

October 15, 2014

OWEB Board, c/o Linda Burnett
Summer Street NE
Salem, OR 97301

SUBJECT: Proposed Focused Investment Partnership Priority Response

Dear OWEB Board Members,

This letter outlines a priority, "Oregon's River, Our River": Willamette Basin Rivers, Streams and Riparian Forests, respectfully submitted for your consideration by the Willamette Steering Committee, with the assistance and endorsement of public, private, and non-governmental groups from across the basin.

1. Proposed Priority Description:

1.a. An OWEB priority focused on the rivers, streams, and riparian forests of the Willamette Basin will address the need to restore off-channel habitats and develop connected, functioning, native riparian forest corridors. This priority benefits terrestrial and aquatic species that depend upon these habitats (see Table 1).

1.b. The ecological outcomes that will be achieved after this priority is addressed include:

- ***Increased complexity and abundance of floodplain and off-channel habitats such as alcoves, side channels, secondary channels and sloughs***
- ***Strategically restored riparian forests that enhance forest connectivity and habitat complexity***

These two outcomes are interconnected and mutually supporting. For example, healthy riparian forests create in-stream habitat complexity, and off-channel habitats provide the hydrologic and sediment-transporting processes critical to riparian forests.

1.c. Progress towards achieving this priority will be made through focused efforts within the Willamette Basin, the largest and most populous in the state. *Riparian forests* as referenced here include floodplain forests, bottomland forests, forested wetlands and terraces located near streams and rivers. Both the Willamette mainstem and its tributaries are included in this priority, reflecting the roles that each play in promoting the physical and ecological processes necessary to support native fish and other aquatic and terrestrial species. Implementation will be guided by a strategic action plan that will identify priority restoration opportunities, and will proceed in a phased approach.

2. Socio-economic and Ecological Benefits

2.a. Floodplain and off-channel habitats and riparian forests are of critical ecological significance to Oregon because of their central role in supporting:

Salmonids of statewide importance through promotion of:

- High flow refuge: Off-channel habitats provide high flow refuge for juvenile Chinook salmon and steelhead where they can rapidly grow in food-rich floodplain swales in anticipation of their outward migration to the Pacific Ocean.
- Improved water quality: By filtering toxins, capturing nutrient runoff, preventing erosion, and providing temperature benefits associated with shade, riparian forests provide water quality benefits for salmonids and other native fish with statewide significance.

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- iii. Cold water refuge: Increased extent and inundation duration of floodplain and off-channel habitats create cold-water refuge critical for salmonids. The basin-wide approach advocated in this priority will help create cold water stepping stones for salmonids from the upper reaches to the Columbia River.
- iv. Evolutionary Significant Units and ESA-listed species: Many Willamette Basin aquatic species populations are regional strongholds (e.g. Pacific lamprey constitutes a major population source for the Columbia River Basin) or are protected Evolutionarily Significant Units, such as Upper Willamette Chinook salmon and steelhead. The Willamette River and its associated tributaries are home to ESA-listed species such as Chinook, coho and steelhead, as well as numerous other native fish, birds, amphibians and wildlife (see Table 1). Many of these species migrate in and out of the Willamette Basin and will benefit from habitat enhancements associated with this priority.

Improved habitat for keystone and migratory species by fostering:

- v. Keystone species: Pacific salmon are a keystone species upon which 137 other northwest species rely, either directly for food in the case of bald eagles and bears, or through nutrient cycling in the case of aquatic insects and trees. Efforts to support Pacific salmon will have cascading benefits for other species at broader scales. Beaver, another keystone species, substantially affect geomorphic processes in river tributaries and floodplain water bodies. Beaver activity can create complex wetland habitat that recharges groundwater and provides improved water quality.
- vi. Pacific Flyway Habitat: Inundated floodplains, side channels, and alcoves serve as essential feeding, and wintering areas for migrating and wintering waterfowl, shorebirds, neo-tropical migrants and numerous other bird species. Channels that retain water through the summer months are used by breeding waterfowl. During late summer/early fall, when water is in short supply, channels that retain water are critical resting and feeding stopover sites for migrating waterfowl and shorebirds.

