the reaches of Abernethy Creek above, below, and within Beaver Lake. Additionally, this project will seek to understand potential habitat restoration solutions within the focal area to address fish residence and develop dynamic concepts for fish ladder improvements within the larger context of habitat restoration. Access to high quality habitat upstream of the dam, as well as, downstream impacts from impaired water quality related to the lake will be assessed for creative potential solutions involving habitat restoration at multiple project sites and with a variety of partners.

The outcome of this work will be a collaborative design and engagement process to support specific project concepts at restoration sites to improve fish ladder function and shoreline riparian conditions within the larger context of upstream and downstream proposed restoration actions.

Review Team Evaluation

Strengths

- Previous application evaluation concerns are addressed by shifting from a technical assistance

design project to a stakeholder engagement project that will initiate a conversation with homeowners to consider a range of restoration alternatives.

- The proposed communication strategy and methods is technically sound and necessary to effectively engage homeowners.
- The proposed stakeholder engagement is timely to develop a restoration implementation project that could be ready for utilizing Infrastructure Investment and Jobs Act funding opportunities.
- A team with appropriate expertise is built to support the applicant staff in implementing the proposed stakeholder engagement work, including a technical team that will vet design concepts before moving forward with an engineering technical assistance project. The stakeholder engagement will provide opportunity to explore what could be possible at the site before pursuing a final design concept.
- The project is a cost-effective approach for developing restoration project concepts at sites above, below, and at the dam site.
- Project costs are reasonable for the proposed work.

Concerns

- It is unclear why the meetings will be structured to separate out restoration actions; for example, dam-focused actions are separated from the upstream and downstream restoration concepts. Pairing conversation at each meeting to discuss habitat restoration opportunities alongside potential fish passage solutions at the dam could offer a holistic view that will result in greater habitat benefits.

Concluding Analysis

The applicant converted a previously submitted technical assistance design project to a stakeholder engagement application to engage the homeowner's association along with federal, state, local, and tribal representatives in identifying habitat and water quality restoration alternatives and developing consensus for a fish passage solution at the Beaver Lake Mompano Dam. This shift in the project approach will facilitate needed conversations to move towards a solution at the dam that meets fish passage criteria along with a broader look at restoration alternatives up and downstream of the dam that could result in greater habitat improvements for the investment.

Review Team Recommendation to Staff

Fund

Review Team Priority

1 of 1

Review Team Recommended Amount

\$39,551

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

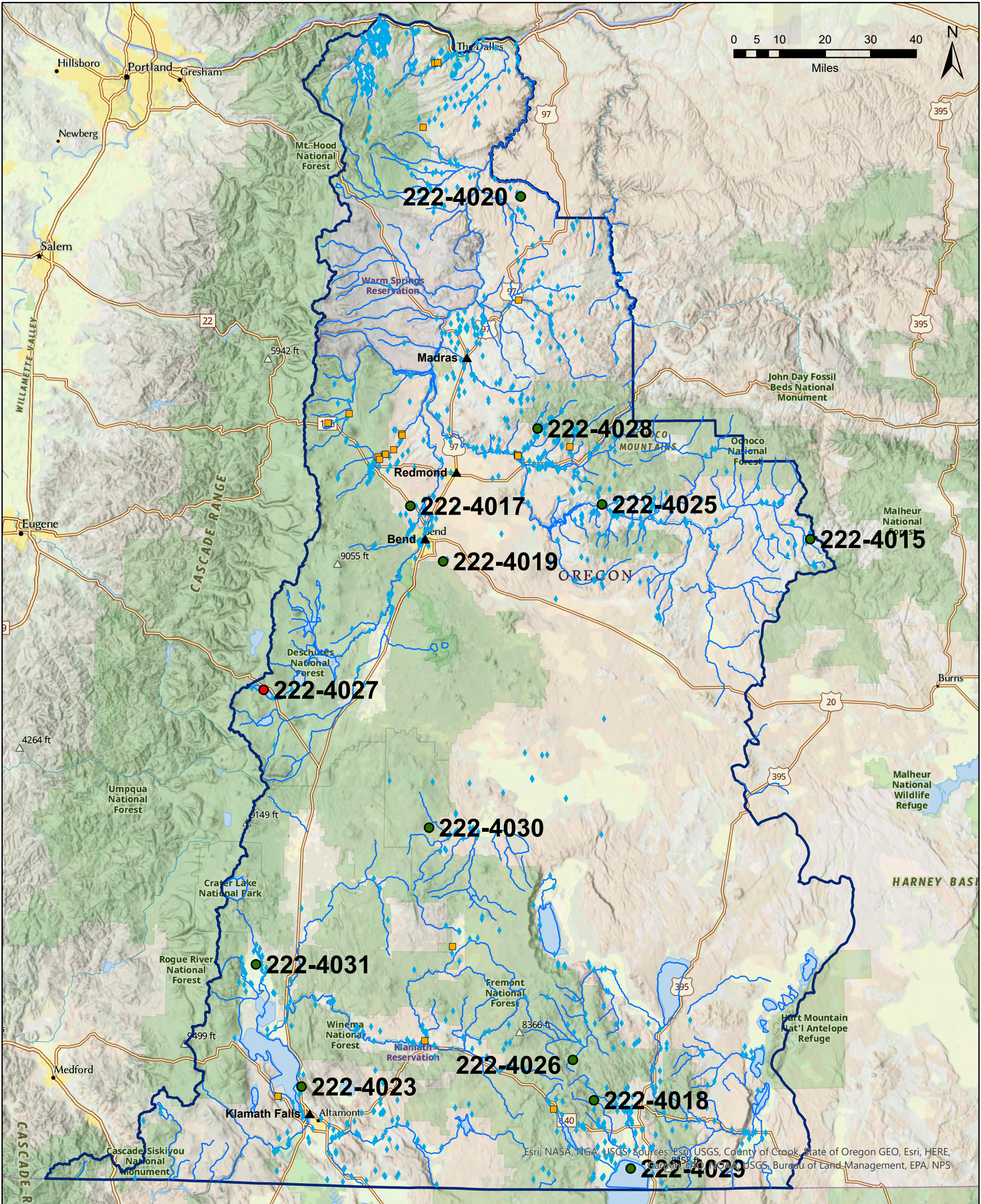
\$39,551

Staff Conditions

N/A

Central Oregon

Central Oregon - Region 4 Spring 2022 Funding Recommendations



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Funding Recommendation

- Staff Recommendation For Funding (SRF)
- Below Funding Line (BFL)

Previous Grants 1998 - Fall 2021

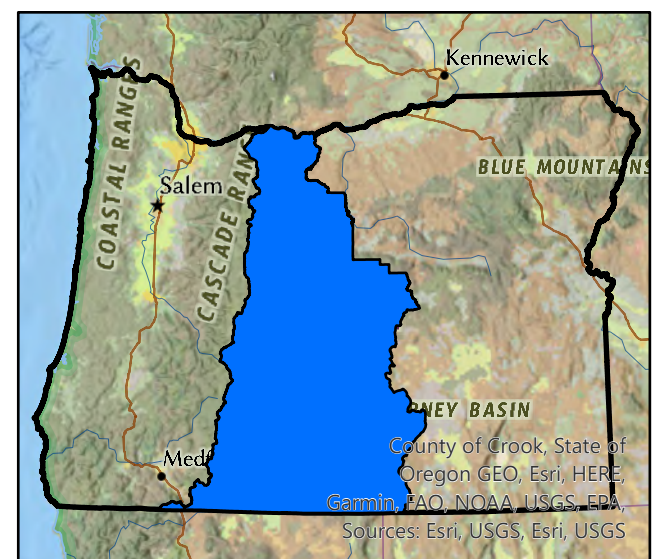
- Land Acquisition
- ◆ Restoration
- ▲ Region 4 Cities
- Region 4 Streams
- ▭ OWEB Region 4 Boundary



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County of Crook, State of Oregon GEO, Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, Sources: Esri, USGS, Esri, USGS

Region 4 - Central Oregon Restoration					
Projects Recommended for Funding in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
222-4018	Lake County Umbrella WC	Cottonwood Creek Processed Based BDA/PALS Restoration	Debris from fire salvage following the 2021 catastrophic wildfires will be used to build beaver dam analogs and post assisted log structures on 3.25 miles of Cottonwood Creek to restore healthy, complex stream habitat.	335,325	Lake
222-4015	Crooked River WC	Swamp Creek Uplands Wildlife Enhancement	Critical sage steppe and mesic habitat for upland wildlife will be improved by removing encroaching juniper, enhancing and protecting 30 acres of sensitive aspen stands, treating noxious weeds, and developing six springs.	250,164	Grant
222-4017	Tumalo Irrigation District	Deschutes Basin Flow Restoration - Group 4	Streamflow will be restored to Tumalo and Crescent Creeks by converting open canals to buried pipeline, which will also improve water quality for native fish and wildlife.	200,000	Deschutes
222-4023	Klamath SWCD	Upper Klamath Lake Agricultural Water Quality Improvement Projects: Algoma Area	Agricultural improvement projects will be implemented to reduce erosion and runoff polluting the Upper Klamath Lake and reduce water withdrawals from Barkley Spring, which is an important habitat for Lost River and Shortnose suckers.	259,113	Klamath
222-4020	Wasco SWCD	Bakeoven Watershed Upland Enhancement	Juniper removal, weed control, and improved livestock management practices covering nearly 37,000 acres will result in improved native grass stands, enhanced wildlife habitat, and reduced erosion.	395,992	Wasco
222-4019	Arnold Irrigation District	Deschutes River Flow Restoration - Arnold Irrigation District Phase One	Nearly 17,000 feet of open canal will be converted to buried pipe to restore and protect 11 cfs of flow to the Deschutes Basin, which will improve water quality and habitat for native fish and wildlife.	200,000	Deschutes
Total Restoration Projects Recommended for Funding by RRT and OWEB Staff				1,640,594	

Projects Recommended but Not Funded in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
None					

Projects <i>Not Recommended</i> for Funding by RRT					
Project #	Grantee	Project Title	Amount Requested	County	
222-4016	Lake County Umbrella WC	Drews Creek Fish Passage and Stream Restoration	344,820	Lake	
222-4021	Lakeview SWCD	Upper Chewaucan SIA Water Quality Improvement Project Phase 1	314,253	Lake	
222-4022	Wasco SWCD	Young Life Washington Family Ranch Juniper Removal Project Phase I	330,000	Jefferson	

Region 4 - Central Oregon Technical Assistance**Projects Recommended for Funding in Priority Order**

Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
222-4026	Lakeview SWCD	South Creek - Upper Chewaucan Watershed - Fish Passage Improvement	Construction ready designs will be developed to correct a culvert and irrigation diversion that partially blocks passage for Chewaucan redband trout; once addressed, access to habitat in about thirty percent of the watershed will be restored for these fish.	74,448	Lake
222-4025	Crooked River WC	Upper Crooked River Floodplain Restoration	Project partners will review watershed conditions to develop, prioritize, and design floodplain habitat and water quality enhancement projects on over 24 miles of the Upper Crooked River.	74,995	Crook
Total Technical Assistance Projects Recommended for Funding by RRT and OWEB Staff				149,443	

Projects Recommended but Not Funded in Priority Order

Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
None					

Projects Not Recommended for Funding by RRT

Project #	Grantee	Project Title	Amount Requested	County
222-4204	Crooked River WC	Lower Ochoco Habitat Management Plan	30,800	Crook

Region 4 - Central Oregon Stakeholder Engagement**Projects Recommended for Funding in Priority Order**

Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
None					
Total Stakeholder Engagement Projects Recommended for Funding by RRT and OWEB Staff				0	

Projects Recommended but Not Funded in Priority Order

Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
None					

Projects Not Recommended for Funding by RRT

Project #	Grantee	Project Title	Amount Requested	County
None				

Region 4 - Central Oregon Monitoring					
Projects Recommended for Funding in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
222-4029	OSU Office of Sponsored Research & Award Admin	Monitoring Goose Lake Basin Native Fishes	Up-to-date, comprehensive monitoring data will be collected for the Goose Lake Basin's aquatic fish habitat to fill a significant gap in knowledge and allow partners to make informed habitat maintenance, enhancement, and restoration decisions.	298,093	Lake
222-4031	Trout Unlimited Inc.	Oregon Spotted Frog Response to Stream restoration and Beaver in the Klamath Basin, Oregon	Oregon Spotted Frog (OSF) response to large-scale habitat restoration approaches will be monitored in the Klamath Basin to inform future conservation actions on the ground and support recovery goals for OSF and other aquatic species of concern.	205,121	Klamath
222-4030	Portland State University	Antelope Fen Monitoring & Mapping	Data from livestock impacts and climate change will be gathered on the sensitive and unique fen ecosystems within the Fremont Winema National Forest to allow land managers to prioritize locations for conservation and restoration.	232,475	Lake
222-4028	Deschutes River Conservancy	McKay Creek Monitoring Project Continuation	Building on past monitoring efforts, water quality monitoring will continue on McKay Creek to inform restoration effectiveness and measure progress toward achieving ecological objectives.	127,335	Crook
Total Monitoring Projects Recommended for Funding by RRT and OWEB Staff				863,024	

Projects Recommended but Not Funded in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
222-4027	Integrated Ecosystem Sciences Inc. (IES)	Trends in Odell Lake: Factors and Processes Affecting Water Quality and Management Implications	Data will be collected to help define important processes affecting water quality in Odell Lake. The data will be used in models that can estimate impacts from land use, climate change, and natural lake processes, which can be used to develop a science-based approach to better manage Odell Lake.	231,275	Klamath

Projects <i>Not Recommended</i> for Funding by RRT					
Project #	Grantee	Project Title	Amount Requested	County	
None					

Region 4 Total OWEB Staff Recommended Board Award	2,653,061
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Region 1 - 6 Grand Total OWEB Staff Recommended Board Award	12,111,567
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Open Solicitation-2022 Spring Offering Central Oregon (Region 4)

Application Number: 222-4015-22264

Project Type: Restoration

Project Name: Swamp Creek Uplands Wildlife Enhancement

Applicant: Crooked River WC

Region: Central Oregon

County: Grant

OWEB Request: \$250,164

Total Cost: \$602,470

Application Description 1) This project is located in the eastern portion of the Crooked River watershed in Grant County, where many sensitive wildlife species depend on the vast sagebrush-steppe ecosystem that encompasses much of this area. The project area offers a unique blend of terrain and aspects, giving it potential to be productive wildlife habitat year around with seasonal forage and habitat cover. This application will address many limiting factors identified for this area by working with a private landowner to address holistic landscape scale issues.

2) This application seeks to address the well-documented need to enhance the resiliency of sage-steppe ecosystems that are known to be critical habitat areas for endangered and sensitive wildlife species (sage-grouse, pronghorn, mule deer, etc.) This specific project area has suffered from past grazing management regimes that have altered natural disturbance dynamics causing native plant communities to be degraded. This has led to the encroachment of western juniper, and the decline of forbs, shrubs, and quaking aspen. The project area encompasses a large amount of north facing slopes throughout the upland areas making this an ideal location for restoration. North facing slopes are known to respond well to restoration practices as they have deep, nutrient rich soils, and cooler temperatures allowing native vegetation to respond well and become more resilient.

3) Project elements will include: cutting 1978.9 acres of encroached Western Juniper on sage steppe, protecting and enhancing 30.4 acres of sensitive aspen stands by removing encroaching conifers and junipers, and eliminating browse pressure from livestock. Five springs with wildlife escape ramps will be developed, one spring will be re-developed and 14.4 acres of Scotch thistle and Musk thistle will be chemically treated.

4) Projects partners include: Landowner, Crooked River Weed Management Area (CRWMA), and Natural Resources Conservation Service (NRCS).

Review Team Evaluation

Strengths

- The application is well written and clearly articulates the ecological outcomes to be achieved.

- Many different types of wildlife species are anticipated to benefit from the variety of proposed restoration actions across multiple habitat types, including but not limited to mule deer, elk, sage grouse, and songbirds.
- The fencing design for the aspen stands is appropriate to ensure regeneration occurs and thrives.
- The removal of juniper within prioritized habitats such as aspen and mountain mahogany plant communities will benefit a plethora of wildlife species.
- The grazing management plan attached to the application describes how restoration investments in the mesic meadow and associated aspen stands will be sustained and maintained.
- The proposed project builds upon and adds onto current restoration actions being funded by NRCS, allowing for additional acreages and habitats to be enhanced.

Concerns

- The application did not include a short- and long-term juniper management strategy; it is unclear how investments in juniper removal will be protected over time.

Concluding Analysis

This project is on private land in the upper reaches of the Crooked River basin where the landowner plans to implement actions that will benefit wildlife. The applicant and partners have put together an appropriate list of restoration actions that help manage the limited livestock use while promoting habitat function.

Review Team Recommendation to Staff

Fund

Review Team Priority

2 of 6

Review Team Recommended Amount

\$250,164

Review Team Conditions

Staff Recommendation

Staff Follow-Up to Review Team

Staff Recommendation

Fund

Staff Recommended Amount

\$250,164

Staff Conditions

Open Solicitation-2022 Spring Offering Central Oregon (Region 4)

Application Number: 222-4016-22266

Project Type: Restoration

Project Name: Drews Creek Fish Passage and Stream Restoration

Applicant: Lake County Umbrella Watershed Council

Region: Central Oregon

County: Lake

OWEB Request: \$344,820

Total Cost: \$433,320

Application Description Drews Valley Ranch is located 21 miles west of Lakeview in Lake County, Oregon. The 11,400-acre ranch is surrounded by the Fremont-Winema National Forest and includes nine miles of streams, eight tributary creeks, a reservoir, and grassy wet meadows. The ranch is home to more than 185 species of birds, fish, and mammals, including the bald eagle and red-band trout.

The Drews Creek Fish Passage and Stream Restoration Project was initiated in the summer of 2020 as the Lake County Umbrella Watershed Council secured an Oregon Watershed Enhancement Board Technical Assistance grant to survey the project sites and develop a 60% design plan to address fish passage, stream function, and aspen die off. The lower diversion is a fish passage barrier when boards are in place, which is a critical time fish migrate upstream to spawn. The aspen grove along the creek is drying and dying out due to historical stream straightening - leading to an incised network and lack of complexity to hold or retain water in the system.

A design plan has been developed and cost estimates have been retained from a local engineering firm. The Council is seeking construction funds to implement work to restore fish passage at an irrigation diversion on Drews Creek to provide access upstream, while maintaining flood irrigation to the wet meadows and enhancing stream and riparian function using large wood, boulders, and willow plantings. The project will compliment and build upon several conservation actions that have been executed on the ranch over the last three decades, including a conservation easement, four fish screens, crossing fencing, and off-site water developments.

Project Partners involve Drews Valley Ranch, Oregon Department of Fish and Wildlife, Intermountain West Joint Venture, US Fish and Wildlife Service and Anderson Engineering and Surveying.

Review Team Evaluation

Strengths

- Providing fish passage at the diversion will add access and habitat for redband trout and other native fish.
- The project builds on previous fish passage restoration conducted on irrigation water diversions within the ranch further upstream on Drews Creek, adjacent to forest service lands. This project seeks to continue fish passage restoration further downstream to allow for broader connectivity within the Drews Creek subbasin.
- The applicant has a proven track record implementing similar projects.

Concerns

- The design plan and approach to restoration and enhancement of the aspen stand and aquatic habitat of Drews Creek and the unnamed tributary are aimed at treating symptoms and not the root cause of habitat degradation.
- The application does not include analysis of possible alternatives. Therefore, it is unclear whether the proposed restoration approach is the most technically sound and cost effective.
- The application lacks detail about livestock access and grazing management in the project area. Without this detail, it's unclear how restoration investments will be sustained over time.
- There is another fish barrier located upstream. It's unclear why this barrier is not also being addressed.
- The application does not provide design details sufficient to determine how the proposed design would enhance and protect the aspen stand.
- The current alignment of Drews Creek is a straightened channel with little complexity and riparian vegetation. The restoration solution is expensive and will provide little added watershed benefit. Therefore, the project is not cost effective.

Concluding Analysis

The project is broken into two components, one upgrading a dilapidated diversion to provide fish passage and another to improve instream and riparian function. The benefits of providing fish passage are clear but limited. The benefits of the instream and riparian project elements site are unclear and not technically sound.

Review Team Recommendation to Staff

Do Not Fund

Review Team Priority

N/A

Review Team Recommended Amount

\$0

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Do Not Fund

Staff Recommended Amount

\$0

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering

Central Oregon (Region 4)

Application Number: 222-4017-22287

Project Type: Restoration

Project Name: Deschutes Basin Flow Restoration - Group 4

Applicant: Tumalo Irrigation District

Region: Central Oregon

County: Deschutes

OWEB Request: \$200,000

Total Cost: \$8,706,808

Application Description The Deschutes Basin Flow Restoration – Group 4 project restores 2.24 cubic feet per second (CFS) of water to Tumalo Creek during the irrigation season and Crescent Creek in the winter by enclosing 58,919 LF of open canal and laterals. The conserved water will be protected instream through the Oregon Water Resource Department’s Allocation of Conserved Water program and will result in improved temperature conditions and water quantity for ESA-listed species and native fish and wildlife. This portion of the project includes the West Branch Columbia Southern West Canal, Beasley Lateral, North Spaulding Lateral, and Spaulding Lateral. The pipe follows the existing canal alignment and will be installed in a compacted trench with 3ft of cover to protect from freezing and damage. The surface will be restored with soil and seeding where appropriate.

Review Team Evaluation

Strengths

- The project will protect streamflow in Tumalo Creek (a cold water refugia) during the summer irrigation season, aiding in decreasing stream temperatures in the Deschutes River.
- The proposed project builds on many other successful streamflow restoration projects the applicant has completed in this watershed.
- The protected water storage in Crescent Lake will allow for added releases into Crescent Creek enhancing Oregon spotted frog and native fish habitat.
- The applicant, design team, and contractors have the expertise to successfully implement the project.

Concerns

- The application includes many uploads that were not relevant to the project. For example, letters of support are outdated or not specific to this phase of the project.
- The budget is lumped together, making it challenging to discern the costs of project components necessary to determine cost effectiveness.

Concluding Analysis

This project continues the applicant’s march in implementing its watershed action plan to restore

streamflow by piping leaky open ditch canals. The approach is a proven mechanism to achieve desired streamflow restoration outcomes.

Review Team Recommendation to Staff

Fund

Review Team Priority

3 of 6

Review Team Recommended Amount

\$200,000

Review Team Conditions

Staff Recommendation

Staff Follow-Up to Review Team

Staff Recommendation

Fund

Staff Recommended Amount

\$200,000

Staff Conditions

Open Solicitation-2022 Spring Offering Central Oregon (Region 4)

Application Number: 222-4018-22293

Project Type: Restoration

Project Name: Cottonwood Creek Processed
Based BDA/PALS Restoration

Applicant: Lake County Umbrella Watershed
Council

Region: Central Oregon

County: Lake

OWEB Request: \$335,325

Total Cost: \$432,325

Application Description The Cottonwood Creek Process-Based Restoration Project will support post-fire recovery as it relates to native fish and aquatic habitat in the high desert closed-basin ecosystem of south-central Oregon. Cottonwood Creek is one the largest tributaries to Goose Lake and provides habitat for a diverse native fish community with a high level of endemism (species found nowhere else). Endemic fish species include the Goose Lake Redband Trout, Goose Lake Sucker, Goose Lake Tui Chub, and Goose Lake Lamprey. Other native fish include the Pit-Klamath Brook Lamprey, Speckled Dace, Pit Roach, and Pit Sculpin. Four of these native fish species (Goose Lake Redband Trout, Goose Lake Lamprey, Goose Lake Sucker, and Pit Roach) are listed as “species of concern” by the U.S. Fish and Wildlife Service due to species’ vulnerability within the Goose Lake Basin.

The Cottonwood Creek sub watershed was impacted by two catastrophic wildfires in the summer of 2021 burning over 100,000 acres in total. Post fire recovery is expected to be slow as resources have been stretched throughout the region and the area remains under drought conditions. The proposed project aims to support recovery and reduce post fire impacts to the watershed within the upper Cottonwood Creek system.

We will follow a process-based restoration approach to support post fire water quality, aquatic habitat, channel-floodplain connectivity, and wet meadow conditions. Our plan will capitalize on the availability of forest slash originating from post-fire salvage and fuel breaks. Wood debris will be used to build beaver dam analogs (BDA) and post-assisted log structures (PALS) along a 3.25 mile-long meadow system of Cottonwood Creek. Beavers are active in the project reach which will sustain the project long term. Project partners include two private landowners, Oregon Department of Fish and Wildlife (ODFW), US Forest Service (USFS), and River Design Group, Inc. (RDG).

Review Team Evaluation

Strengths

- The application outlines clear objectives relative to implementing the beaver dam analogues (BDA) and post assisted log structures (PALs).

- There is known beaver activity in the area and the proposed project is a technically sound approach to encourage additional beaver presence given structure placement in areas of fair to good riparian vegetation cover.
- Goose Lake redband trout and lamprey are known to inhabit the site; there is also potential for Goose Lake sucker, tui chub, pit-Klamath brook lamprey, speckled Dace, pit roach, and pit sculpin benefit.
- The headwater area of Cottonwood Creek was impacted by recent wildfires and the proposed structures can help trap and sort sediment that is likely to mobilize downstream.
- The materials proposed for use will be sourced on-site or from nearby sites.
- The project team has sufficient capacity to accomplish the project.
- The application provides sufficient detail that indicates a technically sound approach and high likelihood of success.

Concerns

- The application could benefit from additional information providing justification for the number and placement of structures.
- There is a culvert downstream of the project reach; dislodging or mobilization of material downstream could cause the culvert to plug.

Concluding Analysis

The proposed project is a comprehensive approach to enhance over three miles of stream with low tech, process-based restoration treatments. This treatment approach is site appropriate and should provide significant benefit to fish and wildlife habitat. The applicant is encouraged to be mindful of a stream gauge just downstream of the project reach that is managed by OWRD to ensure it is not damaged.

Review Team Recommendation to Staff

Fund

Review Team Priority

1 of 6

Review Team Recommended Amount

\$335,325

Review Team Conditions

Staff Recommendation

Staff Follow-Up to Review Team

Staff Recommendation

Fund

Staff Recommended Amount

\$335,325

Staff Conditions

Open Solicitation-2022 Spring Offering

Central Oregon (Region 4)

Application Number: 222-4019-22299

Project Type: Restoration

Project Name: Deschutes River Flow Restoration - Arnold Irrigation District Phase One

Applicant: Arnold Irrigation District

Region: Central Oregon

County: Deschutes

OWEB Request: \$200,000

Total Cost: \$8,716,000

Application Description Arnold Irrigation District (Arnold or the District) operates over 39 miles of canals and laterals in the Deschutes Basin. The original system was built over a century ago by early settlers using methods and materials available to them at that time: open canals lined with porous volcanic rock. The open canals cause a tremendous amount of seepage, resulting in loss of nearly 50 percent of the water withdrawn. Thus, with the current system, Arnold must withdraw double the amount of water delivered to patrons.

Phase One of the Arnold Irrigation District Flow Deschutes Basin Restoration Project (herein referred to as 'this phase ' and/or 'project') will enclose 16,976 length-feet (LF) of open canal into leak-free piping to eliminate the seepage loss and restore 11.2 cubic-feet-per-second (CFS) of flow to the Deschutes Basin during the spring and winter. The water conserved will be protected instream for the benefit of water quantity, water quality, and habitat for native and listed species in the Deschutes Basin.

Review Team Evaluation

Strengths

- The proposed project will address limiting factors affecting aquatic species in the Deschutes River, including stream temperature and natural hydrology.
- The project outcomes are a result of central Oregon irrigation districts working collaboratively as the Deschutes Basin Board of Control. Specifically, the conserved water during the irrigation season will pass Arnold Irrigation District's point of diversion to be captured downstream by North Unit Irrigation District. In response, North Unit will release that same amount of conserved water during the winter months out of Wickiup reservoir, which will benefit critical habitat for the Oregon spotted frog.
- The benefit to cost ratio is high, with 11.2 cfs being conserved as result of the project.
- Arnold Irrigation District is under new management, who have long-term experience working in the basin on similar projects.

Concerns

- The application states that salmon and steelhead will benefit from the proposed project. The extent of the benefit is unclear since water savings during the summer irrigation season will be diverted by North Unit Irrigation District in Bend, which is upstream of anadromous fish use.

- The budget is lumped together making it challenging to discern project component costs to determine cost effectiveness.
- The streamflow benefits may be short-lived given minimum flow requirements established by the Habitat Conservation Plan. It is unclear whether winter flow releases because of this project will continue.

Concluding Analysis

This project will assist Arnold Irrigation District's effort to modernize their irrigation system by piping a portion of their main canal on the City of Bend's Sound end. The technique and approach applied is one that has been utilized by irrigation districts throughout Oregon and is proven to be successful.

Review Team Recommendation to Staff

Fund

Review Team Priority

6 of 6

Review Team Recommended Amount

\$200,000

Review Team Conditions

Staff Recommendation

Staff Follow-Up to Review Team

Staff Recommendation

Fund

Staff Recommended Amount

\$200,000

Staff Conditions

Open Solicitation-2022 Spring Offering Central Oregon (Region 4)

Application Number: 222-4020-22342

Project Type: Restoration

Project Name: Bakeoven Watershed Upland Enhancement

Applicant: Wasco SWCD

Region: Central Oregon

County: Wasco

OWEB Request: \$395,992

Total Cost: \$604,978

Application Description The Bakeoven Watershed Uplands Enhancement project takes place in South Wasco County, on private land between the Deschutes River south of Maupin to Buck Hollow Creek along the Wasco and Sherman County Boundary. In 2016 the Bakeoven Watershed Council was awarded Technical Assistance funding from OWEB to inventory and assess the state of upland conditions in the Bakeoven Watershed on private lands, as the basis for a Resource Management Plan that was used to prioritize restoration projects. The inventory assessment identified and prioritized management changes and projects for funding that helped with the development of an RMS (Resource Management System) Conservation Plan, using NRCS methodology.

The assessments that were conducted encompassed approximately 95,000 acres of uplands at 31 locations on 9 ranches. The inventory assessment documented how the ecosystem is functioning, and the need for action.

The results of the Technical Assistance grant identified 16 proposed practices that are anticipated to result in qualitative and quantitative improvements to rangeland plant communities, forage values, and wildlife habitat in the uplands. The 12 NRCS practices to be implemented through this restoration grant are: Juniper Removal, Herbaceous Weed Control, Prescribed Grazing, Fencing, Upland Wildlife Habitat Mgmt., Brush Management, Livestock Pipelines, Pumping Plants, Range Planting, Spring Developments, Watering Facilities and Solar Water Wells.

Project partners for this grant include the Bakeoven / Buck Hollow Watershed Council and the NRCS. Landowners in both the Bakeoven and Buck Hollow watersheds are proactive and have been working for decades to implement holistic land management practices and address watershed health concerns. This proposal builds on conservation work that has been ongoing since the 1990's and seeks to implement high-priority actions identified in the recently completed RMS plan supported by OWEB grant 217-4008-12933.

Review Team Evaluation

Strengths

- The maps provided in the application are clear and depict a detailed approach to where specific restoration actions will occur.
- The applicant will seek a licensed well driller and follow appropriate protocol to ensure wells are legally drilled.
- Cross fencing will help distribute livestock across the landscape allowing native vegetation to be utilized in a way that promotes vigor.
- The landowners involved in this project are conservation minded, have implemented previous restoration projects in the past, and have the capacity and capabilities to successfully implement the project.
- The applicant is working with NRCS to develop a Conservation Implementation Strategy (CIS) for this geography that will incentivize these conservation actions.
- The budget was itemized and provided sufficient detail to determine cost effectiveness.

Concerns

- The application discusses prescribed grazing management plans, but it is unclear whether plans will be developed or if they already exist. There is no budget line item for plan development, nor are any plans uploaded. Without grazing management plans it's unclear how conservation benefits will be sustained over time.
- The proposed seeding mix includes species that are not palatable for wildlife, such as Sandberg's bluegrass, and species likely not necessary to reseed, such as Yarrow and Green rabbitbrush, which both tend to thrive on disturbed sites and likely will establish naturally.
- Water developments could have minimal benefit for wildlife.
- It was not clear if the spring development sites will be fenced and protected. Without these protections, these sites will degrade with heavy livestock use.

Concluding Analysis

This landscape scale project will work across 37,000 acres to implement a wide variety of conservation practices that promote native vegetation and wildlife habitat. The project is a result of a technical assistance grant that developed conservation plans for these private lands. The applicant is encouraged to revisit the seed list and evaluate wildlife needs and site appropriateness.

Review Team Recommendation to Staff

Fund

Review Team Priority

5 of 6

Review Team Recommended Amount

\$395,992

Review Team Conditions

Staff Recommendation
Staff Follow-Up to Review Team

Staff Recommendation

Fund

Staff Recommended Amount

\$395,992

Staff Conditions

Open Solicitation-2022 Spring Offering

Central Oregon (Region 4)

Application Number: 222-4021-22359

Project Type: Restoration

Project Name: Upper Chewaucan SIA Water Quality Improvement Project - Phase 1

Applicant: Lakeview SWCD

Region: Central Oregon

County: Lake

OWEB Request: \$314,253

Total Cost: \$404,497

Application Description

1) Identify the project location

The Upper Chewaucan Strategic Investment Area (SIA) Water Quality Improvement Project - Phase 1 is focused on South Creek, Dairy Creek, and Elder Creek, tributaries to the Chewaucan River in the Upper Chewaucan watershed west of Paisley, Oregon.

2) Briefly state the project need

The three tributaries have experienced channel incision and streambed degradation due to historical and contemporary grazing practices, and the effects of roads and irrigation infrastructure. Streambank and channel bed erosion contribute sediment to the tributaries and the Chewaucan River. Channel bed incision has also led to water table decline, vegetation conversion, and stream corridor habitat impairment.

