



R & E Grant Application Project #: 19-012

19-21 Biennium

Sandy Salmon Floodplain Reconnection

Project Information

Requested Cycle: 19-1
R&E Project Request: \$137,000
Other Funding: \$709,848
Total Project: \$846,848
Spending Start Date: 2/1/2019
Spending End Date: 10/30/2019
Project Start Date: 7/1/2017
Project End Date: 10/30/2020
Organization: Sandy River Basin Watershed Council (Tax ID #: 93-1294148)

Fiscal Officer

Name: Katherine Cory
Address: 26000 SE Stark St., GE Building
Gresham, OR 97030
Telephone: 5034898312
Telephone 2: 5034898312
Email: katherine@sandyriver.org

Applicant Information

Name: Steve Wise
Address: 26000 SE Stark, GE Building
Gresham, OR 97030
Telephone: 503-622-9134
Telephone 2: 971-325-4023
Email: swise@sandyriver.org

Past Recommended or Completed Projects

This applicant has no previous projects that match criteria.

Location Information

Where is it?

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

Landowner Information

Name: Bruce Zoellick
Affiliation: BLM
Address: 1717 Fabry Rd. SE
Salem, OR, 97306
Phone: 5033755672
Email: bzoellick@blm.gov

Name: Rick Gruen
Affiliation: Clackamas County Forestry and Parks
Address: 150 Beavercreek Rd.
Oregon City, OR, 97045
Phone: 5037424345
Fax: 5037424349

Site Description

Street Address, nearest intersection, or other descriptive location.
Confluence of Sandy and Salmon Rivers, Clackamas County

Directions to the site from the nearest highway junction.
Highway 26 to Sleepy Hollow Rd, E on Barlow Rd.

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

Full access

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

Land is owned by either BLM or Clackamas County and managed as open space for day use recreation. The Sandy-Salmon confluence is currently the upstream limit of sport angling for salmon and steelhead on the Sandy River. Portland Water Bureau owns a conservation easement on a portion of the Clackamas County land, which does not affect access but conserves forest cover for 50 years.

Dominant Land Use Type:

Forest

Project Location

General Project Location.

County: CLACKAMAS
ODFW Dist: North Willamette
Stream/Lake/Estuary Sandy River
Name:

Sub-basin: 17080001
Tributary of: Columbia River

Specific Project Location.

Latitude	Longitude
45.38105	-122.03666

Project Summary

Project Summary

Please provide a couple sentence summary of the proposal.

The Sandy Salmon Floodplain Reconnection will restore priority wild salmon habitat in the main stem Sandy. Restoring the floodplain at the confluence of the Sandy and Salmon Rivers represents one of the largest and most productive restoration opportunities in the Sandy, a top priority in Lower Columbia + basin-wide plans.

Overall Project Goals

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

Alter levees to restore floodplain and side channel habitat, and restore riparian function.

Enhance habitat complexity through construction of engineered log jams, riffles and gravel bars,

Extend migratory and rearing habitat for juvenile salmonids, linking restored areas in upper tributaries and the lower river to build toward basin scale connectivity in the main stem Sandy

Primary objectives of R&E funding

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

Restoring 1,200' of groundwater off channel and side channel habitat, currently isolated behind levees installed after the record 1964 floods, for rearing and migrating habitat

300 large wood pieces in 4 engineered log jams to increase habitat complexity

200' levee removal (7000 cubic yards) to reconnect natural hydrology in the floodplain, allowing flow into restored channels, with spoils used to restore river meanders

10 acres floodplain restored, with 15,000 square' of pools, riffles and glides created, and 5000 native trees and shrubs installed to diversify canopy species and age classes

100 volunteers engaged in planting, stewardship, and pre- and post-project tours

Current Situation/Justification

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

Levees built after the Sandy's record flood in 1964 isolated key floodplain and side channel habitat. Portions of the levees are vulnerable to failure from long-term erosion; the project site partially breached already in a moderate October 2017 storm flow. Historic actions limited habitat complexity, erasing river meanders and isolating off channel habitat created by 1964 channel migration. Project actions are designed to restore floodplain connectivity, habitat complexity, and inundation frequency on the floodplain, maximize habitat productivity prioritized for this reach and fish species utilizing it, and restore native vegetation age structure, canopy and understory diversity.

