Appendix J – Project Inventory

WRIA 13 Project Inventory for Inclusion in the Watershed Restoration and Enhancement Plan

CATEGORIES (does not reflect prioritization)

I. Likely to be implemented and provides quantitative offset value (see Chapter 5).

II. Likely to be implemented and provides habitat benefit and/or un-quantifiable streamflow benefit (See Chapter 5)

III. Unable to be implemented at this time because the project is highly conceptual or has other constraints.

Category	Project Name	Type of Project	Project Location	Project Description	Estimated Water Offset Amount (af/year)	Subbasin	Existing Sponsor	Potential Sponsor (Where No Existing Sponsor Exists)	Project Stage	Estimated Project Cost	Existing Funding
	Boston Harbor										
III	Accelerating Riparian Restoration in Thurston County	Habitat and Other		BIBI2.1: Provide education and incentives for legacy retrofits., LDC3.1: Develop and implement outreach, education, and/or incentive programs, LDC3.3: Implement plans and priorities to restore habitat. *Concept for WREC would be to implement projects that are identified from this program - implement X amount of riparian habitat that are identified*		Boston Harbor	Thurston County		Conceptual		
III	Lilly & 26th Ave NE Stormwater Reroute	Non Water Rights Offset	Vicinity of Lilly Rd and 26th Ave NE	26th Ave NE, Woodland to Woodard Stormwater Reroute. This project involves re-routing stormwater from the Woodland Creek basin to the Woodard Creek basin to improve groundwater recharge. The work would construct a stormwater conveyance system along 26th Ave NE in the vicinity of Lilly Rd NE.	100-120	Boston Harbor	City of Olympia in partnership with Thurston County (given adjacent jurisdictional boundaries) and other organizations, as applicable.		Conceptual (uncertainties with surface outflow, wetland type, infiltration capacity, landowner willingness, etc)	TBD	This project will be funded mostly through grants and loans.
III	Plum Street Water Quality Retrofit	Non Water Rights Offset		CHIN2.5: Address and manage water quality parameters, including excess nutrient loading, SHELL1.9: Improve water quality to prevent downgrades and achieve upgrades of shellfish harvesting areas, TIF2.1: Address stormwater treatment.		Boston Harbor	City of Olympia		Design	$800,000	$200,000
III	Union Avenue Water Quality Retrofit	Non Water Rights Offset		CHIN2.5: Address and manage water quality parameters, including excess nutrient loading, SHELL1.9: Improve water quality to prevent downgrades and achieve upgrades of shellfish harvesting areas, TIF2.1: Address stormwater treatment.		Boston Harbor	City of Olympia		Design	$600,000	$150,000
III	Sleepy Creek Restoration	Non Water Rights Offset		Parkland, including stream restoration, beaver reintroduction, woody debris, and floodplain reconnection along middle Woodard Creek. Undeveloped CLT lot.		Boston Harbor		Thurston County, Capital Land Trust	Conceptual	$50K - $350K	
III	West Bay Habitat Improvement	Habitat and Other	West Bay	Assist with habitat improvement efforts in collaboration with City of Olympia nd or the Squaxin Island Tribe.		Boston Harbor	City of Olympia, Squaxin Island Tribe, LOTT				
II	Woodard Creek - Multiple Benefits	Habitat and Other	Libby Rd NE	Beaver reintroduction, woody debris and floodplain reconnection along middle Woodard Creek. Requires further review prior to landowner contact. ~100 acres. Mapping to follow.		Boston Harbor		Thurston County	Conceptual	$50K - $350K	
	Cooper Point										
III	Brawne Avenue Basin Water Quality Retrofit	Non Water Rights Offset		CHIN2.5: Address and manage water quality parameters, including excess nutrient loading, SHELL1.9: Improve water quality to prevent downgrades and achieve upgrades of shellfish harvesting areas, TIF2.1: Address stormwater treatment.		Cooper Point	City of Olympia		Design	$800,000	$200,000
II	Green Cove Creek	Habitat and Other	Evergreen	Green Cove Creek Basin Restoration. Multi phase large proejct incorporating land purchases, floodplain restoration, habitat improvements, and barrier removal. ~241 acres		Cooper Point		Olympia, Evergreen College, and SIT	Feasibility		