3) Describe the proposed work

We will implement a low-tech processed-based restoration (LTPBR) strategy to improve channel stability and stream corridor conditions on South Creek and Dairy Creek. We will also stabilize existing livestock crossings that are currently point sources for fine sediment delivery to South Creek. The LTPBR strategy will employ beaver dam analog (BDA) structures to promote increased beaver activity in the project reach. Post-assisted log structures (PALS) will also be built to promote pool formation and aquatic habitat diversity.

Four existing livestock crossings are fine sediment sources to South Creek. We will employ a typical Natural Resources Conservation Service (NRCS) armored livestock crossing design to improve crossing stability and reduce sediment delivery to South Creek.

4) Identify project partners

The Lakeview SWCD is leading the project and coordinating with the Lake County Umbrella Watershed Council, the Oregon Department of Agriculture, and private landowners enrolled in the SIA program. Other stakeholders include the Oregon Department of Fish and Wildlife, Oregon Department of Environmental Quality, U.S. Forest Service, and River Design Group, Inc.

Review Team Evaluation

Strengths

- The proposed low-tech process-based treatments are appropriate for this type of stream and ecosystem.
- The project is a result of a Strategic Investment Area (SIA) technical assistance grant that identified these treatments to improve water quality and habitat.
- The project is adjacent to previous forest health treatments and will minimize costs by utilizing material extracted for the beaver dam analogues (BDA) and post assisted log structures (PALs).
- The contractor is experienced and well suited to complete design plans and provide construction oversight.

Concerns

- The application lacks detail on land use and management, particularly livestock grazing. The application does not include or reference a grazing management plan, making it unclear how the restoration investment will be protected and sustained.
- There is no existing riparian fence or plan to construct fencing, making it unclear how livestock use, and access will impact the project site.
- The application includes hardened crossings for livestock. This is an acceptable treatment to reduce fine sediment; however, with no existing or proposed fencing it is unclear why hardened crossings are necessary if livestock already have full access to the stream.
- The application lacked justification for the number and placement of structures, which is necessary to evaluate technical soundness.
- The application does not describe how the project site will be adaptively managed to ensure the ecological outcomes are maintained.
- It is unclear how the USFS RAC grant with a focus on Dairy/Elder Creeks cited as match is connected to this project, other than that it is occurring on lands owned by one of the landowners.

Concluding Analysis

This project seeks to employ low tech process-based restoration treatments along three miles of stream. The project site is directly downstream of a current OWEB grant proposal submitted during the spring 2022 cycle to address fish passage, which if complete would add value to this work. Without clarity about grazing management project's likelihood of success is unclear.

Review Team Recommendation to Staff

Do Not Fund

Review Team Priority

N/A

Review Team Recommended Amount

\$0

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Do Not Fund

Staff Recommended Amount

\$0

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Central Oregon (Region 4)

Application Number: 222-4022-22366

Project Type: Restoration

Project Name: Young Life Washington Family Ranch Juniper Removal Project Phase I

Applicant: Wasco SWCD

Region: Central Oregon

County: Jefferson

OWEB Request: \$330,000

Total Cost: \$430,000

Application Description This project is located 25 miles east of Madras, Oregon on the Southern portion of the Young Life Washington Family Ranch. The project will address 1,000 of juniper encroachment, which has had a negative effect on water quality, quantity, and upland and riparian habitat. Practices will include mechanical removal using excavator and skid steer mounted flails. Project partners include Young Life Washington Family Ranch, Wasco County Soil and Water Conservation District (SWCD), and the Natural Resources Conservation Service (NRCS).

The Ranch is located in both Wasco and Jefferson Counties. This project is located within the boundary of the Jefferson County Soil & Water Conservation District (JSWCD); however, JSWCD currently lacks the capacity to take on this project and enthusiastically supports Wasco SWCD's proposal to assist Young Life Washington Family Ranch.

Review Team Evaluation

Strengths

- The proposed project is a result of a ranch-wide comprehensive resource assessment and analysis which identified this project as a high priority for restoration.
- The project is located at the headwaters of the Muddy Creek sub-basin, which is an appropriate location to start restoration work on the ranch.
- The current sage steppe understory vegetation is in very good condition and removing encroaching juniper will significantly improve habitat and diversity.
- The landowner's approach to livestock management is aligned with ecological uplift, providing for sustained protection of restoration investments.

Concerns

- The objectives identified in the application target the increase in revenue and carrying capacity from livestock grazing. These objectives do not align with OWEB's mission, which requires protection and restoration of wildlife habitat.
- The proposed approach of utilizing a masticator for juniper treatment does not seem appropriate for the site. The size and structure of juniper trees would make mastication timely and challenging. The juniper chips to be produced do not break down quickly, particularly in low precipitation zones, causing degradation to the existing plant community and soil health.

- It is not clear if the applicant or landowner have experience utilizing a masticator for juniper treatment, making the likelihood of success of the proposed approach unclear.
- The cost per acre for this type of treatment appears low.

Concluding Analysis

This project presents a landscape scale approach of removing encroaching juniper and pre-commercial thinning of mixed conifer to improve resiliency, precipitation infiltration, and wildlife habitat. The applicant is encouraged to work with the landowner to strategize different alternatives to cutting and removing juniper and pre-commercial mixed conifer to ensure the protection and enhancement of understory vegetation.

Review Team Recommendation to Staff

Do Not Fund

Review Team Priority

N/A

Review Team Recommended Amount

\$0

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Do Not Fund

Staff Recommended Amount

\$0

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Central Oregon (Region 4)

Application Number: 222-4023-22368

Project Type: Restoration

Project Name: Upper Klamath Lake Agricultural
Water Quality Improvement Projects: Algoma Area

Applicant: Klamath SWCD

Region: Central Oregon

County: Klamath

OWEB Request: \$257,113

Total Cost: \$421,451

Application Description This project will make needed environmental improvements in an area of interest to federal, state, local and tribal entities. It has the potential to reduce irrigation water withdrawals from Barkley Springs, a culturally important, endangered sucker habitat, by up to 300 acre feet annually. In addition, it will reduce nutrient loading to Upper Klamath Lake. The location of the proposed project is in the lower Algoma area, which is on the southeastern shore of Upper Klamath Lake, between Modoc Point and Shady Pine, along Highway 97. Water quality in Upper Klamath Lake near Klamath Falls, Oregon, is highly degraded due to excessive external phosphorus loading. High phosphorus levels fuel blue green algae blooms, which further impair water quality and diminish the survival and production of native fish populations including the federally endangered (Lost River Sucker (*Deltistes luxatus*) and Shortnose Sucker (*Chasmistes brevirostris*)) and interior redband trout (*Oncorhynchus mykiss* sub-species). The Oregon Department of Environmental Quality (ODEQ) designated Upper Klamath Lake as water quality limited for resident fish and aquatic life (ODEQ 303(d) List 1998) and the US Fish and Wildlife Service (USFWS) recognized that increased levels of stress and mortality related to severe water quality impairments as primary factors limiting the recovery of endangered sucker populations (USFWS, 2012). The proposed work includes flood control and water recycling infrastructure that will reduce erosion and nutrient loading, as well as demand for water from Barkley Spring, which is important endangered sucker habitat. Our partners are the Natural Resources Conservation Service and the landowner.

Review Team Evaluation

Strengths

- The application addresses the concerns noted on the prior evaluation, including removing two properties from the project footprint that provided less ecological benefit.
- The application includes baseline water quality data on Phosphorus which will prove valuable in understanding the effectiveness of implementing this project. The ODA continues to be committed to collecting and analyzing water quality data for this project.
- The landowner will have better control of water availability on-site which will allow for less demand for water from Barkley spring. The landowner provided a letter of commitment to leave up to 50% of allocated water in the spring. The spring is important as it provides habitat for various life stages of ESA-listed sucker species.
- The project leverages an NRCS CIS agreement committed for the implementation of this project.

- The applicant has engaged appropriate partners to ensure the ecological outcomes of the project are realized, including NRCS, USFWS and ODA.
- The budget is itemized and includes appropriate contingencies and recent quotes for project components.

Concerns

- The commitment from the landowner to conserve up to 50% of water allocation on Barkeley spring is admirable, however, it is not legally binding leaving the ecological value in jeopardy, especially in drought years.
- There is no flow measurement device associated with the point of diversion on Barkeley springs; it is unclear how water savings will be measured.

Concluding Analysis

This project will implement a variety of water control features to deliver, control, and release water recaptured on the property to reduce and/or eliminate the need to pump excess water into Upper Klamath Lake which causes water quality degradation. This resubmitted application is much more refined and clearer on outcomes to improve water quality. The partnership with NRCS provides additional capacity to successfully implement the project.

Review Team Recommendation to Staff

Fund

Review Team Priority

4 of 6

Review Team Recommended Amount

\$257,113

Review Team Conditions

Work with the applicant to identify a flow measurement device or mechanism that can be associated with the point of diversion on Barkeley spring.

Staff Recommendation

Staff Follow-Up to Review Team

OWEB staff have coordinated with the applicant, and based on their research for an appropriate measuring device, OWEB will add an additional \$2,000 to cover the costs of purchasing and installing a measurement device.

Staff Recommendation

Fund

Staff Recommended Amount

\$259,113

Staff Conditions

Open Solicitation-2022 Spring Offering Central Oregon (Region 4)

Application Number: 222-4024-22310

Project Type: Technical Assistance

Project Name: Lower Ochoco Habitat Management Plan

Applicant: Crooked River WC

Region: Central Oregon

County: Crook

OWEB Request: \$30,800

Total Cost: \$46,962

Application Description 1) Identify the project location; The project is located on Ochoco Creek within the confines of the city limits of Prineville. The approximately four mile stretch of the creek is the sole focus of this planning effort.

2) Briefly state the project need; This project is needed to proactively address an ongoing and recurring need for coordinated action on Ochoco Creek which identifies locations for habitat restoration and protection while also protecting civil infrastructure such as bridges, roads, utility lines, trails, paths, housing, and other developments from risks associated with high water event outcomes and resultant threats, such as debris falling into the creek and directing water towards infrastructure. Ochoco Creek is an important tributary to the Crooked River. A plan that proactively identifies, maps, and describes habitat restoration project locations will address both risks to infrastructure and opportunities to improve both aquatic and terrestrial habitat in this section of lower Ochoco Creek.

3) Describe the proposed work; The council will facilitate, support, and lead the planning effort resulting in a written plan supported by both the City of Prineville (CoP), and Crook County Parks & Recreation District (CCPRD). The plan seeks to improve fish and wildlife habitat while protecting critical city infrastructure.

4) Identify project partners; key partners are the City of Prineville, and Crook County Parks and Recreation District.

Additional partners could include several other organizations dependent on planning needs and interests. The final, detailed scope of work negotiated with the City of Prineville will determine the extent of involvement for secondary partners and potentially others.

Review Team Evaluation

Strengths

- The proposed plan will provide a road map for stakeholders to maximize habitat opportunities within a highly urbanized portion of Ochoco Creek.
- The applicant has a long history of working with the City of Prineville and local community members on stream restoration and conservation stewardship.
- There is opportunity to improve riparian conditions, particularly with replacing short lived Chinese elm trees with native riparian trees and shrubs.
- The reintroduction of Salmon and Steelhead in the Lower Crooked River basin (including this section of Ochoco Creek) emphasizes a timely need to act.

- Proposed project costs are reasonable.

Concerns

- Given the narrow band of riparian corridor, low bridge crossings, and small privately owned parcels, it's unclear how much opportunity for ecological uplift exists in this section of Ochoco Creek.
- The application is vague on how large wood could be salvaged and utilized for habitat enhancement with the urbanized nature of the project site(s).
- The management plan may have greater success if additional stakeholders were involved in plan development, such as Oregon Department of Fish and Wildlife and Department of State Lands.
- An outside facilitator could add additional insight and solutions to generate consensus among project stakeholders, especially since the application notes a lack of consensus on restoration strategy.
- It is unclear what habitat value or project types would result from plans to remove broken limbs and debris. Application photos show an abundance of Chinese elms, which are not ideal for use in habitat structures.

Concluding Analysis

This project seeks to develop consensus among partners to initiate a plan to address fallen debris in an urbanized portion of Ochoco Creek. Historically, debris was removed to protect infrastructure. This project offers opportunities to strengthen partnerships with local stakeholders, but the ecological value of the proposed restoration is limited.

Review Team Recommendation to Staff

Do Not Fund

Review Team Priority

N/A

Review Team Recommended Amount

\$0

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Do Not Fund

Staff Recommended Amount

\$0

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Central Oregon (Region 4)

Application Number: 222-4025-22341

Project Type: Technical Assistance

Project Name: Upper Crooked River Floodplain Restoration

Applicant: Crooked River WC

Region: Central Oregon

County: Crook

OWEB Request: \$74,995

Total Cost: \$106,171

Application Description 1) The project area is 24.8 linear miles of the Upper Crooked River (UCR) mainstem and 4.5 sq. miles of historic floodplain between Prineville Reservoir and its confluence with the N. Fork.

2) Degradation of the UCR is well documented. During late summer, the UCR often flows at <5 cfs and >80 degrees F. Prior work estimated that floodplain reconnection could support late season flows >20 cfs, and likely improve water temperature. There is widespread interest in restoration of the UCR, but no clear roadmap to restoration. Specifically, there is not enough topographic and hydrologic data to generate conceptual restoration designs and predict the impacts of such restoration on water quantity and quality. Landowners cannot be expected to support restoration until they have detailed knowledge of what such a project would mean for their land.

3) This project will provide a) the topographic and hydrologic datasets needed to develop restoration designs, and b) the conceptual designs and predicted outcomes for restoration that are needed to guide future UCR restoration. These data will also provide an invaluable snapshot of current conditions and pre-restoration data to evaluate the effectiveness of future restoration. The project is divided into four objectives:

Objective #1 is to improve estimates of stream and floodplain aquifer levels on a parcel-by-parcel basis.

Objective #2 is to improve characterization of influential floodplain aquifer properties.

Objective #3 is to generate a relative elevation map of the UCR floodplain along the entire study area.

Objective #4 is to generate two different conceptual restoration plans and predict the impact of each conceptual restoration plan on UCR low flows.

4) CRWC, OSU-Cascades, and 8 of 9 landowners in the project area: McGrath, Neuharth, Gillen/Whistler, Dow, Wood, Gonzalez, Nature Conservancy, Perry. 11 stakeholder letters of support. Consulted with 5 state/federal agencies that do not write letters.

Review Team Evaluation

Strengths

- This application is a resubmittal; the applicant and partners thoroughly addressed concerns from the previous review.
- The application provides clear objectives, maps and concepts that could translate to future landowner engagement and restoration action.
- Using floodplain irrigation as a proxy for floodplain inundation is appropriate, especially given the use of groundwater monitoring in these areas.
- Capturing LiDAR will serve many benefits to this project and others in the geography and is cost effective for the proposed coverage area.
- The project is well supported by stakeholders and private landowners as evidenced by the included letters of support.
- The applicant and partners have the right skill set and expertise to implement the project.
- The framework for this project has the potential for transferability to other locations, given the stream gradient and adjacent agricultural use to the Crooked River which is common practice throughout Oregon.

Concerns

- The application could benefit from stream morphology analysis to help determine appropriate restoration alternatives.

Concluding Analysis

This project seeks to characterize floodplain reconnection potential along 25 miles of the Upper Crooked River above Bowman dam. The approach and technique employed is scientifically sound and could result in needed floodplain restoration projects.

Review Team Recommendation to Staff

Fund

Review Team Priority

2 of 2

Review Team Recommended Amount

\$74,995

Review Team Conditions

Staff Recommendation

Staff Follow-Up to Review Team

Staff Recommendation

Fund

Staff Recommended Amount

\$74,995

Staff Conditions

Open Solicitation-2022 Spring Offering Central Oregon (Region 4)

Application Number: 222-4026-22362

Project Type: Technical Assistance

Project Name: South Creek - Upper Chewaucan
Watershed - Fish Passage Improvement

Applicant: Lakeview SWCD

Region: Central Oregon

County: Lake

OWEB Request: \$74,448

Total Cost: \$93,148

Application Description 1) Identify the project location

The South Creek Fish Passage and Screening Project is located on South Creek in the Upper Chewaucan River watershed west of Paisley, Oregon. The project include fish passage projects on a privately-owned ranch and on a U.S. Forest Service (USFS) Road crossing.

2) Briefly state the project need

South Creek is one of three main tributaries to the Upper Chewaucan River. The 43.4 square mile watershed provides habitat for Chewaucan redband trout. The irrigation diversion is a total upstream fish passage barrier due to the height of the structure relative to South Creek downstream of the diversion. The USFS FR-3635 Road is located 1,000 ft upstream from the diversion. The road culvert is a partial fish passage barrier due to shallow water depths in the culvert and a slight perch at the culvert outlet. Oregon Department of Fish and Wildlife ranked the culvert as the sixth highest culvert replacement priority in the Chewaucan watershed (ODFW 2017). Improving passage at the diversion and the road culvert will restore fish access to nearly 30 percent of the watershed and mapped streams.

3) Describe the proposed work

River Design Group, Inc. (RDG) will complete site surveys, engineering, and design for a replacement irrigation diversion and stream crossing. RDG will also prepare fish screen designs for the two diversion canals that originate at the Murphy diversion. RDG will submit permit applications for both project sites.

4) Identify project partners

The Lakeview SWCD is leading the project and coordinating with Murphy Ranch, the Lake County Umbrella Watershed Council, and the U.S. Forest Service Fremont-Winema National Forest. Other project partners include Oregon Department of Fish and Wildlife and RDG.

Review Team Evaluation

Strengths

- The application describes a clear need for fish passage solutions at these locations.

- Providing passage at both locations described in the application would open approximately 18 miles of good quality habitat primarily on forest service lands.
- The selected contractor has a long history of working with the applicant and other local partners on similar projects.
- The project will result in 95% complete design plans, which will produce a near shovel ready project once complete.
- Th project could spawn additional interest from both private and public landowners in this geography to address other fish passage issues nearby. On the site visit, we visited a couple of culverts in the vicinity that are partial to full barriers. This project could kickstart work on this culvert.
- The project is cost effective for scoping and designing solutions for two fish passage barriers.

Concerns

- The proposal could have provided more detail on potential concepts for resolving the fish passage solution at the irrigation diversion site. Avoiding the use of concrete in the stream is desirable.
- The application does not provide details on fish passage below these two sites. This would be helpful context in understanding overall benefit to native fish.

Concluding Analysis

This proposal seeks to develop fish passage solutions for a culvert and a channel spanning diversion located 1,000 ft. downstream from the culvert. Given the proximity of these two barriers and significant change in stream gradient due to the diversion, it makes sense to address both at the same time.

Review Team Recommendation to Staff

Fund

Review Team Priority

1 of 2

Review Team Recommended Amount

\$74,448

Review Team Conditions

Staff Recommendation

Staff Follow-Up to Review Team

Staff Recommendation

Fund

Staff Recommended Amount

\$74,448

Staff Conditions

Open Solicitation-2022 Spring Offering

Central Oregon (Region 4)

Application Number: 222-4027-22318

Project Type: Monitoring

Project Name: Trends in Odell Lake: Factors and Processes Affecting Water Quality and Management Implications

Applicant: Integrated Ecosystem Sciences Inc (IES)

Region: Central Oregon

County: Klamath

OWEB Request: \$231,275

Total Cost: \$292,037

Application Description Odell Lake is located in the central Cascade Range adjacent to Hwy 58 and just southeast of the Willamette Pass Ski Resort. Odell Lake is a major recreation site in Oregon and receives thousands of visitors each year. Water quality in the lake has been declining in recent decades, leading to regular and severe cyanobacterial blooms that reduce the recreational benefits of the lake and violate water quality standards. There is a need to understand the factors contributing to these changes in water quality and to provide resource managers with options for mitigating or reducing the water quality degradation. The approach will consist of conducting a year-long monitoring program that will characterize the lake along with some tributary inputs and serve as a basis for modeling efforts. A modeling effort will employ the collected data to estimate the relative contributions of the watershed land use, climate change, and internal lake processes. Partners supporting this effort include the Odell Lake Homeowners Association, the Oregon Lakes Association, the Upper Deschutes Watershed Council, the USDA-Forest Service, the US Fish & Wildlife Service, and the Oregon Department of Environmental Quality.

Monitoring Team Evaluation

Monitoring Team Strengths

- The proposed project will complement the existing data collected by the applicant in a study from 2004 and data that is currently being collected by DEQ to understand phytoplankton conditions associated with toxic algae blooms.
- The proposed project will complement bull trout spawning and creel census work on Odell Lake.
- The applicant will develop a Quality Assurance Project Plan (QAPP) and submit it to DEQ to follow standard methods to collect, manage and report data of known quality.
- The water quality data will be formatted and submitted to DEQ to be stored in the AWQMS database.
- The project data will be summarized in a report to OWEB, portions of which will be reported in peer-reviewed literature.
- The staff and contractors working on the project are highly qualified and have the relevant experience and performance history to complete the project in a successful manner
- The applicant will work with federal agencies (USFWS & USFS) to provide them with relevant data during the study.

- The applicant is recruiting volunteers from the Odell Lake Homeowner's Association (HA) to participate in data collection and communicate the study's progress with other HA members.

Monitoring Team Concerns

- The application does not describe the predictive models in sufficient detail to understand whether field data they plan to collect is sufficient and if the model outputs are adequate to answer the monitoring questions posed.
- The proposed project will not collect groundwater data and it is not clear how this will affect the model performance given the presence of homes surrounding the lake and the Oregon Lakes Atlas listing this area as having a strong groundwater component.
- The study design does not describe the nutrient parameters to be monitored and why they were chosen.
- The application does not describe or cite the monitoring methods to be followed for any of the proposed monitoring.
- The application doesn't describe the acoustic fish monitoring efforts in sufficient detail, which is an important piece to describe internal nutrient lake processes.
- The application states that control samples from other lakes will be used, but information on which lakes will be selected and how the information will be used is missing.
- It is not clear how ODFW is being engaged in this project beyond sharing of data and requesting their creel census data.
- The budget is hard to interpret given the lack of detail on the monitoring efforts to adequately assess cost effectiveness of this application.

Monitoring Team Comments

Review Team Evaluation

Strengths

- The applicant is engaged with stakeholders and agencies relevant to the project as evidenced by their involvement in project development and letters of support.
- The project team will be in close coordination with water quality monitoring efforts conducted by DEQ.
- The proposed monitoring will address a documented water quality problem on Odell Lake.
- Addressing the proposed monitoring questions will further understanding of the sources of degraded water quality which will inform future restoration.
- Involving homeowners along the lake in a portion of the monitoring activities is beneficial in engaging the local community.
- The applicant and partners have the appropriate skills and experience to carry out the proposed monitoring.
- The budget provides sufficient detail, and the proposed costs are appropriate for the proposed actions.

Concerns

- The application does not discuss the potential of nutrient loading from campgrounds or septic systems associated with the lakeside resort and cabins.
- The application does not describe groundwater monitoring, which may be necessary to answer the proposed monitoring questions.
- It's unclear how one year of monitoring will be enough to answer the proposed monitoring questions to inform future restoration.
- The application does not describe the methods for the hydroacoustic fish monitoring effort.

Concluding Analysis

The proposed monitoring seeks to understand the source(s) of what has become an annual water quality problem impacting Odell Lake. The proposed project will build on a previous effort led by the applicant and strengthen water quality data already being collected by DEQ.

Review Team Recommendation to Staff

Fund

Review Team Priority

5 of 5

Review Team Recommended Amount

\$231,275

Review Team Conditions

Staff Recommendation

Staff Follow-Up to Review Team

Staff Recommendation

Do Not Fund; falls below staff-recommended funding line

Staff Recommended Amount

\$0

Staff Conditions

Open Solicitation-2022 Spring Offering Central Oregon (Region 4)

Application Number: 222-4028-22323

Project Type: Monitoring

Project Name: McKay Creek Monitoring Project
Continuation

Applicant: Deschutes River Conservancy

Region: Central Oregon

County: Crook

OWEB Request: \$127,335

Total Cost: \$164,048

Application Description McKay Creek flows 37 miles from its headwaters in the Ochoco National Forest, through private agricultural lands, and joins the Crooked River about three miles northwest of the City of Prineville in Crook County. The McKay Creek Monitoring Project (Project) will implement several monitoring activities throughout the middle reach (river miles 6-12) and near the creek's confluence with the Crooked River (river miles 1-2).

As a major tributary to the Crooked River, McKay Creek is critical to the successful reintroduction of salmon and steelhead in the Crooked River subbasin. Restoration actions implemented in this watershed are expected to achieve significant ecological outcomes to support the reintroduction effort. The baseline monitoring and post-implementation monitoring activities proposed in this Project are critical to measuring progress toward achieving these ecological outcomes over time and are particularly important given the anticipated implementation of watershed-scale restoration actions on McKay Creek by the Deschutes Partnership (DP).

This monitoring grant proposes five years of continued funding for the McKay Creek Monitoring Project and continued monitoring activities identified in the DP's Progress Monitoring Plan (Plan). The Plan identifies the following monitoring activities to measure progress toward achieving the desired ecological objectives on McKay Creek: collecting surface and groundwater levels, collecting stream temperature, assessing riparian vegetation via aerial imagery, and surveying macroinvertebrate communities.

The Deschutes River Conservancy is working closely with the Deschutes Land Trust, Ochoco Irrigation District (OID), Oregon Water Resources Department, Crooked River Watershed Council, and McKay Creek landowners on continuing Project implementation. Other project partners include Portland General Electric, the Confederated Tribes of Warm Springs, the U.S. Forest Service and the U.S. Fish and Wildlife Service.

Monitoring Team Evaluation

Monitoring Team Strengths

- The proposed project will complement existing data collected by the applicant in the project area with

a previously funded OWEB Focused Investment Partnership (FIP) monitoring grant and existing stream flow data in the Lower Crooked River and Ochoco Creek.

- The applicant has a DEQ-approved SAP and is in the process of updating it to reflect their current monitoring proposal.
- The applicant has already installed the groundwater monitoring wells and surface water temperature/level sites and will continue to collect data at these sites.
- The applicant will produce separate technical reports for each of the five parameters (surface water, groundwater, stream temperature, macroinvertebrates and riparian vegetation).
- The applicant and contractor have experience collecting data and maintaining these monitoring sites over the last 3 years except for sites included in the riparian monitoring objective.

Monitoring Team Concerns

- The proposed study design to determine the project's effectiveness by comparing macroinvertebrate data collected in 2019 and 2021, to data to be collected in 2027 after the project is implemented may not be adequate given the variability that exists in these data sets.
- The application does not describe how the data collection methods or analysis procedures will allow the applicant to answer the monitoring questions posed in the application.
- The application does not describe plans to submit the water quality and macroinvertebrate data to DEQ.
- The application does not provide sufficient detail to understand how they will communicate findings to restoration partners and funders beyond posting the reports on their website.
- The application is not clear how they will communicate findings to engage community stakeholders including landowners and the Ochoco Irrigation District.
- It is not clear that the contractor has the necessary expertise to complete the riparian assessment as proposed.
- The application doesn't breakdown how costs were estimated including contract expenses and staff time to ensure costs are appropriate to accomplish the objectives.

Monitoring Team Comments

Recommendations:

- The PREDATOR model is currently being updated, be sure the current version is used once the macroinvertebrate data is collected and analyzed over time.
- Consider assessing the water temperature and streamflow data over the entire year, not just March to July.

Review Team Evaluation

Strengths

- The application is well written and provides a clear need and justification for the proposed monitoring.
- The proposed project is a continuation of an existing monitoring program led by the applicant and partners, which will continue to develop a robust baseline data set on aquatic parameters to understand effectiveness of future streamflow restoration.

- The applicant has demonstrated capacity and technical capabilities to carry out and report on proposed monitoring.
- The applicant is utilizing local expertise which provides cost savings and strengthens local community support.
- The private landowners involved are supportive of this monitoring and planned future streamflow restoration.

Concerns

- The application does not explain how the findings and report will be shared and distributed.
- The application does not discuss whether riparian areas in the project footprint are grazed by livestock. If riparian areas are utilized for grazing, that could impact the quality of the riparian vegetation analysis.
- It's unclear whether additional pre-project monitoring is necessary to measure effectiveness of planned future restoration actions. Planned restoration keeps getting delayed and is now scheduled for 2025.
- An effectiveness monitoring proposal may be premature given continued delays in restoration implementation. It is unclear how much post-project implementation monitoring will occur, and how many years of post-project monitoring is necessary to accurately compare to the pre-project data set.

Concluding Analysis

The proposed monitoring seeks to expand upon pre-project data to evaluate effectiveness of a planned future streamflow restoration project. The proposed monitoring captures an exhaustive suite of aquatic parameters that are essential for documenting restoration effectiveness. While planned streamflow restoration continues to get delayed, this is a unique opportunity to collect a robust pre-project data set to help tell a compelling story about substantial streamflow restoration.

Review Team Recommendation to Staff

Fund

Review Team Priority

4 of 5

Review Team Recommended Amount

\$127,335

Review Team Conditions

Staff Recommendation

Staff Follow-Up to Review Team

Staff Recommendation

Fund

Staff Recommended Amount

\$127,335

Staff Conditions

The award is contingent upon fully executing all grant agreements associated with the Deschutes Focused Investment Partnership (FIP).

Open Solicitation-2022 Spring Offering Central Oregon (Region 4)

Application Number: 222-4029-22351

Project Type: Monitoring

Project Name: Monitoring Goose Lake Basin
Native Fishes

Applicant: OSU Office of Sponsored Research &
Award Admin

Region: Central Oregon

County: Lake

OWEB Request: \$298,093

Total Cost: \$397,749

Application Description The Goose Lake Basin in south-central Oregon is a unique, high desert ecosystem encompassing numerous streams, wetlands, and riparian areas that are critical habitat for native fish. The Basin has been identified as a “Conservation Opportunity Area” in the Oregon Conservation Strategy, which, along with several regional planning documents, has explicitly identified the maintenance, enhancement, and restoration of riparian and wetland habitats as a priority conservation need. Nevertheless, consistent monitoring efforts have not been conducted in the Goose Lake Basin for over a decade. Fish data have been lacking since 2007, and information on habitat quality for the Basin is sparse. Without updated monitoring information, managers have found it difficult to make informed conservation and habitat maintenance, enhancement, and restoration decisions. The goal of our proposed project is to collect up-to-date, comprehensive monitoring data for the Goose Lake Basin’s aquatic habitats. To accomplish this, we will complete the following four monitoring objectives: 1) Assess current and historical habitat conditions in the Goose Lake Basin using remotely sensed data, 2) Monitor stream temperature for watercourses in the Thomas Creek, Drews Creek, Dry Creek, and Willow Creek sub-basins, 3) Obtain contemporary information on native and non-native fish abundance, distribution, and habitat use, and 4) Obtain baseline data to monitor the effects of the Cougar Peak/Patton Meadow wildfires on fish and their habitat. Newly collected monitoring data will support the Lake County Umbrella Watershed Council and our other partner agencies’ (ODFW, USFWS) efforts to protect native fish and their habitats, and will directly benefit existing and future OWEB investments. Furthermore, our proposed project is in-line with the Oregon Plan for Salmon and Watershed’s goal to restore native fish populations, improve watershed health, and support communities throughout Oregon.

Monitoring Team Evaluation

Monitoring Team Strengths

- The proposed project will complement the fish presence, abundance and distribution data collected by ODFW in 2007 and data that will be collected by the applicant in 2022.
- The proposed project will leverage existing and planned satellite flight imagery to understand how land use, vegetation and hydrogeomorphology has changed over time.
- The proposed project will use eDNA data established in the Oregon Genomics Project which will utilize genetics information from Oregon to identify native fish in Goose Lake Basin.

- The application provides a clear explanation of the activities to complete each objective and how each objective links to the others.
- The study design, data collection, and analysis methods are clearly described.
- The applicant will develop a DEQ-approved Sampling and Analysis Plan (SAP) early in the life of the project to collect water temperature data. QA/QC measures will be incorporated at appropriate levels in other project elements, including training before data is collected, and during the review of data entry and analyses.
- The water temperature monitoring will incorporate two monitoring loggers at each site, which is important given the water levels are so variable at these sites. These loggers are deployed at fish monitoring sites allowing them to easily correlate water temperature with fish presence/absence data.
- The data will be stored at USGS Science Base, making it available to natural resource professionals and the water temperature data will be submitted to DEQ.
- A final report will be submitted to OWEB, and peer reviewed papers will be produced for publication in scientific journals. The applicant also plans to present at national level conferences and provide an annual debriefing with local partners in Lakeview.
- The USGS and OSU staff participating in this proposed project are well qualified and have the necessary skills to collect the data and analyze it in a successful manner.
- A variety of technical experts are or will be engaged through collaboration with ODFW, USFS, BLM, and CA Department of Fish and Wildlife via the Oregon Desert Fish Working Group.
- The applicant is coordinating with the Goose Lake Fishes Working Group, the Lakeview SWCD, and the Lake County Umbrella Watershed Council, all of whom are interested in using the data to evaluate and plan restoration projects.
- A detailed budget breakdown was provided to explain how costs were estimated and included justification for MS and PhD student expenses to analyze and report the data that will be collected.

Monitoring Team Concerns

- The application was unclear regarding how to correlate fish presence with habitat use.
- It may be challenging to calculate lake volume based on existing aerial imagery.
- It is unclear if assessing aerial imagery over a short period of time will be adequate to evaluate how vegetation has recovered from wildfires that occurred in 2021.
- The aerial imagery may not be at a resolution high enough to evaluate hydrogeomorphologic change over time.
- The critical period to collect water temperature is extending due to climate change. Data collection in April and October may be needed to fully capture water temperature dynamics.

Monitoring Team Comments

Review Team Evaluation

Strengths

- The application clearly demonstrates a need for the proposed monitoring.

- The proposed project will replicate monitoring on 35 sites that were previously sampled in 2007. This will offer an opportunity for comparison of aquatic species and habitat condition over time.
- The monitoring locations are on both public and private lands which demonstrates a comprehensive approach to monitoring.
- The timing of this monitoring is pertinent given significant efforts in the basin to implement fish passage solutions as well as data being utilized to support ODF's private forest accord.
- Incorporating eDNA will provide data critical for suckers and other native fish species and opens the door for future eDNA sampling.
- The applicant has local support from watershed groups and private landowners.
- There are nine different native fish species in the Goose Lake basin and this data will be informative for fishery management and future restoration prioritization.