Proposed restoration actions will alter levees to restore floodplain and side channel habitat and complexity, and restore riparian function to enhance habitat and canopy across the floodplain. Resulting reconnected floodplain areas will provide migratory and rearing habitat for juvenile Spring and Fall Chinook, coho and steelhead, as well as Pacific lamprey. Project actions address reach scale priorities for limiting factors in the mainstem Sandy, the top sub-basin specified by Lower Columbia and Sandy basin restoration plans.

Recreation and Commercial Benefit

This project will provide benefits to:

- Recreational fisheries
- Commercial fisheries

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

Restored habitat resulting from this project will enhance productivity and habitat capacity for listed wild coho and chinook salmon and steelhead, reconnecting rearing and feeding areas that have been isolated for over 50 years. Comparable actions on the Salmon River have dramatically increased the presence and usage by juvenile migrants, as well as spawning around restored areas. The project site will expand rearing and migration habitat for fish spawned in already restored priority spawning tributaries Salmon River and Still Creek.

The project site is public land, at the upstream limit of current Sandy recreational fishing, a popular area for salmon, steelhead and trout angling.

Reviews of Sandy populations of wild salmon and steelhead since removal of Marmot dam indicate increasing populations in three of four listed species, spring Chinook, coho and steelhead, which contribute to recreational and commercial fisheries in the Lower Columbia.

Percent benefit split between Commercial and Recreational anglers:

- 50 % Commercial
- 50 % Recreational

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

Hatchery fish that provide angling opportunities in the Sandy and lower Columbia are integrated stocks, so require healthy wild fish populations to continue or expand integration of wild fish genetics into hatchery fish, particularly coho, which does not yet allow integrated broodstock because it will require a higher base wild population. ESA threatened wild fish that will benefit from the Sandy/Salmon floodplain project provide a “buffer” to impacts that commercial fishers have on wild fish. Integrated stocks allow potentially more hatchery releases, as more wild fish means there are higher allowable impacts for commercial anglers, allowing longer seasons with healthier wild fish populations and lower proportional risk to wild stocks from hatchery releases. The same could be said for sport anglers since hatchery programs are integrated in the Sandy. ODFW relies on healthy wild fish populations to maintain integrated hatchery programs, and need increasing populations of coho, chinook and steelhead to initiate coho integrated genetics and continue integrated stock practices for chinook and steelhead.

This project has been identified as an ODFW priority for:

- Local/watershed
- Basin/regional

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

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

Identify any plan or other document that identifies this priority.

Lower Columbia River (LCR) Recovery Plan for Oregon Populations of Salmon and Steelhead. Key actions include reconnecting side- and off-channel habitats, restoring natural channel form, increasing stream complexity, riparian vegetation

Sandy River Partners short and long-term restoration plans prioritize mainstem Sandy restoration, including limiting factors of floodplain connectivity, large wood, habitat complexity and riparian condition, that this project will address.

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

No

This project is intended to benefit the following species:

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

This project will benefit anglers or fishery by providing:

Angler Access
Angling Opportunity

Angler Access

This project will:

Maintain/restore current angler access

Choose the following that best describes the angling access provided by the project:

Bank

Do similar access sites, facilities, or fisheries exist within 10 miles of the project site?