Healthy plant communities and aquatic systems that build climate resilience through:

- vii. Invasive species control and prevention: Restoration activities help prevent spread of aquatic and terrestrial invasive plants that degrade valuable habitats and may otherwise spread to other regions.
- viii. Increased native riparian forest integrity: Restoration that reduces fragmentation and maximizes genetic flows within and between populations makes riparian forests more resilient to stressors such as those associated with climate change. Increased riparian forest cover also delivers statewide climate benefits.
- ix. System-wide plant & nutrient distribution: Seasonal fluctuations in water flows distribute sediment, nutrients, seeds and aquatic organisms longitudinally through the river and stream systems and laterally across its active channel and floodplain. Fine organic inputs from riparian forests support macro-invertebrates that fish depend upon as a food source.

Table 1: Selected species that would benefit from priority

Category	Species (common name)	Status*
<i>Mammals</i>	California myotis	OCS
	Townsend’s big-eared bat	OCS
	North American beaver	ODFW-PF
<i>Amphibians & Reptiles</i>	Northern red-legged frog	OCS
	Foothill yellow-legged frog	OCS
	Northwestern pond turtle	OCS
	Western painted turtle	OCS
	Oregon spotted frog	ST
<i>Invertebrates</i>	Willamette floater	OCS
<i>Fish</i>	Bull trout (Columbia DPS)	FT
	Chinook salmon – multiple ESUs	FT

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	Coastal cutthroat trout – multiple ESUs	OCS
	Coho salmon – multiple ESUs	FT
	Steelhead – multiple ESUs	FT
	Oregon chub	OCS
	Pacific lamprey	OCS
	Western brook lamprey	OCS
<i>Birds</i>	Common Nighthawk	OCS
	Lewis’s Woodpecker	FSOC
	Little Willow Flycatcher	OCS
	Olive-sided Flycatcher	FSOC
	Yellow-breasted Chat	FSOC
	Short-eared owl	OCS
<i>Plants</i>	Willamette daisy	SE
	Nelson’s checker-mallow	ST
	Water Howellia	FT
	Peacock larkspur	FSOC

*OCS = OCS Strategy Species, SSOC = state species of concern, ST = state threatened, SE = state endangered, FSOC = federal species of concern, FT = federal threatened, ODFW-PF = protected furbearer

2.b. The Willamette Basin is home to 68% of the state’s human population, and contains some of the richest native fauna in the state. The basin is poised to double in population in the coming decades, making this a critical time to support conservation and restoration that benefits important species. A range of industries and infrastructure rely on a healthy Willamette Basin - which in turn impact state and regional economies. Working in the most populated part of the state provides an unparalleled opportunity to showcase work to diverse urban and rural residents. Socio-economic benefits of statewide significance include:

Social and cultural factors integral to Oregon’s legacy and identity:

- i. **Cultural:** Many of the plants and animals that will benefit from this priority are culturally important First Foods for tribes.
- ii. **Recreational:** A number of the species that will benefit from this priority are central to recreation activities (and revenues) including hunting, bird-watching, fishing, floating, and hiking activities.
- iii. **Scientific:** Our innovative monitoring system, which includes the SLICES Framework, provides a novel mechanism for project prioritization and tracking of ecological outcomes on the mainstem and selected tributaries, and can serve as a model for other basins. Ongoing discussions among Willamette Basin partners, including topics surrounding how to measure success amid influences such as floods and droughts, bear relevance throughout the state.

