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Pierce County Draft Fish Barrier/Culvert Replacement Prioritization List

Sean Goldsmith, Salmon Recovery Senior Planner

Pierce County Planning and Public Works

 Sean.Goldsmith@piercecountywa.gov



 253-798-2398



What were the goals of developing this list?

- Identify county managed fish barriers
- Review known data and barrier status
- Develop a county-wide tool for decision-making and identify priority culverts for replacement
- Understand implications of culvert replacement on a watershed scale
- Position the county for receiving state and federal grants
- Inform a countywide salmon recovery strategy

County Executive Tier 1 Strategic Plan:
Objective - Clean, Sustainable Environment

PPW Strategic Plan Tier 2 Initiative:
Vibrant Communities Mission – Clean,
Sustainable Environment

Who was involved?

Who is the intended audience?



Involved Teams:

The following Pierce County departments and PPW divisions were actively involved in this collaborative effort:

- Parks and Recreation
- PPW Divisions:
 - Surface Water Management (SWM)
 - Capital Improvement Program (SWM)
 - PPW Long Range Planning (AG)
 - Office of the County Engineer (OCE)
 - Maintenance & Operations (M&O)
 - Water Quality (SWM)
 - Sewer Utility



Audience:

- Pierce County Council
- County Executive Leadership Team
- PPW Management Team and Staff
- Four Federally Recognized Tribes
- Federal and State Granting Agencies
- Environmental/Farming Community Partners

What are the results?

BY THE NUMBERS

854 Total Pierce County-Managed Culverts

557 Pierce County-Managed Culverts identified as barriers by Washington Department Fish & Wildlife (WDFW) standards

672 Culverts analyzed for fish passage under WDFW standards

182 Culverts that require further analysis

24 Planned/active culvert replacement projects by Pierce County PPW



What did we consider?

Category #1 Current Opportunities



1. Culvert currently involved or highlighted as priority project by Tribal partner or jurisdiction
 - Tribal Priority List from 2019
 - Non-profit regular partners
 - Regulators: WDFW, Pierce County cities and towns, BNSF, adjacent counties
2. Culvert currently programmed within existing PPW Plan
3. Regulatory or potential future enforcement tie-in
4. Culvert provides potential new partnership with WSDOT Culvert Removal Program
5. Culvert involved in or potentially involved in larger landscape level or transportation strategy

Category #2 Science Criteria

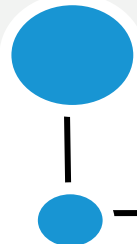


1. Culvert's tributary potential fish species presence – adopted tribal annual reports for this information
2. Culvert's current fish passage barrier concerns per WDFW fish passage guidelines
3. Culvert located in a monitored stream with a water quality index (WQI) scored trending upward
4. Culvert is furthest downstream county-managed culvert in that specific watershed