No

Angling Opportunity

This project will:

Enhance natural production of fish stocks to levels that allow for recreational fishing opportunities

Project Description

Schedule

Activity	Date	RE Funding
Permitting - DSL/Corps Joint permit, County permitting, SHPO	Nov 2018-Mar 2019	No

Material acquisition (large wood)	Jan-June, 2019	Yes
Project Implementation -- Temporary Access, Levee removal, Log jam construction, Channel reconnection	July-September 2019	Yes
Replanting native vegetation	Nov 2019- Mar 2020	No
Community engagement - tours, replanting	Mar 2019- November 2020	No
Second in-stream construction season, if logistics and available match funding require additional construction period after 2018 for second and third restoration zones	July-September 2020	No

Permits

Permit	Secured?	Date Expected
Joint DSL/US Army Corps permit	No	3/19
Clackamas County Floodplain permit	No	3/19
State Historic Preservation Office Cultural Resources Permit	No	3/19

Project Design and Description

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

Sandy River Partners' restoration plans prioritize the mainstem Sandy as the top sub-basin for restoration because of its value for all wild fish species at all life stages. The project site was prioritized in a reach level habitat prioritization in 2011, and identified as the top restoration priority in this reach of the mainstem Sandy because of its large contiguous area, location at the confluence of a major tributary, extensive currently disconnected side channels, and total isolation since 1965 era levees were built. Project engineers reviewed conceptual plans from the 2011 restoration plan, and current conditions including deterioration of portions of the 1965 era levee, and selected proposed actions to maximize habitat value. Project actions are divided into three zones. First phase actions proposed for R+E support (in zone 3 of project concept designs) represent actions in areas with the highest habitat value. Enhancements would serve migrating juvenile and adult salmonids from upstream spawning tributaries, as well as Little Joe Creek which currently supports limited native coho population.

Proposed restoration actions -- partial levee removal, log jam construction, reconnection of historic channels currently cut off by the levee, and habitat complexity enhancements, meet priorities in Sandy River Basin Partners restoration plans and Lower Columbia recovery plans for salmon and steelhead, and are based on successful designs utilized on the Salmon River. Proposed restoration actions represent next steps in a coordinated basin-wide effort to restore the Sandy's salmon stronghold. Project actions extend a restored migration corridor, a major connecting link between tributary actions completed in Still Creek and the Salmon River, the Sandy River Basin Watershed Council's successful 2016 floodplain reconnection a few miles upstream, and floodplain and side channel restoration completed in the lower Sandy.

Project partner Clackamas County also views this project as a demonstration for 5 or more additional floodplain reconnections identified in the County's 2015 Flood Hazard Erosion Mitigation Review. The proposed Sandy-Salmon floodplain project site is on public land, so is more feasible than county-identified sites with complex private ownership and potential land acquisition requirements. The Sandy-Salmon floodplain's location between the Barlow Park wayside, with a trail through spawning tributary Little Joe Creek, the Sandy Ridge BLM mountain bike trail, and a popular riverside beach, give the site high potential to raise awareness among anglers and other recreationists regarding what large scale restoration looks like on the Sandy, to build future support for additional restoration actions.

Proposed actions were analyzed for risk and stability through hydrologic modeling (please see

attached conceptual design analysis). Project partners including Sandy River Watershed Council, Bureau of Land Management, Clackamas County, and Portland Water Bureau (which holds a conservation easement on a portion of the project site) chose the actions in the first phase of restoration, the downstream end of three zones of restoration identified in plans, because they deliver the greatest ecological value for salmon and steelhead. The partial levee removal, log jam installation, channel reconnection and complexity elements deliver what wild fish need, connecting the corridor between upstream and downstream habitat restorations completed in the Sandy and its tributaries.

R+E funding will support acquisition of large wood, including those with rootwads attached, that form the anchor or 'key elements' of large logjams that can withstand the force of the Sandy River. Because of the significant number of large wood pieces required, funding for material is needed as soon as possible.

Requested funds also support a portion of contractor costs for implementation. In water work restrictions limit most construction to the six weeks from mid-July through September 1, so funding for this portion of the request would be expended after July 1.

If R+E funds in the current biennium were limited, we could request partial funding to cover the material acquisition, delaying the request for contractor funding until the following grant round, as contractor funds would be spent after July 1, 2019.