Economic and health-related factors that make Oregon a desirable place to live:

- iv. **Economic:** Willamette Valley agriculture is a mainstay of the state economy. Healthy, invasive-plant free forests and stream and river corridors benefit farmers, as do related sediment and nutrient transport systems (see 2.a.ix), improved pollinator production and flood abatement/groundwater recharge associated with functional/intact riparian forests and floodplains.
- v. **Water Quality:** Riparian forests abate conditions that drive poor water quality. These include preventing temperature increases and nutrient loading that cause toxic algal blooms¹ and improving pre-treatment water quality for municipalities that currently use the Willamette River as a drinking water source, or hold use rights, including Eugene, Corvallis, Salem, Wilsonville and Independence.

¹ See, <http://www.statesmanjournal.com/story/news/2014/09/19/toxic-algae-confirmed-willamette-river-warning-expanded-portland/15914497/>

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- vi. Ecosystem services: Vibrant agricultural economics depend on healthy riparian and floodplain systems that provide ecosystem services including water quality maintenance, increased water storage capacity, pollinator habitat provision, and microclimatic stabilization, among others.
- vii. Infrastructure protection and risk reduction: Increasing the extent and duration of floodplain and off-channel habitats helps reduce the intensity, severity, and frequency of flooding, with short and long term benefits for infrastructure located in harm’s way, and reduced costs to the state and federal governments in the long term.
- viii. Livability and industry: Investments in floodplain ecosystems and in river access help people recreate and make the region more livable, which in turn attracts businesses, such as manufacturing and service industries, and value added processing such as beer brewing and wine making that generate statewide tax and tourism revenues.

2.c. Regional and local planning documents echo the significance of this priority. Extensive work has already been completed to identify, map, and prioritize focal areas for riparian forest preservation and restoration, and high-value sites for increasing the complexity and abundance of floodplain and off-channel habitat. Key documents include:

- Willamette Restoration Strategy (Willamette Restoration Initiative, 2001)
- Willamette River Basin Planning Atlas (Pacific Northwest Ecosystem Research Consortium, 2002)
- Willamette Basin Alternative Futures Analysis (EPA, 2002)
- Oregon Conservation Strategy (ODFW, 2006)
- Willamette Biological Opinion (NOAA, 2008)
- Upper Willamette River Conservation and Recovery Plan for Chinook Salmon and Steelhead (ODFW and NMFS, 2011)
- The Nature Conservancy’s Ecoregional Assessment and Willamette Valley Synthesis (TNC, 2012)
- The Regional Conservation Strategy for the Greater Portland-Vancouver Area (Intertwine Alliance, 2012)
- SLICES: an information framework for a biologically effective Willamette River floodplain (University of Oregon Institute for a Sustainable Environment Lab, 2013)

3. Limiting Factors

3.a. Ecological limiting factors include physical and biological conditions as well as constraints to ecological processes and interactions. Conservation and reforestation efforts at key sites in the Willamette Basin will address nearly* all identified limiting factors, which include:

- Channelization; Altered disturbance, flow and sediment regimes: Water control structures have altered disturbance, flow and sediment regimes and have contributed to the confinement of the river and its major tributaries to narrower, less complex channels. When combined with flood-control infrastructure (i.e. revetments, rip-rap), these changes have greatly reduced the connections between primary river channels and the side channels, sloughs, alcoves and seasonally wetted areas that historically defined the landscape. Effects include tempered seasonal flows, lost recruitment of gravel, disrupted temperature regimes, and reduced access to spawning grounds for salmonids. Reduction in the spatial and temporal magnitude of floodplain interaction has reduced the water filtering and cooling functions that floodplains provide. *Waters released from flood control dams are governed by the U.S. Army Corps of Engineers (USACE), which is an active conservation partner in the Willamette Basin. While this priority cannot address the timing and volume of these releases, complementary efforts such as The Nature Conservancy’s (TNC) work with USACE through the Sustainable Rivers Program, further benefit to on-the-ground floodplain restoration projects.
- Riparian forest fragmentation and loss: With reductions in riparian forest cover exceeding 80% of historical extents in some parts of the Basin, riparian forest removal and fragmentation have ripple

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effects on water and habitat quality (See 2.a.i, ii, v, viii, and ix) and creates a negative feedback loop that limits forest regeneration through reduced seed production, dispersal and recruitment.