III	Green Cove Basin Schools Partnership: Marshall Middle School Green Stormwater Infrastructure Retrofit (infiltration /habitat)	potential non-water rights offset?	ex. Green Cove SB: Hansen Elementary, Marshall MS	Explore opportunities for partnering with schools to model green stormwater infratructure practices etc. - retrofit where beneficial; Marshall Middle School retrofit to include infilratration of stormwater using LID tools like biofiltration and cisterns to harvest water for restoration plant propagation nursery; reforestation of parts of the campus. Consider expansion to Hansen Elementary in future phases.	Pending WREC determinnation		Bob Barnes (TCD support)		conceptual / preliminary conversations with partners resulted in interest in further exploration of offset potential		
III	Snyder Creek/ Bushoowahalee Point Bulkhead Removal	Non Water Rights Offset	Evergreen	Improvements to new channel from Snyder Creek fish passage project completed in 2007. Explore ditch removal, floodplain, woody debris, and beaver reintroduction. Mapping to follow		Cooper Point		Evergreen and Thurston County	Conceptual	$50K - $350K	
	Deschutes Lower										
I	Schneiders Prairie	Non Water Rights Offset		Off-channel recconection and infiltration	681	Deschutes Lower		Thurston County	Conceptual	TBD	
III	Henderson RW Recharge	Non Water Rights Offset		The Budd Inlet Reclaimed Water Plant (BIRWP) has a current capacity of 1.5 mgd of RW during the irrigation season, and serves existing customers primarily for irrigation. The volume of reclaimed water production is based primarily on demand, with production curtailed in winter months when high-volume irrigation uses are not active. LOTT could ramp up production of reclaimed water at its existing BIRWP during the winter, and potentially make roughly 0.75 MGD available to a groundwater infiltration site or other offset project during that time. An additional 1.5 mgd of production capacity may be added in the future, and is currently demand-driven. LOTT has a "Henderson Conveyance and Recharge" project on its six-year CIP to extend the reclaimed water pipeline two miles from the RW storage tank in Tumwater across the Deschutes River to Pioneer Park, in order to coordinate with a City of Tumwater trails project that will traverse the river. That would bring the pipeline one step closer to LOTT's Henderson North property and other properties to the south that might eventually be used for groundwater recharge.		Deschutes Lower		Thurston County	Conceptual		
III	Capitol Way Water Quality Retrofit	Non Water Rights Offset		CHIN2.5: Address and manage water quality parameters, including excess nutrient loading, TIF2.1: Address stormwater treatment.		Deschutes Lower	City of Olympia		Design	$650,000	$162,500
III	Fones Road Bioretention Retrofit	Non Water Rights Offset		CHIN2.5: Address and manage water quality parameters, including excess nutrient loading, SHELL1.9: Improve water quality to prevent downgrades and achieve upgrades of shellfish harvesting areas, TIF2.1: Address stormwater treatment.		Deschutes Lower	City of Olympia		Design	$350,000	$87,500
III	Deschutes RM 8 Restoratation and Enhancement	Habitat and Other	Deschutes River	A restoration project off of highway 99 an the Deschutes River at mile 8 (S13-T17N-R2W) involved installation of 3 engineered log jams and riparian planting to reduce bank erosion. The project was completed by TCD in the early 2000s. Potential additional restoration work at the site can be explored to benefit instream flow.		Deschutes Lower	Thurston Conservation District		Conceptual		