Category #3 Funding Criteria

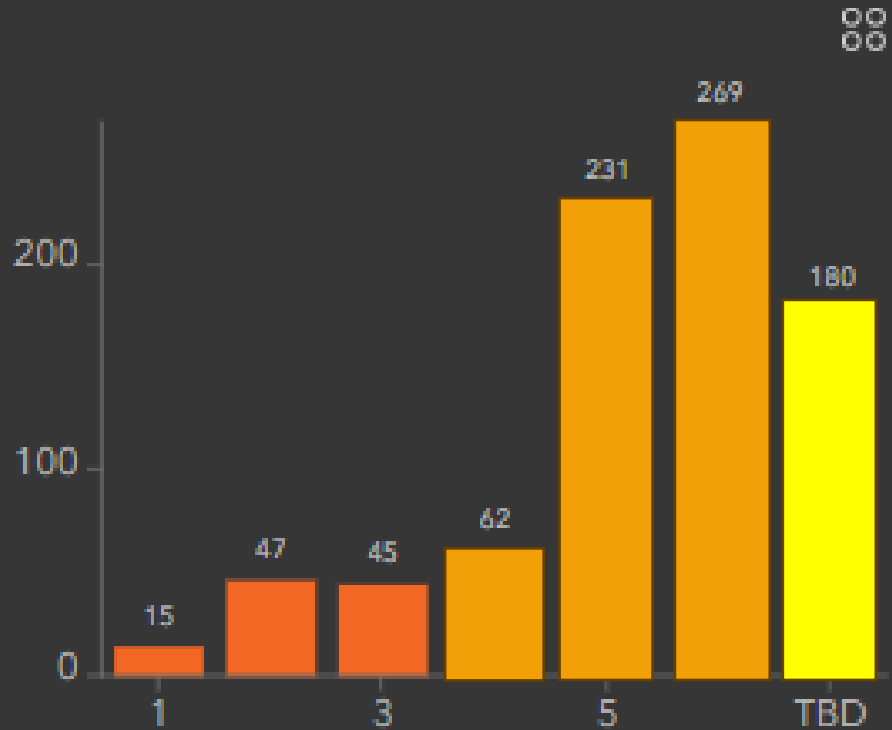


1. Culvert project currently fully or partially funded
2. Culvert currently in federal application awaiting award status
3. Culvert planned for federal application
4. Culvert currently in state/local application awaiting award status
5. Culvert planned for state/local application



What are the results?