- Limited floodplain forest regeneration: The younger cohort of floodplain forests that we see today were mainly established in 1960s and 1970s after formerly active gravel bars became stable due to flood control, reduced sediment deposition and related dynamics. Today’s mainstem floodplains consist largely of relic features that are not being naturally replaced.
- Flood-control for agricultural, urban and industrial development: Historical settlement has driven extensive construction of revetments and filling of floodplains and off-channel areas, reducing the extent and quality of off-channel areas for native fish and other aquatic species.

3.b. A number of frameworks exist to guide implementation and recovery of listed species, ranging from regional planning documents to species-specific recovery plans (also see 2.c). Key additional frameworks:

- The SLICES Framework: SLICES defines 100m segments that cover the entire pragmatic floodplain of the Willamette River and is currently being extended to selected tributaries. SLICES addresses the Upper Willamette Conservation and Recovery Plan for Chinook Salmon and Steelhead developed-strategies through ongoing monitoring of floodplain forest extent, cold water refuges, channel complexity, and native fish presence to target and assess conservation and restoration activities.
- Anchor Habitats: The anchor habitat assessment provides a prioritization mechanism for conservation and restoration by identifying areas of high ecological value on the mainstem. Informed by expert guidance, sites are located within the 100-year floodplain and emphasize areas of significant public ownership, high restoration potential, intact native habitat, cool water, and absence of major infrastructure. Site selection also considers whether the spatial distribution of anchor habitats would ensure provision of high quality “stepping stones” for aquatic species.
- Numerous other plans provide guidance for conservation in the Willamette, including: the Willamette Biological Opinion, the Oregon Plan for Salmon and Watersheds, the Oregon Conservation Strategy, individual tributary watershed assessments and action plans, and Willamette Basin Alternative Futures Analysis. A strategic planning effort focused on the outcomes described in this priority is also underway.

4. Threats and Benefits

4.a. Additional threats that cause or contribute to limiting factors include:

- Continued land conversion: Threats to the ecological health of the Willamette River floodplain include those related to impacts of human development (water withdrawals, construction of dikes and revetments, conversion of perennial and seasonal riverine wetlands, and input of pollutants through run-off and wastewater discharge). Continued development and creation of impervious surfaces drives increases in fragmentation, loss of floodplain habitat, and surface/soil runoff that carries pollutants and sediment into the river. The native fish, wildlife, and plants of the Willamette Basin evolved in response to a dynamic river system characterized by tremendous seasonal changes in river flows and diverse pathways connecting the river to its floodplain.
- Climate change: Climate change is predicted to aggravate a number of the limiting factors identified in 3.a including flow regimes and limited natural forest regeneration. The higher peak flows and lower base flows associated with climate change are expected to increase channel incision and bank erosion. Climate change is also linked to broader environmental shifts such as those associated with changing seasonal weather patterns that will impact the amount, form, and timing of precipitation as well as the spread of pests, and is likely to increase the strains already placed on threatened and endangered salmonids.
- Invasive species: The introduction and spread of terrestrial and aquatic invasives has detrimental effects on forest health and regeneration, as well as on in-stream water and habitat quality.

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4.b. Without active intervention, the riparian forests and the off-channel habitats that support threatened and endangered and other ecologically and culturally important species will continue to decline. In the coming century, the floodplain forests that support species diversity, ecosystem services and processes could be substantially different than what we see today. In their current state, natural floodplain and riparian forest recruitment processes are unlikely to promote healthy aquatic and terrestrial riparian systems. Potential consequences of inaction include:

- Declining habitat availability and quality: Forests and floodplains will no longer provide the amount or quality of roosting, nesting, or foraging habitats, or the amount or quality of food sources for fish and wildlife. The ability of degraded forests to slow and filter runoff from adjacent areas and floodwaters will be diminished, contributing to further degradation of water quality in the Basin.
- Continued land conversion in priority locations: Riparian and floodplain forests that are not conserved or restored are expected to continue to be converted to other land uses, especially as population increases projected for the Willamette Valley take effect. These will also increase chemical and other pollutant inputs into waterways from both point and non-point sources.
- Increased forest fragmentation and reduction: Fragmented forests are more vulnerable to external stressors and, as they diminish in extent, have increasingly limited capacities to provide seed sources for an expanding area of degraded habitat. Reduced genetic diversity will decrease forest resilience to climate change and to new invasives, such as the emerald ash borer. Strategic, timely investments that strengthen resilience make ecological and economic sense.
- Increased distribution and intensity of invasive species: Weeds such as Ludwigia and Japanese knotweed pose significant threats to water quality and off-channel habitats critical to juvenile fish, turtle and amphibian populations, among others. These infestations are poised to spread further and will ultimately cost more to control the longer we wait to address them.
- Reduced slow/cold water refuges: A lack of slow water refuge for fish and other aquatic wildlife will further limit the ability of these species to migrate, rest and feed during flood events.

4.c. Many of the economic, social, iconic and cultural benefits associated with this priority are already described in 2.a and 2.b. Perhaps the most critical element to emphasize is the synergistic nature of the two ecological outcomes proposed in this priority, and how together they deliver multiplier effects that augment the benefits derived from investments. Increasing off-channel habitat and connectivity kick-starts processes that support riparian forests and ecologically and culturally important aquatic species. Riparian forests in turn promote climate resilience, stabilize in-stream water temperatures, and provide conditions necessary for a cascading list of beneficial species and processes from beaver to flood control that in turn support healthy river and stream corridors for people and wildlife.

4.d. There have been significant investments in the protection, restoration, and enhancement of Willamette River and stream habitats since the 1960’s, including upgraded treatment plants, sewerage overflow reduction programs, revegetation programs, and land preservation strategies. These include efforts by Bonneville Power Administration (BPA), Oregon Departments of Fish and Wildlife, State Lands, and Parks and Recreation, U.S. Fish and Wildlife Service, local utilities and municipalities, as well as more recent conservation actions by independent landowners, land trusts, watershed councils, non-profits and soil and water conservation districts. Investments by OWEB, BPA and the Meyer Memorial Trust in the Willamette Special Investment Partnership (WSIP) represented a turning point for the basin. While there has long been awareness of the problems defined in previous assessments, the past decade has seen an unprecedented level of social and economic investment in conservation action. Willamette stakeholders are poised to deliver high-quality, focused, and measurable conservation and restoration outcomes. Given the complexity and size of the system, meaningful progress to improve the health and sustainability of the basin will occur incrementally. A key distinguishing factor that sets the Willamette Valley apart is an advanced scientific infrastructure that enables tracking of progress within a large stream and river system. Robust relationships

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exist among academic and government researchers, technical experts, implementation partners and others who are working on refining key metrics to ensure we can accurately track changes in floodplain morphology, forests, water quality and fish communities. The community is committed to drafting clearly defined, measurable goals and linking them to scientifically valid, pragmatic metrics for assessing those goals.

Over 700 acres and 66 miles of stream corridor restoration has been underway in the last five years through the Model Watershed program, while partners on the mainstem have helped preserve approximately 2500 acres and planned the restoration of approximately 8 miles of floodplain reconnection projects. Metro has protected and largely restored 100 miles of riparian habitat.

Progress also includes:

- Acquisition and initial restoration of key anchor habitats on the mainstem and tributaries.
- Refinement of techniques and partnerships for cost effective, large scale restoration.
- Completion of detailed inundation mapping in addition to already-mentioned tools to guide off-channel connectivity site identification and prioritization.
- Conservation easements across significant side channels and other off-channel habitat.