Concerns

- It would have been helpful to have more detail on how data will be used to develop, prioritize, and plan restoration projects.
- It is unclear how the analysis of aerial imagery will supplement monitoring actions.
- Given the large landscape encompassed in this effort, using infrared for monitoring stream temperature may be a more efficient tool than the proposed temperature loggers.

Concluding Analysis

A suite of aquatic and habitat related monitoring across Oregon tributaries of the Goose Lake Basin will cover a wide range of stream and habitat types to capture variability in this diverse landscape. The approach and tools employed will be useful in characterizing fisheries distribution and abundance. The applicant is encouraged to share data sets with ODF for incorporation into their stream classification database.

Review Team Recommendation to Staff

Fund

Review Team Priority

1 of 5

Review Team Recommended Amount

\$298,093

Review Team Conditions

Staff Recommendation

Staff Follow-Up to Review Team

Staff Recommendation

Fund

Staff Recommended Amount

\$298,093

Staff Conditions

Open Solicitation-2022 Spring Offering Central Oregon (Region 4)

Application Number: 222-4030-22357 **Project Type:** Monitoring
Project Name: Antelope Fen Monitoring & Mapping
Applicant: PSU - Portland State University
Region: Central Oregon **County:** Lake
OWEB Request: \$232,475 **Total Cost:** \$290,683

Application Description 1) Our project occurs near the town of Chemult in Klamath County, OR within the Chemult Pasture of the Antelope Allotments of the Chemult Ranger District on the Fremont Winema National Forest (FWNF). Our focus is on fen ecosystems within the grazing allotment, which spans high-elevation headwaters of three basins: Little Deschutes, Summer Lake, and Williamson. Fens are unique wetlands with organic soils composed of decomposing plant remains that accumulate in place, leading to the development of peat. Alteration of groundwater hydrology due to disturbances such as climate change or livestock use can convert fen wetland types to wet meadow types and reduce the diversity of ecosystems and their services across the landscape.

2) The Antelope Grazing Allotments Final Environmental Impact Statement identified a need to monitor fens for livestock impacts and implement adaptive management practices if fen conditions deteriorate. Previous efforts to identify fens in the project area were based on coarse spatial information and field activities that did not include peat depth observations. Thus, our current understanding of fen location and extent is not accurate, and a new approach for identifying and monitoring fens is needed.

3) We propose a 2-tiered approach to meet the above needs: 1) Conduct a baseline inventory and assessment of fens in the project area; 2) Establish a monitoring protocol that identifies a) triggers for adaptive management, and b) locations prioritized for conservation and management.

4) Project partners include the following: Eleanor Gaines, Director of INR/ORBIC, PSU; Kyla Zaret, Wetland Ecologist, INR-PSU; Cristina McKernan, Ecologist, USFS; Erin Rentz, Botanist, USFS; Sandra Klepadlo, Botanist, USFS; Gregg Riegel, Ecologist, USFS; David J. Cooper, Senior Research Scientist, Colorado State University; Dave Weixelman, Regional Range Ecologist (Retired), USFS; Ray Brunner, Ecologist, INR-PSU; Eric Nielsen, Remote Sensing Analyst, INR-PSU.

Monitoring Team Evaluation

Monitoring Team Strengths

- The proposed project expands on current monitoring efforts in the project area and will leverage wetland groundwater data in an adjacent watershed.
- Remotely sensed and field collected data will supplement local and national wetland inventories with current location information to assist in identifying where fens are located.

- Long-term sampling sites will be selected where additional information is needed based on vegetation type, livestock use, presence of listed species, potential for wetland type conversion and consistency with other management plans.
- The applicant proposes to collect field data following established monitoring methods.
- The applicant will develop a field guide and a written monitoring protocol complete with standard operating procedures. The plan will describe selection of monitoring plots, data collection procedures, instrumentation care and installation, and provide a timeline for site measurements which will strengthen the repeatability of measurements project success over time.
- The monitoring plan will be developed with and reviewed by USFS staff including representatives at the local, regional and national offices.
- New occurrences of listed species will be incorporated into federal databases such as NRIS and ORBIC ensuring that data will be made available to the relevant agencies responsible for protecting these sensitive plants.
- The spatial dataset of fen polygons will also be added to the next version of the Oregon Wetlands Database, which is an element of the Oregon GIS Framework and the Oregon Rapid Wetland Assessment Protocol Map Viewer on Oregon Explorer.
- The applicant staff and contractors are qualified to complete the work and have many years of experience completing related monitoring efforts.
- The applicant has engaged and will work with fen experts to finalize their monitoring plot design.

Monitoring Team Concerns

- The application does not describe whether existing local knowledge of the habitat distribution will be incorporated into the sampling design.
- The applicant is adapting data management and QA/QC components after an unspecified long-term riparian monitoring project; without more detail it is challenging to determine if these measures are appropriate.
- The specific monitoring methods are not clearly described.
- Data analysis is described broadly; additional details are needed to understand how each monitoring question will be answered. For example, how will current wetland condition be characterized and how do they plan to identify significant shifts in vegetation composition, water table levels, and ground cover?
- The application does not describe how the reports from this project will be distributed to local, state, tribal, and federal partners and collaborators.
- It is not clear how the information will be distributed to community stakeholders. This seems significant given the conservation community has litigated the grazing EIS for many years.

Monitoring Team Comments

Review Team Evaluation

Strengths

- The proposed project deliverables will include a handbook outlining the monitoring protocols and results of the project. This will be a beneficial resource for land managers and watershed groups.

- The proposed groundwater monitoring wells are important components of this monitoring to accurately document and map fen habitats.
- The project team has the right set of expertise and knowledge to implement the monitoring. In addition, the local USFS staff are bringing in known fen experts to aid in this effort.
- The geographic area of the project includes critical habitat for Oregon spotted frogs and this effort will help identify areas for habitat protection and enhancement for this species.
- Soil samples collected as part of this project will analyze various components in developing soil characteristics, including peat and carbon.
- Understanding fen environments will provide useful data for ODF given these environments tend to burn for long periods of time.
- Given the large landscape (160,000 acres) encompassed by this project, using aerial imagery tools to help drive soil sample sites is an appropriate approach.

Concerns

- Additional context on the broader ecological services and species benefits fen habitats provide would have been helpful in determining the technical soundness of the proposed approach.
- Given drought conditions in recent years, it's unclear whether recent aerial imagery will be accurate enough to drive potential sample locations.
- Potential restoration actions that could result from this monitoring listed the use of heavy machinery, and it was unclear what that would entail.

Concluding Analysis

This monitoring effort will bring together experts in botany, ecology, wetlands, and remote sensing analysis to accurately locate, map, and characterize conditions of fen environments across a large landscape on the Fremont-Winema National Forest. Very little is known regarding the extent and condition of these unique features and there is a need to understand potential impacts to fens from grazing and climate change. This effort could serve as a model and framework for how to do this type of work to inform restoration.

Review Team Recommendation to Staff

Fund

Review Team Priority

3 of 5

Review Team Recommended Amount

\$232,475

Review Team Conditions

Staff Recommendation
Staff Follow-Up to Review Team

Staff Recommendation
Fund

Staff Recommended Amount
\$232,475

Staff Conditions

Open Solicitation-2022 Spring Offering Central Oregon (Region 4)

Application Number: 222-4031-22364

Project Type: Monitoring

Project Name: Oregon Spotted Frog Response to Stream restoration and Beaver in the Klamath Basin, Oregon

Applicant: Trout Unlimited Inc

Region: Central Oregon

County: Klamath

OWEB Request: \$205,121

Total Cost: \$288,318

Application Description Extensive losses of wetland habitat have occurred in the Klamath Basin (Dahl 1990). The Oregon spotted frog (*Rana pretiosa*; OSF), an ESA listed species, occurs in six watersheds in the Klamath Basin. Riparian habitats in these watersheds have been altered by water diversion, invasive species, and loss of beaver. The USFWS has identified that a major factor limiting OSF recovery is the lack of data on how restoration actions can translate into population recovery. This lack of data is particularly acute for beaver reestablishment or construction of beaver dam analogs (BDAs), two methods that can be relatively inexpensive and used in tandem with other measures. Our proposed project will monitor responses of OSF and their associated habitat conditions to installation of BDAs at one site and natural beaver reestablishment and restoration of a meandering channel from a ditched stream at another site in the Upper Klamath Lake Watershed (18010203), Klamath County, Oregon. We will quantify OSF distribution and breeding abundance and estimate adult population size 1-year before and 2-3 years after BDA construction in a recently rehabilitated reach of Sun Creek (tributary of the Wood River). At lower Crane Creek, we will document OSF distribution, breeding abundance, and estimate adult population size over the first 4 years post-channel reconstruction, particularly as they relate to extant and expanding beaver activity. Because invasive American Bullfrogs are present in the valley and pose a threat to OSF, we will also evaluate how well these restoration methods resist establishment of bullfrogs. Our study works with an established group of partners (landowners, USGS, National Park Service) to directly inform restoration and recovery goals for a threatened amphibian with particular relevance for other projects on active grazing lands in the Klamath basin. Results will identify actions that may be most successful for achieving long-term recovery of the species.

Monitoring Team Evaluation

Monitoring Team Strengths

- The proposed project will complement limited data on Oregon Spotted Frog (OSF) responses to habitat rehabilitation efforts, one of which is in the Klamath basin near the Crane Creek site where this project will collect data.
- The proposed project will leverage the existing Pit tag arrays in Sun Creek to understand OSF movement.

- The applicant describes the need for data to understand how restoration actions to benefit fish may affect OSF.
- The monitoring questions are appropriate and the proposed monitoring methods and analyses are adequate to answer them.
- The applicant will follow standardized OSF monitoring protocols and the QA/QC procedures are adequate to collect high quality data.
- The applicant describes in detail how the data will be managed to ensure data storage is protected with multiple back-ups following established USGS procedures.
- Project status updates will be provided to local partners and landowners through regular communication, on-site meetings during field work, and update meetings each winter.
- The applicant will present updates at annual meetings with the Klamath Basin OSF Working Group and the Rangewide OSF Working Group.
- The staff and contractors working on this project have the necessary qualifications and experience to complete the project in a successful manner. In addition, the contractor has a strong performance history working on OSF and related monitoring efforts with OWEB funding.
- The applicant has partnered closely with ODFW, USGS, USFWS, USBR, and Crater Lake National Park to monitor Oregon Spotted Frog populations throughout the Upper Klamath Basin.
- The budget seems adequate with the justification provided in the budget narrative to meet objectives over a six-year period.

Monitoring Team Concerns

- The application does not describe how the project will complement the bull frog/OSF monitoring project nearby that OWEB is currently funding.
- The application does not describe or cite the methods to collect water temperature, water level, and drone flights to document the extent of surface waters. There is no description of how this information will be used in data analysis.
- The data collection methods to collect frog data and habitat associations are not described; the hyperlink to reference the sampling protocol did not work.
- It is not clear how bull frog removals are occurring in a systematic way.
- It is not clear how the applicant plans to use this information to engage the public and other landowners with suitable habitat to help encourage habitat restoration for OSF.
- The application does not describe how the USFS and BLM are engaged in this project and may receive information from this monitoring effort given that they own significant land in the area.

Monitoring Team Comments

Review Team Evaluation

Strengths

- The applicant and USGS have a long history of working on similar projects in this geography.

- Monitoring data and resulting analysis will likely inform future restoration projects using BDAs to support habitat enhancement for Oregon spotted frog.
- The budget for five years of monitoring is cost effective.
- In addition to understanding Oregon spotted frog response to these structures, the project will also seek to understand the presence and distribution of bullfrogs, one of the biggest threats to native Oregon spotted frogs.
- Water levels and their extent will be documented for each structure monitored. This will offer insight on habitat use and availability for amphibians and fish.

Concerns

- The BDA structure characteristics and the number of BDA structures to be monitored were not described or provided. Without this detail, it is unclear whether the results will be broadly applicable.
- Given recent drought and water calls by the Klamath Tribes, water management has changed. It would have been helpful to understand how this has impacted the Oregon spotted frog, its habitat, and its threats, and how streamflow conditions inform the proposed monitoring approach.
- It's unclear how the BLM and USFS are involved given they are adjacent landowners. Additionally, there is no mention of engagement with ODF who owns land on Sun Creek where portions of the restoration have occurred.

Concluding Analysis

The Oregon spotted frog is an ESA-listed Threatened species and populations in the Upper Klamath Basin are at serious risk. Low tech, process-based restoration could serve as a valuable tool for habitat enhancement, but very little is known regarding effectiveness for this species. The proposed project seeks to fill the data gap and understand the benefits of this restoration technique to inform future restoration actions.

Review Team Recommendation to Staff

Fund

Review Team Priority

2 of 5

Review Team Recommended Amount

\$205,121

Review Team Conditions

Staff Recommendation

Staff Follow-Up to Review Team

Staff Recommendation

Fund

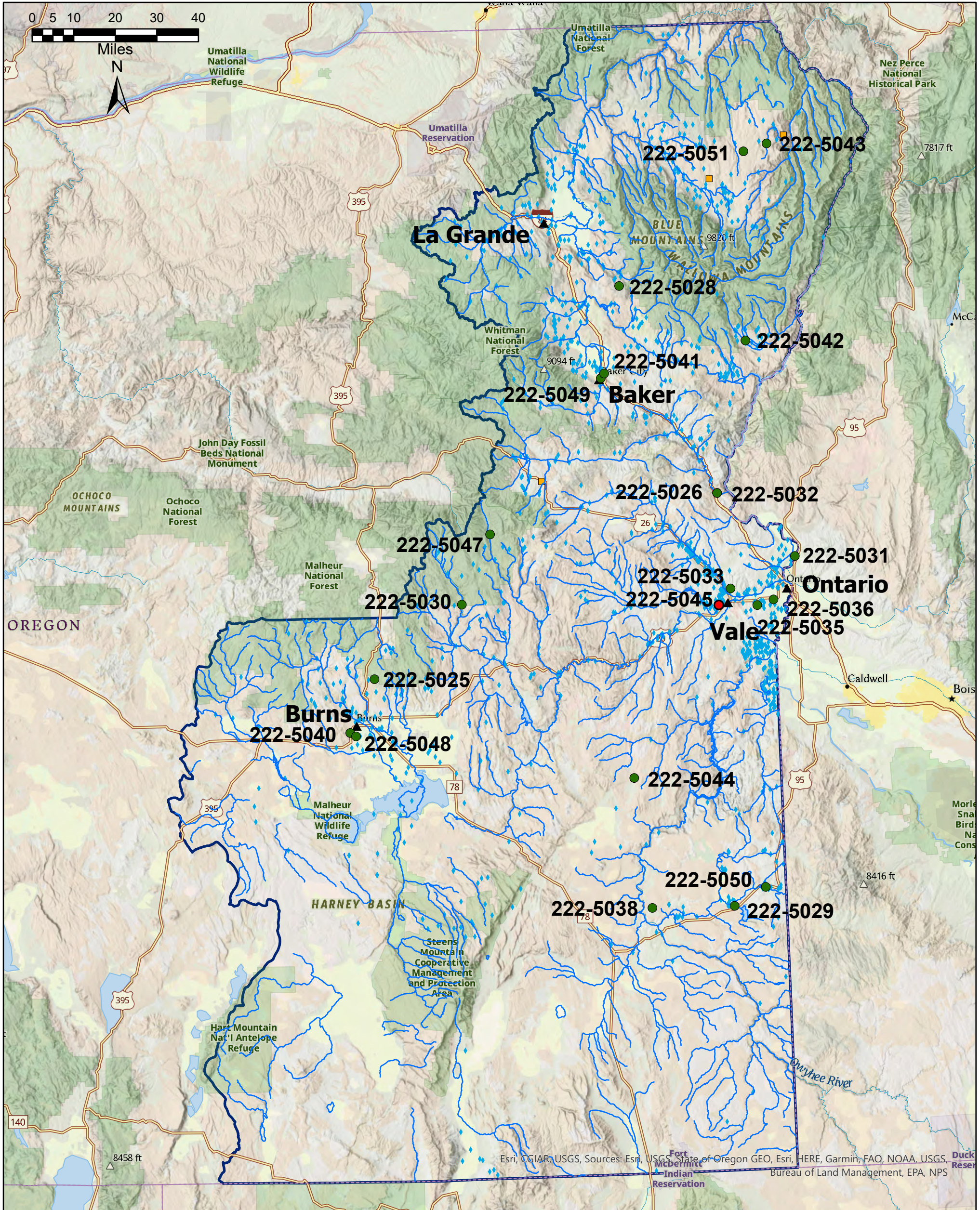
Staff Recommended Amount

\$205,121

Staff Conditions

Eastern Oregon

Eastern Oregon - Region 5 Spring 2022 Funding Recommendations



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Funding Recommendation

- Staff Recommendation For Funding (SRF)
- Below Funding Line (BFL)

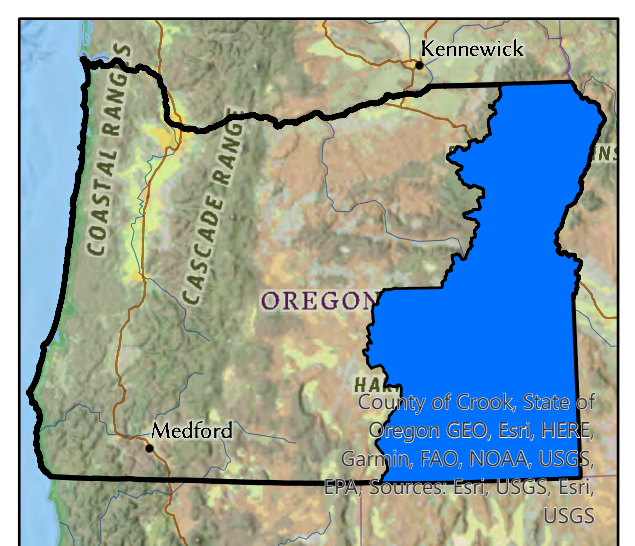
Previous Grants 1998 - Fall 2021

- Land Acquisition
- ◆ Restoration
- ▲ Region 5 Cities
- Region 5 Streams
- ▭ OWEB Region 5 Boundary



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Region 5 - Eastern Oregon Restoration					
Projects Recommended for Funding in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
222-5032	Eagle Valley SWCD	Oliver Sullivan Fish Passage Project	Three unscreened irrigation diversions that do not meet fish passage criteria will be consolidated into one irrigation diversion with a fish screen, which will restore the migratory corridor for bull trout in Pine Creek near Halfway.	279,837	Baker
222-5028	Union SWCD	Milk Creek Riparian Fence Project	Two and one quarter miles of Milk Creek, a tributary to Catherine Creek near Union, will be fenced to exclude livestock from the stream, which will promote streamside vegetation and improve water quality for steelhead, redband trout, and Chinook salmon.	41,886	Union
222-5029	Owyhee WC	Jack Creek Water Quality Improvement	Located near Jordan Valley, 143 flood irrigated acres will be converted to border irrigation to eliminate irrigation wastewater and improve water quality in the nearby Owyhee River.	129,869	Malheur
222-5026	Burnt River SWCD	Main Meadow Irrigation	Located near Huntington, 60 flood irrigated acres will be converted to sprinkler application to eliminate irrigation wastewater and improve water quality in the lower Burnt River.	85,401	Baker
222-5025	Harney SWCD	Baker Corral Juniper and Ponderosa Pine Treatment	Juniper and ponderosa pine will be removed across 1205 forested acres north of Burns to restore sagebrush-steppe habitat for sage-grouse and other native wildlife.	199,387	Harney
222-5030	Malheur WC	Let's Go Hog Wild and Protect Some Mahogany for Mule Deer	Juniper and ponderosa pine will be removed across 264 forested acres located in the upper Malheur River watershed to restore habitat for sage-grouse and other native wildlife.	172,527	Harney
222-5033	Malheur SWCD	Let's Split The Bill	Twenty-five flood irrigated acres west of Ontario will be converted to sprinkler application to eliminate irrigation wastewater and improve water quality in Lower Willow Creek.	51,019	Malheur
222-5031	Malheur WC	Cleaning the Pool in the Snake River	Located near Ontario, 96 flood irrigated acres will be converted to sprinkler application to eliminate irrigation wastewater and improve water quality in the adjacent Snake River.	136,900	Malheur
222-5038	Owyhee WC	Owyhee Upland Vegetation Restoration	Noxious weeds and invasive annual grasses will be inventoried, treated, and monitored in the 4-million acre Jordan Valley Cooperative Weed Management area in Southern Malheur County. This work will benefit native fish and wildlife, preserve intact rangeland, and promote proper livestock grazing management.	161,570	Malheur
222-5036	Malheur SWCD	Irrigating with Shoestring Water	West of Ontario, 70 flood irrigated acres will be converted to sprinkler application to eliminate irrigation wastewater and improve water quality in the Lower Malheur River.	72,951	Malheur
222-5035	Malheur SWCD	Morgan Horse Derby Race	Located in the Morgan Bench focus area near Ontario, 70 flood irrigated acres will be converted to sprinkler application to eliminate irrigation wastewater and improve water quality in the nearby Malheur River.	91,585	Malheur
Total Restoration Projects Recommended for Funding by RRT and OWEB Staff				1,422,932	

Projects Recommended but Not Funded in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
None					

Projects <i>Not Recommended</i> for Funding by RRT				
Project #	Grantee	Project Title	Amount Requested	County
222-5027	Harney SWCD	Calamity Aspen, Stream, Riparian and Thinning Restoration	41,052	Harney
222-5034	Malheur WC	Improving Wildlife, Wetland and Riparian Habitat Along the Malheur River	352,222	Malheur
222-5037	Malheur SWCD	Nickel & Dime	109,877	Malheur

Region 5 - Eastern Oregon Technical Assistance

Projects Recommended for Funding in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
222-5041	Powder Basin WC	Powder Basin Watershed Action Planning	The strategic watershed restoration action plan for the Powder Basin Watershed Council will be updated to guide native fish and wildlife habitat projects that build watershed resiliency.	45,461	Baker
222-5040	Harney SWCD	Continuing Sage Grouse CCAA Development in Harney County	Private rangeland habitat restoration actions, strategies, and locations will be prioritized in Harney County to maximize benefit for sage-grouse and native wildlife.	75,000	Harney
222-5042	Eagle Valley SWCD	Halfway to Fix Fish Habitat Project	A restoration design will be created to address bank erosion, improve water quality, and restore instream habitat, which will improve bull trout productivity in Pine Creek near Halfway.	42,866	Baker
222-5044	Owyhee WC	Washboard Upland Improvement Design	Designs will be developed for a livestock watering system and grazing management in the Crowley area of Malheur County to improve rangeland health, livestock management, and sage-grouse productivity.	24,562	Malheur
222-5043	The Nature Conservancy	Upper Camp Creek Restoration Design	Designs necessary to restore wet meadow and floodplain habitat along 3.4-miles of Camp Creek near Enterprise will be completed to increase steelhead productivity and address watershed resiliency.	75,000	Wallowa
Total Technical Assistance Projects Recommended for Funding by RRT and OWEB Staff				262,889	

Projects Recommended but Not Funded in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
None					

Projects <i>Not Recommended</i> for Funding by RRT				
Project #	Grantee	Project Title	Amount Requested	County
None				

Region 5 - Eastern Oregon Stakeholder Engagement

Projects Recommended for Funding in Priority Order				
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Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
222-5051	Wallowa Resources	Wallowa County Rangeland Enhancement - Stakeholder Engagement	Ranchers in targeted areas of Wallowa County will be engaged through presentations, one-on-one consultations, and range management planning sessions to implement methods that reduce invasive annual grasses and promote native vegetation.	82,215	Wallowa
222-5049	Powder Basin WC	Powder Basin Stakeholder Engagement	Stakeholders and landowners in Baker County will be engaged through one-on-one consultations, a newsletter, direct mailings, and workshops to implement beaver restoration, irrigation modernization, and fish passage restoration projects.	45,316	Baker
222-5050	Owyhee WC	Owyhee Upland Vegetation Management	Landowners and stakeholders will be engaged through meetings, workshops, and one-on-one consultations to implement early detection and rapid response actions to control invasive annual grasses and noxious weeds in Southern Malheur County.	109,678	Malheur
Total Stakeholder Engagement Projects Recommended for Funding by RRT and OWEB Staff				237,209	

Projects Recommended but Not Funded in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
None					

Projects <i>Not Recommended</i> for Funding by RRT					
Project #	Grantee	Project Title	Amount Requested	County	
None					

Region 5 - Eastern Oregon Monitoring

Projects Recommended for Funding in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
222-5047	OSU Office of Sponsored Research & Award Admin	Environmental DNA as an Improved Monitoring Technique for Bull Trout in the North Fork Malheur River	Environmental DNA data will be collected in tributaries to the North Fork Malheur River to determine the presence of bull trout, which will inform upcoming restoration and land management actions.	80,237	Grant
222-5048	Harney SWCD	Harney Sage Grouse CCAA Monitoring	Private rangeland habitat restoration actions will be monitored in Harney County to inform future land management and maximize conservation benefit to sage-grouse.	153,384	Harney
Total Monitoring Projects Recommended for Funding by RRT and OWEB Staff				359,118	

Projects Recommended but Not Funded in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
222-5045	Malheur WC	Checking On Things: WQ Monitoring in the West Vale Bench, Willow Creek, Harper, and Little Valley	Water quality data will be collected in the Lower Malheur River to build on twenty-years of existing data, better understand long-term water quality trends, and inform irrigation improvement restoration work.	125,497	Malheur

Projects <i>Not Recommended</i> for Funding by RRT				
Project #	Grantee	Project Title	Amount Requested	County
222-5046	Malheur SWCD	Down and Dirty Again	47,607	Malheur

Region 5 Total OWEB Staff Recommended Board Award	2,156,651
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Region 1 - 6 Grand Total OWEB Staff Recommended Board Award	12,111,567
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Open Solicitation-2022 Spring Offering Eastern Oregon (Region 5)

Application Number: 222-5025-22244

Project Type: Restoration

Project Name: Baker Corral Juniper and Ponderosa Pine Treatment

Applicant: Harney SWCD

Region: Eastern Oregon

County: Harney

OWEB Request: \$199,387

Total Cost: \$328,387

Application Description 1) This project takes place on 1,205 acres of private property in the northern Harney Basin, approximately 10 miles north of Burns, along Devine Ridge. More than half of the project area is located within Preliminary General Habitat (PGH) for sage-grouse. 2)The watershed concerns to be addressed include Western juniper and ponderosa pine encroachment throughout the upland and meadow/riparian areas; loss of desired riparian plant species; loss of flora and fauna species richness and diversity; loss of stream bank stability; and overland erosion of uplands. 3)Proposed work includes removing Western juniper and ponderosa pine throughout the property including upland and riparian/meadow areas. 4) Project partners include the landowner and the Harney Soil and Water Conservation District.

Review Team Evaluation

Strengths

- Previous application evaluation concerns are addressed by describing the project benefits to sage-grouse and other wildlife in the project area and providing detailed maps and a complete grazing management plan.
- The maps uploaded with the application demonstrate how the proposed work leverages similar actions on adjacent Bureau of Land Management and US Forest Service lands, which will multiply the ecological benefits from the proposed investment.
- Juniper removal and ponderosa pine thinning will improve sage-steppe, mahogany, and aspen habitats for native wildlife. Removing conifers is a technically sound strategy for restoring these target habitats.
- Thinning work proposed on the southern edge of the property will improve Preliminary General Habitat (PGH) for sage-grouse.
- The Harney SWCD and the landowner have relevant experience and capacity to implement the project as described in the application.
- The budget details necessary costs and reasonable rates that align with the expected watershed benefits.

Concerns

- The application has inconsistent numbers for the acres of phase 1 and phase 2 juniper encroachment

that will be treated.

- Currently, livestock grazing on the property occurs annually in late spring and early summer. The landowner is encouraged to develop a rotational grazing plan to rest portions of the property so that native plant species can reestablish.
- Rising fuel cost may reduce the number of acres that can be treated within the estimated budget.

Concluding Analysis

Harney SWCD is proposing to maintain sagebrush habitat, expand greater sage-grouse habitat, improve elk wintering range, and maintain mountain mahogany stands on 1,225 acres north of Burns. The proposed conifer removal is likely to succeed in increasing habitat connectivity to provide contiguous year-round habitat for sage-grouse.

Review Team Recommendation to Staff

Fund

Review Team Priority

5 of 11

Review Team Recommended Amount

\$199,387

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$199,387

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Eastern Oregon (Region 5)

Application Number: 222-5026-22245

Project Type: Restoration

Project Name: Main Meadow Irrigation

Applicant: Burnt River SWCD

Region: Eastern Oregon

County: Baker

OWEB Request: \$85,401

Total Cost: \$266,000

Application Description Located within the Burnt River SWCD and one mile outside of the town of Huntington, OR; this property, a pasture/livestock feeding ground, is currently being flood irrigated with the banks of the Burnt River only a few feet away. The landowner will recover the ground under new sprinkler irrigation and plant alfalfa as well as limit the grazing and livestock use, thus decreasing the runoff, debris, and bacteria from directly entering the Burnt River. This project will install two pivots and two ODFW approved floating pumps in the Burnt River, pumping only the amount of water needed to irrigate the 60 acres under the two pivots. The landowner is aware that the current flood irrigation practice at the site is not healthy for our streams and fish habitat, and wants to make improvements. The landowner will partner with the Burnt River SWCD and a local contractor to mitigate the irrigation runoff concern on this property.

Review Team Evaluation

Strengths

- The application contains details necessary to understand the project, including an in-progress water rights transfer, project component specifics, letters of support, and a detailed grazing description for the project area.
- Installing pivots for irrigation in the project location is a technically sound choice given the flat topography and course textured soils.
- Installing fencing and limiting livestock grazing to 30-days in the fall will reduce livestock access to the Burnt River and their impacts to water quality.
- Reducing sediment, nutrient, and bacteria laden runoff from the property will improve water quality in the Burnt and Snake Rivers.
- The project is located just above a Department of Environmental Quality (DEQ) water quality monitoring site that can be used to track project effectiveness through status and trend monitoring.
- The proposed work addresses water quality issues identified in local water quality management plans and is in an area where Oregon Department of Agriculture (ODA) and DEQ encourages increased landowner participation in voluntary water quality improvement projects.
- The Burnt River SWCD has relevant experience and a proven track record implementing irrigation water management projects.
- The landowner's commitment to the project is demonstrated by proactively applying for the necessary water rights transfer and improving farm and livestock management on the property.
- Project costs are commensurate with the expected watershed benefits to water quality and water conservation.

Concerns

- The application lacks an irrigation system cost estimate needed to better understand how project costs were determined.

Concluding Analysis

Converting 60 irrigated acres from flood to sprinkler application will reduce irrigation wastewater. This conversion will improve water quality by reducing sediment, nutrient, and bacteria delivery to the Burnt and Snake Rivers. The project is likely to succeed in achieving water quality improvement objectives.

Review Team Recommendation to Staff

Fund

Review Team Priority

4 of 11

Review Team Recommended Amount

\$85,401

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$85,401

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering

Eastern Oregon (Region 5)

Application Number: 222-5027-22251

Project Type: Restoration

Project Name: Calamity Aspen, Stream, Riparian and Thinning Restoration

Applicant: Harney SWCD

Region: Eastern Oregon

County: Harney

OWEB Request: \$41,052

Total Cost: \$51,403

Application Description 1)The proposed project is located on the southeast side of Calamity Butte, approximately 38 miles from Burns, Oregon. The property is within the Malheur watershed and has an elevation ranging between 5,800-6,200 feet.

2) Pre-settlement fire suppression combined with inconsistent timber management has led to dense pockets of timber and encroaching juniper. Aspen stands have also suffered from the increased competition. Tree stocking levels need to be managed on the site. Historically, cattle have congregated in the springs, meadows and streams, resulting in long-term damage. This project will focus on reducing native ungulate grazing pressure on aspen stands, increased native riparian plants, reduced downcutting within the stream channel, and sediment entrapment within the newly installed beaver dam analog (BDA) structures.

3)The proposed work will include: Fencing of aspen stands (1.5 acres), riparian vegetation planting, precommercial timber thinning (71 acres), construction of 5 instream BDAs and no cattle grazing for at least 5 years.

4) Project partners include the landowner and the Harney Soil and Water Conservation District.

Review Team Evaluation

Strengths

- A suite of restoration actions is proposed to improve forest health and stream conditions, including aspen stand protection, streamside planting, precommercial timber thinning, and instream erosion control measures.
- The maps uploaded with the application demonstrate how the proposed work will leverage similar actions on adjacent Bureau of Land Management and US Forest Service lands.
- The Harney SWCD and the landowner have relevant experience and capacity to implement the project as described in the application.

Concerns

- The application lacks details needed to understand the proposed restoration methods. For example, it is unclear what type of fence will be installed to protect the aspen stands, how streamside plantings will be installed and what plant protection methods will be used, and how many trees per acre will remain after the precommercial thinning is completed.

- The specific locations, objectives, and design of the beaver dam analogs (BDA) is unclear from the application. Installing BDAs in any high gradient stream channel may not be technically sound for achieving the stream restoration outcome described in objective 4 of the application.
- The design-build application approach lacks specificity describing how the proposed restoration methods will be applied that is needed to determine if the estimated costs are appropriate for the proposed work and expected watershed benefits.

Concluding Analysis

Harney SWCD is proposing to improve forest conditions on 71-acres north of Burns. Additional information regarding the thinning prescription, fencing design, planting methods, and erosion control measures is needed to evaluate whether the project is likely to succeed in achieving the expected ecological uplift.