III	Tumwater Valley Regional Facility (+ mitigation) and East Linwood Basin. Stormwater Retrofits - 2 constructed wetlands	Adaptive Management/Implementation	City of Tumwater - off Capitol Blvd between M and E Street	Overall, the designed project would treat runoff from 91.5 acres of impervious surfaces within the 200-acre drainage basin. The project will update the design and initiate the permitting process to retrofit a stormwater drainage outfall from the East Linwood basin. The basin is made up of a direct tributary area of approximately 73.7 acres, of which, about 28 acres are impervious. Stormwater currently discharges form this outfall untreated into the Deschutes River, a 303(d) listed water body.		Deschutes Lower	City of Tumwater		Design	TVRF: Design: $212,852 Construction: $1,830,000 East Linwood Basin: Design: $169,720 Construction: $1,693,000	
III	Pioneer Park Restoration	Habitat and Other	City of Tumwater - Pioneer Park	The City of Tumwater applied for the Department of Ecology Centennial Clean Water Program Grant funding in 2021 to finish the design and permitting of this project. The City of Tumwater is seeking funding to design a riparian restoration project to stabilize the slope and improve riparian conditions along the Deschutes River at River Mile 2.0. in Pioneer Park. Currently, the roughly 1,000-foot section of unstabilized bank produces over 2,380 cubic yards of fine sediment every year into the Deschutes River, a 303(d) listed water body.		Deschutes Lower	City of Tumwater		Design	Design: $118,450 Construction: $500,000	
I	Donnelly Drive Infiltration Galleries	Non Water Rights Offset	Off Yelm hwy on Donnelly drive, Olympia UGA	Expand existing infiltration galleries. This would be beyond NPDES sizing	14	Deschutes Lower		Thurston County	Conceptual	$6.3M	
III	Enhance wetland hydrology with reclaimed water	Non Water Rights Offset	not specified	Construct a wetland or augment an existing wetland using reclaimed water, with potential added benefits of improving wetland/river connectivity, creating habitat, and/or increasing in-stream flow.		Deschutes Lower	LOTT		Conceptual		
III	Lower Deschutes Habitat Acquisition, project #36	Habitat and Other		TBD		Deschutes Lower					
III	Deschutes River Conservation Acquisition - Phase 3	Non Water Rights Offset	Ayers Springs	Acquire land along middle Deschutes River and provide improvements with multiple habitat and water offset projects near and surrounding the important cold-water Ayers Creak/Spring. Capital Land Trust owns some land. See WRIA 13 Lead entity prior to contacting land owners. ~577 acres		Deschutes Lower		Thurston County and CLT	Acquisition		
III	Perry Creek Upper Basin Restoration	Habitat and Other	Either side of State Hwy 8	Managed forestry project in conjunction with parkland and habitat restoration. Acquisition of older forest stands that can contribute water to Perry Creek. CLT, Squaxin Island Tribe, and WRIA 14 Lead Entity participation to be considered. ~2,145 acres. Mapping to follow		Deschutes Lower		Thurston County	Conceptual		
III	Reclaimed Water for Sod Farm Irrigation	Non Water Rights Offset		Reclaimed water for sod farm irrigation. Major project to extend reclaimed water pipeline from Martin Way RW plant to sod farm on Yelm Highway. Probably requires expansion of RW production capacity. RW allowed for irrigation in rural county.		Deschutes Lower		Thurston County and LOTT	Conceptual		
III	Lower Deschutes Major Project			TBD		Deschutes Lower					
	Deschutes Middle										