4.e. It is economically feasible to address this priority over time due to several factors:

- Efforts will focus on a prioritized suite of sites/locations within the basin that will yield the largest gains in ecological uplift for fish and wildlife, rather than attempting to achieve restoration at all riparian and floodplain sites. This focused approach will reduce costs and maximize benefits.
- Project stakeholders and partners have demonstrated a unique ability to leverage match funding.
- Much of the initial scoping, analysis and outreach needed to address this priority conservation work has already begun. Significant groundwork has been laid by researchers, implementers, landowners and other partners through the WSIP and other efforts, reducing upfront costs significantly.

Cost estimation is difficult at this early stage since priority sites and the scope of potential projects are currently being determined. However, past WSIP investments provide estimated cost ranges that we would expect to see in the future. The cost to reestablish native riparian corridors is on the order of \$2,500-\$10,000 per acre over a six year period, and improvements to channel complexity and connectivity range widely from \$250,000-\$1 million per mile, depending on variables such as current conditions, neighboring infrastructure, site access, and the scope and scale of restoration activities.

5. Opportunities

5.a.1. Success will be determined based upon whether implemented activities meet explicit targets defined in the Strategic Action Planning process. These will be measured through:

- Changes in mainstem riparian forests that result from conservation and restoration actions are measured at the reach scale through decadal assessment of remotely mapped floodplain land use and land cover (LULC), including classification of floodplain vegetation. Building upon existing datasets that document forest conditions ca. 1990, 2000 and 2010, future datasets will document conditions in 2020. This comparison enables evaluation of the total acreage and site characteristics of legally protected lands and those on a conservation or restoration trajectory, as well as enabling ongoing assessment of connectivity and spatial distribution. These maps will form the basis for quantifying key metrics for ecosystem health. On the ground monitoring that captures information about community structure and composition will complement reach-scale mapping and will enable further evaluation of effectiveness.
- Success in tributaries is assessed through acreage evaluations of restored high-value riparian forests. Locations are prioritized based on factors such as expert knowledge, fish survey data, landowner interest, connectivity, and large wood recruitment potential.

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- Channel complexity will be assessed through reach-scale repeat mapping of channel and floodplain features from LiDAR or aerial photos, which will yield metrics such as the total area of gravel bars, side channels, alcoves, and floodplain sloughs. Once the total area and distribution of these habitats is quantified, metrics including the total area of off-channel habitats can be assessed and compared with previous time-periods. Floodplain inundation will be evaluated at individual restoration sites by measuring the extent, depth, and duration of inundation, compared with targets to assess restoration effectiveness and inform future restoration planning.

Existing momentum and expertise in riparian forest restoration and off-channel habitat enhancement make the likelihood of bringing sites on a trajectory towards recovery in a six year period high. Riparian forest restoration approaches in the Willamette Basin often complete plant establishment in a six year period, with well-vetted costs and approaches. Off-channel connectivity projects range widely, from relatively simple berm/debris removal to highly complex multi-year projects requiring extensive relationship development, permitting, and ongoing partnership. The former are easily completed in a six year period with immediate ecological benefits. Those backwater areas infested with invasive aquatics such as *Ludwigia* or knotweed will require intensive site preparation and many projects will include riparian revegetation components. Despite these complexities, elements are well understood in terms of site selection, time, costs, and implementation. More complex projects will leverage investments in a phased approach that may in some cases take over a decade to fully complete but that deliver ecological benefits in a similarly phased manner.

5.a.2. Voluntary conservation actions can and are being undertaken to improve forest and floodplain habitat along the Willamette and its major tributaries. Hundreds of private and public landowners are working to improve ecological conditions and develop a network of existing projects, preserves, and managed public natural areas. The most common voluntary conservation actions include, but are not limited to:

- Treatment of non-native terrestrial and aquatic invasive species
- Replanting of native trees and shrubs
- Removal of fish passage barriers
- Implementation of off-channel habitat connectivity and enhancement projects

5.a.3. This priority will address specific geographic areas outlined in the Strategic Action Plan. While the Willamette Basin is often divided into Upper, Middle and Lower reaches, and indeed geomorphic conditions differ among reaches, this priority unites the basin and will enable significant cross-organizational and cross-partnership knowledge sharing, learning, and capacity building.