Review Team Recommendation to Staff

Do Not Fund

Review Team Priority

N/A

Review Team Recommended Amount

\$0

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Do Not Fund

Staff Recommended Amount

\$0

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Eastern Oregon (Region 5)

Application Number: 222-5028-22252

Project Type: Restoration

Project Name: Milk Creek Riparian Fence Project

Applicant: Union SWCD

Region: Eastern Oregon

County: Union

OWEB Request: \$41,886

Total Cost: \$62,419

Application Description The Milk Creek Riparian Fence Project is located on the La Grande Ranger District, Wallowa-Whitman National Forest inside the boundary of the Frazier Mountain C&H allotment. The riparian fence enclosure is situated in the headwaters of Milk Creek, a tributary to Catherine Creek, Sub-Basin of the Upper Grande Ronde (HUC 1706010405). The dominant land use consists of range, pasture, forest, and recreation.

Previous land management activities have impacted geomorphic processes and aquatic habitat along Milk Creek and resulted in poor stream channel and riparian area conditions. Specifically, in this project area, livestock concentrate in the riparian and wetland areas along Milk Creek during the late summer and early fall as upland forage dries and water becomes scarce. This project proposes to remove the current dilapidated fence and construct a new enclosure to safeguard the riparian area from livestock trampling and streambank erosion.

Project objectives are to improve streambank vegetative cover and streambank stability, reduce herbivory of streamside deciduous hardwoods and reduce livestock trampling of wetland soils and features adjacent to the stream channel. This project proposes to construct approximately 2.25 miles of four-strand barbed wire fence to control livestock access to 5,075 feet of stream and 15.5 acres of wet meadow and wetlands.

Project partners include the USDA Forest Service, Union Soil and Water Conservation District, Oregon Watershed Enhancement Board, and the Frazier Mountain C&H allotment permittees.

Review Team Evaluation

Strengths

- The existing fence that excludes livestock from Mill Creek is over 30 years old and in a state of disrepair, which indicates it is at the end of its useful lifespan. The vegetation currently located in the riparian area inside the fence line is healthy and appears to be approximately 30 years old, which indicates the fence has served its purpose to protect this vegetation so that it can provide streamside habitat benefits. There is a clear need for the proposed fence replacement because livestock now breach the fence and cause damage to riparian and aquatic resources.
- Grazing allotments are managed by the US Forest Service (USFS) using the Multiple Indicator Monitoring (MIM) of Stream Channel and Streamside Vegetation methods, which provides a strategic approach for monitoring riparian and aquatic improvements.

- The proposed wildlife friendly fence design is technically sound and will allow wildlife to safely pass through the fence while excluding domestic livestock from the protected riparian area.
- The allotment permittee will maintain the fence long-term, which is described in the allotment management plan provided with the application.
- Milk Creek is spawning and rearing habitat for Endangered Species Act listed steelhead.
- Milk Creek is a tributary to Catherine Creek, which is a focus area for fish habitat restoration for Chinook salmon, steelhead, and bull trout.
- Improving wet meadow function high in the Milk Creek watershed will increase watershed resiliency because this plant community can store and release water longer into the summer season.
- The Union SWCD, USFS, and permittee have relevant experience and capacity to implement the project as described in the application.
- Project partnerships are demonstrated by in-kind and cash match from the SWCD, USFS, and the permittee.
- Project costs are commensurate with the expected watershed benefits to water quality and aquatic habitat.

Concerns

- The status of the project site conditions is unclear from the application. Including MIM data analysis would have been helpful for understanding baseline conditions in the project area to determine if the expected watershed outcomes are achievable.

Concluding Analysis

Union SWCD, in partnership with the USFS, propose to continue riparian and aquatic improvements in upper Milk Creek, a tributary to Catherine Creek near Union. The fence replacement work will continue to exclude domestic livestock from Milk Creek, which will protect riparian and aquatic habitat functions long-term. The proposed project is likely to succeed in achieving expected restoration outcomes for a reasonable cost.

Review Team Recommendation to Staff

Fund

Review Team Priority

2 of 11

Review Team Recommended Amount

\$41,866

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$41,886

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Eastern Oregon (Region 5)

Application Number: 222-5029-22260

Project Type: Restoration

Project Name: Jack Creek Water Quality Improvement

Applicant: Owyhee WC

Region: Eastern Oregon

County: Malheur

OWEB Request: \$129,869

Total Cost: \$255,087

Application Description The Jack Creek Water Quality Improvement project is located 12 miles west of Jordan Valley along Jack Creek and Danner Loop Road. The project area consists of 143 acres of hay/pastureland irrigated with both flood and gated pipe. Tailwater containing sediment, nutrients and bacteria flow off the project area directly into Jack Creek, Jordan Creek, and the Upper Owyhee River. The proposed work includes land leveling/grading, constructing earthen irrigation border berms, and installing 4,875 feet of 10-inch pipe with alfalfa valves to convert 143 acres to border irrigation. Implementation of this project will improve water quality in Jack Creek, Jordan Creek and the Upper Owyhee River by eliminating irrigation return flows containing sediment, nutrients and bacteria to Jack Creek. Project partners include the landowner, Owyhee Watershed Council and Agrilines Irrigation.

Review Team Evaluation

Strengths

- The application has clearly defined project goals and objectives.
- Maps included in the application provide ample detail for understanding the project vicinity and proposed restoration components, along with its proximity to prior implemented projects.
- The applicant and landowner have a proven track record implementing similar irrigation water management projects.
- Border irrigation, a form of controlled flood irrigation, is appropriate for the flat topography and fine textured soils in the project area.
- When managed properly, border irrigation is an effective water conservation method that uses less water and eliminates wastewater runoff. The irrigation system will serve as a demonstration to other landowners in the area and may encourage future water conservation projects.
- The proposed conversion to a border irrigation, which does not require electricity to operate like pivot sprinkler systems, is appropriate for the Jordan Valley area where power to operate electric irrigation systems is limited.
- The project is located in sage-grouse habitat. Irrigation improvements will reduce standing water and mosquito breeding habitat, which will limit the transmission of West Nile Virus that can cause sage-grouse mortality.
- The new irrigation system will reduce sediment, nutrient, and bacteria runoff from the project site, which will improve water quality in Jack Creek, Jordan Creek, and the Upper Owyhee River.
- Project costs are commensurate with the expected watershed benefits to water quality, water conservation, and sage-grouse.

Concerns

- No concerns are identified.

Concluding Analysis

Converting 143 flood irrigated acres to border irrigation will eliminate irrigation wastewater in the project area and reduce sediment, nutrient, and bacteria runoff. The proposed project is likely to succeed in continuing work in the Jordan Valley area that implements Oregon Department of Agriculture (ODA) and the Department of Environmental Quality (DEQ) water quality improvement objectives for the Upper Owyhee River.

Review Team Recommendation to Staff

Fund

Review Team Priority

3 of 11

Review Team Recommended Amount

\$129,869

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$129,869

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Eastern Oregon (Region 5)

Application Number: 222-5030-22268

Project Type: Restoration

Project Name: Let's Go Hog Wild and Protect
Some Mahogany for Mule Deer

Applicant: Malheur WC

Region: Eastern Oregon

County: Harney

OWEB Request: \$172,527

Total Cost: \$221,597

Application Description

- 1) The project is near Hog Flat and the Malheur River. It is about 25 air miles to Seneca.
- 2) Juniper and ponderosa pine are invading aspen, and mountain-mahogany stands. The invasion is degrading forest health, wildlife habitat, and could foster insect and disease, and disastrous wildfire. The southern end of the property is within core sage grouse habitat. Federally listed bull trout inhabit the nearby Malheur River. Approximately 264 acres are in need of thinning.
- 3) Chainsaws will be used to cut 264 acres of juniper and pine. All juniper, except the trees that fit "old-growth" characteristics will be cut. The pine will be thinned to about 100 trees per-acre. We have a higher density specification for young ponderosa stands. There are several small stands of robust 2–4-inch dbh ponderosa where we propose spacing at 10 feet (~400 trees per-acre) and then coming back in in 15 years. Slash will be hand-piled for later cool-season burning. Slash piles will be kept below 4-feet to prevent roost habitat for predators of sage-grouse. On 19 acres of thinning to benefit mahogany, slash will be lopped and scattered.

Post-Project Maintenance to Control Juniper

On a yearly basis, the treated area will be inspected to determine if action needs to be taken. Criteria will include counts of juniper trees per-acre. Action will be needed if there are 10 or more trees per acre. These actions could include mechanical treatment of small or large areas with loppers and/or chainsaws. This monitoring will occur for a minimum of 10 years and conifers every 15 years.

Aspen Browsing

- Protect a 1-acre stand of aspen from browsing with 900 feet of buck-and-pole fence.
- Protect 5 smaller groups of aspen by removing competing conifers, mostly juniper.
- Browse protection will be from jackstrawing slash around the existing aspen.

- 4) Partners include the landowner, and the Malheur WSC.

Review Team Evaluation

Strengths

- Previous application evaluation concerns are addressed by removing a boundary fence from the project design, clarifying the number of acres that will be treated, and utilizing Oregon Department of Forestry (ODF) rules to determine the appropriate thinned trees per acre (TPA) target.
- The application has clearly defined project goals and objectives. Maps and photos included in the application provide ample detail for understanding the project vicinity, current forest conditions, and proximity of previous restoration completed nearby.
- Similar forest restoration work is occurring on adjacent public lands and the project leverages those efforts. The combined work will serve as a demonstration to other private landowners in the area and may encourage future restoration.
- The proposed improvements to conifer, aspen, and mahogany stand conditions will benefit wildlife, including mule deer.
- Cost estimates are based on a forestry contractor bid and the project budget is commensurate with the expected watershed benefits.

Concerns

- Slash piling may not be an appropriate technique on portions of the property with steep ground.

Concluding Analysis

The Malheur Watershed Council proposes to enhance watershed resiliency and improve wildlife habitat with a variety of treatment methods, including aspen protection, mountain mahogany enhancement, and conifer thinning. Each of these treatments will provide habitat benefit to native fish and wildlife, including sage grouse.

Review Team Recommendation to Staff

Fund

Review Team Priority

6 of 11

Review Team Recommended Amount

\$172,527

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$172,527

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Eastern Oregon (Region 5)

Application Number: 222-5031-22270

Project Type: Restoration

Project Name: Cleaning the Pool in the Snake River

Applicant: Malheur WC

Region: Eastern Oregon

County: Malheur

OWEB Request: \$136,900

Total Cost: \$280,841

Application Description

1. This project is located near Payette and is adjacent to the Snake River.

2. Water quality improvement in the Malheur Basin is one of the top restoration priorities for the Malheur Watershed Council. Improved water quality is achieved through on-farm irrigation infrastructure improvements and management. The Council, in cooperation with irrigation districts and private landowners, has been systematically improving water quality through irrigation system conversions over the past 20 plus years across the Malheur Basin. This project complements several recently completed and on-going water quality improvement projects in the area because it is not that far from the Coyote Gulch focus area.

3. The proposed project will convert 96 acres of flood irrigated fields to sprinklers by installing:

- 2 pivots
- 1 Cornell 4RB-30 3 Phase Pump
- 1 Clemons Inline Filter
- 2020 feet of 6 inch 100# PIP
- 1160 feet of 8 inch 100# PIP
- 1140 feet of 4 inch IPS 125#
- Trench and backfill for pipelines
- Electrical allowances and and IP hook up
- a flow meter.

We will apply for a Water Right Transfer if needed.

4. Partners are the Landowners and the Malheur WSC.

Review Team Evaluation

Strengths

- The application has clearly defined restoration goals and a description of how project objectives will be met.

- The summarized water quality data included in the application provides watershed context that demonstrates a clear need for the proposed irrigation conversion.
- Irrigating field corners with pivot infrastructure is challenging and adds to the cost of irrigation. To address this, two field corners will be left unirrigated to encourage growth of native vegetation that will provide wildlife habitat benefits.
- The project will result in water quality improvements by addressing elevated sediment, nutrient, and bacteria in the Snake River.
- Ongoing water quality monitoring activities in the basin will be used to track project effectiveness.
- The proposed irrigation improvement is a high priority because it will eliminate a direct input of irrigation wastewater to the Snake River.
- The landowner has demonstrated a commitment to achieving maximum ecological benefit through previous implementation of similar projects.
- The irrigation company quote included with the application indicates the budget is based on appropriate research.

Concerns

- The project site is located on an organic farm. It will be a challenge to establish native vegetation in the pivot corners without the use of chemical treatment to prevent weed establishment.

Concluding Analysis

Converting 96 acres from flood to sprinkler irrigation will reduce irrigation wastewater in the project area next to the Snake River near Ontario. Reducing sediment, nutrient, and bacteria laden runoff builds upon similar work in the area that is contributing towards implementation of Oregon Department of Agriculture (ODA) and Department of Environmental Quality (DEQ) water quality improvement objectives for the Snake River.

Review Team Recommendation to Staff

Fund

Review Team Priority

8 of 11

Review Team Recommended Amount

\$136,900

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$136,900

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering

Eastern Oregon (Region 5)

Application Number: 222-5032-22271

Project Type: Restoration

Project Name: Oliver Sullivan Fish Passage Project

Applicant: Eagle Valley SWCD

Region: Eastern Oregon

County: Baker

OWEB Request: \$279,837

Total Cost: \$679,568

Application Description The Oliver Sullivan Fish Passage Project is located at river mile 4.3 on East Pine Creek, a tributary to Pine Creek and is approximately 1.5 miles northeast of Halfway, OR.

The section of East Pine Creek associated with this project has three diversions that are listed as fish passage barriers on the 2019 ODFW Fish Passage Priority List. A total of four irrigation ditches are connected to these diversions, none of which have fish screens. East Pine Creek is designated as Critical Habitat for Bull Trout and is part of a Core Recovery Area ranked as a focal area for Bull Trout Recovery Actions.

This project proposes to combine the diversions into one consolidated Point of Diversion (POD; 10.2 cfs total). The new POD will include a concrete intake structure, headgate, buried pipeline, and rotary drum fish screen. Two of the existing diversion structures will be removed and replaced with engineered riffle structures to pass native migratory fish, specifically Bull Trout. Additional projects associated with this project site (not part of this application) include the removal of the third diversion barrier in 2025 and water efficiency projects on three of the four irrigation ditches (2022 through 2025).

This project is a joint effort between the Eagle Valley SWCD and Idaho Power Company (IPC) with additional assistance provided by U.S. Fish and Wildlife Service (USFWS) Partners for Fish and Wildlife Program. The project has full support and participation from landowners and ditch users (landowner agreements attached).

Review Team Evaluation

Strengths

- The project is ready for implementation, which is demonstrated by project designs that are 90% complete, project funding that has been prioritized by partners, and the initiation of steps to meet environmental compliance requirements.
- The application clearly describes the proposed project objectives and actions through photos, a comprehensive narrative, and designs.
- The selected design approach is clearly described in the application and resulted from a collaboration between irrigators, Idaho Power, and the Eagle Valley SWCD to address fish passage while balancing the irrigator's need to divert their legal water right.

- The proposed fish passage work is a high priority for Oregon Department of Fish & Wildlife (ODFW), Idaho Power, and US Fish and Wildlife Service (USFWS) and addresses causes rather than symptoms of watershed disturbance by removing fish passage barriers.
- The restoration design includes adding large woody material in the project stream reach that will provide additional fish habitat benefits beyond fish passage improvements.
- The project team, consisting of the Eagle Valley SWCD, Idaho Power, and USFWS, is experienced in partnering on similar projects.
- The engineer that developed the project design has appropriate experience with similar projects.
- Partnership commitments are demonstrated with leveraged resources.
- Project costs are commensurate with the expected watershed benefit.

Concerns

- The extent to which the project will benefit migratory fish is unclear because the application lacks information describing the watershed context surrounding the three fish passage barriers that will be addressed. For example, it is unclear whether there are additional barriers that need to be corrected on East Pine Creek to provide bull trout access to habitat.

Concluding Analysis

The Eagle Valley SWCD is proposing to restore fish passage at three irrigation diversions on East Pine Creek near Halfway. Three irrigation diversions will be consolidated to one Point of Diversion to address fish passage in East Pine Creek, which is critical habitat for ESA-listed bull trout. Construction design was guided by current ODFW and USFWS fish passage rules. Addressing fish passage at the Oliver Sullivan Diversion is prioritized in bull trout regional assessment and recovery plans from USFWS and ODFW. The project is likely to succeed in achieving cost effective watershed benefits.

Review Team Recommendation to Staff

Fund

Review Team Priority

1 of 11

Review Team Recommended Amount

\$279,837

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$279,837

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Eastern Oregon (Region 5)

Application Number: 222-5033-22289

Project Type: Restoration

Project Name: Let's Split The Bill

Applicant: Malheur SWCD

Region: Eastern Oregon

County: Malheur

OWEB Request: \$51,019

Total Cost: \$128,250

Application Description 1. The Project is located 18 miles west of Ontario or 3.5 miles Northwest from Vale. The site consists bench ground directly below the Owyhee Irrigation Canal with slope ranging from 5 to 8 percent on the irrigated ground.

2. Conversion from flood to sprinkler system on 25.09 acres resulting in zero runoff on two fields. The landowner just installed a pivot that will irrigate 45.3-acre this spring (2022) with his own funding and is requesting assistance on the 2nd pivot infrastructure along with 8 risers in the corner and 1400 ft of 6" pipe to install 10 risers to the little field (5 acres) This will result in zero runoff in three fields with the help of OWEB funding. A third pivot will be installed later, with an ask from a small OWEB grant in 2023. These irrigated fields have been leveled somewhat but still require a lot of open ditches to reach different parts of the field during irrigation season, with runoff leaving the farm and going into Willow Creek.

3. The proposed project will convert 25.09 acres from flood to sprinkler.

Zimmatic 745 ft 4-tower pivot with end gun

1- First Street flat screen

2- Box to mount cleaning screen

3- 880 ft - 8 "pipe to pivot pad #1

4- 900 ft - #4 cablecon wire from power pole to cleaning screen

5- 900 ft – 2" pipe to corner of pivot field with 8 risers to sprinkle with handlines

6- Cornell 10 HP 3 PH pump

7- Cornell pump panel

8- 400 ft – 4" ISP Pipe

1-1400 ft – 80# 6" pip pipe from pivot to the 5-acre field that will be irrigated with a sprinkler system to run big guns with zero runoff

2-1 Big Gun and Cart

3- 10 Risers for Big Gun

4- Concrete for both proposed fields

5- Electrical Allowance for hook-up for control box, pump, cleaning screen

Review Team Evaluation

Strengths

- The application has clearly defined project goals and objectives. The photos, maps, and irrigation bid included with the application provide useful context for understanding site conditions and project costs.
- The proposed conversion from flood to sprinkler irrigation is appropriate for the topography, and the system layout fits with the existing irrigation system.
- The project is phase two of a three phased irrigation conversion on the property, the landowner has completed phase one and will complete phase three. The proposed phase two irrigation conversion will multiply the ecological benefits realized from the other phases completed by the landowner.
- The project will result in water quality benefits by addressing elevated sediment, nutrient, and bacteria in Willow Creek.
- Ongoing water quality monitoring activities in the Malheur River area will be used to track project effectiveness.
- The landowner has demonstrated a commitment to achieving maximum ecological benefit through previous implementation of similar projects.
- The Malheur SWCD has relevant experience and a proven track record implementing irrigation water management projects.
- A quote is provided from an irrigation company, indicating the budget is based on appropriate research.
- Project costs are commensurate with the expected watershed benefits to water quality and water conservation.

Concerns

- The maps included with the application do not indicate the number of acres that are irrigated under each irrigation system. This information would add context to past and planned irrigation water management work on the property and in the watershed.

Concluding Analysis

Converting 25.1 irrigated acres from flood to sprinkler application will reduce irrigation wastewater. The proposed irrigation conversion will further efforts to implement Oregon Department of Agriculture (ODA) and Department of Environmental Quality (DEQ) water quality improvement objectives by reducing sediment, nutrient, and bacteria delivery to Willow Creek. The project is likely to succeed in achieving water quality improvements.

Review Team Recommendation to Staff

Fund

Review Team Priority

7 of 11

Review Team Recommended Amount

\$51,019

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$51,019

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering

Eastern Oregon (Region 5)

Application Number: 222-5034-22295

Project Type: Restoration

Project Name: Improving Wildlife, Wetland and Riparian Habitat Along the Malheur River

Applicant: Malheur WC

Region: Eastern Oregon

County: Malheur

OWEB Request: \$352,222

Total Cost: \$494,499

Application Description

1. The project is located approximately 6 miles west of Vale and south of Highway 20 on 980 acres.

2. This 2.6-mile section of the Malheur River was adversely affected by historic flooding and significant high-flow events in the 1980's and 2017. Two sections of the banks are eroding resulting from high-flow events impacting water quality, riparian habitat and infrastructure. Historic channels of the Malheur deposited large amounts of cobble throughout the property.

3. OWEB funds are targeted for riparian, streambank and wetland enhancement. Two sections of the river will have large, wood placements along the south bank to enhance the streambank and provide aquatic habitat. Two wetlands will be created (3.0 acres total) in an area where river cobble was previously deposited. Historic river cobble will be excavated to create the wetlands. A 500-foot berm restricting flow will be pulled back to enhance channel width and allow the river to flow unimpeded. Another small wetland (.25 acre) will be constructed to create additional habitat and have 25 cottonwood planted along side. Cottonwood will be protected by caging. A .7-acre Willow Trench will be constructed to enhance streambank conditions, capture sediment and provide aquatic habitat.

4. Project partners are Bully Creek LLC, RSI Engineering and ODFW.

Review Team Evaluation

Strengths

- The project design and proposed work resulted from a previously funded OWEB technical assistance grant.
- Oregon Department of Fish & Wildlife (ODFW) will monitor fish population, density, and diversity in the project area post construction.
- The project area has limited wetland habitat and the proposed work will restore this habitat to benefit native fish and wildlife.

- The project team, consisting of the watershed council, landowner, and ODFW, is experienced in partnering on similar projects.
- The engineer that developed the project design has appropriate experience with similar projects.
- Russian Olive, a non-native tree species, is present on the property and the use of this tree to build instream habitat may be a cost-effective approach.

Concerns

- Additional information is needed to understand whether using Russian Olive for instream habitat restoration work is technically sound, such as an example of this novel approach effectively being used as proposed. It is unclear if this tree species will have the required longevity needed for it to function as instream structure, how long trees will need to cure to prevent sprouting and spread of this invasive plant, and whether the wood can function in the stream to redirect flows and construct habitat features.
- The proposed streambank stabilization work described in Objective 1 of the application may treat symptoms rather than the causes of streambank erosion and floodplain disconnection by adding material to existing rock structures built several decades ago intended to address site specific erosion.
- Extensive excavation and deep cuts into the floodplain are proposed to restore wetland habitat in the downstream portion of the project. It is unclear if this approach is likely to succeed in establishing wetland plant communities, reconnecting the floodplain with the stream, and providing long-term watershed benefits from the proposed investment.
- A lighter, less engineered restoration approach that builds on existing functional fish and wildlife habitat may be more cost-effective in providing watershed benefits. For example, providing river access to existing side channels in the phase two area of the project.
- The restoration approach will result in high costs to achieve habitat improvements. It is unclear if this project cost is commensurate with the expected watershed benefits.

Concluding Analysis

The Malheur Watershed Council is proposing to restore 2.6 miles of the Malheur River near Vale on a farm managed for agricultural production and wildlife. The instream, floodplain, and riparian restoration work is informed by a design developed by a diverse project team and experienced project engineer. The work, however, may be more opportunistic rather than strategic because it is unclear how the project fits within river restoration planning for the broader section of the Malheur River. The use of non-conventional wood material for instream structures and extensive excavation planned for the downstream end of the project may not result in the expected restoration outcomes. While restoration may lead to ecological uplift in the short-term, the long-term success is uncertain.

Review Team Recommendation to Staff

Do Not Fund

Review Team Priority

N/A

Review Team Recommended Amount

\$0

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Do Not Fund

Staff Recommended Amount

\$0

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Eastern Oregon (Region 5)

Application Number: 222-5035-22303

Project Type: Restoration

Project Name: Morgan Horse Derby Race

Applicant: Malheur SWCD

Region: Eastern Oregon

County: Malheur

OWEB Request: \$91,585

Total Cost: \$192,328

Application Description 1) Nine miles southwest of Ontario, located in the Morgan Bench Focus Area between Ontario and Vale.

2) Runoff from the 70 acre farm is flood irrigation with a small cow/calf operation. 70 acres for this farm is contributing to the sediment loads and e. coli in the Lee Road Drain where the SWCD has a sample site 389 to document sediment loads, that spills into the Nevada Ditch, Blanton Drain, then the Malheur River which is known to be the second dirtiest river in the state, ending in the Snake River, which both the Malheur and the Snake River has a TMDL (Total Maximum Daily Load).

3) Proposed Work:

- OID - New Weir box installation with measuring blade at main canal and bury 650 ft of 10 "mainline to landowner delivery point.

- Project On Farm Components:

- o Install a screen before the new orifice box

- o Connect 1600 ft of 10" 80# pipe from point of delivery on farm to the Pivot Pad for a pressurized system

- o bury 2200 ft of 6" 100# Pipe to deliver irrigation water for the horse pasture.

- o Install and Bury 2600 ft of 4" pipe for the solid set on the pasture for a total 8.75 acres with a total of 25 sprinklers.

- o Install a 5 tower Zimmatic Pivot swipe on 46.5-acre conversion

- o New Power Pole with Transformer on Arabian Drive

- o 200 ft of cablecon wire from transformer to the pivot pad to run the

- o VFD Phase Converter

- o Clemons screen before pivot pump for protection from sediment and trash

- o Cornell 20hp pump

- o 8' flow meter

- o Connect gated pipe to take out on the 10" pipe to flood irrigate 3 acres

- o Put in ditch at the bottom of the 3-acre flood irrigation and continue with ditch on the west side of the property, next to the fence that will carry runoff to the pond

Review Team Evaluation

Strengths

- Converting 70 flood irrigated acres to sprinkler application will address water conservation priorities in the Morgan Bench priority area.
- The project is in the Morgan Bench Priority Area, which is a focus area for Oregon Department of Agriculture (ODA), Department of Environmental Quality (DEQ), and Natural Resource Conservation Service (NRCS) to improve water quality in the Malheur River.
- Reducing sediment, nutrient, and bacteria laden runoff from the property will contribute significant water quality benefits to the Malheur River.
- Ongoing water quality monitoring will be used to document project impacts and effectiveness.
- Previous application evaluation concerns are addressed regarding uncertain water rights and the acres questioned will not be irrigated by the pivot irrigation system.
- The application describes how the project is within proximity to previous and future on-farm irrigation improvements.
- The Malheur SWCD has relevant experience and a proven track record implementing irrigation water management projects.
- Project costs are commensurate with the expected watershed benefits to water quality and water conservation.

Concerns

- It is unclear how the water quality data provided in the application is relevant to the project site. An explanation or distillation of the data that summarizes what was learned about the project site from the water quality monitoring would provide useful context for understanding current water quality conditions and the potential watershed benefit that could result from the irrigation conversion.
- The application provides general information to describe the proposed irrigation conversion and lacks information indicating how irrigation improvements at the specific project site will provide meaningful watershed benefit in the Morgan Bench Priority Area and the Lower Malheur River.

Concluding Analysis

Converting 70 irrigated acres from flood to sprinkler application will reduce irrigation wastewater. The proposed irrigation conversion in the Morgan Bench Priority Area will further efforts to implement ODA and DEQ water quality improvement objectives by reducing sediment, nutrient, and bacteria delivery to the Malheur River. The project is likely to succeed in achieving water quality improvements.

Review Team Recommendation to Staff

Fund

Review Team Priority

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Review Team Recommended Amount

\$91,585

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$91,585

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Eastern Oregon (Region 5)

Application Number: 222-5036-22304	Project Type: Restoration
Project Name: Irrigating with Shoestring Water	
Applicant: Malheur SWCD	
Region: Eastern Oregon	County: Malheur
OWEB Request: \$72,951	Total Cost: \$227,381

Application Description 1. Five miles west of Ontario, between Clark and Vista Drive, across from the Experiment Station and the Oregon Fish & Wildlife Building

2. Conversion from flood to sprinkler on approximately 70 acres

3. Construct a sediment pond (1 acre) and a holding pond (.5 acre) to pump out of for the pivot

Install a 9 tower pivot

1880 ft of wire

1520 # 2 wire with controls from floating pump to pivot pad

Install 1420 ft of 8" pipe

1 -15hp pump

1 floating pump station

1 fine filter

1- 8" flow meter

Electrical

1.5 acre pond excavation

Dirt ditch to carry runoff to the drain on 2.5 acres left in flood irrigation

4) Landowner, NRCS, ODA, OID, and SWCD.

Review Team Evaluation

Strengths

- Converting 70 flood irrigated acres to sprinkler application will address water conservation priorities in the Morgan Bench priority area.
- The project is in the Morgan Bench Priority Area, which is a focus area for Oregon Department of Agriculture (ODA), Department of Environmental Quality (DEQ), and Natural Resource Conservation Service (NRCS) to improve water quality in the Malheur River.
- Converting from flood to sprinkler irrigation is a technically sound approach for improving water quality in the Malheur River.

- The project location is visible to the public and may lead to additional water quality restoration work in the area.
- The Malheur SWCD has relevant experience and a proven track record implementing irrigation water management projects.
- Project costs are commensurate with the expected watershed benefits to water quality and water conservation.

Concerns

- It is unclear how the water quality data provided in the application is relevant to the project site. An explanation or distillation of the data that summarizes what was learned about the project site from the water quality monitoring would provide useful context for understanding current water quality conditions and the potential watershed benefit that could result from the irrigation conversion.
- The application provides general information to describe the proposed irrigation conversion and lacks information indicating how irrigation improvements at the specific project site will provide meaningful watershed benefit in the Morgan Bench Priority Area and the Lower Malheur River.

Concluding Analysis

Converting 70 flood irrigated acres to sprinkler application will reduce irrigation wastewater in the Morgan Bench Priority Area. Reducing sediment, nutrient, and bacteria runoff will continue water quality improvement work near Ontario that implements ODA and DEQ water quality improvement objectives for the Malheur River. The project is likely to succeed in achieving water quality improvements.

Review Team Recommendation to Staff

Fund

Review Team Priority

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Review Team Recommended Amount

\$72,951

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$72,951

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Eastern Oregon (Region 5)

Application Number: 222-5037-22309

Project Type: Restoration

Project Name: Nickel & Dime

Applicant: Malheur SWCD

Region: Eastern Oregon

County: Malheur

OWEB Request: \$109,877

Total Cost: \$380,199

Application Description 1. 6 miles west of Ontario in the Morgan Bench Priority Area with NRCS, OID, and ODA on an 85.5-acre farm with 58 acres of irrigation and 27.5 dryland.
2. Conversion from flood to sprinkler on 58 irrigated acres with steep terrain. Limit livestock access to Lincoln Lateral. Cross fencing pastures for mob grazing and resting 27.5 dry acres to reseed every couple of years.

3. Running wire from the 3-phase power pole on Lincoln Drive to a pumping station that includes

2-15 hp pumps.

370 ft of 8" 125 IPS pipe

2920 ft of 6" 125 IPS pipe

1800 ft of 4" 125 IPS pipe

1900 ft of 3" 125 IPS pipe

1500 ft of 4" 100# IPS pipe

Pivot 1, 500 ft

Pivot 2, 618 ft

Pivot 3, 464 ft

Pivot 4, 364 ft

42 big guns

1584 ft of CBL In Conduit 4#4 w/2#12

2400 ft of CBL In Conduit 3#2 w/2#12

4- Pivot Tie Ins

4028 ft of Hot wire fence

4- 12 ft Livestock panels for water gap

1143 ft of 4 wire fence for Water Quality

2136 ft fence Removal

2-Tree Removal to eliminate cattle loitering and making a dust bowl underneath the trees.

Review Team Evaluation

Strengths

- The application has clearly defined objectives and actions and includes maps that show the proximity of the project site to other irrigation water management projects in the area.
- Ongoing water quality monitoring will be used to document project impacts and effectiveness.
- The project is in the Morgan Bench Priority Area, which is a focus area for Oregon Department of Agriculture (ODA), Department of Environmental Quality (DEQ), and Natural Resource Conservation Service (NRCS) to improve water quality in the Malheur River.
- Converting from flood to sprinkler irrigation is a technically sound approach to improve water quality in the Malheur River.
- The addition of cross fencing will improve upon the current grazing management approach by allowing for a high intensity and short duration grazing option.
- The Malheur SWCD has relevant experience and a proven track record implementing irrigation water management projects.

Concerns

- It is unclear how the water quality data provided in the application is relevant to the project site. An explanation or distillation of the data that summarizes what was learned about the project site from the water quality monitoring would provide useful context for understanding current water quality conditions and the potential watershed benefit that could result from the irrigation conversion.
- The application lacks design details for the pivot needed to evaluate the likelihood for the project to succeed long term. It is uncertain that the proposed pivots are appropriate for the topography at the project site because it is in a steep geography that is divided by a draw, which may reduce the lifespan of the pivots.
- The project site is not a highly erodible site compared to other row crop acres in the Morgan Bench area because the land is used for grazing and has established livestock forage perennial vegetation. It is unclear the extent to which the proposed irrigation conversion is needed to strategically address water quality concerns since runoff is not significant compared to other locations.

Concluding Analysis

Converting 58 irrigated acres from flood to sprinkler application may reduce irrigation wastewater in the Morgan Bench Priority Area. The proposed irrigation conversion implements ODA and DEQ water quality improvement objectives by reducing sediment, nutrient, and bacteria delivery to the Malheur River. Additional information describing the need for addressing runoff at the project site and the design approach is needed to evaluate whether the project is likely to succeed in providing long-term watershed benefits.