III	Lower Lake Lawrence Restoration	Habitat and Other		Continue restoration work as outlined within the restoration plan [JR: please discuss this with the property owners.];Expand water offset project at Smith Ranch, near Deschutes mainstem at Lawrence Lake. ~196 acres Expand water offset project at Smith Ranch, near Deschutes mainstem at Lawrence Lake. Partner between Lacey, SIT, Yelm, and Olympia.		Deschutes Middle	SPSSEG	Lacey, Olympia, SIT, and Yelm	Design	$600,000	
III	Shermer Lane Restoration	Habitat and Other		22 acres under PSA with CLT, on an oxbow on the Deschutes, just past Nelson ranch. Instream LWD placement, sediment reduction, riparian planting with a minimum of 100' buffer.		Deschutes Middle	Capitol Land Trust		Design	$75,000	
III	Vicinity of Rainier Conservation/MAR/Acquisition	Water Rights Acquisition		Source changes or supplementation or conservation, managed aquifer recharge… in or around City of Rainier.		Deschutes Middle					
n/a	Spooner Farms	Water Rights Acquisition		Project was evaluted by Committee for potential water right acquisition. It was determined that the City of Olympia plans to continue use of the water right and it is not availble for relinquishment at this time		Deschutes Middle					
III	Middle Deschutes Water Offsets and/or Habitat Restoration	Habitat and Other	Middle Deshutes below Offut Lake - properties identified	Work with willing agricultural landowners to explore potential projects on their land, including water rights retirement, conservation easements, habitat restoration, managed aquifer recharge using Deschutes flood water or reclaimed water, and/or transfer of development rights.				Thurston County, Squaxin Island Tribe			
III	Restore Route 507 Deschutes Tributary	Habitat and Other	Route 507	Restore Deschutes Tributary at Route 507 ~428 acres. This project seeks to restore the aquatic habitats on approximately 750 linear feet of river channel in the reach by increasing the amount of large woody debris, re-establishing native riparian forest and creating in-stream complexity. The design propose to install flow deflecting ELJ that will redirect the majority of the rivers flow into the stable historic channel, while allowing some flow into the LWD roughened oxbow for much needed off channel habitat. Project has funding for implementation, but there could be opportunities to expand on the project - SPSSEG has reach-scale designs, could draw more info from that. Mapping to follow		Deschutes Middle	SPSSEG?		Other		
	Deschutes Upper										
III	Uppper Deschutes River off-channel wetlands	Non Water Rights Offset		Upper Deschutes off-channel wetlands activation with increasing mainstem bed roughness. River mile 34.5 SPSSEG - first project has funding for design and implementation, more opportunities in this area for similar projects but still need to be identified and need to work with Weyerhauser to gain access to land. This project seeks to restore the aquatic habitats on approximately 1,500 linear feet of river channel in the reach by increasing the amount of large woody debris, re-establishing native riparian forest and creating in-stream complexity.		Deschutes Upper			Conceptual	$50K - $350K	
I	Managed Aquifer Recharge in the upper Deschutes River	Non Water Rights Offset		MAR projects could occur in the Upper Deschutes River or tributaries; pump or passive flow during high flows.		Deschutes Upper			Conceptual	$1.1M	

III	Forest stand age preservation	Non Water Rights Offset		Increase stand age in upper Deschutes River (Vail Tree Farm ~6,000 acres); older trees use less groundwater; could be lease or purchase. Vail Tree Farm - Project description in HWS for an area on Weyerhauser land.		Deschutes Upper			Conceptual		
III	Large-Scale Forestry	Habitat and Other		Large scale managed forestry. Purchase or easements across much of Vail Tree Farm - mostly Weyerhaeuser. Numerous water offset projects possible; TMDL, parkland, habitat protections. Similar to Los Angeles, New York, and Seattle upper watershed projects. Mapping to follow		Deschutes Upper		Thurston County	Conceptual		
	Johnson Point										
III	Zittle's Marina Pocket Estuary Land Acquisition	Habitat and Other		Acquire land around the south end of Baird Inlet		Johnson Point			Conceptual		
III	LOTT Hawks Prairie Infiltration	Other	Hogum Bay Rd, Hawks Prarie	Expand existing facility		Johnson Point		LOTT	Conceptual		
	McLane										
III	Watershed Assessment on McLane creek and tributaries	Monitoring		Goal to understand water issues (going sub-surface in the summer, continually perched culverts). Determine physical reasons for low instream flow and develop projects and landowner outreach to remedy. At this time, no specific project information - would need to identify what the analysis would entail.		McLane			Conceptual	$75,000	
III	McLane Creek agricultural areas	Habitat and Other		Remeander, connect wetlands, riparian planting.		McLane		Thurston Conservation District			
III	Beatty Creek MAR	Non Water Rights Offset		Managed aquifer recharge with floodplain reconnection, BDA, or constructed. Creek named in McLane Creek action plan to augment baseflows - prepared for SPSSEG by Squaxin Island Tribe.		McLane					
III	Swift Creek MAR	Non Water Rights Offset		Managed aquifer recharge with floodplain reconnection, BDA, or constructed. Creek named in McLane Creek action plan to augment baseflows - prepared for SPSSEG by Squaxin Island Tribe.		McLane					
III	Perkins Creek MAR	Non Water Rights Offset		Managed aquifer recharge with floodplain reconnection, BDA, or constructed. Creek named in McLane Creek action plan to augment baseflows - prepared for SPSSEG by Squaxin Island Tribe.		McLane					
III	McLane Creek wetland/side channel restoration	Habitat and Other	McLane Creek	Explore opportunitites for wetland expansion, farm and habitat improvements along creek including side channels, reforestation etc		McLane	TCD		Conceptual. Initial landowner interest confirmed / no funds for project development		
III	Beatty/McLane Creeks Upper Basin Restoration	Habitat and Other		Beatty/McLane Creeks upper basin restoration. Floodplain reconnection, woody debris, managed forestry, possible beaver reintroduction. Largely owned by Dept of Natural Resources. ~1,568 acres. Mapping to follow		McLane		Thurston County	Conceptual	$50K - $350K	
	Spurgeon										
II	Spurgeon Creek Remeander Project	Habitat and Other		Restore wetland conditions to upper Spurgeon Creek by filling ditch, creating microtopography, installing large wood and planting area with native species. Sprugeon Creek is a prioirty tributary to the Deschutes. Funded by PSAR 2016		Spurgeon Creek			Design	$1M	
III	Upper Spurgeon wetland restoration	Habitat and Other		Remeander, connect wetlands, riparian planting.		Spurgeon Creek					
III	Spurgeon Creek Wetland/side channel restoration	Habitat and Other	Spurgeon Creek	Explore opportunitites for wetland expansion, habitat improvements along creek including side channels, reforestation etc		Spurgeon Creek	TCD		Conceptual. Initial landowner interest confirmed / no funds for project development		