5.b.1. Partnerships already exist in the Willamette to address the proposed priority, including:

- Development of diverse networks that share information and build restoration capacity including the Willamette BiOp Habitat Technical Team, the Western Aquatic Invasives Network (WAIN), The Willamette Mainstem Cooperative (WMC), Willamette Stewardship Team- Albany Reach (WSTAR), the Rivers to Ridges Partnership, the WSIP Steering Committee, and the Willamette River Initiative [winner of the 2012 International River Prize].
- Willamette Model Watershed (MW) program: Targeting 7 Willamette tributaries, the program has applied efficiencies to restoration planning and implementation by developing an integrated mapping system and database for project tracking, a shared monitoring program and protocols. The program has advanced planting programs with connections to commercial nurseries, collective nursery grow contracts, and contractor capacity for large-scale site prep and maintenance. Each MW sub-basin has a strategic action plan that defines goals and quantifiable outcomes and engages in peer-to-peer learning.
- Willamette Mainstem SIP: Targeting anchor habitats and major confluences, the Mainstem SIP works with willing private landowners and also emphasizes areas of significant public ownership having high restoration potential, intact native habitat, and cool water fish habitat.

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5.b.2. There is significant momentum surrounding this priority in the Willamette Basin: large-scale, significant restoration and protection is happening now. The work performed under the current Willamette River Initiative and WSIP has leveraged partners described in 5.b.1. Landowner interest and support continues to grow, as do capacities to implement large-scale forest restoration and off-channel habitat projects. Sophisticated, diverse regional partnerships are implementing collaborative restoration and enhancement projects - including dike/dam removal, off-channel habitat construction and gravel pond reclamation.

5.b.3. Educational opportunities and benefits include:

- The nationally-recognized Willamette River Water Trail which includes a growing network of permanently protected conservation and working lands.
- Partnerships with local school districts and youth programs. By way of example, the Calapooia and Santiam Watershed Councils engage over a thousand students annually in place-based education through Salmon Watch, outdoor schools, field explorations, and youth watershed councils.
- Interpretive signage on hiking trails such as those at Willamette Mission State Park and Luckiamute State Natural Area highlight the value of riparian forests and off-channel habitats to visitors.
- Broad public support is growing as a result of deliberate outreach and education efforts by local and regional stakeholders. For example, Willamette Riverkeeper annually engages over 1,500 community members of all ages in learning about the Willamette through on the water paddle trips, the watershed-wide Great Willamette Cleanup, and Science Pub Nights.
- The Meyer Memorial Trust’s Willamette River Initiative partners host project tours and educational websites, lead boating and recreation events highlighting restoration work, and share success stories.
- Peer-to-peer practitioner learning and trainings continually improve riparian restoration program efficacy benefitting floodplain and riparian restoration practitioners state-wide.

5.b.4. A number of social, community, political, regulatory and other factors exist to bolster success. The OWEB funding partnership with Meyer Memorial Trust and BPA through the Willamette SIP has successfully developed strong, community-oriented organizations with expansive memberships and partnerships. Existing levels of agency support from Oregon Parks and Recreation Department continues to be crucial for the recovery of mainstem floodplain forest habitat. Partners take advantage of numerous opportunities to showcase this large-scale restoration, which builds awareness of river restoration that benefits statewide efforts. There is a growing nexus between regulatory concerns over floodplain management and incentives for floodplain stewardship. Recent court cases have found the National Floodplain Insurance Program to be out of compliance with recovery plans for native salmonids in Washington and Oregon. Draft proposals place increased limitations on development in floodplains and are being met with concern by state agencies and local implementing bodies such as counties. This shift creates opportunities for incentive-based approaches to conservation of floodplain habitats that satisfy the concerns of regulating agencies including FEMA.