Review Team Recommendation to Staff

Do Not Fund

Review Team Priority

N/A

Review Team Recommended Amount

\$0

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Do Not Fund

Staff Recommended Amount

\$0

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering

Eastern Oregon (Region 5)

Application Number: 222-5038-22350

Project Type: Restoration

Project Name: Owyhee Upland Vegetation Restoration

Applicant: Owyhee WC

Region: Eastern Oregon

County: Malheur

OWEB Request: \$161,570

Total Cost: \$488,308

Application Description In a coordinated stakeholder led effort, the Jordan Valley CWMA covers 4 million acres in southern Malheur County consisting of sparsely populated rangeland. The area includes the Owyhee River drainage in the Jordan Valley, Rome, Arock, Quinn and Rockville areas. Several core and priority areas for conservation exist within this landscape. Invasive species are a primary threat to the Owyhee Watershed and diminish the watershed's ability to function properly by reducing plant diversity and ecosystem integrity. Weeds are encroaching on some of the most pristine high desert habitat remaining in the Great Basin. The conversion of sage and native plant communities to invasive plants, affects food chain dynamics, habitat composition, increases wildfire risk, reduces productivity of forest, farm and rangelands, modifies soil chemistry, increases soil erosion and is a contributing factor to poor water quality.

The proposed work in this project compliments a companion stakeholder engagement proposal (submitted May 2022) and includes coordinated ground and aerial treatments on 5,050 acres of noxious and invasive weeds on state and private lands. In addition, 105 acres will be restored through reseeding efforts and monitored annually to determine treatment and restoration effectiveness.

Project partners include: private landowners, ODA, ODFW, ORDSL, Oregon State Parks, ODOT, NRCS, Vale District BLM, USFWS, Malheur County Commissioners, Malheur County Weed and Vector Departments, Malheur County Road Department, Malheur Soil & Water Conservation District, Integra/Delmar Mine, Vale Sage Grouse Local Implementation Team, Owyhee Cattleman's Association, Malheur Cattleman's Association, Jordan Valley Rangeland Fire Protection Agency, Jordan Valley Irrigation District, and Jordan Valley Rodeo Board.

Review Team Evaluation

Strengths

- The application has clearly defined objectives and actions.
- Previous application evaluation concerns are addressed by stating measurable objectives, describing how projects are prioritized, and providing details on the weed treatment approach.

- The proposed project is a technically sound approach to treat noxious weeds and invasive annual grasses (IAG).
- The planned weed treatment work is needed in the Jordan Valley area to maintain high quality range conditions on private lands that provide habitat for native wildlife as well as domestic livestock forage.
- The Jordan Valley Cooperative Weed Management Area (CWMA) has a long history of working with landowners to map, prioritize, and treat invasive vegetation.
- The applicant has a successful track record implementing similar work in the Owyhee geography.
- Jordan Valley CWMA coordinates with various relevant agencies in Oregon who also focus on controlling invasive vegetation.
- The project is cost-effective by streamlining herbicide purchases, training landowners to treat their own weeds, and engaging a wide range of partners to coordinate weed treatment.
- A diversity of private, local, and state partners are engaged with the work by providing technical expertise and match contributions.

Concerns

- Additional maps showing public and private ownership and weed treatment focus areas as polygons would add clarity to better understand the treatment locations in the CWMA.
- Providing an explanation on how past efforts connect to the proposed work or results, such as monitoring data, from previous work completed through this long-standing weed treatment effort would be helpful for understanding progress made to date and how the current project fits within the context of past and future restoration.
- A large portion of Southern Malheur County is managed by BLM. Information regarding BLM weed treatment efforts would provide context to understand how different weed control work will leverage into an overall impact on the region.

Concluding Analysis

The Owyhee Watershed Council is proposing to improve wildlife habitat and upland watershed health by continuing a 10-year effort of working with private landowners treating noxious weed in southern Malheur County. The work described in this application is necessary to maintain proper functioning rangeland conditions on private lands, which will provide habitat benefits for native wildlife.

Review Team Recommendation to Staff

Fund

Review Team Priority

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Review Team Recommended Amount

\$161,570

Review Team Conditions

N/A

Staff Recommendation
Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$161,570

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Eastern Oregon (Region 5)

Application Number: 222-5040-22254

Project Type: Technical Assistance

Project Name: Continuing Sage Grouse CCAA
Development in Harney County

Applicant: Harney SWCD

Region: Eastern Oregon

County: Harney

OWEB Request: \$75,000

Total Cost: \$103,246

Application Description Harney Soil and Water Conservation District (HSWCD) and the U.S. Fish and Wildlife Service (USFWS) signed the Harney Greater Sage-Grouse Programmatic Candidate Conservation Agreement with Assurances (CCAA) in 2014. Since signing HSWCD has inventoried, enrolled, and completed conservation measures on 22 properties (349,205 acres). HSWCD has received a total of 83 Letters of Intent (LOI) to enroll in the CCAA program which leaves a substantial number of private lands throughout Harney County waiting to enroll and apply conservation practices (See attached Map).

The most limiting factor for HSWCD is the lack of resources to fund the positions that will consult with landowners, map and survey land, write Site Specific Plans (SSPs) for private landowners still waiting to be enrolled in the CCAA program, and complete the monitoring and reporting tasks associated with each enrollee. Enrollment in the CCAA program includes the following 6 steps; 1) baseline inventory of ecological conditions, 2) identification of threats to sage-grouse and conservation measures (CMs), 3) synthesis of baseline information, threats and CMs in a SSP, 4) landowner review, 5) USFWS review and approval, and 6) issuance of a Certificate of Inclusion to the landowner. Currently, 48 landowners with LOIs are waiting to have an SSP developed for enrollment in the CCAA program. This equates to approximately 282,501 acres, with the potential to improve and expand habitat for sage grouse.

HSWCD will; 1) sustain two additional years of 0.35 FTE for a CCAA Coordinator to expedite planning efforts for NRCS and HSWCD and develop SSPs and 2) enroll remaining Quarter 4 LOI sign-ups into the CCAA program (8 properties consisting of approximately 24,430 acres). Properties are located on private rangelands that overlap with sage-grouse habitat in southeast Harney County. Participating partners include NRCS, BLM, ODA, private landowners and ranch managers, and the Harney CCAA Steering Committee.

Review Team Evaluation

Strengths

- The application describes a clear need for the proposed site-specific planning process that will be guided by accepted protocols.
- The resource assessment and planning approach is technically sound. The resulting ranch plans will identify necessary and appropriate conservation measures and will be helpful in acquiring funding for conservation and restoration work on the properties.

- Harney SWCD staff have extensive sage-grouse planning experience and can implement the work as proposed.
- The project will add staffing capacity at Harney SWCD, which is needed as more landowners enroll in the Candidate Conservation Agreement with Assurances (CCAA) program.
- Appropriate partnerships with private landowners, US Fish and Wildlife Service (USFWS), and Natural Resource Conservation Service (NRCS) are demonstrated by match contributions.

Concerns

- It is unclear why monitoring activities described in Objective 6 is included in this technical assistance application when monitoring funds are applied for in a separate application. Additional information is needed to understand how the monitoring activities described in the technical assistance and monitoring applications are different.
- A clear and concise stepwise description of the CCAA process and how it leads to effective sage-grouse conservation would provide helpful context for understanding planning requirements.

Concluding Analysis

Harney SWCD proposes to maintain their CCAA Coordinator to implement CCAA site-specific planning on private rangeland in Harney County. Each CCAA requires a site-specific plan prior to conservation measure implementation. The need for the work will grow as more landowners enroll, and the applicant is working towards a secure funding source to sustain planning capacity long-term. The planning described in the application will occur on CCAA enrolled landowner properties and the likelihood that the planning will inform sage-grouse conservation is high.

Review Team Recommendation to Staff

Fund

Review Team Priority

2 of 5

Review Team Recommended Amount

\$75,000

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$75,000

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Eastern Oregon (Region 5)

Application Number: 222-5041-22257

Project Type: Technical Assistance

Project Name: Powder Basin Watershed Action Planning

Applicant: Powder Basin WC

Region: Eastern Oregon

County: Baker

OWEB Request: \$45,461

Total Cost: \$58,111

Application Description The Powder Basin Watershed Council (PBWC) proposes to develop a watershed restoration action plan with specific focus areas within our geographic scope (Brownlee, Powder and Burnt River Subbasins). While we currently have a Strategic Plan that guides overall operations, this plan lacks specific focus with respect to geography, limiting factor, action type or community need. The PBWC's geographic scope is quite large (1,603 square miles). In consideration of our foreseeable operational capacity, effectively developing and implementing actions over such a wide geography, without focus, limits our ability to achieve demonstrable results meeting specified watershed/community needs. We would like our future actions to move from being opportunity-based to strategic, with geographic and action-type focus. To accomplish this, we propose to bring on additional staff (Planning and Engagement Coordinator) to lead the PBWC in a planning and community engagement process resulting in a watershed restoration action plan in support of our Mission. In development of the action plan, we will give specific consideration to the following: 1) geographies with documented watershed needs, 2) action types with demonstrated effectiveness for the identified watershed need, 3) actions located where probability of meeting restoration objectives is high, 4) sensitive fish and wildlife species needs, 5) biological and landscape resiliency to climate change, 6) connection between community vitality and health of natural resources, 6) needs of underserved communities and people groups, 7) available partnerships . We have developed a list of 25 individuals, organizations, and agencies to engage in this process and we expect the scope of engagement to broaden. Match funding for this project is being sought through the Roundhouse Foundation.

Review Team Evaluation

Strengths

- The application describes a clear need for planning restoration actions that address watershed limiting factors in specific geographies in the Powder Basin.
- The planning approach will move the current Powder Basin strategic action plan from opportunity-based to a more strategic focus.
- The updated strategic action plan will identify large-scale restoration projects that will lead to increased ecological uplift.
- A long-term water quality monitoring dataset will be used to inform the planning process.

- Ongoing stakeholder engagement actions implemented by the watershed council will be leveraged to develop a 10-year restoration vision for the Powder Basin with community input.
- Appropriate partners are identified, and the partnership will engage the necessary audiences to review existing data and identify restoration needs in the basin.
- The applicant has the leadership and technical skills to implement the project as proposed.
- The diverse partnership of local, state, and federal agencies, as well as the Baker County community, demonstrates cost effectiveness by leveraging partner resources and expertise.
- The project budget includes costs for a meeting facilitator. This position will improve planning meeting efficiency, enhance project coordination, and improve engagement between agency stakeholders and landowners.

Concerns

- A list of 25 partners is identified in the proposal; however, it is unclear if those partners are fully engaged with the project without letters of support included in the application.

Concluding Analysis

The Powder Basin Watershed Council proposes to update their action plan to become more strategic in their work area. Restoration opportunities will be identified based on geography and action type to maximize ecological uplift as well as address known limiting factors. The resulting action plan deliverable will lead to numerous vetted projects that are likely to increase watershed resiliency.

Review Team Recommendation to Staff

Fund

Review Team Priority

1 of 5

Review Team Recommended Amount

\$45,461

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$45,461

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Eastern Oregon (Region 5)

Application Number: 222-5042-22269

Project Type: Technical Assistance

Project Name: Halfway to Fix Fish Habitat Project

Applicant: Eagle Valley SWCD

Region: Eastern Oregon

County: Baker

OWEB Request: \$42,866

Total Cost: \$54,028

Application Description This project is located within the Eagle Valley Soil and Water Conservation District, one mile from Halfway, Oregon in Baker County. Pine Creek runs through the property, and is adjacent to the project site. Pine Creek has been a key focus for fish recovery over the past decade due to efforts by ODFW and Idaho Power Company to re-establish migratory bull trout populations in the headwaters. Pine Creek is part of the Critical Habitat designated for bull trout in the Pine/Indian/Wildhorse Core Area in the Mid-Columbia Recovery Unit. In addition, red-band trout, which are considered a species of concern in Oregon, reside throughout the Pine Creek system year-round. Due to previous high water events, Pine Creek's historic side channel has been cut off, resulting in eroding banks, loss of riparian vegetation, sedimentation, poor water quality, and degraded native fish habitat.

The Halfway to Fix Fish Habitat project will address these watershed concerns by developing a 90% professional engineering design. This design will:

- Address past flood damage by restoring Pine Creek's historic side-channel
- Stabilize approximately 263 feet of severely eroding streambanks
- Install instream log structures to increase stream refuge and decrease stream velocity
- Improve spawning and rearing habitat for endangered bull trout and red band trout
- Plant native willows along the bank to restore key riparian vegetation and stabilize banks long term

Partners on this Technical Assistance project include the landowner and Idaho Power Company. Idaho Power will provide engineer and biologist consults and oversight.

Review Team Evaluation

Strengths

- The application describes an apparent need for the technical assistance to design restoration that will improve stream habitat and water quality on Pine Creek.
- The proposed design approach is appropriate by including survey and hydraulic modelling and will lead to erosion mitigation work in a high priority area for bull trout conservation.
- Landowners adjacent to the project area support the project, which may lead to an increased design and restoration scope that will multiply the ecological benefits.

- The design examples included in the application indicate the engineer has relevant experience in similar stream systems.
- An experienced team, including the SWCD, Idaho Power, and the engineer, has capacity to implement the design work as proposed.
- Appropriate partnerships are demonstrated with match from Idaho Power, the engineering firm, the landowner, and the SWCD.
- Project costs are appropriate and align with the work necessary to accomplish the project objectives.

Concerns

- The design work may result in a restoration approach that focuses on treating symptoms of watershed impairment rather than the causes because it will be limited to a single private property. The applicant is encouraged to expand the geographic scope of the design work to include additional upstream and downstream landowners, which will likely increase the understanding of the cause of erosion in the area.

Concluding Analysis

The Eagle Valley SWCD proposes to complete 90% design and permitting requirements for a project that will address erosion in Pine Creek near Halfway. The design work will occur in critical bull trout habitat, will guide future restoration, and may lead to additional habitat restoration in the area. The proposed technical assistance has a high likelihood of success for leading to future stream habitat restoration on Pine Creek.

Review Team Recommendation to Staff

Fund

Review Team Priority

3 of 5

Review Team Recommended Amount

\$42,866

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$42,866

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Eastern Oregon (Region 5)

Application Number: 222-5043-22297

Project Type: Technical Assistance

Project Name: Upper Camp Creek Restoration Design

Applicant: The Nature Conservancy

Region: Eastern Oregon

County: Wallowa

OWEB Request: \$75,000

Total Cost: \$93,750

Application Description

The Upper Camp Creek Restoration Project is located on The Nature Conservancy's (TNC) Zumwalt Prairie Preserve (ZPP) approximately 17 miles northeast of the town of Enterprise in Wallowa County, Oregon. Camp Creek is a tributary to Big Sheep Creek, which flows into the Imnaha River. TNC owns 90% of the Camp Creek watershed in its 33,000-acre ZPP.

Upper Camp Creek is currently disconnected from its meadow and floodplain habitat and much of the upper basin is not functioning at its ecological potential. Historic anthropogenic activities like beaver trapping, road building, over grazing, water developments, and channel straightening have impacted Camp Creek's hydrologic, geomorphic, and ecological function.

The overall goal of this proposal is to complete the technical design work necessary to enhance and restore 3.4 miles of Upper Camp Creek's meadow and floodplain habitat. Restoring the proposed reach will improve spawning and rearing habitat for native and listed species, reset the hydro-geomorphic function in the valley, and improve ecosystem health for aquatic and terrestrial species of flora and fauna. Specifically, this request for technical assistance will allow the project team to secure a design firm for the technical and engineering components of the restoration design.

Camp Creek is an important spawning and rearing habitat for ESA-listed Snake River steelhead populations. The Oregon Department of Fish and Wildlife (ODFW) uses Camp Creek as an index stream and has counted steelhead redds there continuously since 1965. ODFW's counts show that Camp Creek consistently produces the most or second greatest number of redds per stream mile in Wallowa County.

Project partners include Trout Unlimited (TU), Nez Perce Tribe (NPT), and ODFW. TNC and partners would like this to be an important wet meadow restoration demonstration project in the Blue Mountains.

Review Team Evaluation **Strengths**

- The application clearly indicates there is a need for the technical assistance work to address erosion and restore floodplain and riparian habitat in Upper Camp Creek.
- An appropriate level of data collection and professionally accepted practices are described in the application, including utilizing available LiDAR to better understand potential restoration alternatives for the project site.
- The project was vetted through a robust review process developed by BPA and was identified through the Wallowa Atlas project selection methods that ranks projects based on biological importance.
- Camp Creek is a high priority tributary for restoration because the watershed is a stronghold for steelhead with steelhead rearing documented in the project area.
- A range of design options that will be considered are listed in the application, including Post Assisted Log Structures (PALS) and Beaver Dam Analogues (BDAs), floodplain grading and channel fill, large woody material structures, side-channel connection, and road decommissioning. If possible, the project team prefers a light touch, low disturbance restoration design.
- A qualified design engineer with a track record of similar work in similar geographies will complete the restoration design.
- The project team, including Trout Unlimited, the Nez Perce Tribe, Oregon Department of Fish and Wildlife, and The Nature Conservancy, has the experience and capacity to implement the project as proposed.

Concerns

- Environmental compliance requirements, including a wetland delineation, permitting, cultural resources, and ESA consultation, are not described in the application. The application budget narrative indicates these regulatory related tasks were not included due to funding constraints; however, each of these are required at construction and it is unclear how and when this work will be completed.
- The application lacks detail describing how future restoration actions will be prioritized along the 3.4-mile project stream reach. For example, it is unclear why removing a road and replacing a culvert in the lower project reach is not a higher priority than the BDA installation and floodplain restoration proposed.
- Passive restoration on the property, including riparian fencing and proper grazing management, are already improving riparian vegetation, stabilizing the streambanks, and reducing channel downcutting. Additional information describing how the proposed active restoration alternatives, such as BDAs and floodplain grading, will benefit the site would be helpful to better understand the need for the proposed project.
- Additional information describing how costs were estimated would be helpful to better understand whether there will be sufficient funds for the scope of work proposed across 3.4 stream miles.

Concluding Analysis

The Nature Conservancy and partners propose to develop a design that will lead to restoration work on 3.4-miles of Camp Creek in northeast Wallowa County. Camp Creek provides habitat for ESA-listed steelhead, which elevates the importance of the proposed work.

Review Team Recommendation to Staff

Fund

Review Team Priority

5 of 5

Review Team Recommended Amount

\$75,000

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$75,000

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering

Eastern Oregon (Region 5)

Application Number: 222-5044-22308

Project Type: Technical Assistance

Project Name: Washboard Upland Improvement Design

Applicant: Owyhee WC

Region: Eastern Oregon

County: Malheur

OWEB Request: \$24,562

Total Cost: \$31,288

Application Description The Washboard Upland Improvement project is approximately 35 miles SW of Harper in the Crowley area of the Owyhee Uplands. The project area is in the Crowley PAC and core Sage Grouse habitat. Lack of water sources across 4,239 private land acres limits grazing distribution, degrades wildlife habitat, impacts vegetative cover, and inhibits quick wildfire response. The proposed work includes 100% survey/design of a livestock watering/storage system and fire engine filling station by a licensed engineer as well as development of a grazing management plan. Project partners include the Owyhee Watershed and private landowner.

Review Team Evaluation

Strengths

- Project goals and objectives are clear in the application, and the maps provide ample detail of the project vicinity.
- The applicant responded to previous review concerns by submitting a technical assistance proposal to design the stock watering system, developing a grazing management plan, and submitting maps demonstrating the strategic location of the firetruck filling station.
- Additional watering troughs on the 4,239-acre ranch will facilitate proper grazing management, which will provide opportunity to graze invasive annual grasses (IAG) to reduce their presence and promote native vegetation that will benefit sage-grouse.
- The firetruck filling station allows the landowner to rapidly respond to fire that is destructive to sage-grouse habitat.
- The applicant has started a conversation with a qualified engineer with the necessary experience to design the watering system.
- The applicant is qualified to assemble the grazing management plan for the property.
- The budget rates are reasonable given the remote project location, and the overall project cost is commensurate with the expected design result.
- Using existing LiDAR (Light Detection and Ranging) maps for the project area will reduce survey costs associated with the design.

Concerns

- There is no evidence, such as a support letter, indicating the landowner will implement the grazing management plan.

Concluding Analysis

The Owyhee Watershed Council is proposing to design a stock watering system and develop a grazing management plan for a 4,239-acre ranch in the Crowley area of Malheur County. The resulting restoration work will improve ranch operations and provide the tools needed to properly manage the sage-steppe plant community in sage-grouse habitat. With this improved management the likelihood of project success is high.

Review Team Recommendation to Staff

Fund

Review Team Priority

4 of 5

Review Team Recommended Amount

\$24,562

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$24,562

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering

Eastern Oregon (Region 5)

Application Number: 222-5045-22275

Project Type: Monitoring

Project Name: Checking On Things: WQ
Monitoring in the West Vale Bench, Willow Creek,
Harper, and Little Valley

Applicant: Malheur WC

Region: Eastern Oregon

County: Malheur

OWEB Request: \$125,497

Total Cost: \$160,345

Application Description

1) Location. 4 priority areas for irrigation improvement activities in the lower Malheur River Basin. West Bench, Harper, Little Valley, and Willow Creek. The Malheur River, Bully Creek, Willow Creek flow through these areas.

2) NRCS and the Malheur WSC have identified these 4 areas to be priorities for irrigation/water quality improvement projects. We are applying for EQIP, CIS, RCPP, BOR, and OWRD grant funds to implement on farm conversions to sprinkler irrigation and to pipe dirt ditch laterals for better water management. We need to assess if our efforts are successful in improving water quality in the Malheur River, Bully and Willow Creeks.

Continued monitoring is necessary to verify water quality improvements and to characterize further changes in water quality related to changes in land and irrigation management over time. Continued monitoring is critical to show agricultural producers that current agricultural practices are contributing to water quality impairment and to demonstrate that their efforts to improve land and irrigation management can be effective and worthwhile

3) We are proposing to sample water from 9 locations twice a month from May to October.

Sample parameters will be:

- Total and ortho Phosphorus
- E. coli
- Total Suspended Solids (TSS)

We propose to install flow gauges at 2 sites and use data from 3 permanent sites to calculate pollution loads.

4) Project partners are the NRCS, Vale Oregon Irrigation District, RSI Engineering, BOR Lab in Boise, and the Malheur WSC.

Monitoring Team Evaluation

Monitoring Team Strengths

- The proposed project will complement the historic water quality data collected in these areas since the late 1990s and the flow data that has been collected since 2018.
- The proposed project will leverage the flow data collected by OWRD, USGS and Idaho Power that is available in the areas where water quality data will be collected.
- The proposed project will collect data that will inform the TMDL in the Malheur and Snake rivers.
- The applicant has a DEQ-approved Sampling and Analysis Plan (SAP) and will submit water quality data to DEQ.
- The applicant will follow professionally accepted methods to collect flow and water quality data.
- Annual reports of summarized data will be made available on the applicant's website, presented at meetings and conferences and shared with landowners.
- The contractors identified in the application have the relevant experience and proven performance history to complete the project in a successful manner.
- The project will leverage existing water level loggers that have been purchased with previous OWEB monitoring grants.

Monitoring Team Concerns

- The application states that it has been difficult to characterize long-term trends with 20+ years of data and it is not clear how three additional years of data will be used to overcome this challenge.
- The study design is not well described to understand where the monitoring sites are located, how they were selected and why they chose to monitor water levels every 4 hours when the standard procedure is to record water level every 15 minutes.
- The monitoring methods are not described well; the application references using a "hand measurement" to measure flow, but there is no information on how these are taken or the equipment that will be used to measure stream velocity.
- It is not clear how the data will be analyzed to relate changes in nutrient loads to changes in agricultural land practices and implementation of conservation actions.
- The application does not describe how the implementation of conservation actions and changes in irrigation management will be tracked to interpret the findings.
- It is not clear how the agricultural community will be engaged in this project to determine if the resulting information will be applied in a meaningful way.
- The applicant references a technical advisory committee, but it was not clear how they were engaged to scope this monitoring proposal.
- The budget includes significant funding for a technician, but the application does not describe their qualifications or experience to determine if they can complete the work in a successful manner.

Monitoring Team Comments

Review Team Evaluation Strengths

- The summarized water quality data, maps, and photos included with the application help describe the proposed water quality and flow monitoring work.
- The West Bench, Harper, Little Valley, and Willow Creek areas are a priority for irrigation water management improvement. The proposed monitoring will track changes to help prioritize upcoming restoration work in these geographies.
- Previous data indicates Bully Creek, Willow Creek, and the Malheur River have impaired water quality. Data collection using Department of Environmental Quality (DEQ) approved methods for temperature, flow, phosphorus, E. coli, and total suspended solids will contribute critical data that will support the Malheur TMDL implementation.
- The applicant has a proven track record collecting, analyzing, distributing, and presenting water quality data for the Malheur basin.
- The project team consisting of the Malheur Watershed Council, Vale Oregon Irrigation District, and Bureau of Reclamation (BOR) have successfully partnered on past monitoring projects.
- The proposed water quality data collection will be used to substantiate the need for future restoration work that will be proposed in funding applications to Natural Resources Conservation Service (NRCS), BOR, and Oregon Water Resources Department (OWRD).
- Incorporating existing stream flow data from BOR, Idaho Power, and U.S. Geological Survey is a cost-effective approach.
- Project costs are commensurate with the expected water quality data collection, analysis, and distribution.

Concerns

- The application describes the challenge of understanding water quality trends from the existing 20-year dataset, but it does not explain how the proposed work is different to address this challenge or how trends will be determined.
- It is unclear how the water quality data will be used to engage the agriculture community in understanding the impacts of the restoration efforts on water quality.
- Previous monitoring was accomplished through a partnership between the Malheur SWCD and the Malheur Watershed Council. There may now be inefficiencies resulting from each entity monitoring water quality separately that could impact the applicant's capacity to implement the proposed monitoring.

Concluding Analysis

The Malheur Watershed Council proposes to monitor flow and water quality in the Lower Malheur River where improved irrigation water management is a priority. The data collection will inform and prioritize conservation work, document before and after conditions, and facilitate partnerships.

Review Team Recommendation to Staff

Fund

Review Team Priority

3 of 3

Review Team Recommended Amount

\$125,497

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Do Not Fund; falls below staff-recommended funding line

Staff Recommended Amount

\$0

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Eastern Oregon (Region 5)

Application Number: 222-5046-22302

Project Type: Monitoring

Project Name: Down and Dirty Again

Applicant: Malheur SWCD

Region: Eastern Oregon

County: Malheur

OWEB Request: \$47,607

Total Cost: \$97,023

Application Description 1) Malheur and Owyhee River Basins in Malheur County.

2) In the past 20 plus years landowners, agencies, and Irrigation Districts have invested millions of dollars with the intent of improving water quality in the Malheur and Owyhee Watersheds. This monitoring program will help determine the success of these efforts, and help direct future actions.

Oregon Department of Environmental Quality (DEQ) has placed most of the Malheur River and its tributaries on the 303 (d) list due to violations of state water quality standards. The most common problem is temperature, followed by excessive levels of bacteria, nutrients, Chlorophyll a, and toxins.

The majority of human caused water quality problems in the basin seem to result from the cumulative effects of non-point source pollution caused by landscape-wide activities. Irrigated agriculture dominates the bottomlands in the lower reaches of the Malheur/Owyhee Rivers.

The goals of the Malheur and Owyhee Watershed Action Plans identify the need to quantify environmental conditions in pursuit of correcting watershed problems. The continuation of the established water quality monitoring program will help provide data and analysis needed to evaluate water quality trends in this basin, assess the effectiveness of conservation and restoration efforts, and contribute to the Water Quality Management Plan and the 2010 TMDL assessment and implementations. In addition, we will be able to observe trends in water quality and target areas needing further work.

3) -- Maintain sampling on 12 sites.

- Maintain sampling with the support continuous flow gauges on all sites,
- Flow gauges will be placed to monitor key focus areas and major drains,
- Maintain sampling to determine statistically valid trend analysis,
- Maintain sampling to conduct ambient monitoring on the rivers,

4) ODEQ, BOR, Malheur SWCD, NRCS, ODA, Vale Irrigation District, Owyhee Irrigation District,

Monitoring Team Evaluation

Monitoring Team Strengths

- The proposed project will complement the water quality monitoring data that has been collected in the past.
- The applicant plans to write a SAP and have it approved by DEQ.
- The applicant will engage a Technical Advisory Committee (TAC) to review the results and plan for the following year.
- The applicant will follow standard methods and submit water quality samples to the BOR lab for processing.
- The water quality data will be submitted to STORET by the BOR lab.
- A final report including the data, analysis, and conclusions will be written and shared with state and federal partners.
- The budget has been developed based on costs incurred from past monitoring efforts and is likely to be adequate to collect two additional years of data.

Monitoring Team Concerns

- The applicant states that they have over 20 years of data and it is not clear what has been learned to date with the existing data.
- It is not clear why an additional two years of data is needed other than to keep the monitoring program going.
- The applicant references convening of a TAC during the life of the grant, but it was not clear how this TAC was engaged to scope the monitoring proposed in the application.
- The narrative description and maps uploaded to the application make it challenging to understand where the monitoring sites are located.
- The proposed activities do not describe a clear path to understand how each objective will be accomplished.
- The application does not describe how the flow data will be collected, how it will be evaluated or the monitoring protocols that will be followed.
- The application does not describe how the water quality data would be analyzed and how restoration actions will be tracked to interpret the findings.
- The project seems to rely on contractors to develop and maintain datasets without a plan for storing/backing up.
- The project management table only describes the project manager and does not include the contractors to clearly understand their roles in the project.
- The project timeline includes a description of the University of Idaho assisting with data compilation but other than this brief mention it is not clear how they are involved in this project and why this is needed.

Monitoring Team Comments

Review Team Evaluation

Strengths

- Like previous monitoring work, the proposed data collection and analysis will be used to prioritize water quality improvement projects in the Malheur and Owyhee subbasins.
- Irrigation water management restoration applications submitted by the Malheur SWCD, Malheur Watershed Council, and Owyhee Watershed Council all contain water quality data analysis that is a result of this monitoring program.
- The data is used to inform the selection of water conservation focus areas and has provided evidence documenting water quality improvements in response to previous restoration efforts at the farm, water conservation focus area, and drainage scales.
- A Technical Advisory Committee (TAC) will convene annually to review the data, make needed changes to the monitoring program, and determine how to utilize the data analysis.
- Project partners, including the Malheur SWCD, Oregon Department of Agriculture (ODA), Department of Environmental Quality (DEQ), and Bureau of Reclamation (BOR), have relevant expertise and a proven track record implementing similar projects.
- Project costs are reasonable for the expected water quality data.

Concerns

-
- The application lacks information needed to understand the project scope of work. For example, the maps do not clearly identify where monitoring will occur, and the application narratives lacks information describing why specific sites were chosen.
- The application lacks sufficient detail on how data will be used to inform on-the-ground conservation.
- It is unclear what the monitoring is intended to ultimately achieve, whereas a description of a long-term vision may clarify the direction of the proposed work.
- The University of Idaho is identified as a partner, but it is not clear what their role is or how they will participate in the project.
- The application narrative indicates data analysis will be completed; however, it is unclear how this work will be accomplished because it is not included in the budget.

Concluding Analysis

The application proposes to continue water quality monitoring at 12 sampling sites in the Malheur and Owyhee River basins. Sampling over the past two decades demonstrates that water in the lower reaches of both rivers does not meet DEQ water quality standards for several parameters, including temperature, sediment, and bacteria, which demonstrates the need for continued water quality monitoring in the area. The application lacks sufficient information needed to determine the likelihood of success for the proposed monitoring to achieve the project goals and inform future conservation efforts.

Review Team Recommendation to Staff

Do Not Fund

Review Team Priority

N/A

Review Team Recommended Amount

\$0

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Do Not Fund

Staff Recommended Amount

\$0

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Eastern Oregon (Region 5)

Application Number: 222-5047-22331

Project Type: Monitoring

Project Name: Environmental DNA as an Improved Monitoring Technique for Bull Trout in the North Fork Malheur River

Applicant: OSU Office of Sponsored Research & Award Admin

Region: Eastern Oregon

County: Grant

OWEB Request: \$80,237

Total Cost: \$135,486

Application Description The North Fork Malheur River in eastern Oregon supports a population of native bull trout (*Salvelinus confluentus*). Study sites will occur in the North Fork Malheur River and three tributaries: Little Crane Creek, Sheep Creek, and Swamp Creek. Previous data from the Oregon Department of Fish and Wildlife (ODFW) indicates these tributaries support the highest density of bull trout redds in the North Fork Malheur River system. Migratory bull trout in this system spend time in Beulah Reservoir and the main river before using headwater streams as thermal refugia and spawning grounds in the late summer and fall. In contrast, resident bull trout remain in headwater streams. The North Fork Malheur bull trout population persists at a low density across a large geographic range which presents a monitoring challenge for biologists. Recent wildfires in the Malheur National Forest have caused riparian vegetation changes. Vegetation changes have made it difficult for observers to count bull trout redds during the spawning season. As a result, it is challenging for biologists to estimate bull trout abundance and predict changes in population size using current monitoring methods. A rapidly developing method for aquatic species monitoring is environmental DNA (eDNA). eDNA is obtained through collection of water samples and may be a particularly advantageous monitoring method for bull trout. Collection of eDNA is non-invasive and analysis of eDNA is more time efficient than traditional field sampling methods. Project monitoring methods will include eDNA collection, snorkeling surveys, and spawning ground surveys. Results from this project will inform future efforts to use eDNA as a widely deployable tool to monitor bull trout abundance metrics. This project involves collaborators from Oregon State University, ODFW, United States Forest Service, Burns Paiute Tribe, Malheur Watershed Council, and United States Fish and Wildlife Service.

Monitoring Team Evaluation

Monitoring Team Strengths

- The proposed project will complement and strengthen existing bull trout data from federal, tribal and state agency monitoring efforts.
- The study design includes the collection of stream flow, water temperature, and wetted width which are important environmental factors to help interpret eDNA data.