Requested funds cover elements of phase I of three implementation phases, in the downstream project area with the greatest habitat potential. Major match funding committed since the original submission of this request, a \$960,000 matching grant from National Fish and Wildlife Foundation's NOAA National Coastal Resiliency Fund, means we will be able to restore all three project areas once can secure 1:1 match. Depending on funding and logistics, construction of the additional two project phases/areas of restoration could occur alongside phase I improvements in 2019, or may carry over into the in-water work period in 2020.

Engineering

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

Yes

Not associated with ODFW

Project Management and Maintenance

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

Floodplain reconnection actions and engineered log jam structures are designed to last 10-20 years, and to sustain or enhance habitat values over time. Comparable log jams constructed on the Salmon River have grown in size over time, enhancing habitat value.

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

Project land includes Bureau of Land Management and Clackamas County land, a portion of which is managed as a conservation easement by Portland Water Bureau. Because habitat structures are designed to be self-sustaining and can evolve with channel migration, limited repair or maintenance is anticipated. Reconnected channels generally follow historically active

paths, and are designed to connect with groundwater to maintain connection and clear water habitat.

Will the project require ongoing maintenance?

No

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

Yes

Pre- and post project habitat conditions will be measured. Isolation by the levee means project areas are largely unavailble to migrating fish. Post project monitoring will include frequency of hydrologic connection between restored areas and the mainstem Sandy, as well as inclusion in annual redd, carcass and juvenile surveys to measure utilization post project.

Project Funding

Funding

Have you applied for OWEB funding for this project?

Yes

OWEB application number: 219-3002

Received an award.

R&E money is needed as matching funds.

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

[{"source": "Portland Water Bureau", "type": "Cash", "secured": "Secured", "dollarValue": 125000, "comments": "Approved October 2018"}, {"source": "Clackamas Soil and Water Conservation District", "type": "Cash", "secured": "Secured", "dollarValue": 50000, "comments": "Approved November 2018"}, {"source": "National Fish and Wildlife Foundation", "type": "Cash", "secured": "Pending", "dollarValue": 90000, "comments": "Approved December 2018, part of \$960,000 1:1 match grant for all three zones/phases of project implementation; requires match funding to be released and will ultimately allow all three phases to be built"}, {"source": "OWEB", "type": "Cash", "secured": "Secured", "dollarValue": 251020, "comments": "Approved October 2018"}, {"source": "Clackamas County", "type": "In-Kind", "secured": "Secured", "dollarValue": 12000, "comments": "large wood, logs"}, {"source": "PGE Habitat Fund", "type": "Cash", "secured": "Pending", "dollarValue": 75000, "comments": ""}, {"source": "Pacific orps Habitat Fund", "type": "Cash", "secured": "Pending", "dollarValue": 75000, "comments": ""}, {"source": "Coastal Conservation Association", "type": "Cash", "secured": "Pending", "dollarValue": 20000, "comments": ""}, {"source": "Community Volunteers", "type": "In-Kind", "secured": "Pending", "dollarValue": 4828, "comments": "Planting and tour volunteers at \$24.14/hr"}, {"source": "Agency (BLM, Clackamas County) project oversight", "type": "In-Kind", "secured": "Secured", "dollarValue": 7000, "comments": ""}]

Other Funding Source	Type	Secured	Dollar Value	Comments
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Portland Water Bureau	Cash	Secured	125000	Approved October 2018
Clackamas Soil and Water Conservation District	Cash	Secured	50000	Approved November 2018
National Fish and Wildlife Foundation	Cash	Pending	90000	Approved December 2018, part of \$960,000 1:1 match grant for all three zones/phases of project implementation; requires match funding to be released and will ultimately allow all three phases to be built
OWEB	Cash	Secured	251020	Approved October 2018
Clackamas County	In-Kind	Secured	12000	large wood, logs
PGE Habitat Fund	Cash	Pending	75000	
Pacificorps Habitat Fund	Cash	Pending	75000	
Coastal Conservation Association	Cash	Pending	20000	
Community Volunteers	In-Kind	Pending	4828	Planting and tour volunteers at \$24.14/hr
Agency (BLM, Clackamas County) project oversight	In-Kind	Secured	7000	
		Total	709848	