III	Investigate already present beavers in Spurgeon	Habitat and Other		Deterimine beaver presence and how it realates to increasing streamflow at the Thurston County gaging site		Spurgeon Creek					
	Woodland										
III	Martin Way at Mary Elder Water Quality Retrofit	Non Water Rights Offset		CHIN2.5: Address and manage water quality parameters, including excess nutrient loading, SHELL1.9: Improve water quality to prevent downgrades and achieve upgrades of shellfish harvesting areas, TIF2.1: Address stormwater treatment.		Woodland Creek	City of Olympia		Design	$550,000	$137,500
I	Hicks Lk water quality and flow retrofit	Non Water Rights Offset		retrofit SW facility for more WQ treatment and attenuation of flow.	296	Woodland Creek	City of Lacey		Conceptual	$3.3M	
III	Martin Way/Tanglewilde stormwater facility	Non Water Rights Offset		Address stormwater outfall ID'd in Henderson TMDL. Would involve replacing conveyance pipe, property easement/acquisition, facility design and construction		Woodland Creek	City of Lacey		Conceptual	$500K - $1M	
III	Chambers Creek Wetland Restoration	Habitat and Other	Chambers Creek	Study feasibility & options for wetland restoration and enhancement; potential stormwater infiltration at perimeters; acquisition etc.		Woodland Creek	TCD		Conceptual. Initial landowner interest confirmed / no funds for project development		
I	Chambers Creek MAR			MAR projects could occur in Chambers Creekpump or passive flow during high flows.							
III	Chambers Creek Restoration	Non Water Rights Offset		Add large woody debris and riparian vegetation		Woodland Creek		Thurston County	Conceptual	$50K - $350K	
	WRIA-Wide										
I	General MAR projects	Non Water Rights Offset		WRIA-wide MAR projects	811	WRIA-Wide		Thurston County	Conceptual	$1.1 m	
II	General floodplain reconnection projects	Habitat and Other		Identify floodplain reconnection project opportunities in WRIA 14		WRIA-Wide		Thurston County, Squaxin Island Tribe, Thurston CD, etc.	Conceptual		
III	Water Right Opportunities	Water Rights Acquisition		Identify opportunities for future water right acquisition and/or irrigation efficiencies.	0	WRIA-Wide		Thurston County, Squaxin Island Tribe, Thurston CD, etc.			
II	Forest Stand Age			Identify opportunities for managed forestry to increase forest stand age, providing streamflow benefit.				Thurston County, Squaxin Island Tribe, Thurston CD, etc.			
III	PE Well conversion to group A systems	Non Water Rights Offset		Establish Group A systems in areas of high density PE wells; Group A will would be in deep confined aquifer.		WRIA-Wide			Conceptual		
II	Fund hook-up fees for existing PE wells to convert to Group A systems	Non Water Rights Offset		Fund hook-up fees for existing wells to convert to City water		WRIA-Wide			Conceptual		
III	Simulate Summer Streamflows in Response to Groundwater Pumping and Climatic Effects	Monitoring		CHIN2.1: Protect and restore instream flows to levels necessary for salmon recovery		WRIA-Wide	U.S. Geological Survey		Design		0
III	Property Conservation - 7 potential acquisitions and/or easements	Habitat and Other	Deschutes River Watershed, Budd Inlet, WRIA-wide opportunities	7 property acquisition or conservation easement projects as identified in the 11-20-19 Collaborative Framework between LOTT and Squaxin Island Tribe. Need to assess whether there are any permit exempt wells or wells with water rights on these properties that could be considered as direct water offsets. May be overlap with other 4YWP projects on project inventory		WRIA-Wide	LOTT, Squaxin Island Tribe, Capitol Land Trust		Scoping		
III	Agricultural buffers	Habitat and Other		Provide match funding for fencing proejcts to restrict livestock access to rivers.		WRIA-Wide					
III	Well replacement - deeper into lower aquifer	Non Water Rights Offset		TBD		WRIA-Wide					
III	Develop water conservation projects for partial WR acquisition	Water Rights Acquisition		TBD		WRIA-Wide					
III	Beaver analog and beaver reintroduction	Habitat and Other		Will be serious issues with landowner participation.		WRIA-Wide					