- Members of the bull trout TAC from Burns Paiute Tribe, ODFW, USFS, and USFWS were consulted to ensure that the sampling reaches, timeline, and scope of work for this project complemented existing data from spawning ground surveys and aligned with future improved monitoring objectives.
- Completion of this project will result in a bull trout eDNA monitoring protocol document that will identify spatial distances and temporal scales to collect bull trout eDNA samples. The protocol will also describe the water sample collection procedure, sample storage, lab work, and statistical analyses.
- Datasets resulting from the proposed project will be managed in spreadsheets that will be stored on a computer hard drive, backed up to a cloud-based server and an external hard drive. The eDNA data will also be stored through Oregon State University's Center for Quantitative Life Sciences offsite backup server.
- Results from the proposed monitoring effort will be made available through a variety of methods, including presentation to the bull trout TAC, annual reports shared with agencies, and the production of a peer reviewed publication.
- The graduate student, OSU professor and contributing partners have the necessary experience and qualifications to complete this project as proposed.
- The genomics laboratory at OSU is renowned for their work processing eDNA samples.
- A variety of community stakeholders will be engaged over the life of the project, including local high schools, watershed council staff and board members, landowners, and the Burns Paiute Tribe's tribal youth.
- The budget cost estimates are described sufficiently and appear to be appropriate to accomplish the objectives described in the application.

Monitoring Team Concerns

- The applicant does not describe the monitoring methods to measure flow or water temperature.
- The applicant describes the challenges associated with making observations in the channel due to the debris in the stream so it is not clear how well the snorkel surveys will be implemented.
- The application describes the potential presence of brook trout in this system, and it was not clear why the samples are not also being analyzed for brook trout DNA.
- The application does not describe how the data will be analyzed to answer the monitoring questions posed in objectives 4 and 5.

Monitoring Team Comments

Recommendation:

- Consider running some of the samples for the presence of brook trout. If not now, ensure the lab is archiving some of the samples for future analyses of this species.

Review Team Evaluation

Strengths

- The application has clear monitoring goals and objectives and includes appropriate technical references for the proposed methods.
- The work proposed follows accepted protocols.

- Data processing and methods are appropriate for the scope of work.
- The monitoring results will be shared among project partners and will contribute to Environmental DNA research (eDNA) at Oregon State University (OSU).
- Project results will be published in a peer reviewed journal article, which will ensure substantive data analysis is completed.
- The monitoring data will inform future restoration actions in the North Fork Malheur River, a priority area for bull trout recovery, by engaging partners working to restore bull trout habitats. The application provides a clear connection that demonstrates how the monitoring will inform future restoration and land management.
- Established and accepted methods for eDNA, stream flow, snorkel survey, and redd count monitoring are proposed.
- A bull trout eDNA monitoring protocol will be developed that may be transferable to other areas, which will expand the utility of this monitoring tool.
- The monitoring work will be completed by an experienced team, including a graduate student, OSU professor, the Burns Paiute Tribe, and agency partners, that are qualified to complete the monitoring as proposed.
- The monitoring approach is cost effective by using a graduate student to complete the field and research work, as well as using the OSU lab to process the eDNA samples.

Concerns

- It is unclear how the applicant will compare eDNA methods with traditional monitoring techniques, including snorkel and spawning ground surveys, as described in Objective 4 in the application.
- The duration of the proposed monitoring may not provide enough data to answer the monitoring question in Objective 5 of the application. Additional years of data collection may be needed to fully determine whether current land management, aquatic restoration, and water usage projects align with bull trout conservation.
- It is unclear from the application budget if estimated costs will include fully analyzing all eDNA samples, specifically for identifying the presence of brook trout that can hybridize with bull trout.

Concluding Analysis

The OSU Office of Sponsored Research proposes to use eDNA monitoring in tributaries to the North Fork Malheur River as an additive method to determine the presence of bull trout. The data collection will inform and prioritize bull trout conservation work and advise land management practices. The monitoring described in the application is focused and the likelihood for the data being used to inform future restoration is high.

Review Team Recommendation to Staff

Fund

Review Team Priority

1 of 3

Review Team Recommended Amount

\$80,237

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$80,237

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Eastern Oregon (Region 5)

Application Number: 222-5048-22356

Project Type: Monitoring

Project Name: Harney Sage Grouse CCAA
Monitoring

Applicant: Harney SWCD

Region: Eastern Oregon

County: Harney

OWEB Request: \$153,384

Total Cost: \$221,114

Application Description The monitoring project will take place on private properties enrolled in the Harney Greater Sage Grouse Candidate Conservation Agreement with Assurances (CCAA). CCAA properties are located throughout Harney County with major focus in the north, within the original Sage Grouse FIP boundary. The focal areas are identified Priority Areas for Conservation (PACs). CCAA enrollments continue to expand throughout the county, creating a greater need for monitoring. With added acreage under CCAAs, the SWCD has identified and addressed additional threats to sage grouse, and increased available habitat.

Monitoring identifies habitat needs, restoration actions, project effectiveness, adaptive management and fulfills reporting requirements. Currently 22 properties are enrolled, encompassing 349,205 acres where conservation measures are being applied. As part of the CCAA agreement with the U.S. Fish and Wildlife Service, the SWCD is required to follow strict monitoring guidelines for the life of the 30 year agreements (In Uploads).

The monitoring burden grows exponentially as more CCAA Site Specific Plans (SSPs) are completed. Staff are needed to help with the additional workload. The SWCD is beginning to repeat threat assessments, photo points and species composition inventories that are critical to perform data analysis, draw conclusions, and produce reports. Consistent data and analysis will inform progress or the need for future actions.

CCAA Monitoring Technicians will be required to perform preliminary/repeat threat assessments (baseline inventory and habitat state designations), Modified Paced 180 transects (detailed vegetation composition surveys used to track condition and trend over time), permanent photo points along with project effectiveness monitoring for weed treatments, rangeland seeding projects, juniper cutting, off stream watering facilities, and other habitat improvement projects.

Partners include: NRCS, USFWS, BLM, CWMA, and private landowners.

Monitoring Team Evaluation

Monitoring Team Strengths

- The proposed project will complement existing data from Harney SWCD, ODFW and other agencies that monitor sage-grouse populations to determine priority areas for conservation and effectiveness of conservation actions.
- The proposed project will support CCAA efforts and help in the evaluation of sage brush/steppe habitats, and generally support informing conservation actions to increase resilience in a wide suite of at-risk sage obligate species.
- The resubmitted monitoring application has responded to the previous evaluation and has made improvements to better describe the total acreage enrolled to date that needs to be monitored, how the sites are selected, sampling frequency, and parameters to be monitored.
- The proposed project will follow established monitoring protocols that have been developed through interagency efforts and been revised over time following an adaptive management approach.
- The applicant will train staff to follow the sampling protocol and use computer tablet-based forms to ensure consistency across all counties implementing the CCAA and assure data quality and completeness.
- Data collection and management has been streamlined by incorporating the use of field tablets and allowing for data to be uploaded to a newly developed cloud-based database.
- Tabular data obtained will be stored in the CCAA database and geospatial data will be stored in ArcGIS.
- Reports for each property are compiled and reported annually to the U.S. Fish and Wildlife Service as a requirement of the CCAA.
- Results are reported to landowners and restoration practitioners through regular meetings for the purpose of providing feedback on the effectiveness of sage grouse restoration projects.
- The applicant will engage a wide range of technical experts and stakeholders by participating in regular meetings to communicate this monitoring data and incorporate it into broader reporting and coordinating sage grouse recovery in Oregon.
- The applicant has staff that are qualified to perform this work and have experience collecting it in the past.
- The staff project costs seem reasonable given that the amount of work proposed to occur over two years.

Monitoring Team Concerns

- The description of the data analysis is not adequate to answer all of the monitoring questions stated in the application.
- The budget narrative did not describe the purpose and justification for contractor expenses.

Monitoring Team Comments

Review Team Evaluation Strengths

- The application has clear monitoring goals and objectives, and the proposed monitoring will follow accepted methods.
- Concerns from the previous application evaluation are addressed by including a narrative that focuses on the lack of consistent funding, providing monitoring questions for each objective, defining partner roles, providing budget details, and describing how the monitoring informs sage-grouse conservation.
- The monitoring protocols were developed by an experienced team of sage-grouse conservation experts.
- The monitoring data is stored in the Candidate Conservation Agreement with Assurance (CCAA) database that was developed to serve the five sage-grouse counties in Oregon. This database provides data backup and generates annual progress reports to US Fish and Wildlife Service (USFWS).
- Maintaining landowner and data confidentiality promotes trust between landowners and the Harney SWCD, leading to increased sage-grouse conservation.
- Restoration action monitoring informs adaptive management, which leads to improved private rangeland management in Harney County.
- Harney SWCD staff have extensive sage-grouse monitoring experience and can implement the work as proposed.
- Appropriate partnerships are demonstrated with match from USFWS and Bureau of Land Management.

Concerns

- It is unclear from the application where monitoring will occur.
- A clear and concise stepwise description of the CCAA process and how it leads to effective sage-grouse conservation would provide helpful context for understanding planning requirements.

Concluding Analysis

Harney SWCD proposes to maintain their CCAA Coordinator and hire additional field technicians to implement CCAA monitoring on private rangeland in Harney County. Each CCAA requires 30 years of monitoring to establish baseline conditions and monitor the effects of restoration action implementation. The need for the work will grow as more landowners enroll and the applicant is working towards a secure funding source to sustain monitoring long-term. The monitoring described in the application will occur on CCAA enrolled landowner properties, has clear deliverables, and the likelihood that the monitoring will inform sage-grouse conservation is high.

Review Team Recommendation to Staff

Fund

Review Team Priority

2 of 3

Review Team Recommended Amount

\$153,384

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$153,384

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering

Eastern Oregon (Region 5)

Application Number: 222-5049-22249

Project Type: Stakeholder Engagement

Project Name: Powder Basin Stakeholder Engagement

Applicant: Powder Basin WC

Region: Eastern Oregon

County: Baker

OWEB Request: \$45,316

Total Cost: \$57,280

Application Description This project includes three focus areas, the Pine Valley portion of the Pine Creek Watershed, the Powder River and tributaries upstream of Jimmy Creek, and the Burnt River and Tributaries upstream of and including Camp Creek. Within these areas we will engage with stakeholders and landowners in the development of three project types: beaver restoration and mitigation, irrigation system modernization and fish passage improvements. In the face of climate change, restoration practitioners and the community are seeing the restoration of beavers on the landscape as a necessary tool to increase the residence time of water in our watershed. Recent drought conditions have emphasized the need for more efficient use of irrigation water to maintain instream flows and ensure that users have water available to produce food. Improving and maintaining passage for bull trout in the Pine Basin is identified as a needed action in the US Fish and Wildlife Service Bull Trout Mid-Columbia Recovery Unit Implementation Plan. We will use one-on-one personal contacts through trusted sources, our newsletter (The Thalweg), development and directed mailings of informational brochures, and in-the-field workshops to engage landowners and the community to develop restoration project opportunities as listed above. Partners include the Idaho Power Company, Roundhouse Foundation and the Powder Basin community.

Review Team Evaluation

Strengths

- Stakeholder engagement is needed in the Powder River Basin to work towards strategic restoration that increases watershed resiliency, including improving irrigation water management, fish passage, and beaver influenced habitat restoration.
- The work will increase the pace and scale of restoration, lead to water quality improvements, and contribute to addressing the Department of Environmental Quality (DEQ) TMDL priorities in Baker County.
- Future restoration expected to result from the proposed stakeholder engagement will be strategically located in Baker County and implement actions identified in local and regional watershed planning documents.
- The proposed stakeholder engagement is timely by building on current restoration momentum in Baker County and complimenting ongoing fish passage, aquatic habitat, and irrigation system improvement work.
- The applicant has the leadership capacity and technical skills to implement the project as proposed.

- A diverse partnership of local, state, and federal agencies, as well as the Baker County community, demonstrates cost effectiveness by leveraging partner resources.

Concerns

- The application focuses more on expected future restoration outcomes and lacks details specific to the proposed stakeholder engagement actions.

Concluding Analysis

The Powder Basin Watershed Council proposes to increase water conservation, beaver restoration, and fish passage efforts in Baker County through stakeholder engagement. The Council has the capacity to implement the work through direct contact, field tours, and their newsletter. The likelihood of the stakeholder engagement project to succeed is high and the resulting restoration work will lead to increased watershed resiliency.

Review Team Recommendation to Staff

Fund

Review Team Priority

2 of 3

Review Team Recommended Amount

\$45,316

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$45,316

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Eastern Oregon (Region 5)

Application Number: 222-5050-22320

Project Type: Stakeholder Engagement

Project Name: Owyhee Upland Vegetation Management

Applicant: Owyhee WC

Region: Eastern Oregon

County: Malheur

OWEB Request: \$109,678

Total Cost: \$146,428

Application Description The Owyhee Upland Vegetation Management stakeholder engagement project encompasses 4 million acres across private, state, and federal landownerships in Southeastern Oregon. Based in Jordan Valley, The Jordan Valley Cooperative Weed Management Area (JVCWMA) is a landowner and partner led organization operating under Owyhee Watershed Council for the past 15 years, that focuses on noxious weed and invasive species management in the Oregon portions of the Owyhee Basin. Invasive species and noxious weeds increasing at a rate of 10% annually, degrade wildlife habitat, increase wildfire risk and reduce productivity of the Owyhee uplands. The proposed work in this stakeholder engagement effort includes coordinating efforts across multiple landownerships and initiating early detection and rapid response actions to invasive species and noxious weed establishment. Collectively, these efforts will protect wildlife habitat, improve water quality, improve soil health, maintain native vegetation communities, and build landscapes with greater resilience to wildfire. Project partners include: private landowners, Oregon Department of Agriculture (ODA), Oregon Department of Fish and Wildlife (ODFW), Oregon Department of State Lands (ORDSL), Oregon State Parks, Oregon Department of Transportation (ODOT), Natural Resource Conservation Service (NRCS), Bureau of Land Management-Vale District (BLM), US Fish and Wildlife Service (USFWS), Malheur County Commissioners, Malheur County Weed and Vector Departments, Malheur County Road Department, Malheur Soil & Water Conservation District, Integra/Delmar Mine, Vale Sage Grouse Local Implementation Team, Owyhee Cattleman's Association, Malheur Cattleman's Association, Jordan Valley Rangeland Fire Protection Agency, Jordan Valley Irrigation District, and Jordan Valley Rodeo Board.

Review Team Evaluation

Strengths

- Jordan Valley Cooperative Weed Management Area (CWMA) works with many local, state, and federal partners in southern Malheur County to map, inventory, and treat noxious weed and invasive annual grass infestations.
- Previous application evaluation concerns are addressed by providing details that describe specific stakeholder engagement actions.
- The proposed work is a technically sound approach to engage partners in treating noxious weeds and invasive annual grasses.

- The restoration expected to result from the proposed landowner engagement work is needed in the Jordan Valley area to maintain high quality range conditions on private lands that will provide habitat for native wildlife as well as domestic livestock forage.
- The Jordan Valley CWMA has a long history of working with landowners to map, prioritize, and plan for the treatment of invasive vegetation.
- The applicant has a successful track record implementing and monitoring similar work in the Jordan Valley geography.
- A diversity of private, local, and state partners are engaged with the work by providing technical expertise and match contributions.

Concerns

- No significant concerns are identified.

Concluding Analysis

The Owyhee Watershed Council is proposing to improve wildlife habitat and upland watershed health by continuing a 10-year effort of working with private landowners and prioritizing noxious weed treatment in southern Malheur County. The work described in the application is necessary to lead to restoration that will maintain proper functioning rangeland conditions on private lands.

Review Team Recommendation to Staff

Fund

Review Team Priority

3 of 3

Review Team Recommended Amount

\$109,678

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$109,678

Staff Conditions

N/A

Open Solicitation-2022 Spring Offering Eastern Oregon (Region 5)

Application Number: 222-5051-22363

Project Type: Stakeholder Engagement

Project Name: Wallowa County Rangeland Enhancement - Stakeholder Engagement

Applicant: Wallowa Resources

Region: Eastern Oregon

County: Wallowa

OWEB Request: \$82,215

Total Cost: \$109,215

Application Description The Wallowa Resources' Canyonlands Program and our partners are focused on improving rangeland health across the Wallowa County landscape. Our unique bunchgrass rangelands are ecologically and economically important to the residents of this county. Managing this diverse landscape has never been easy for land managers as there have always been limits on available resources and infrastructure obstacles leading to ecological shortfalls related to range resiliency. One of the primary threats to managing these systems is invasive annual grasses. Over the years, Wallowa Resources and partners have offered a variety of programs to address this ever-rising issue. However, many of our past efforts focused on symptoms rather than long-term solutions.

This stakeholder engagement activity will pilot a landscape scale effort to address a wide range of natural resource values in a collaborative process. Recently, this partnership completed a Strategic Action Plan to guide activities on the ground that focus on defending and growing core bunchgrass systems from the common threat of IAGs. To build on this success, the partnership seeks to develop a recruitment campaign in the Leap and Lower Zumwalt Prairie focal areas by offering: 1) Presentations at key Stockgrowers events, 2) Innovative one-on-one conservation planning consultations set in the landscape context, 3) Practical rangeland inventory/assessment of each property, 4) A basic range management plan 5) prioritized action items that will result in multiple conservation projects. Through this process, landowners will learn to identify resource/rangeland issues in the landscape, to prioritize management goals, learn about programs available to assist them with priority issues, and with guidance from the partnership, take steps to implement conservation actions using relevant tools to meet their goals.

Partners include: NRCS OSU Extension, SWCD, Wallowa County Vegetation Department, Wallowa County Weed Board, TNC, USFS,

Review Team Evaluation

Strengths

- The proposed work is a technically sound approach to engage landowners in treating the root cause of invasive annual grass (IAG) spreading in Wallowa County.
- The project objectives are comprehensive and include landowner recruitment, planning, restoration funds procurement, and project implementation.

- The engagement approach is the result of stakeholder coordination between local, state, and federal rangeland management agencies and will be replicated across the landscape.
- The work is identified in many watershed planning documents and the application explains how project objectives will address issues identified in those plans.
- Weed and IAG treatment in Wallowa County has a history of being reactive to invasive plants and not addressing all the factors causing the decline of native perennial vegetation. The current proposed approach will address the watershed management problems over symptoms by creating range management plans that will holistically address the decline of perennial vegetation.
- The applicant will build on existing partnerships, which will lead to timely development of range and livestock management tools and restoration project implementation.
- The applicant and partners have a long history of successful weed and IAG control work in Wallowa County and have the capacity to implement the project as proposed.
- The partnership has long standing relationships with many landowners in the target area who are willing to make land management changes and are eager to start the work.
- A diversity of match funding sources indicates that appropriate private, local, and state partners are engaged with the work.

Concerns

- Additional information in the maps or application describing how work will be prioritized in the vegetation management zones designated as core and transition areas would be helpful for understanding the expected outcomes that will result from future restoration implementation.
- It may be challenging to complete the proposed work within the estimated budget and timeline because it will require significant coordination with many partners and landowners.

Concluding Analysis

Wallowa Resources and partners are proposing to improve IAG management and containment efforts in the Leap and Lower Zumwalt areas of Wallowa County. IAG control efforts over the past 25-years has focused on vegetation control rather than improved land management. The proposed project focuses on engaging landowners to improve rangeland management and ranching methods, which will have a higher likelihood of restoring native perennial vegetation over previous approaches that were limited to treating invasive plants.

Review Team Recommendation to Staff

Fund

Review Team Priority

1 of 3

Review Team Recommended Amount

\$82,215

Review Team Conditions

N/A

Staff Recommendation

Staff Follow-Up to Review Team

N/A

Staff Recommendation

Fund

Staff Recommended Amount

\$82,215

Staff Conditions

N/A

Mid-Columbia

Mid-Columbia - Region 6 Spring 2022 Funding Recommendations



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Funding Recommendation

- Staff Recommendation For Funding (SRF)
- Below Funding Line (BFL)

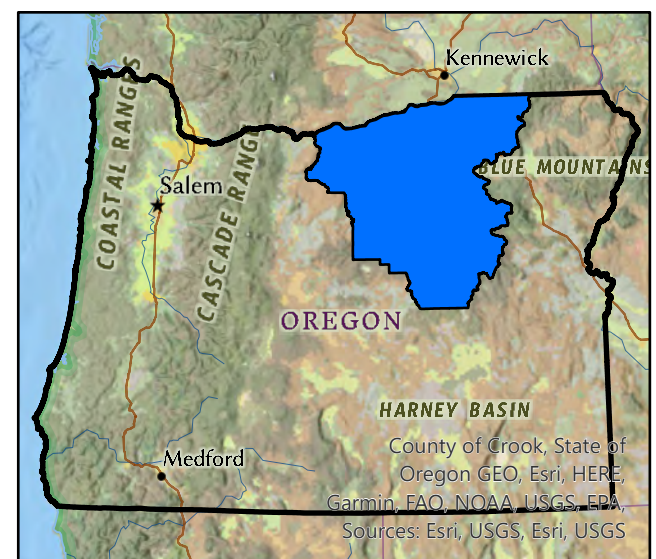
Previous Grants 1998 - Fall 2021

- Land Acquisition
- ◆ Restoration
- ▲ Region 6 Cities
- Region 6 Streams
- ▭ OWEB Region 6 Boundary



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Region 6 - Mid-Columbia Basin Restoration					
Projects Recommended for Funding in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
222-6023	Umatilla Basin WS Foundation	West Birch Creek Dam Removal & Bridge Replacement	An abandon irrigation diversion will be removed and an undersized and failing culvert replaced to open passage for native fish to access cold-waters high in the headwaters of West Birch Creek.	219,570	Umatilla
222-6025	Walla Walla Basin Watershed Foundation	North Fork Walla Walla River RM 3.6-4.3 Floodplain Restoration Construction	A 3/4-mile segment of the North Fork Walla Walla River will be restored after serious floods in 2020 scoured and damaged the balance and function of this river system.	297,463	Umatilla
222-6026	Confederated Tribes Umatilla Indian Reservation	PA4 Birch Creek Instream Enhancement & Floodplain Restoration	Nearly a mile of Birch Creek will be returned to its historic meandering, multi-braided stream channel, which will provide habitat benefits to native fish and other aquatic species.	351,090	Umatilla
222-6019	Wheeler SWCD	Butte Creek Watershed Restoration	Removing encroaching juniper and thinning dense and diseased conifer stands will improve the overall health, function, and wildlife habitat available on hillsides adjacent to Butte Creek.	123,511	Wheeler
222-6017	South Fork John Day WC	Bridge Creek Forestry	Conifer forests will be restored by thinning and opening up the canopy to create a more natural and healthy timber setting that will be resilient to fire, disease, and drought.	148,957	Grant
222-6021	South Fork John Day WC	Goen to Fields Wildlife Enhancements	Habitat for mule deer and elk will be improved through a combination of juniper removal and water development on a site located halfway between Mount Vernon and Dayville on the upper mainstem of the John Day River.	108,449	Grant
222-6013	Grant SWCD	Morgan Ranch Juniper Control	Native grass, forb, and shrub communities will be restored by removing encroaching juniper to improve native wildlife habitat and resiliency to climate change.	49,601	Grant
222-6020	Bridge Creek WC	Tamarack-Cary Creek Watershed Improvement	Juniper will be removed to improve grass, shrub, and forb habitat for wildlife and build resiliency to wildfire.	88,040	Wheeler
Total Restoration Projects Recommended for Funding by RRT and OWEB Staff				1,386,681	

Projects Recommended but Not Funded in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
None					

Projects <i>Not Recommended</i> for Funding by RRT					
Project #	Grantee	Project Title	Amount Requested	County	
222-6014	Grant SWCD	GSG Ranch, LLC Isham Creek Upland Improvements	105,860	Grant	
222-6015	Wheeler SWCD	Lone Pine Creek Upland Restoration	44,389	Wheeler	
222-6016	Bridge Creek WC	Mac Creek Watershed Improvement	149,682	Wheeler	
222-6018	Wheeler SWCD	Snabel Creek Upland Restoration	82,728	Wheeler	
222-6022	Wheeler SWCD	West Branch Riparian Restoration	11,472	Wheeler	
222-6024	Wheeler SWCD	Rowe Creek Forest Improvement	88,553	Wheeler	

Region 6 - Mid-Columbia Basin Technical Assistance					
Projects Recommended for Funding in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
222-6033	South Fork John Day WC	Indian Creek Diversion Relocation and Pipeline Project Design	Construction ready designs will be developed to relocate an irrigation diversion on public land downstream to private land, resolve a fish barrier, and convert an open ditch to pipe. The resulting water savings to be left instream on Indian Creek near Prairie City in Grant County will support steelhead and bull trout habitat.	75,000	Grant
222-6031	North Fork John Day WC	Rudio Creek Stewardship and Restoration Assessment	Project partners will review watershed conditions to develop, prioritize, and design habitat and water quality enhancement projects in the Rudio Creek watershed, located near Monument in Grant County.	29,116	Grant
222-6032	Umatilla Basin WS Foundation	Homer Diversion Dam - Fish Passage Design	Construction ready designs will be created to remove a priority barrier and open fish passage to 4.75 miles on Birch Creek, which is important habitat for steelhead.	42,806	Umatilla
222-6029	Walla Walla Basin Watershed Foundation	North Fork Walla Walla River RM 4.3-5.2 Floodplain Restoration Design	Construction ready designs for the second reach of a multi-phase, five-mile restoration project on the North Fork Walla Walla River will be developed to reconnect the floodplain with the stream and restore instream habitat for steelhead and bull trout.	74,888	Umatilla
222-6028	Walla Walla Basin Watershed Foundation	Mill Creek Baseflow Assessment and Springs Inventory	Project partners will collect information on climate impacted spring and groundwater sources in the headwaters of Mill Creek to help identify and prioritize restoration and protection goals.	17,855	Umatilla
Total Technical Assistance Projects Recommended for Funding by RRT and OWEB Staff				239,665	

Projects Recommended but Not Funded in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
None					

Projects <i>Not Recommended</i> for Funding by RRT					
Project #	Grantee	Project Title	Amount Requested	County	
222-6030	Walla Walla Basin Watershed Foundation	Stormwater Designs for Nichols Canyon and Hwy 11	61,707	Umatilla	

Region 6 - Mid-Columbia Basin Stakeholder Engagement					
Projects Recommended for Funding in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
None					
Total Stakeholder Engagement Projects Recommended for Funding by RRT and OWEB Staff				0	

Projects Recommended but Not Funded in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
None					

Projects <i>Not Recommended</i> for Funding by RRT				
Project #	Grantee	Project Title	Amount Requested	County
None				

Region 6 - Mid-Columbia Basin Monitoring

Projects Recommended for Funding in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
222-6034	OSU Office of Sponsored Research & Award Admin	Effectiveness of Macroinvertebrate Sampling to Assess Low-tech Restoration	Monitoring protocols will be developed to better understand the impact of low-tech, process-based restoration, such as Beaver Dam Analogs, on macroinvertebrate communities and food resources used by fish and other aquatic species in these ecosystems.	140,217	Grant
Total Monitoring Projects Recommended for Funding by RRT and OWEB Staff				140,217	

Projects Recommended but Not Funded in Priority Order					
Project #	Grantee	Project Title	Brief Description	Amount Recommended	County
None					

Projects <i>Not Recommended</i> for Funding by RRT				
Project #	Grantee	Project Title	Amount Requested	County
None				

Region 6 Total OWEB Staff Recommended Board Award	1,766,563
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Region 1 - 6 Grand Total OWEB Staff Recommended Board	12,111,567
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Open Solicitation-2022 Spring Offering

Mid Columbia (Region 6)

Application Number: 222-6013-22324 **Project Type:** Restoration
Project Name: Morgan Ranch Juniper Control
Applicant: Grant SWCD
Region: Mid Columbia **County:** Grant
OWEB Request: \$49,601 **Total Cost:** \$105,941

Application Description

The project is located in Grant County, approximately 10 miles southeast of Prairie City. The site consists of a Western Juniper-dominated hillside which is part of the Reynolds Creek watershed. Reynolds Creek flows year-round and provides spawning and rearing habitat for ESA listed summer steelhead and bull trout.

Field visits performed by NRCS staff to the site have identified the understory as a mixture of perennial bunchgrasses and some winter annual grasses. The project is located within the District's Regional Conservation Partnership Program (RCP) area and complements similar work performed or proposed on neighboring properties.

The project seeks to restore herbaceous vegetation and watershed function to more optimal conditions benefitting terrestrial and, potentially, aquatic species.

The project proposes to remove 252 acres of Western juniper by cutting, piling, and treatment.

The Confederated Tribes of the Warm Springs have supported the cost of securing cultural resource clearances and will contribute a portion of the cutting/piling costs. The landowner will treat the juniper piles by one of several, District approved methods.

Review Team Evaluation

Strengths

- The application provides a clear description, maps, and photos of the project components, including site conditions, slope, and precipitation.
- The site-specific details provided for juniper treatment clearly define a site appropriate, technically sound method for removal.
- The project site is upslope and adjacent to the healthy floodplain of Reynolds Creek, a cold-water tributary to the upper John Day River that provides habitat to steelhead, bull trout, and juvenile Chinook.
- The project property is located within and complements the Natural Resource Conservation Service (NRCS) Regional Conservation Partnership Program for forest health treatments.

- The landowner demonstrates a deep understanding of the ecological needs of the land by the previous property management, which also indicates a capacity for long-term stewardship and maintenance of a restoration investment. He wants to implement new approaches to help the property return to a resilient condition in the face of drought, fires, and episodic storms.
- The Confederated Tribes of Warm Springs is providing project support by completing cultural resource surveys and providing funds for the juniper removal.
- The application includes a short and long-term juniper management plan with details on how the landowner will help prevent juniper from reestablishing.
- The project expands the ecological benefit of restoration completed on neighboring properties, adding to landscape-scale resiliency to impacts from climate change.
- The budget is appropriate based on the scale of the proposed work.

Concerns

- The application lacks information describing how grazing strategies will be implemented to sustain the restoration investment.
- The application describes annual grass treatments that were successful on a neighboring property, however, the proposed project is limited to juniper removal. There may be a missed opportunity for additional grassland habitat benefits by not treating non-native annual grasses and thistles identified on the site.
- The application lacks information describing plans for preventing further weed dispersal.
- It is unclear why restoration actions in the more productive native vegetation plant communities are not prioritized. More detail on how and why proposed treatment locations were selected would add useful context to the project.

Concluding Analysis

The proposed project offers restoration opportunities upslope of a highly functioning and important tributary in the upper John Day Basin. Removing upland juniper and improving grasslands and meadow systems in a high elevation, higher precipitation zone for Eastern Oregon will enhance the landscape's functioning condition by catching and releasing into the ground any rainfall, adding resiliency to changes in drier climate regimes while also improving wildlife habitat.

Review Team Recommendation to Staff

Fund

Review Team Priority

7 of 8

Review Team Recommended Amount

\$49,601

Review Team Conditions

n/a

Staff Recommendation
Staff Follow-Up to Review Team

n/a

Staff Recommendation

Fund

Staff Recommended Amount

\$49,601

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering

Mid Columbia (Region 6)

Application Number: 222-6014-22336

Project Type: Restoration

Project Name: GSG Ranch, LLC Isham Creek
Upland Improvements

Applicant: Grant SWCD

Region: Mid Columbia

County: Grant

OWEB Request: \$105,860

Total Cost: \$248,354

Application Description The project is located on private property with activity in the Isham Creek watershed. The property faces numerous conservation challenges such as heavily overstocked timber, invasive annual grasses, juniper infestation, impaired riparian conditions, lack of livestock management infrastructure, and an overall lack of late-season water sources for livestock and wildlife. Late season water for 1,100 acres of pasture is currently provided by a small section of Isham Creek: a summer steelhead stream that flows year-round. This project requests OWEB support to construct a solar stock water system. Matching efforts will include the landowner, ODFW (annual grass treatment and reseeding), FWS (Juniper Removal, Annual Grass Treatment, and Reseeding), and NRCS (forest thinning activities, riparian fencing, and plantings).

Review Team Evaluation

Strengths

- The landowner has completed several restoration projects on his ranch and is interested in continuing to improve timber and grassland health to maximize wildlife habitat.
- Isham Creek is the only water source on a dry ridge in late summer and fall, fencing off livestock from accessing this creek will protect water quality and riparian vegetation.

Concerns

- The design for the off-channel water project is not fully developed and lacks technical detail.
- The route for the pipe from the solar pump to the cistern and trough appear to be in a bedrock draw with timber on both sides. It is unclear whether the project layout is feasible for the site conditions or if the estimated budget is sufficient to cover costs if rerouting to another location becomes necessary.

Concluding Analysis

The application lacks sufficient design details needed to understand whether the methods are appropriate for the project site. Without more developed designs indicating the pipeline route is feasible as proposed and the budget can cover additional costs that could occur due to any potential changes to the design, it is uncertain whether the project is likely to succeed.

Review Team Recommendation to Staff

Do Not Fund

Review Team Priority

n/a

Review Team Recommended Amount

\$0

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Do Not Fund

Staff Recommended Amount

\$0

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering Mid Columbia (Region 6)

Application Number: 222-6015-22306

Project Type: Restoration

Project Name: Lone Pine Creek Upland Restoration

Applicant: Wheeler SWCD

Region: Mid Columbia

County: Wheeler

OWEB Request: \$44,389

Total Cost: \$57,268

Application Description 1) This project is located approximately 6.5 miles south of Fossil, Wheeler County, Oregon; in the Pine Creek - John Day Watershed. 2) Historic grazing practices and fire suppression has increased Western Juniper encroachment. Phase I and II Juniper occupy the hill sides and drainage including North facing slopes with few remaining native bunch grass stands. With native communities in the area, it is crucial to remove the juniper in the project area before they cause a greater negative impact to the ecological function of the watershed. If left untreated, the current native species are at risk of being compromised from competing with Western Juniper and invasive annual grasses. Additionally, inside the Juniper removal area are two springs to be developed and two declining Aspen and Cottonwood stands to be protected. The two springs were previously developed but failed due to material used, design, and Juniper encroachment. These two springs show great potential for production, but currently are being trampled by livestock and wildlife. 3) This project proposes to treat 100 acres of Western Juniper with gas powered chainsaws to fall tress that will then be hand piled and burned when left lay long enough to dry out and ensure a clean burn. Areas with ground disturbance and established Medusahead Rye will be chemically treated twice before being broadcast seeded to establish bunch grass communities and prevent competition with invasive annual grasses. The two springs will be developed and piped to 600-gallon water troughs. One of the springs will be piped to two troughs to increase water storage and distribute livestock and wildlife. Overflow from the troughs will be piped into the natural drainage. An exclusion fence will be put around the Aspen stands to protect them from livestock and wildlife. All implemented conservation practices will follow NRCS specifications. 4) Project partners include the landowner, OWEB, and Wheeler SWCD.