Budget

Item	Unit Number	Unit Cost	In-kind or non-cash contributions	Funding from other sources	R&E Funds	Total Costs
PROJECT MANAGEMENT						
Executive Director	160	56.00	0	8960	0	8960
Project Manager	1664	36.00	0	59904	0	59904
		SUBTOTAL	0	68864	0	68864
IN-HOUSE PERSONNEL						
Stewardship Coordinator	120	32.00	0	3840	0	3840
Development Director	200	36.00	0	7200	0	7200
		SUBTOTAL	0	11040	0	11040
CONTRACTED SERVICES						
Final Design/ Permitting	1	15000.00	0	15000	0	15000
Construction Oversight	269	164.00	0	39116	5000	44116
BLM/Clackamas County/ODFW oversight	120	50.00	6000	0	0	6000
Contractor mobilization	6	1000.00	0	6000	0	6000
Hydraulic Fluid Conversion	2	6000.00	0	12000	0	12000
Excavator (95k lbs)	355	235.00	0	63425	20000	83425
Excavator (85k lbs)	260	220.00	0	47200	10000	57200
Rock Trucks	467	250.00	0	96750	20000	116750
Pump and 200' hose	17	620.00	0	10540	0	10540
Dump truck	457	132.00	0	60324	0	60324
Log truck	270	122.00	0	12940	20000	32940
Erosion control oversight	5	164.00	0	820	0	820
Agency erosion control review	20	50.00	1000	0	0	1000
Access/Erosion control excavators	30	227.50	0	6825	0	6825
Access/Erosion control removal	10	250.00	0	2500	0	2500
Construction contingency	1	50000.00	0	50000	0	50000
Volunteers in replanting/tours	200	24.14	4828	0	0	4828
		SUBTOTAL	11828	423440	75000	510268
TRAVEL						
mileage	6000	0.55	0	3270	0	3270
Conference fees	3	500.00	0	1500	0	1500
		SUBTOTAL	0	4770	0	4770
SUPPLIES/MATERIALS						
Key member logs 50' 30+" w rootwad	80	400.00	0	16000	16000	32000
Large wood 50' 18" w rootwad	210	200.00	0	21000	21000	42000
Large wood >24" 50' w rootwad	150	300.00	0	22500	22500	45000
Large wood 12-18" 40' w rootwad	325	150.00	0	48750	0	48750
Large wood 12-18" 30'	40	50.00	0	2000	0	2000
Large Wood 18-24" 50'	50	200.00	7000	3000	0	10000
Large wood >24" 50'	50	300.00	5000	10000	0	15000
Boulders for ballast	596	31.30	0	18655	0	18655
Slash	240	40.00	0	3360	0	3360
Native Plants	5000	1.00	0	5000	0	5000
Trail Cameras	3	293.33	0	880	0	880
		SUBTOTAL	12000	151145	59500	222645
EDUCATION/OUTREACH						
Printed Media/Flyers	1000	2.00	0	2000	0	2000
Signs	4	500.00	0	2000	0	2000
Outreach event supplies	1	1000.00	0	1000	0	1000
Community Event Refreshments	2	100.00	0	200	0	200
		SUBTOTAL	0	5200	0	5200
EQUIPMENT						
	0	0.00	0	0	0	0
		SUBTOTAL	0	0	0	0
FISCAL ADMINISTRATION						
10% de minimis Admin	0	0.00	0	21561	2500	24061
		SUBTOTAL	0	21561	2500	24061
		BUDGET TOTAL	23828	686020	137000	846848

Internal Review Results

Review Score: **1.2 out of 3**

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

Summary of Review Team Comments

The review team was cautiously supportive of this project as proposed. It was the highest ranking habitat restoration related project this cycle and was the most likely project to meet the current board priorities. However, the application currently does not clearly demonstrate the need for the project, population benefits of the project, the priority of the project, or a strong connection to angler benefits. Without more information it would be hard to demonstrate this proposal is consistent with current program priorities. Scores included one 0s, five 1s, and three 2.