III	Water Banking	Non Water Rights Offset		The report done for Steven's County determined the feasibility of a water bank to maintain and protect existing water rights, discourage the downstream transfer of water rights out of the watershed by providing a local market, develop a bank of water rights to increase future options for rural domestic uses, and identify opportunities to provide water for development of projects in tributaries currently closed by rule. PAG concluded that a water bank would work in most WRIA 59 subbasins.		WRIA-Wide		Thurston County	Conceptual		
II	Water-wise Landscaping and Gardening/Irrigation Efficiencies (Residential/HOA scale)	Non Water Rights Offset	WRIA-wide	Provide outreach, support, and education for water-wise landscaping (i.e. xeriscaping) and and water-wise and drought-wise gardening practices. Additionally, support Irrigation Water Management Planning for residential/HOA communities to reduce water demand/consumption		WRIA-Wide	TCD (welcome willing partners)		conceptual		
III	Ag. Irrigation efficiencies/Ag Water Rights Rental Program		WRIA-wide or focus areas	Support Irrigation Water Management Planning for agricultural producers across the WRIA.		WRIA-Wide	TCD		conceptual		
III	Water Harvesting Innovation (multiple scales)		Rural/Ag focus areas	Explore innovative ideas for stormwater collection and storage during high-flow periods, and infiltration or resuse for ag/irrigation later in the year.		WRIA-Wide	TCD		conceptual		
III	Education: Water Conservation/Drought Adaptation		WRIA-wide	Workshops/updates to water conservation guidance for landowners/ag/residential; create culture of water conservation and encourage behavior change relative to water use.		WRIA-Wide	TCD (welcome willing partners)		conceptual		
III	Community Stormwater/LID Retrofits		WRIA-wide in appropriate areas	Explore opportunities for partnering with community members (residential and other) to implement green stormwater infratructure practices like bioretention and rain gardens; retrofit where beneficial; incorporate xeriscaping, lawn reduction, reforestation and other GSI practices to increase onsite infiltration of stormwater runoff.		WRIA-Wide	TCD		conceptual		