Review Team Evaluation

Strengths

- The application provides some site-specific detail and clear objectives.
- Historic over-grazing from previous owners has degraded portions of the ranch, while juniper has encroached into deeper north-facing soils and along Lone Pine Creek. The project sites have the potential to return to a more natural functioning condition and provide improved wildlife habitat.
- Lone Pine is a tributary to Pine Creek, which historically was a steelhead stream.

Concerns

- The application lacks information describing a grazing management strategy, or a short and long-term juniper management plan needed to understand how the land will be managed now and into the future, and how the restoration investment will be sustained.
- Fencing off the aspen and cottonwood to exclude livestock and wildlife at the downstream site may be challenging and result in limited watershed benefit. Livestock access is currently difficult and potentially minimal because the site is located at the toe of a steep scree rock slope and adjacent to the narrow stream channel along Highway 218.
- It is unclear from the application who will implement the work, whether the estimated costs are sufficient to accomplish the proposed objectives, and if the project can be feasibly completed within the proposed timeline. Contracting the work will not be feasible with the minimal budget. Also, it may not be realistically feasible for the landowner to complete the proposed work in the difficult terrain within the allotted timeframe.
- It is not clear from the application if the spring sources will be protected by fencing. The spring map and Natural Resource Conservation Service (NRCS) spring design packet provided in the application lacks specific site details needed to understand whether the restoration approach for the springs is technically sound, such as trough location, overflow back to the natural drainage, and extent of the spring source. These wet seep areas are important habitat for small terrestrial wildlife, birds, snails, and frogs and need to be protected from livestock trampling.

Concluding Analysis

Engaging a new landowner offers multiple opportunities for habitat restoration. The proposed project has potential for improving terrestrial habitat by reducing juniper competition and protecting aspen groves. The capacity for the landowner to accomplish all objectives on his own with the proposed budget and time constraints will limit the likelihood of the project being successfully completed within the timeframe.

Review Team Recommendation to Staff

Do Not Fund

Review Team Priority

n/a

Review Team Recommended Amount

\$0

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Do Not Fund

Staff Recommended Amount

\$0

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering Mid Columbia (Region 6)

Application Number: 222-6016-22286 **Project Type:** Restoration
Project Name: Mac Creek Watershed Improvement
Applicant: Bridge Creek WC
Region: Mid Columbia **County:** Wheeler
OWEB Request: \$149,682 **Total Cost:** \$278,866

Application Description This project is located in the Mountain Creek watershed in southeast Wheeler County. Mac Creek and Whisky Creek flow into Mountain Creek which is an important tributary in the Rock Creek Watershed, flowing to the John Day River near Picture Gorge. Western Juniper encroachment and overstocked forests have contributed to degraded watershed health and pose a risk factor for high intensity wildfires. Overabundance of western juniper decreases the effective precipitation that reaches the soil, impacting hydrologic function and reducing cover of shrubs and grasses. Previous upland projects, instream and riparian projects, converting open ditch to pipe and replacing undersized or failing culverts have all been completed on this and adjacent properties. Much work has been completed on stream restoration in the Mountain Creek Watershed, including fish passage projects, riparian buffers, and replacement of irrigation diversions.

This project will cut and pile western juniper on 457 acres of mixed forest and implement 175 acres of forest stand improvement. In addition this application requests funds for 45 acres of noxious weed treatment including medusahead and diffuse knapweed and 45 acres for reseeding treated and disturbed areas.

Project partners are OWEB, the landowner, and NRCS.

Review Team Evaluation

Strengths

- The application describes the technical components of juniper removal, weed treatment, and reseeding efforts.
- Past and current restoration efforts are explained in the application and provide context for understanding how the proposed restoration will contribute to the overall ecological benefits that will be achieved on the ranch.
- The proposed juniper treatment on the west side of the ranch is site appropriate.
- The photos and the site visit indicate the understory vegetative community supports healthy and diverse grasses, forbs, and shrubs.
- Both a grazing management plan and a short and long-term juniper maintenance plan are included with the application that indicates management has been discussed with the landowner and the property manager on how the restoration investment will be sustained into the future.

Concerns

- The maps uploaded with the application lack detail needed to understand the project, such as delineating the various restoration components.
- There may be a missed opportunity for achieving greater ecological uplift to forest health on the middle and eastern portions of the project site where only juniper treatment is proposed. Forest health will benefit more from one-entry pre-commercial thin that will also address the encroaching juniper. Doing both juniper removal and pre-commercial thinning at the same time is more cost effective in improving the forest stand.
- The application has contradictory information describing who will be responsible for implementing the restoration actions. Some application sections indicate a contractor will be hired and other sections indicate the landowner will implement the work. Including a letter of support from the landowner in the application would have clarified management authority over the proposed restoration actions.
- The anticipated benefits to aquatic resources described in the application may be overstated. The application lacks detail on fish presence and absence within the waterways on the property needed to understand the potential aquatic benefits of the proposed investment.

Concluding Analysis

The project site has an understory vegetative community that is in a robust, healthy, and functioning condition. However, the ecological benefit from only removing the juniper on portions of the project site does not address the overall forest stand health issues. The applicant is encouraged to discuss forest health treatments options with the landowner to maximize forest resiliency and ecological benefit.

Review Team Recommendation to Staff

Do Not Fund

Review Team Priority

n/a

Review Team Recommended Amount

\$0

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Do Not Fund

Staff Recommended Amount

\$0

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering

Mid Columbia (Region 6)

Application Number: 222-6017-22292

Project Type: Restoration

Project Name: Bridge Creek Forestry

Applicant: South Fork John Day WC

Region: Mid Columbia

County: Grant

OWEB Request: \$148,957

Total Cost: \$448,957

Application Description The Widows Creek Ranch encompasses 10,000 acres of land that includes ESA- listed Steelhead streams, forest, mountain mahogany stands, natural springs, and agricultural fields. The ranch is located approximately 13 miles west of Mt. Vernon in Grant County, Oregon. This project specifically is less than a half mile from bordering U.S. Forest Service property to the south and completely borders Oregon Department of Fish and Wildlife - Phillip W. Schneider Wildlife Area to the west. Due to the public land boundaries and their ongoing forestry work, the landowner would like to create a healthy forest stand to prepare his own land for fire resiliency. We are proposing to pre-commercial thin, pile and burn approximately 187 acres of conifer forests on north/northwest facing slopes of the Widows Creek Ranch. Conifer species include Ponderosa Pine, Douglas Fir, Grand Fir, Western Larch and Western Juniper. The thinning project would be in close proximity (within a half mile) to the ESA-listed Steelhead stream of Bridge Creek, within winter range for Rocky Mountain Elk and Mule Deer, and is included in the Oregon Mule Deer Initiative - Murderers Creek Area. Project partners include the South Fork John Day Watershed Council, Widows Creek Ranch, Oregon Department of Forestry, Oregon Department of Fish and Wildlife, and U.S. Forest Service.

Review Team Evaluation

Strengths

- The application clearly describes the objectives and associated restoration actions that will lead to benefits to fish and wildlife habitat and forest health.
- The project site is critical mule deer and elk winter range and also provides habitat for birds, bats, and other terrestrial wildlife.
- Ecological benefits from the proposed OWEB investment will be expanded by similar work occurring on the adjacent Oregon Department of Fish and Wildlife (ODFW) Phillip Schneider Wildlife Area and USFS National Forest land.
- The understory vegetation is healthy and will benefit from a more open conifer canopy. In forest ecosystems, canopy openness affects understory light and precipitation availability, plant growth, and tree species recruitment, thus shaping future forest composition, structure, and functional diversity.
- The landowner has a detailed species-specific forest management plan in place that focuses on building resilience against disease, climate, and pest impacts.
- The project will build the forest's natural resilience to stand-replacing wildfire in a lightning and fire prone area.

- Previous restoration done on the ranch, such as preventing junipers from re-establishing, demonstrates the applicant and landowner will have continued capacity for long-term stewardship and maintenance of the restoration investment.
- Collaboration with ODFW, Oregon Department of Forestry (ODF), and USFS indicates appropriate technical partners are supportive of the project.
- The budget reflects reasonable and necessary costs in line with current rates.

Concerns

- There are no concerns.

Concluding Analysis

Collaboratively improving forest health across private and public boundaries expands the restoration footprint, resulting in an investment that is economical and multiplies the ecological benefits realized. The project will allow for continuation of valuable forest health improvement work that will discourage the spread of disease, improve habitat for wildlife, and build forest resilience against future wildfire.

Review Team Recommendation to Staff

Fund

Review Team Priority

5 of 8

Review Team Recommended Amount

\$148,957

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Fund

Staff Recommended Amount

\$148,957

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering

Mid Columbia (Region 6)

Application Number: 222-6018-22258

Project Type: Restoration

Project Name: Snabel Creek Upland Restoration

Applicant: Wheeler SWCD

Region: Mid Columbia

County: Wheeler

OWEB Request: \$82,728

Total Cost: \$270,589

Application Description 1) This project is located in the Kahler Creek Watershed, approximately 3.5 miles West of the town of Spray, Oregon located in Wheeler County. The privately owned property is adjacent to Kahler Creek . Snabel Creek and Holmes Creek are the main water courses on the property, which are a direct tributaries to the Kahler Creek and the John Day River, both being crucial water systems for steelhead spawning and migration. 2) The area has been heavily encroached by Western Juniper, which has a negative effect on water quality, quantity, and both upland and riparian habitat. Past grazing management practices have lead to unlimited access to the riparian corridor for stockwater needs resulting in heavy browse in the riparian zone causing degraded banks and increased sediment loading into the watershed. This has had a negative impact on the riparian corridors, as well as the upland health and vigor. 3) This project seeks to address the negative impacts Western Juniper imposes on the watershed functions and improve the riparian areas through livestock restriction. There will be 240 acres of Western Juniper to be removed mechanically. Additionally, 121.28 Snabel Creek will be enrolled into the USDA/FSA's CREP program. 4) Project partners include OWEB, USDA Farm Service Agency, and the landowner.

Review Team Evaluation

Strengths

- The application describes anticipated ecological benefits that includes information on the site response from previous juniper removal treatments on the property.
- The maps included with the application show the history of past restoration projects that demonstrates the proposed project is part of a watershed-scale approach.
- The landowner has successfully completed multiple restoration projects on his property.
- The application includes detail on technically appropriate treatments at strategically prioritized sites.
- The budget is cost effective and appropriate for the work described.

Concerns

- It is unclear from the application and maps where the proposed work will occur on the project site and what streams will be impacted. The application indicates the property is located adjacent to Kahler Creek; with Snabel Creek and Holmes Creek as the main water courses on the property. The application lacks detail indicating whether work is proposed near Holmes or Kahler Creeks or how

proposed work on Snabel will provide ecological benefits for these creeks.

- Expected quantified ecological outcomes are unclear because portions of the application narrative do not match the project metrics.
- Mediterranean sage and yellow star thistle are located along the ranch roads and in some of the previously treated fields. Ground-disturbing equipment used for juniper removal will lead to further spread of these highly invasive weeds that pose a threat to the native plant communities.

Concluding Analysis

The applicant is encouraged to engage the landowner in a comprehensive weed treatment plan prior to proceeding with additional juniper removal. Such an inventory can provide a framework for holistic vegetation management on the property, including any future juniper removal that could be a vector for weed expansion on the property. Both Mediterranean sage and yellow star thistle are state-listed noxious weeds known to rapidly take over any habitat, forming dense monoculture that crowd out native plant species and provide no wildlife benefit.

Review Team Recommendation to Staff

Do Not Fund

Review Team Priority

n/a

Review Team Recommended Amount

\$0

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Do Not Fund

Staff Recommended Amount

\$0

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering

Mid Columbia (Region 6)

Application Number: 222-6019-22248

Project Type: Restoration

Project Name: Butte Creek Watershed Restoration

Applicant: Wheeler SWCD

Region: Mid Columbia

County: Wheeler

OWEB Request: \$123,511

Total Cost: \$236,321

Application Description 1.) This project is located in the Northeast portion of Wheeler County, within the Butte Creek Watershed approximately 3.5 miles East of the town of Fossil. 2.) The expansion of Western Juniper, over-stocked timber stands, limited water availability, and invasion of annual grasses has pushed the Butte Creek Watershed into a declining state. Juniper encroachment, with an effect of reduced precipitation infiltration, has increased over the years due to historical wildfire suppression. This has created a limitation on stream and aquifer availability resulting in water quality and quantity issues, as well as a loss of native vegetation with increasing annual grass invasions that degrade wildlife habitat and their food source. Additionally, forests stands in the Butte Creek Watershed are compromised as Western Juniper expands into these dense stands of Ponderosa Pine thickets. This amount of canopy cover creates additional competition for water and nutrients, and increases fuel loads that risk catastrophic wildfires. This also makes these dense forest stands vulnerable to disease and pest infestation as canopy cover restricts healthy mature trees from thriving. 3.) This project seeks to address the negative impacts Western Juniper imposes and thin over stocked Ponderosa Pine stands to a healthy density to restore multiple functions in the Butte Creek Watershed. 4.) Project partners include OWEB, NRCS, ODF, and the landowner.

Review Team Evaluation

Strengths

- The application has clearly stated objectives and description of how they will be achieved.
- The proposed restoration treatment is specific to each site and technically sound.
- The project sites are upslope of Butte Creek, a steelhead tributary of the John Day River.
- The ranch, where the project is located, has a history of promoting ecological and forest health over several generations. For example, timber stands were thinned, and springs were improved with the removal of juniper on the property 30 years ago.
- The landowner has the capacity, equipment, and experience to successfully complete the project.
- A short and long-term juniper management plan is included in the application that indicates the landowner had been engaged in a conversation about how the restoration investment will be sustained over time.
- Partner support for the project is demonstrated by match from both the Natural Resource Conservation Service (NRCS) and the landowner. OWEB-funded juniper removal and pre-commercial thinning will expand the ecological benefits of the adjacent pre-commercial thinning projects funded by those efforts.

- Restoring upland process and function through vegetation management, including juniper removal, is listed as a high priority action for Butte Creek in the Mid-Columbia Steelhead Recovery Plan.

Concerns

- There are no concerns.

Concluding Analysis

The landscape-scale of this upland project, upslope of Butte Creek, will improve forest health, aid in fire resiliency in a lightning prone environment, and increase the ability of the grasslands to catch and release rainfall, resulting in improved spring flow and groundwater inputs.

Review Team Recommendation to Staff

Fund

Review Team Priority

4 of 8

Review Team Recommended Amount

\$123,511

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Fund

Staff Recommended Amount

\$123,511

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering

Mid Columbia (Region 6)

Application Number: 222-6020-22279

Project Type: Restoration

Project Name: Tamarack-Cary Creek Watershed Improvement

Applicant: Bridge Creek WC

Region: Mid Columbia

County: Wheeler

OWEB Request: \$88,040

Total Cost: \$112,231

Application Description This project is located in the Tamarack Creek and Cary Creek watersheds in central Wheeler County. Tamarack and Cary Creeks are tributaries to Shoofly Creek which flows to the John Day River west of Service Creek. Western Juniper encroachment and overstocked forests have contributed to degraded watershed health and pose a risk factor for high intensity wildfires. The project site currently has an overabundance of Phase 2 western juniper that reduced precipitation reaching the ground and impacting the hydrologic cycle. Previous upland projects funded by OWEB and NRCS have removed 350 acres of western juniper to the west of this project area. Another project is currently underway on the neighboring property to remove 260 acres of western juniper. This project will cut and pile western juniper on 321 acres of juniper on the edge of mixed forest. One spring will be developed to provide off channel water site for livestock and wildlife. In addition this application requests funds for 35 acres of noxious weed treatment including medusahead and 35 acres for reseeding treated and disturbed areas. Project partners are OWEB, and the landowner.

Review Team Evaluation

Strengths

- The application provides clear actions that align with the proposal goals.
- The landowner has successfully completed several projects with OWEB grants, has relevant technical expertise, necessary equipment and will be responsible for doing most of the proposed work.
- The short and long-term juniper management plan includes prescribed fire as a likely tool to keep juniper from re-establishing once fuel loads are reduced.
- Developing reliable water in the uplands will help both wildlife and the distribution of livestock in this semi-arid ecosystem.
- The cost-per-acre for juniper removal is consistent with rates in the John Day region.

Concerns

- The grazing strategy does not incorporate periods of rest for the pastures within the treatment area. Deferred grazing while grasses reestablish will increase the likelihood of successful seeding and native grass re-establishment on upland sites.

- Additional information describing watershed context and site characterization would be useful for better understanding the full suite of potential quantified watershed benefits expected from the proposed restoration.
- There is insufficient detail in the seeding and weed abatement plan to evaluate whether the approach for improving the native plant communities is likely to succeed.

Concluding Analysis

The project presents an opportunity to engage with a ranch owner willing to improve wildlife habitat and landscape functionality. Once fuel load is reduced on the project site by treating juniper, prescribed fire can be safely used as a tool to manage keeping juniper from reestablishing without risking the timber land bordering the east side of the project.

Review Team Recommendation to Staff

Fund

Review Team Priority

8 of 8

Review Team Recommended Amount

\$88,040

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Fund

Staff Recommended Amount

\$88,040

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering Mid Columbia (Region 6)

Application Number: 222-6021-22262

Project Type: Restoration

Project Name: Goen to Fields Wildlife Enhancements

Applicant: South Fork John Day WC

Region: Mid Columbia

County: Grant

OWEB Request: \$112,049

Total Cost: \$149,380

Application Description Goen to Fields wildlife enhancements project is located halfway between Mount Vernon and Dayville, Oregon on the Upper Mainstem of the John Day River. Major streams that flow through the project areas include Goen Creek, Magpie Creek, and Field's Creek. Field's Creek and the Upper Mainstem John Day River are ESA-listed habitats for Mid-Columbia Steelhead. This area is also within the Murderers Creek Mule Deer Initiative and contains critical winter and summer range habitat for Mule Deer.

The landowner and land manager for this ranch have been working on their own and partnering with ODFW, and Grant SWCD to enhance habitat for wildlife through Juniper removal, Juniper thinning, burning, rangeland seeding, and exclusion fencing Critical Habitat waters.

We are requesting assistance from OWEB in order to develop reliable upland water for livestock and wildlife and continue Juniper thinning and Juniper removal building off of areas the land manager has identified and is currently working on. These areas are located within high-priority mule deer forage such as bitterbrush and aspen.

We are also proposing to work with ODFW to monitor the Juniper thinned vs. Juniper Clear Cut areas for wildlife use.

Partners for this project include SFJDWC, Mike Martin (Land Manager), ODFW, and Grant SWCD.

Review Team Evaluation

Strengths

- The Upper John Day River is a critical area for mule deer and elk winter range habitat.
- The application includes a description of a planned burn on smaller, phase one juniper, which is an effective and economical method to deter juniper from re-establishing.
- The project site has a healthy existence of bitterbrush communities in the higher elevations that is important to both mule deer and elk as winter forage.
- Remote cameras will aid the Oregon Department of Fish and Wildlife (ODFW) in evaluating wildlife use of plots where juniper has been removed compared to plots where juniper is thinned.

- The new landowner has a goal of changing the historic practices to lessen livestock impacts and restore the landscape back to a healthy functioning condition. They also have experience with thinning juniper and will incorporate lessons learned on future treatments.
- The water development will be strategically located to better distribute cattle across the property. Siting an upland water source close to adjacent vegetative cover will also benefit wildlife by increasing predator protection.
- ODFW and the landowner are collaborating to improve the habitat for wildlife on private lands that are near adjacent public lands. This will expand habitat connectivity and further leverage OWEB investment in wildlife habitat.
- The budget is detailed and aligns with the anticipated costs of the project elements.

Concerns

- The application lacks details describing the locations and extent to which juniper will be left to provide wildlife cover. Strategically placing mosaics of juniper cover near areas with forage and water is beneficial; however, additional details in the application or maps is needed to better evaluate whether the plans are site appropriate.
- It is unclear whether improving vegetation and forage under limbed and thinned juniper is likely to succeed since the vegetation seen at the site located under thinned juniper was sparse and not thriving. Examples of how the proposed restoration approach is successful at other locations or references to scientific literature or guidance used to design the project would be helpful to evaluating the technical soundness of the approach.
- Additional information is needed to understand design details for the upland water development and the pipe and cable fenced food plot, such as where these components will be located within the project area. Also, it is unclear from the application how the food plot will provide additional ecological benefit to the site since a healthy bitterbrush community already exists on the property.
- It is unclear from the application how the trail camera imagery will be analyzed and used to assess wildlife benefit.

Concluding Analysis

The project presents a different strategy to treat encroaching juniper by focusing on improving habitat for mule deer and elk by incorporating patches of male juniper trees to serve as wildlife protection from the elements and predators. The applicant will work with ODFW to use trail cameras for effectiveness monitoring to analyze which of these landscapes mule deer frequent. The resulting report will inform future juniper planning efforts staged to improve wildlife habitat.

Review Team Recommendation to Staff

Fund

Review Team Priority

6 of 8

Review Team Recommended Amount

\$112,049

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Fund Reduced

Staff Recommended Amount

\$108,449

Staff Conditions

Budget requires reduction to remove double line item for trail camera costs.

Open Solicitation-2022 Spring Offering

Mid Columbia (Region 6)

Application Number: 222-6022-22361

Project Type: Restoration

Project Name: West Branch Riparian Restoration

Applicant: Wheeler SWCD

Region: Mid Columbia

County: Wheeler

OWEB Request: \$11,472

Total Cost: \$34,239

Application Description 1) The project location is approximately 8.5 miles south of Mitchell, Wheeler County, Oregon; in the Bridge Creek - John Day Watershed along West Branch Bridge Creek.

2) West Branch Bridge Creek is a main tributary to Bridge Creek, flowing into the John Day River. West Branch Bridge Creek is a current and historic spawning watershed for native Steelhead and Redband Trout. Currently the project riparian area is being heavily encroached by Phase I and II Western Juniper and invasive noxious weeds. The creek serves a vital function to the watershed. Not only are spawning fish reliant on it for reproduction, as are private landowners for agriculture production. Currently the stream bank is eroding away because historic grazing practices and Juniper encroachment.

3) This project seeks to reduce the negative impacts Western Juniper imposes on the watershed functions by hand cutting 23 acres of juniper out of the riparian area and the uphill north facing slope along nearly half a mile of West Branch Bride Creek. In addition the project will enroll 6.5 acres of West Branch Bridge Creek into CREP, treat 15 acres of ODA- A / B listed weeds.

4) Project partners include USDA Farm Service Agency, the Landowner, Wheeler SWCD, and OWEB.

Review Team Evaluation

Strengths

- The proposed project activities may enhance habitat for a suite of wildlife species that frequent the project area.
- The landowner has experience implementing restoration from working on several ranches in the county with similar projects.
- The Mid-Columbia Steelhead Recovery Plan lists the proposed restoration actions as moderate to the highest priority for Bridge Creek, of which West Branch is a tributary.
- The budget is reasonable based on the proposed restoration components.

Concerns

- The application does not clearly describe site conditions needed to better understand whether the proposed restoration actions are appropriate for the site. For instance, no information on existing spring sites, aspen, bitterbrush, or the status of grass, forb, or shrub communities is provided for the upland drainages where work is proposed.

- The application lacks details describing how the juniper treatment sites were selected. The treatment areas appear to be disconnected and discordant to the watershed value of improved wildlife habitat and resiliency to wildfire.
- The anticipated quantified watershed benefits expected from the project is unclear due to the lack of information describing watershed context for the proposed work.
- The application problem statement lacks site-specific details needed to understand the causes of these degraded ecosystems and evaluate whether the proposed solution will treat those causes instead of treating symptoms of watershed degradation.
- There are errors in the application; for example, associated streams are incorrectly identified, such as Shoofly Creek in the problem statement.
- The benefits of the proposed restoration to fish may be overstated. Currently, it is unlikely steelhead use the stream for spawning because of high sediment load conditions and multiple fish passage barriers located within and downstream of the site.
- There is an irrigation diversion located within the area that will be enrolled in CREP that is a fish passage barrier that needs to be address. Future restoration could potentially be difficult once the stream reach is enrolled in CREP because any disturbance within the CREP footprint requires special approval from the county or state Farm Service Agency (FSA) office.

Concluding Analysis

The proposed project benefits are unclear due to the lack of information describing fish use on the West Branch Bridge Creek and why the juniper treatment sites were chosen. A technical assistance application to identify and prioritize restoration in the watershed could be a valuable tool in planning future restoration on West Branch of Bridge Creek.

Review Team Recommendation to Staff

Do Not Fund

Review Team Priority

n/a

Review Team Recommended Amount

\$0

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Do Not Fund

Staff Recommended Amount

\$0

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering Mid Columbia (Region 6)

Application Number: 222-6023-22311

Project Type: Restoration

Project Name: West Birch Creek Dam Removal & Bridge Replacement

Applicant: Umatilla Basin WS Foundation

Region: Mid Columbia

County: Umatilla

OWEB Request: \$219,570

Total Cost: \$475,625

Application Description Umatilla Basin Watershed Council (UBWC) and partners are collaborating with private landowner(s) and Umatilla County Public Works to restore fish passage at two separate ODFW statewide priority fish passage barriers. ODFW & CTUIR biologists have identified both of these barriers as passage obstruction for steelhead along with resident rainbow trout, Pacific Lamprey, Coho Salmon, and several other non-salmonid fish species. During the design stages, the project team chose to design and permit both a diversion dam removal and a culvert removal/bridge replacement as one project due to their proximity. Both barriers are located in the Umatilla Basin (HUC 17070103) on West Birch Creek, a tributary to the Umatilla River. Barrier (1) on West Birch Creek an old irrigation diversion dam known as the Hascall Dam, which is no longer operational, and the landowner supports restoring fish passage at the site. The Hascall barrier is a full passage barrier to juvenile and adult salmonids due to a 4 ft concrete wall with an attached concrete apron, which prevents the possibility for an associated jump pool. In order to restore fish passage at the Hascall Dam, the preferred alternative chosen by the design team was a complete removal and regrading of the channel with minor habitat features. Barrier (2) on Stanley Creek is an undersized culvert located just upstream of its confluence with West Birch Creek. The Stanley Creek culvert was identified as a high priority for restoring fish passage due to the undersized culvert acting as a velocity barrier during mild to peak flows, as well as a full passage barrier for juvenile fish from the culvert being in a “hanging/perched” position. The project team chose the preferred alternative of removing the culvert and replacing it with a pre-cast concrete bridge structure to insure restoring passage and the natural movement of stream materials. The project partners include the CTUIR, Umatilla County, ODFW, Hascall Ranch, and the UBWC.

Review Team Evaluation

Strengths

- The Mid-Columbia Steelhead Recovery Plan identifies removing the Hascall diversion as a highest priority action to provide restoration benefit for steelhead.
- Removing the fish passage barriers on West Birch and Stanley Creeks will provide habitat benefits to redband trout, lamprey, coho, and other native aquatic species in addition to steelhead.
- Project objectives are clearly stated, and detail is provided to describe the related actions necessary to meet those objectives.

- The application describes the alternatives that were evaluated before determining the best technical solution.
- The project builds off a watershed scale prioritization effort by multiple partners, including Confederated Tribes of the Umatilla Indian Reservation (CTUIR) and the Oregon Department of Fish and Wildlife (ODFW).
- The costs are appropriate based on the two proposed designs.

Concerns

- The application budget lacks detail describing travel costs. More information, such as number of trips and miles, is needed to understand how travel costs were estimated.
- Funds are requested for cameras; however, it is not clear in the application how the resulting imagery will be used and how the cameras are necessary for the project's successful implementation.

Concluding Analysis

The project resulted from an OWEB technical assistance grant to design solutions for two fish passage barriers on West Branch Birch Creek. Stakeholders collaborated to complete the Birch Creek Assessment and Action Plan that resulted in a prioritization of major barriers to fish migrating upstream to critical cold-water habitat. This first phase project located on private land near the headwaters is likely to result in many more restoration opportunities in the upper watershed to improve critical habitat for steelhead.

Review Team Recommendation to Staff

Fund

Review Team Priority

1 of 8

Review Team Recommended Amount

\$219,570

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Fund

Staff Recommended Amount

\$219,570

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering

Mid Columbia (Region 6)

Application Number: 222-6024-22281

Project Type: Restoration

Project Name: Rowe Creek Forest Improvement

Applicant: Wheeler SWCD

Region: Mid Columbia

County: Wheeler

OWEB Request: \$88,553

Total Cost: \$125,074

Application Description 1.) This project is located in the Service Creek Watershed in the Twickenham area near the headwaters of Rowe Creek. The privately owned property is approximately 15 miles Southeast of the town of Fossil, Oregon in Wheeler County. 2.) The forest setting has already undertaken a catastrophic wildfire event resulting in increased fuel loads and fire hazards as dead and fallen trees and slash are scattered throughout the forest land. This makes the forest stands highly vulnerable to disease and insect infestation as dead and fallen trees and snags have created optimal habitat for insects that cause significant damage to forest stands. Additionally, historic logging practice and increased fire suppression has led to the over-stocking of timber stands and allowed for the expansion of invasive Western Juniper. Western Juniper has also occupied the northern slopes creating competition with native bunchgrass communities. The property also has multiple springs that are undeveloped that show great potential for production, but currently are being trampled by livestock and wildlife. Because the lack of developed springs along these pastures cattle congregate to lower sections of the fields and bypass the good production of grass stands along steeper slopes. The property also hosts two declining Aspen stands that are in need of protection and enhancement. 3.) This project seeks to work hand and hand with pre-commercial thinning and woody residue treatment to bring back healthy stands of Ponderosa Pine and prepare the site for desired regeneration, remove Western Juniper from the northern slopes, develop 5 springs, and protect two declining Aspen Stands. 4.) Project partners include OWEB, ODF, Wheeler SWCD, and the landowners.

Review Team Evaluation

Strengths

- The locations for proposed aspen treatments are appropriate and clearly described in the application narrative.

Concerns

- The application lacks sufficient detail needed to better understand the watershed problem identified for the project site, the solution to address that problem, and the quantified ecological benefit expected from the proposed restoration.
- There is no clear evidence indicating that the wildfire that occurred several years ago is causing the remaining timber to be more vulnerable to disease and pest infestation.

- It is unclear from the application why removing downed and standing dead trees resulting from the wildfire is proposed, other than they are inhibiting grass growth for grazing. Removing and pile burning the downed wood may not provide significant habitat benefits or any fire resilience.
- It is unclear how the project fits into the context of past and future restoration in the Rowe Creek watershed. Information describing other restoration actions in the watershed is needed to understand the potential for the project to expand ecological benefits across a broader scale.
- The application lacks information explaining the rationale for the number and location of the five spring developments. Additional details are needed to evaluate whether the approach is appropriate for the site and technically sound for distributing grazing and improving habitat, such as acres in each pasture, location of fence lines, number of animals utilizing each water development, and the distance between each water source.
- The application indicates spring sources will be developed to facilitate better management of livestock; however, there are no details describing the grazing strategies planned to ensure the project ecological outcomes will be sustained into the future.
- The application does not indicate who will complete the proposed work, whether it will be a contractor or landowner. More information is needed to better understand the capacity and expertise available to implement the project.
- Pre-commercial thinning costs appear high based on the density of the standing timber in the treatment area. The application lacks information indicating how estimated costs for the pre-commercial thin were determined or the guidance used to calculate these costs.

Concluding Analysis

The upper Rowe Creek watershed is in a lightning strike zone and prone to wildfires. There are timber stand sites on adjacent properties that are overstocked and suffering from disease and insect damage; however, the application lacks details to indicate whether this is a priority concern at the project site and if the proposed treatment is likely to succeed in achieving meaningful ecological benefits.

Review Team Recommendation to Staff

Do Not Fund

Review Team Priority

n/a

Review Team Recommended Amount

\$0

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Do Not Fund

Staff Recommended Amount

\$0

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering Mid Columbia (Region 6)

Application Number: 222-6025-22298

Project Type: Restoration

Project Name: North Fork Walla Walla River RM
3.6-4.3 Floodplain Restoration Construction

Applicant: Walla Walla Basin Watershed
Foundation

Region: Mid Columbia

County: Umatilla

OWEB Request: \$297,463

Total Cost: \$577,844

Application Description 1) The North Fork Walla Walla River (NFWWR) is an 18-mile long tributary of the Walla Walla River (Columbia River tributary), Milton Freewater, OR (map uploads).

2) The NFWWR is described in the Walla Walla Sub Basin Plan as both a priority protection and restoration area and categorized on the 303D list for water temperature. The NFWWR was severely impacted by the flood of February 2020 and identified as the Walla Walla Basin Watershed Council (WWBWC) primary project location for the 2050 Plan. WWBWC staff conducted Aquatic Habitat Inventory surveys in July 2020 to document pre-project status and identify physical habitat deficiencies. Mid-Columbia Steelhead and bull trout, listed as ESA-Threatened inhabit the project area. Populations are declining and extinction status trending towards high risk.

3) The proposed restoration reach is located from RM 3.6-4.3 and is part of a 5-year 5-mile phased project effort. Implementation of the .7 mile project is planned for 2023 using designs completed in 2022 funded by OWEB and BPA. Designs were informed by extensive watershed analysis to produce the most appropriate and effective treatments for sustainable floodplain function. Implementation strategies will incorporate design concepts and apply them to field application; https://wwbwc.org/docs/NFWWR_SamsRea_Reach1_BOD_Reduced.pdf

Holistic treatment strategies will address causes, not symptoms. Resiliency is built into design plans to address potential impacts from headwater logging operations and climate change, both important drivers of hydrological characteristics. Salmonid suitability, habitat complexity, and connectivity are objectives of the project and vital during catastrophic events, which can result in take of ESA salmonids due to elevated water temperature, habitat degradation, and excessive turbidity at lethal levels.