5.b.5. Other funding sources and resources that will be leveraged in support of this priority include:

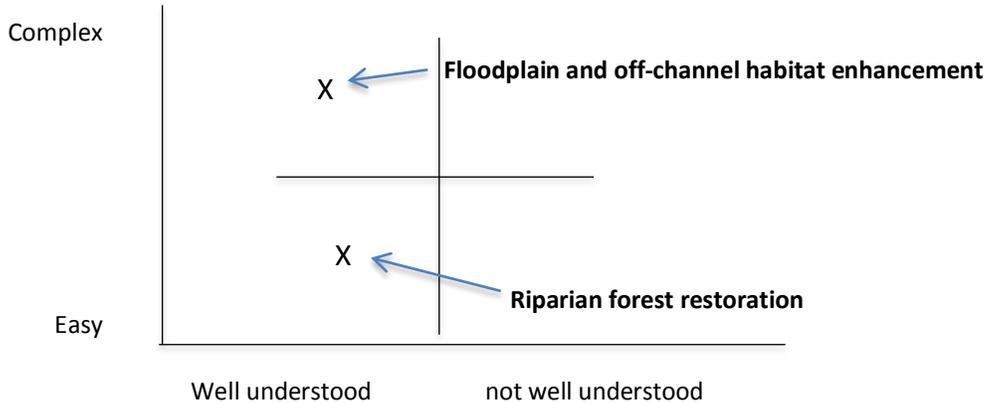
- Meyer Memorial Trust’s Willamette River Initiative
- BPA-ODFW Willamette Wildlife Mitigation Program
- BPA Willamette BiOp
- USACE Willamette Floodplain Restoration Project
- Federal incentive cost-share programs such as CREP and EQIP

5.c.1. As noted above, targeted activities provide substantial public benefits in clean water, protected social and cultural resources, enhanced recreation opportunities, attenuation of flood damage, reduced municipal water treatment costs, increased resilience to climate change and resistance to invasive species (also see 2.a, 2.b and 4.c.) There is growing understanding of the links between habitat conservation and restoration

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efforts and ecosystem service benefits including temperature, nutrient and toxin filtration, and flood damage mitigation, among others. Clean Water Services in the Tualatin piloted the first temperature program involving riparian restoration in the state and developed the practices and protocols since adopted by a wide range of actors. Experts involved in that work are engaged throughout the Willamette Valley.

6. Quadrant Assessment:



Sincerely,

Benton Soil and Water Conservation District, Corvallis

The Bureau of Environment Services, City of Portland

Calapoovia Watershed Council, Brownsville

The City of Eugene, Parks and Open Space Division, Eugene

Clackamas Soil and Water Conservation District, Oregon City

Clean Water Services, Hillsboro

Coast Fork Willamette Watershed Council, Cottage Grove

Friends of Buford Park & Mt. Pisgah, Eugene

Greenbelt Land Trust, Corvallis

Stan Gregory, Professor Emeritus, Department of Fisheries and Wildlife, Oregon State University, Corvallis

David Hulse, Philip H. Knight Professor in Landscape Architecture, University of Oregon, Eugene

The Intertwine Alliance, a coalition of more than 120 public, private and nonprofit organizations working to integrate nature into the Portland-Vancouver Region

Peter Kenagy, Landowner/Farmer, Albany

Long Tom Watershed Council, Eugene

Luckiamute Watershed Council, Independence

Marys River Watershed Council, Corvallis

McKenzie River Trust, Eugene

Metro Regional Government, Portland

The Nature Conservancy, Portland

North Santiam Watershed Council, Stayton

Oregon Parks and Recreation Department, Portland

South Santiam Watershed Council, Sweet Home

Tualatin Riverkeepers, Tualatin

Willamette Riverkeeper, Portland

Note: Italicized supporters are members of the Willamette Steering Committee