Specific Review Team Comments

While this seems like it is a worthwhile restoration project it is likely not consistent with guidance from the RE board for projects that directly and tangibly benefit fish populations in a way that will benefit anglers. Applicant may want to discuss this guidance with the RE Coordinator, then clearly articulate the benefits in the application.

Project concept shows culvert replacement, but no mention of fish passage approval.

Given that this seems to be a pretty dynamic environment, it is a promising that they did hydrologic modeling to evaluate the risk and stability of the design alternatives.

Specific Review Team Questions

Would the project go forward without this funding? What would be lost without the request?

The project area and design are divided into three segments, which potentially could be implemented in a single season, or multiple seasons and phases. Reduced funding from this request would limit our acquisition of large wood and contract services for construction necessary for completion of the initial first phase of the project. We received commitment of major match funding of \$960,000 authorized from National Fish and Wildlife Foundation's NOAA National Coastal Resiliency Fund after our original submission of this request, requiring 1:1 match. NFWF's commitment means R+E funds are releasing an equal or greater amount of match funding. Commitment of the NFWF/NOAA funds also means that with match we can complete at least two zones, if not all three zones, anticipated in the project design, which requires \$2 million of total cash and in-kind match. Completing all three zones requires sufficient local and state match to release the NFWF/NOAA match funding. Along with committed funds from OWEB, Portland Water Bureau, and Clackamas Soil and Water Conservation District, R+E funds are necessary to implement the entire Sandy Salmon Floodplain Reconnection and its contributions to regional recovery of wild coho, chinook and steelhead..

Without R+E funding, we would seek to complete the first phase of work but would not be able to restore all three zones, thus limiting habitat benefit to partial fulfillment of restoration project goals. Although R+E funding is still directed to prioritized actions in zone 3, combined with committed match R+E funding can help us complete the entire project and its full habitat benefit for Sandy River and Lower Columbia populations of wild coho, chinook, and steelhead.

(Note: while culvert replacement on Little Joe Creek was included in the concept plans, that action is not yet part of project implementation plans. The culvert is owned by Clackamas

County, which indicated that the County has higher priorities for culvert replacement because the Little Joe culvert's condition for vehicle passage is still functional. We included it in concept plans to flag culvert replacement for a future phase of restoration.)