4) WWBWC is collaborating with landowners and resource managers. Project performance gaged by WWBWC monitoring funded by OWEB.

Review Team Evaluation

Strengths

- The application provides detailed objectives and clear actions.
- The North Fork Walla Walla River is critical habitat for both steelhead and bull trout.
- Water quality issues in the upper reach of the North Fork Walla Walla River include high stream temperature and turbidity. Turbidity is especially a concern after the 2020 flooding that took out a significant number of trees alongside the river.
- Post-project monitoring is planned in partnership with the Oregon Department of Fish and Wildlife (ODFW). ODFW will conduct redd counts and the Walla Walla Basin Watershed Council will continue monitoring water temperature.
- The revegetation approach is economical as well as likely to succeed in establishing riparian plants as equipment used for other restoration activities will also be used to trench in locally-sourced willow bundles into subsurface moisture zones.
- The proposed project is the first phase of instream construction where landowners are working with the applicant on a large-scale, five-mile restoration project.
- The proposal follows two OWEB-funded technical assistance grants, including one for Phase 1 design and one for an Aquatic Habitat Inventory Survey along the upper North Fork Walla Walla River.
- The applicant engaged the Bonneville Power Administration (BPA) engineers early in the conceptual phase to get input prior to the design process. The application includes BPA comments at the 15% design stage that clarifies why design components were chosen.
- Widespread support is demonstrated by the multiple partners involved in the project, including BPA, US Fish and Wildlife Service (USFWS), and ODFW.
- Emergency levees that were put in place to protect infrastructure following two 100-year floods in 2020 will be removed or reworked to increase floodplain connection and restore watershed function.
- The project will be iterative by starting at the downstream reach of the five miles and moving upstream with future phases. This will provide valuable information for adaptive follow-up before restoration proceeds upstream with each phase. The design also includes a three-tiered prioritization for installing restoration structures to ensure investment will provide the greatest habitat benefit. This method adds strategic flexibility for adding large wood if additional funding is secured.
- The Mid-Columbia Steelhead Recovery Plan indicates that restoring floodplain connectivity and function, including levee removal, side-channel connection, increasing instream and floodplain habitat complexity, and restoring riparian function and condition are medium to highest priority actions for the North Fork Walla Walla River.

Concerns

- The 30% project designs submitted in the application have limited detail needed to better understand how instream structures will be built.
- The budget line items and design sheet for the log structures do not align with the instream metrics in the application.

Concluding Analysis

The project site is the first phase of restoration construction along a five-mile reach of the North Fork Walla Walla River, which has been impacted by two back-to-back 100-year flood events. These

seemingly catastrophic events introduced restoration opportunities in the watershed as landowners indicated interest in trying something new to restore their lands to a more functioning and resilient floodplain system. Although the design set provided in the application is preliminary, the information provided from the technical team of BPA and contracted engineers engaged in the project provide enough information to indicate the project is likely to succeed.

Review Team Recommendation to Staff

Fund

Review Team Priority

2 of 8

Review Team Recommended Amount

\$297,463

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Fund

Staff Recommended Amount

\$297,463

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering Mid Columbia (Region 6)

Application Number: 222-6026-22278

Project Type: Restoration

Project Name: PA4 Birch Creek Instream
Enhancement & Floodplain Restoration

Applicant: Confederated Tribes Umatilla Indian
Reservation

Region: Mid Columbia

County: Umatilla

OWEB Request: \$351,090

Total Cost: \$2,144,269

Application Description The Confederated Tribes of the Umatilla Indian Reservation (CTUIR) is seeking partner funding for implementation of the UmaBirch Instream Design and Construction Oversight project. This restoration project is intended to improve instream habitat for Endangered Species Act (ESA)-listed and non-listed fish, benefit channel morphology and instream processes, and protect existing infrastructure at the Birch Creek. Project Area 4 (PA 4) is a 77.6-acre parcel which encompasses Birch Creek and its associated floodplains between approximately river mile (RM) 1.8 to RM 2.7 (from the Union Pacific Railroad [UPRR] Birch Creek Bridge upstream to the property boundary). The Project is entirely on private property with ongoing negotiations between the landowner, CTUIR, Bonneville Power Administration, Western Rivers, and Blue Mountain Land Trust to deed about 1,000 acres to conservation under a conservation easement in perpetuity.

Project goals will be achieved by constructing a new main channel, grade stabilization measures, wetlands, modifications to the old channel, and terrace fill. Excavation and fill quantities have been designed to balance, such that no import or export of material shall be required other than large woody material (LWM), boulders, and grade stabilization material. LWM structures will be placed in the new and old channels and across the floodplain. A roughened riffle is proposed at the downstream connection to the existing Birch Creek alignment to minimize chances of lateral or vertical erosion. Fish passage in Birch Creek would be maintained through the establishment a single-thread low-flow channel. An existing irrigation well is located on the project area floodplain and will be relocated 400m up stream where the existing pipeline crosses the creek. This will all be done before water is in the new channel. Finally, planting and seeding will be performed by CTUIR to initiate revegetation of the site. The areal extent of disturbance is 35.9 acres.

Review Team Evaluation

Strengths

- The application addresses previous review concerns and incorporates recommendations provided in the evaluation from the previous application submittal. Bonneville Power Administration (BPA) and the National Oceanic and Atmospheric Administration (NOAA) design comments are described in

both the application narrative and provided as an upload.

- Birch Creek is critically important steelhead habitat in the Umatilla Basin because it produces about half of the steelhead juveniles in the basin.
- Freshwater mussel and pacific lamprey salvage is incorporated into the project plans to ensure these species are not impacted by stream restoration activities.
- Reconnecting historic side-channels will increase complexity and instream habitat. Also, siting secondary pools adjacent to known spring inputs will provide cool water refugia for native fish.
- Multiple partners, including BPA, support the project.
- The proposed project is the first phase of a complex landscape-scale restoration effort impacting the lower four miles of Birch Creek and a significant portion of the Umatilla River.
- The project site will be enrolled into a conservation easement that will protect the restoration investment into perpetuity.
- Multiple proposed project components are identified in the Mid-Columbia Steelhead Recovery Plan as high to highest priority restoration actions for Birch Creek, including restoring floodplain connectivity and function, instream and floodplain complexity and pool habitats, and restoring riparian function and condition.

Concerns

- A historic basalt underlay may influence the hydrodynamics of subsurface flows. The application lacks information indicating how the restoration design takes the basalt layer into consideration to ensure the project objectives can be met.
- The application notes that bull trout may use the project area, but conditions at this low elevation site do not align with bull trout habitat of cold, clean, complex, and connected streams.
- The project design demonstrates the quantity of wood that will be used is sufficient for providing structural habitat complexity; however, the specific type of log that will be used to build the structures is not described. Some log species will quickly rot if submerged, which will limit long-term benefits gained from installing the habitat structures.

Concluding Analysis

This project on Birch Creek will reconnect 70 acres of a previously farmed field back to an active floodplain with a multichannel braided stream. The first of a multi-phase landscape restoration and protection project in the Umatilla Basin, the project will serve as an example for restoring floodplains to benefit wildlife and fish and help protect infrastructure from impacts like the damage that occurred during two extreme flood events in 2020.

Review Team Recommendation to Staff

Fund

Review Team Priority

3 of 8

Review Team Recommended Amount

\$351,090

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Fund

Staff Recommended Amount

\$351,090

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering Mid Columbia (Region 6)

Application Number: 222-6028-22250

Project Type: Technical Assistance

Project Name: Mill Creek Baseflow Assessment and Springs Inventory

Applicant: Walla Walla Basin Watershed Foundation

Region: Mid Columbia

County: Umatilla

OWEB Request: \$17,855

Total Cost: \$96,349

Application Description The Walla Walla Basin Watershed Council (WWBWC), City of Walla Walla, Confederated Tribes of the Umatilla Indian Reservation (CTUIR), and the Walla Walla Ranger District on the Umatilla National Forest seek funds to locate, map, and describe the surface flow paths and groundwater resources that provide summertime base flows in Mill Creek.

Mill Creek is utilized by ESA-listed Mid-Columbia Steelhead, bull trout, and culturally significant spring Chinook salmon. The upper watershed provides excellent aquatic habitat, but the area is vulnerable to catastrophic fires and other climate-related impacts. Downstream conditions in Mill Creek are far less suitable, with well-documented impairments including seasonal low flow and high water temperature.

Climate models predict changing precipitation and infiltration patterns in the Blue Mountains will reduce water storage and consequently reduce spring production. Mill Creek is a groundwater-dependent system with summer base flows supplied, in large part, by numerous springs emerging from basalt aquifers in the Blue Mountains. The location and status of the watershed's groundwater resources are not well documented. Baseline data describing the current conditions of groundwater resources in the Mill Creek Municipal Watershed are needed to document and understand climate-related impacts on water supplies, protect existing high quality habitat, and guide efforts to reduce the impact of predicted climate changes on native fish.

Review Team Evaluation

Strengths

- The project addresses a baseflow data gap in a unique, cold water refugia utilized by multiple ESA-listed fish species. This data will be important for understanding climate related impacts on water supply and stream habitat and will guide future restoration actions to sustain this critical source of habitat and flow.
- Any information gathered will add to the Walla Walla 2050 Bi-State Water Planning effort.
- Better understanding of the hydrology and spring systems in Mill Creek is needed to inform future management efforts, including fire resiliency and fuel treatments on public land.

- Timing for the proposed baseflow assessment is critical with the recent catastrophic weather events such as sustained drought and multiple 100-year floods.
- The project team has relevant experience collecting flow data and has successfully produced useful monitoring results on the upper reaches of the South and North Forks of the Walla Walla River.
- Appropriate partners will be engaged to provide necessary public land access and valued technical expertise.

Concerns

- The application does not elucidate next steps once the data is analyzed.

Concluding Analysis

The project will provide valuable baseline data for headwater spring sources, such as flow and water temperatures, that create Mill Creek. This data will be used to model and predict drought and altered precipitation regimes resulting from climate change. The results will be valuable in the development of future restoration plans that increase habitat resiliency for bull trout, spring chinook salmon, and summer steelhead in this critical headwater basin.

Review Team Recommendation to Staff

Fund

Review Team Priority

5 of 5

Review Team Recommended Amount

\$17,855

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Fund

Staff Recommended Amount

\$17,855

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering Mid Columbia (Region 6)

Application Number: 222-6029-22273

Project Type: Technical Assistance

Project Name: North Fork Walla Walla River RM
4.3-5.2 Floodplain Restoration Design

Applicant: Walla Walla Basin Watershed
Foundation

Region: Mid Columbia

County: Umatilla

OWEB Request: \$74,888

Total Cost: \$199,821

Application Description 1) The North Fork Walla Walla River (NFWWR) is an 18-mile long tributary of the Walla Walla River that enters near RM 52, Milton Freewater, Oregon (see 2 uploads).

2) The NFWWR is described in the Walla Walla Sub Basin Plan as both a priority protection and restoration area and 303D list for high water temperature. The NFWWR was severely impacted by the flood of February 2020 and is identified as ideal for the 2050 Plan. Walla Walla Basin Watershed Council (WWBWC) staff conducted Aquatic Habitat Inventory surveys on the NFWWR in July 2020 to document the pre-project status of physical habitat and identify physical habitat deficiencies. Mid-Columbia Steelhead and bull trout inhabit the project area and listed as Threatened ESA species with populations declining and status trending towards the high risk of extinction.

3) The RM 4.3-5.2 design process will produce 100% final stamped engineered designs and reports, informed by watershed and reach scale analysis to produce the most appropriate and effective treatments for sustainable, long-term benefit and floodplain function. Design concepts will reflect holistic watershed characteristics and address causes, not dysfunction symptoms. Resiliency will be built into design plans to address potential impacts from ongoing headwater logging operations and climate change; both are essential drivers of hydrological characteristics. Salmonid suitability and habitat connectivity are objectives of the project and vital during catastrophic events, resulting in the take of ESA salmonids due to elevated water temperature, habitat degradation, and excessive turbidity at lethal levels. Designs will outline implementation details for 2024 as part of a restoration plan that spans five years and 5 miles.

4) This WWBWC project has support from landowners, USFWS, ODFW (uploaded), BPA, OWEB, OWRD, CTUIR, NMFS other interested parties. Project performance will be gaged through WWBWC's effectiveness monitoring staff, funded by OWEB.

Review Team Evaluation

Strengths

- The application narrative describes a clear need for the proposed technical assistance.
- The proposed design project will be the second phase in a five-year, five-stream mile restoration effort. Technically sound design concepts will be used to restore and stabilize the stream while allowing the river to utilize the floodplain to disperse potentially destructive stream energy that can lead to extreme erosion and damage to infrastructure.
- The family who owns the five-mile project stream reach is actively involved in the entire restoration process, which is demonstrated by the many landowner agreements uploaded with the application.
- The same engineering firm that designed the first project phase will be utilized for the this project phase.
- Qualified BPA engineers visited the site early in the design process to provide technical review of the design concepts.
- The North Fork of the Walla Walla River is identified as critical habitat for both steelhead and bull trout.
- Appropriate partners are engaged in the project, including Oregon Department of Fish and Wildlife (ODFW), National Oceanic and Atmospheric Administration (NOAA), US Fish and Wildlife Service (USFWS), and the Confederated Tribes of the Umatilla Indian Reservation (CTUIR).

Concerns

- It is unclear from the application if removing or breaching the levees will be part of the restoration plans for the current project stream reach, or if the application objective describing levee work more generally applies to the overall long-term five-mile restoration project.

Concluding Analysis

Following catastrophic flood events in 2020 that resulted in significant habitat damage in the North Fork Walla Walla River watershed, the applicant engaged with landowners to offer restoration alternatives to the typical dike and levee protection systems that are commonly used in the Walla Walla Basin. Over time the watershed could heal itself without restoration actions, but the detrimental impacts to the critical steelhead and bull trout that depend on this stream system warrant this timely investment.

Review Team Recommendation to Staff

Fund

Review Team Priority

4 of 5

Review Team Recommended Amount

\$74,888

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Fund

Staff Recommended Amount

\$74,888

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering

Mid Columbia (Region 6)

Application Number: 222-6030-22282

Project Type: Technical Assistance

Project Name: Stormwater Designs for Nichols Canyon and Hwy 11

Applicant: Walla Walla Basin Watershed Foundation

Region: Mid Columbia

County: Umatilla

OWEB Request: \$61,707

Total Cost: \$79,877

Application Description The proposed stormwater design project includes two drainage basins located on the south side of Milton-Freewater, including areas within City Limits, within the Urban Growth Boundary, and areas outside the UGB.

The area includes two basins that drain into the Walla Walla River without designed treatment. Untreated stormwater introduces contaminants to the river, including sediment, pesticides, and fertilizers from farms and residential land, and heavy metals and hydrocarbons from roadways.

The proposed project will:

- Model two drainage basins for 2, 25, and 100-year storm event runoff volumes and flow rates;
 - Develop alternatives to reduce, eliminate or treat runoff to the Walla Walla River for each basin;
 - Create 90% designs for one basin (S-1);
 - For the second basin (S-2), evaluate solutions to reduce runoff from existing properties through the implementation of BMPs and coordinate with adjacent property owners including ODOT.
- Project partners include the City of Milton-Freewater, the Oregon Department of Transportation, and the Walla Walla Basin Watershed Council.

Review Team Evaluation

Strengths

- Information on farming practices used in the upper drainages will be gathered prior to landowner outreach to better inform both the urban dwellers and the upper drainage farming communities on impacts during extreme storm events.
- Oregon Department of Transportation (ODOT) and the City of Milton Freewater are partners in the project.
- The City of Milton Freewater has indicated their property in one of the drainages would be available to site the restoration solutions.

Concerns

- It is unclear whether sufficient landowner engagement has already occurred or is planned as a part of the proposed project. Involving landowner and stakeholder input in the planning process prior to any design development will provide a higher likelihood for the project to succeed.

- While sediment loading is a known water quality concern for the Walla Walla River, the need for the proposed technical assistance project is unclear because the application lacks baseline water quality data necessary to evaluate the potential quantitative benefit expected from the investment.
- The specific project objectives for the S-1 and S-2 basins are unclear from the application.
- It is unclear if the estimated costs are adequate to accomplish the proposed objectives because the application lacks details explaining how costs were determined.

Concluding Analysis

While the application indicates additional modeling is needed to develop alternative designs that can be presented to landowners, initial landowner buy-in to general concepts for reducing and eliminating runoff may be needed first. A stakeholder engagement project to conduct extensive outreach to landowners and stakeholders in the S-1 and S-2 drainages before moving to modeling and design work could increase the likelihood of success in addressing stormwater impacts through voluntary conservation.

Review Team Recommendation to Staff

Do Not Fund

Review Team Priority

n/a

Review Team Recommended Amount

\$0

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Do Not Fund

Staff Recommended Amount

\$0

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering

Mid Columbia (Region 6)

Application Number: 222-6031-22315

Project Type: Technical Assistance

Project Name: Rudio Creek Stewardship and Restoration Assessment

Applicant: North Fork John Day WC

Region: Mid Columbia

County: Grant

OWEB Request: \$29,116

Total Cost: \$62,416

Application Description

1) This project will take place in the Rudio Creek Subwatershed, encompassing both Rudio (HUC 12: 170702021005) and Gilmore Creeks (HUC 12: 170702021004), tributaries of the North Fork John Day near its confluence with the main stem of the John Day River.

2) As a result of topography and the elevation of its headwaters relative to its mouth, the Rudio Creek subwatershed encompasses important climate refugia containing critical habitat for chinook salmon and ESA listed Mid-Columbia steelhead. Although past restoration activities have improved parts of the system, legacy effects of channelization, floodplain degradation, and other upland problems remain. To guide restoration on this ecologically significant tributary of the North Fork John Day, a full assessment of the system is needed.

3) This project proposes to implement a full assessment of restoration needs as well as the creation of a Stewardship Management Plan for all participating properties encompassed within the Rudio Creek subwatershed using the North Fork John Day Watershed Council's Stewardship Planning Framework. The framework is a tool for assessing resource conditions across 3 broad categories: forests, rangeland, and aquatic and creating a project by project roadmap that includes all necessary information for funding and implementing individual restoration activities.

4) Partners for this project include: The North Fork John Day Watershed Council – Project management, property assessment, and composition of stewardship plans; Monument Soil and Water Conservation District – Project support, property assessment and composition of stewardship plans; The Bureau of Land Management – Consultation; The Freshwater Trust – Consultation; and the individual landowners – property access and planning input.

Review Team Evaluation

Strengths

- The application clearly describes site conditions, objectives, and anticipated outcomes.
- Restoration resulting from the proposed technical assistance will improve ecological health and function in a watershed that provides important steelhead and wildlife habitat.
- The proposed technical assistance project builds on previous OWEB funded work in Rudio Creek by assessing conditions to identify new restoration opportunities.

- Data collected for the resource assessment will be used to provide options to mitigate for climate change and build resiliency in forest health, high elevation wet meadows, and instream and riparian conditions.
- Kick-off meetings that occurred prior to submitting the application have built project momentum by initiating collaboration among public and private landowners.
- The project could result in Good Neighbor Authority type projects with the BLM where similar restoration objectives can be implemented across public and private land boundaries.

Concerns

- There are no concerns.

Concluding Analysis

A lot of restoration has been completed in the Rudio Creek watershed. An opportunity arose to build on this work and re-assess the basin through the lens of potential impacts caused by shifts in climate regimes and identify where restoration will build resiliency to both drought and extreme storm events. The proposed assessment and continued collaboration across private and public land boundaries will result in a prioritized action document that will increase the likelihood of success for future restoration to add significant ecological benefit to the watershed.

Review Team Recommendation to Staff

Fund

Review Team Priority

2 of 5

Review Team Recommended Amount

\$29,116

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Fund

Staff Recommended Amount

\$29,116

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering

Mid Columbia (Region 6)

Application Number: 222-6032-22316

Project Type: Technical Assistance

Project Name: Homer Diversion Dam - Fish Passage Design

Applicant: Umatilla Basin WS Foundation

Region: Mid Columbia

County: Umatilla

OWEB Request: \$42,806

Total Cost: \$115,045

Application Description The Umatilla Basin Watershed Council (UBWC) seeks technical design funding for plans to restore fish passage on Birch Creek at the Homer Diversion Dam site. Located in the Umatilla Subbasin (HUC17070103) on Birch Creek, a major tributary to the Umatilla River, the Homer Diversion is the highest priority barrier located on the Birch Creek mainstem since the downstream removal of the Reith Dam in 2018. Confederated Tribes of the Umatilla Indian Reservation (CTUIR) biologist have identified the barrier as a passage obstruction for primarily for steelhead, resident rainbow trout, Pacific lamprey, and several other non-salmonid fish species. The lower reaches of Birch Creek may also have limited use by reintroduced Chinook and coho salmon, the barrier ranks high on the statewide priority barrier list published by the Oregon Department of Fish & Wildlife. For this project, the team proposes working with a design firm contractor to explore 15% design alternatives for restoring fish passage, and then moving forward with additional design stages and eventually to completion of 100% construction-ready and permitted designs that restore fish passage at the Homer Dam site. Partners include the CTUIR, Umatilla Basin Watershed Council, Umatilla County, Oregon Department of Fish & Wildlife, Whitney Land Company, and Blue Mountain Wildlife.

Review Team Evaluation

Strengths

- Homer dam is recognized as a high priority fish barrier in several plans, including the Mid-Columbia Steelhead Recovery Plan and the Confederated Tribes of Umatilla Indian Reservation's Birch Creek Watershed Action Plan.
- A design alternatives analysis will be included as a component of the conceptual engineering process.
- The project timeline includes a logical phasing of activities.
- The Confederated Tribes of the Umatilla Indian Reservation is a project partner, which is demonstrated by providing leveraged funds and valuable technical expertise in reviewing designs and alternatives.
- Multiple partners support the project, increasing the likelihood for the project to succeed.

Concerns

- The application lacks water right information for the irrigation Point of Diversion (POD) which could

impact timelines and costs if changes to the water rights associated with the property are required and complex.

- It is unclear from the application whether the concept for correcting passage at the irrigation diversion structure involves removal of the structure, or building a low-flow fish passage so juveniles can migrate to upstream habitat.
- The application has details describing the entire Birch Creek system rather than information focusing on the specific project site needed to evaluate the design approach.
- The application states that 34 miles of Birch Creek will be made available for juvenile steelhead. This benefit may be overstated since the Birch Creek Assessment and Action Plan indicates numerous barriers are located just a few miles upstream.

Concluding Analysis

Following the completion of the Birch Creek Assessment and Action Plan, partners in the Umatilla Basin have focused on restoration to the Birch Creek system. Starting at the confluence with the Umatilla River, this is the first significant fish barrier that requires correction. Birch Creek is highly productive for summer steelhead, providing half of all steelhead in the basin.

Review Team Recommendation to Staff

Fund

Review Team Priority

3 of 5

Review Team Recommended Amount

\$42,806

Review Team Conditions

The Grantee should follow up on the status of the water right associated with the Point of Diversion (POD) and provide information in the Project Completion Report.

Staff Recommendation

Staff Follow-Up to Review Team

OWRD indicated to OWEB staff that the water right from the POD is an active water lease. The lands associated with the POD has a conservation easement, so permanent lease could be a potential option to consider.

Staff Recommendation

Fund

Staff Recommended Amount

\$42,806

Staff Conditions

The project completion report shall include an explanation on the status of the water right associated with the POD and provide detail on whether it will be permanently leased instream, abandoned or protected through another instream mechanism.

Open Solicitation-2022 Spring Offering Mid Columbia (Region 6)

Application Number: 222-6033-22333

Project Type: Technical Assistance

Project Name: Indian Creek Diversion Relocation
and Pipeline Project Design

Applicant: South Fork John Day WC

Region: Mid Columbia

County: Grant

OWEB Request: \$75,000

Total Cost: \$131,245

Application Description This project is located on Indian Creek, approximately 8.5 miles east of John Day Oregon. This project covers the design for relocating an existing diversion structure and unscreened ditch located off of the Malheur National Forest Wilderness Area onto private land, as well as piping the open irrigation ditch to increase irrigation efficiency.

Indian Creek is a tributary to the upper mainstem John Day River. Indian Creek originates in the Malheur National Forest Wilderness Area and is considered a high-quality stream occupied by ESA-listed bull trout, Mid-Columbia steelhead, Westslope cutthroat trout, and redband trout. The location of the diversion is in designated wilderness (Strawberry Mountain Wilderness Area) on the Malheur National Forest. The diversion irrigates 108.6 acres with a total rate of 3.715 cfs. This ditch is currently unscreened and has been observed to entrain ESA-listed species, which typically perish. Fish mortalities have been observed and documented in the ditch system.

The open irrigation ditch originates on Malheur National Forest WA land and continues through BLM Wilderness Study Area ending on private property. The total length of the open ditch system is 1.5 miles. There is a considerable amount of ditch seepage, evaporation and in many areas the ditch has failed and caused significant water loss and erosion. Due to the inefficiency of this ditch, piping the ditch will greatly improve water delivery and also conserve instream water that will benefit the high quality cold-water tributary. Additionally, the current ditch location is in very steep, and dangerous terrain which makes it difficult for the landowner to maintain.

Project partners include SFJDWC, ODFW, CTWS, USFS and BLM.

Review Team Evaluation

Strengths

- The proposed project will address multiple resource issues, including impaired fish passage, fish entrainment, and altered hydrology resulting from an irrigation ditch located within a public wilderness area where solutions have been difficult to determine.
- The restoration approach will solve a long-time fish passage problem and save water by moving an irrigation point of diversion a half mile downstream from public lands onto private land, installing a fish screen, and converting the open ditch to buried pipe for conveyance to irrigated fields.

- The technical assistance project will lead to the best approach for the site by utilizing input from qualified engineers, analyzing alternatives, and engaging technical experts to review designs.
- Indian Creek, originating in the US Forest Service (USFS) roadless area, is critical cold-water habitat for steelhead, bull trout, lamprey, redband, and cutthroat trout. By moving the point of diversion downstream, a half mile of Indian Creek will retain flows of 3.715 cfs that was previously diverted and thus provide habitat benefits to these native fish species.
- The landowner is willing to participate in moving the irrigation diversion and is also working with ODFW and USFS to address an additional culvert outside of the proposed project that is a fish passage barrier.
- Multiple partners have been working to address the fish passage issue on Indian Creek for a very long time and it is a restoration priority for Oregon Department of Fish and Wildlife (ODFW) and the Confederated Tribes of Warm Springs (CTWS).
- The budget to design the new diversion and pipeline is appropriate for the complexity of the project and terrain.
- Partner commitment to the project implementation increases the likelihood of success for this technical assistance to lead to completing future restoration. The letter of support from Malheur National Forest states their intent to decommission the old diversion and ditch and to pursue additional funds for future actions. The letter from ODFW pledges funds for continued project coordination, installation of a fish screen, and fish species population monitoring.
- The budget includes funding for the downstream point of diversion transfer through OWRD.

Concerns

- It is not clear if processes required by US Forest Service could be an impediment to the project timeline; however, it appears USFS supports the project by their letter of support.

Concluding Analysis

Indian Creek is identified in the Mid-Columbia Steelhead Recovery Plan as a high priority in both location and restoration benefit. This cold-water stream provides critical habitat for ESA-listed steelhead and bull trout, as well as other native aquatic species. The proposed project is the first phase of several restoration projects that will improve fish passage on both Indian Creek and Overholt Creek, a tributary to Indian Creek. Partners have engaged landowners to resolve challenges so that future restoration can result in significant benefits to fish.

Review Team Recommendation to Staff

Fund

Review Team Priority

1 of 5

Review Team Recommended Amount

\$75,000

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Fund

Staff Recommended Amount

\$75,000

Staff Conditions

n/a

Open Solicitation-2022 Spring Offering Mid Columbia (Region 6)

Application Number: 222-6034-22312

Project Type: Monitoring

Project Name: Effectiveness of Macroinvertebrate Sampling to Assess Low-tech Restoration

Applicant: OSU Office of Sponsored Research & Award Admin

Region: Mid Columbia

County: Grant

OWEB Request: \$140,217

Total Cost: \$198,913

Application Description This project proposes to monitor macroinvertebrates at five restoration project sites, four in OWEB region 6 and one in region 5. All five sites use low-tech, process-based restoration (LTPBR) techniques designed to re-establish connections between the stream channel and its floodplain. This type of restoration results in channel aggradation, increased slack water areas, and increased habitat complexity. It is not clear whether standard macroinvertebrate protocols or metrics of condition are appropriate for this type of restoration. The most common field protocol (targeted riffle sampling) and common metrics (e.g., O/E ratios, %EPT taxa) were developed in the context of watersheds without beavers and the metrics, generally, reflect stream conditions with moderate-high velocity and sediment-free substrate. However, LTPBR creates conditions in direct contrast to this. Therefore, if macroinvertebrate monitoring is to be conducted to assess this type of restoration an understanding of protocols and metrics sensitive to LTPBR needs to be developed. This project proposes to test two macroinvertebrate field-sampling protocols and a variety of macroinvertebrate metrics to develop guidelines regarding how macroinvertebrate monitoring should be conducted for LTPBR projects.

Products from this project include a manual outlining the findings of this project and the suggested techniques for future monitoring, a Power Point presentation that can be used by project partners during meetings, and a manuscript to be submitted to a scientific journal. Project partners include the South Fork John Day Watershed Council, the Walla Walla Watershed Council, and the Powder Basin Watershed Council.

Monitoring Team Evaluation

Monitoring Team Strengths

- The proposed project will complement the macroinvertebrate data that has been collected at one of the restoration sites.
- The applicant will incorporate the existing cross section and habitat data to assist in the interpretation of the macroinvertebrate results.
- The study design, which will sample benthic macroinvertebrates at 5 restoration sites and compare to non-restored sites across three years, is adequate to answer the monitoring questions posed in the application.

- The monitoring methods are well described and follow professionally accepted protocols that will be incorporated into a Sampling and Analysis Plan (SAP) in coordination with Oregon DEQ.
- The applicant's data management plan includes housing the data on computers in Hermiston and backed up on OSU's server. Data will be made available to the public on the Hermiston Agricultural Research and Extension Center's website.
- The application describes how the data will be analyzed for each objective using a variety of statistical approaches using the open-source statistical program R.
- The applicant staff and DEQ macroinvertebrate expert are highly qualified and have the relevant work experience to apply the proposed data collection and analysis methods in a successful manner.
- The applicant will contract with a qualified lab that processes samples consistent with standard procedures to identify and count bug specimens.
- The applicant is partnering with the South Fork John Day, Walla Walla Basin, and Powder Basin watershed councils to gain access to their restoration sites and select monitoring locations.
- This proposed project will produce a brief manual on the findings of the proposed work. This manual will inform parties interested in macroinvertebrate sampling at low-tech process-based restoration sites of which protocol to use and macroinvertebrate metrics to use. In addition, the findings will be submitted to a peer reviewed journal.
- The proposed expenses are detailed and appropriate to complete the work given it is occurring over three years and will result in several products being produced.

Monitoring Team Concerns

- The proposed study design will compare two sampling procedures at control and treatment sites that are likely to have different habitats, therefore it may not be possible to identify a preferred sampling method for beaver dam analog projects.
- It is not clear how sediment size and percent embeddedness will be incorporated into the data analysis to interpret the results.
- The timeline is compressed at the end of the project for completion of a variety of final products.
- The study design mentions that control sites may not be placed in the same stream; this is a concern as controls are best suited to be located upstream in the same stream for data comparison purposes.
- It is not clear how the applicant will engage with the partners during and after the project is completed to share results of the monitoring effort and how it will inform their future restoration actions.
- There is no mention of submitting the macroinvertebrate data to DEQ, which is a reporting requirement of OWEB monitoring grants.

Monitoring Team Comments

Recommendations:

- Comparing treatment reaches to reference reaches rather than control sites might be a better approach to compare sampling methods though it could be difficult to find reference sites.
- In addition to comparing results to a riffle-type stream, it would be helpful to perform a literature review to compare results to macroinvertebrate communities typically found in slower water, depositional habitats.

Review Team Evaluation

Strengths

- The proposed monitoring addresses a clear need for metrics information related to low-tech, process-based restoration, including beaver dam analogs (BDAs) and post-assisted log structures (PALs), as these techniques are widely used across the state.
- Protocols will be developed to inform future effectiveness monitoring for evaluating process-based restoration projects and their impact to freshwater aquatic food webs and water quality utilizing macroinvertebrate health and abundance as an indicator.
- The monitoring plan includes gathering data during different seasons and include the age and state of the associated restorative actions.
- The applicant has initiated partnerships with watershed councils that assisted with identifying varied ranges of ecosystems to monitor.
- The budget is reasonable to successfully complete the project.
- Publication in scientific journals will help to ensure rigorous statistical data analysis is completed.
- Additional deliverables, including a PowerPoint and a monitoring protocol document, will be made available to the restoration community.

Concerns

- The application is not clear on whether flow, temperature, or substrate data will be included in the monitoring parameters collected within the habitat transects.

Concluding Analysis

With the increase in process-based restoration practices, developing monitoring protocols that accurately represent the macroinvertebrate taxa that inhabit different stream habitats is needed. In the lower John Day Basin, Oregon Department of Fish and Wildlife (ODFW) has observed faster fish growth correlated with stream reaches treated with BDA structures. This monitoring effort will provide better understanding of the food chain dynamics and give restoration practitioners a more accurate tool to effectively monitor impacts to the aquatic communities living in restored stream reaches.

Review Team Recommendation to Staff

Fund

Review Team Priority

1 of 1

Review Team Recommended Amount

\$140,217

Review Team Conditions

n/a

Staff Recommendation

Staff Follow-Up to Review Team

n/a

Staff Recommendation

Fund

Staff Recommended Amount

\$140,217

Staff Conditions

Project Completion Report (PCR) will include documentation that data has been submitted and approved for inclusion into the DEQ Macroinvertebrate database.