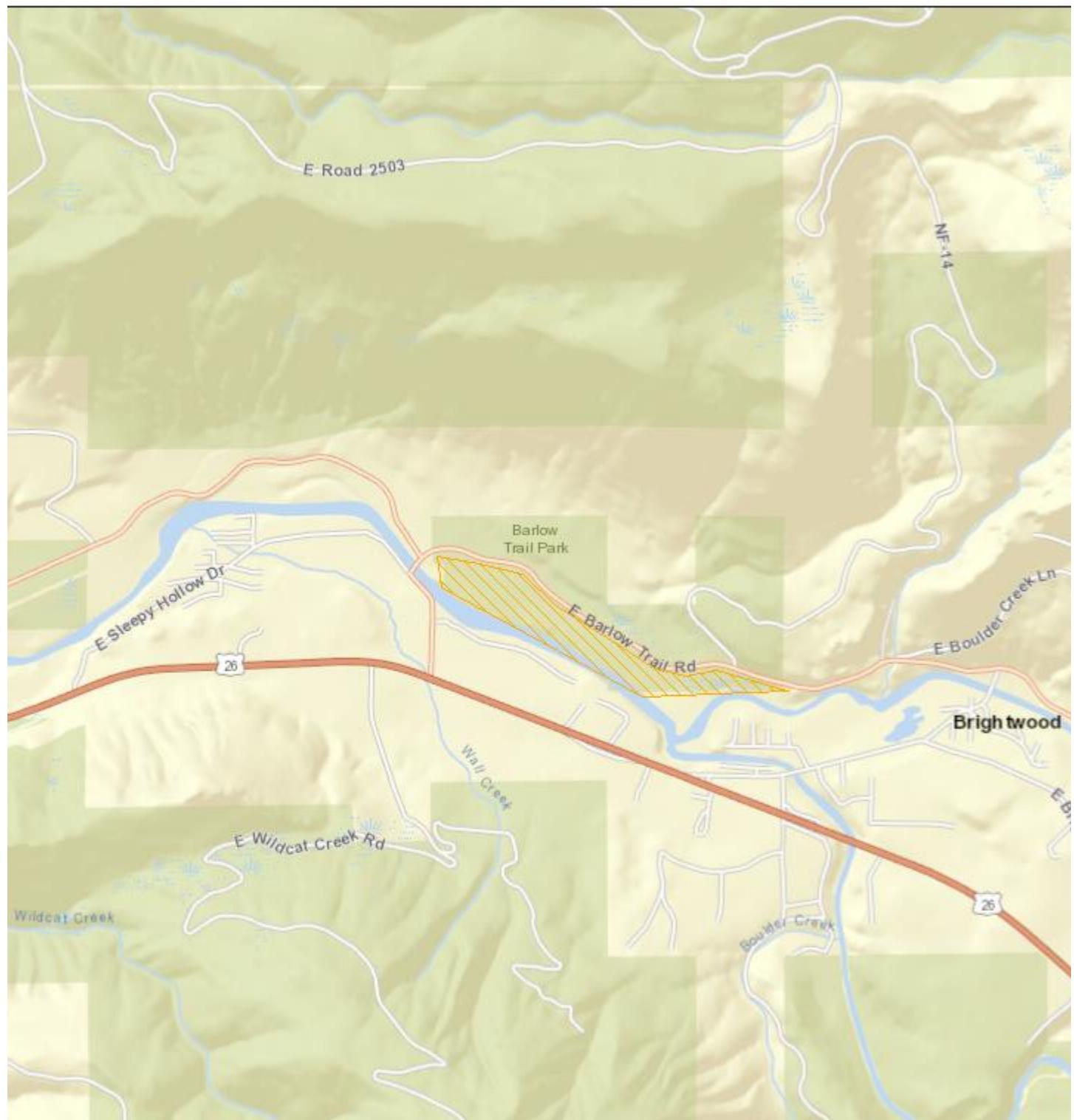
Conservation easement for 50 years- starting when?

The Portland Water Bureau completed its conservation easement with Clackamas County in June 2017. The easement will be valid through June 2067.

Who would be funded by "construction oversight"? How does this differ from project admin?

Construction oversight refers to on-site project engineers coordinating in the field with construction contractors to ensure that levee removal, log jam construction, and other habitat actions adhere to design plans and specifications. Project administration represents Sandy River Watershed Council personnel devoted to fiscal, contracting, reimbursement, reporting, and other project and grant administrative actions. functions.

Project Map



Additional Files

Budget Information

Maps

[Additional maps](#)

Project actions, location

[Project Map](#)

Map image of project location

Photos

[Site photos](#)

Current conditions, historic series

Design Information

[Conceptual Design Plan](#)

Project designs, analysis

Management Plans and Supporting Documents

[State of the Sandy](#)

Summary of basin restoration actions through 2017; restoration priority basins map on page 5

Permits and Reviews

Partnerships

[Clackamas SWCD Support](#)

Letter from Clackamas SWCD

[Portland Water Bureau Support](#)

Letter from Portland Water Bureau Habitat Fund

Public Comment

[BLM Support](#)

Letter from Bureau of Land Management

[Clackamas County Support](#)

Letter from Clackamas County

Administrative Documents

[Signature authorization](#)

Signed form

Completion Report

A completion report has not been submitted for this project.