Culverts Crossings by Tier



15 Tier One Culverts

47 Tier Two Culverts

45 Tier Three Culverts

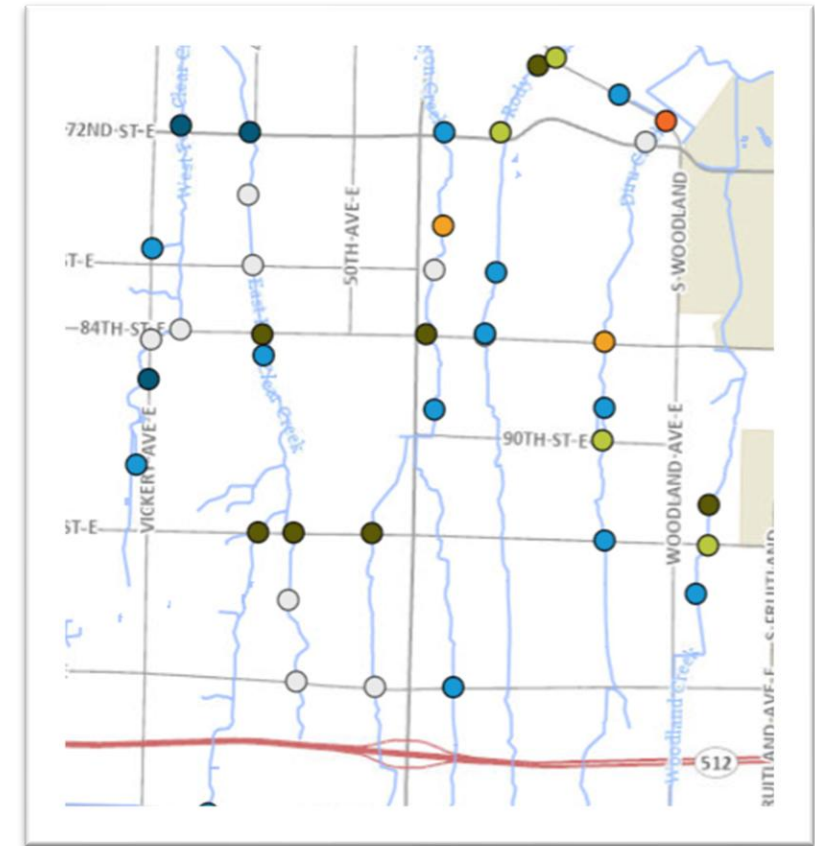
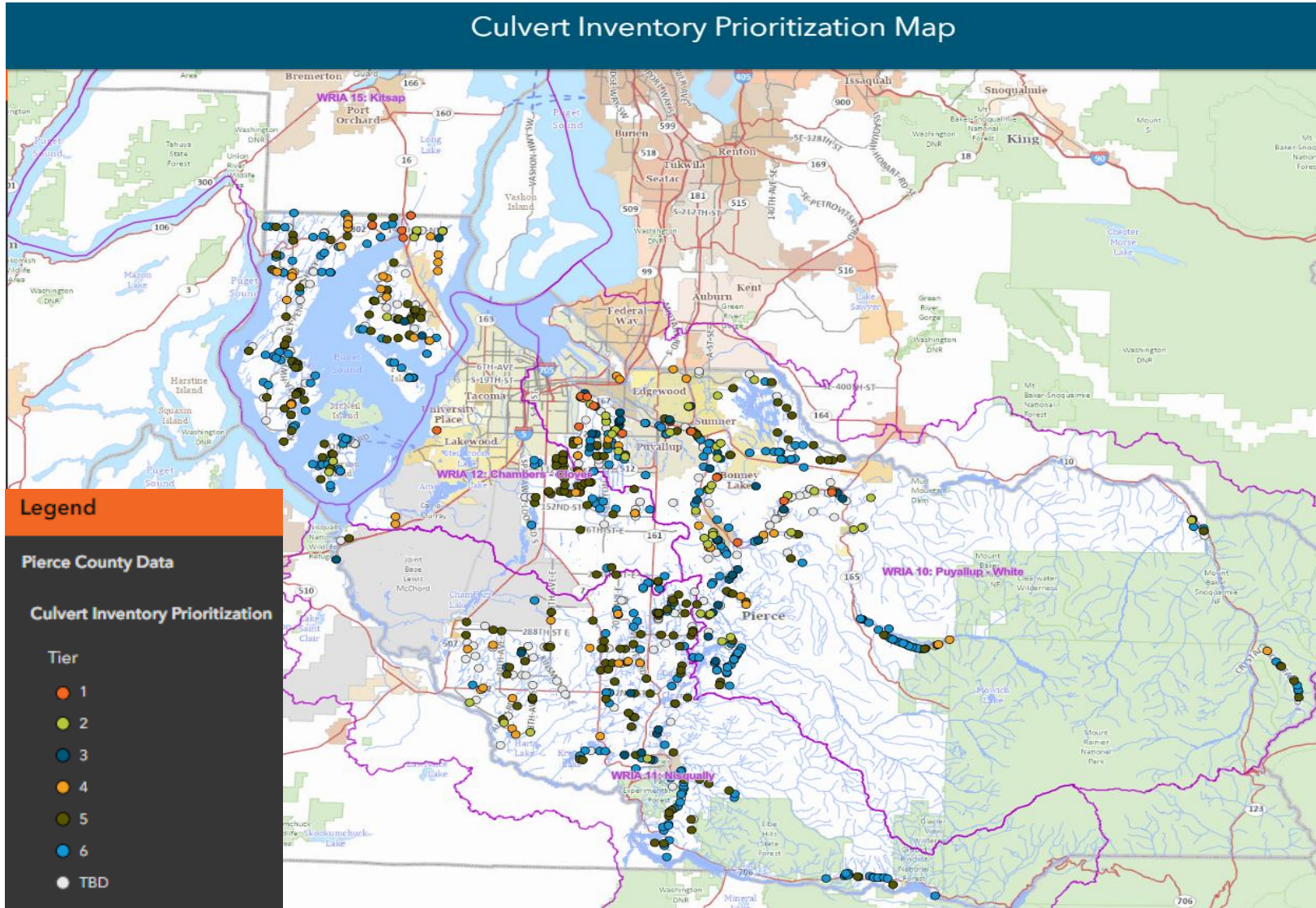
107 Tier 1 to Tier 3 culverts total

787 Culverts Tier 4 or lower based on a variety of factors:

- Lack of fish species
- Not a priority crossing by tribes or partners
- No potential for overlap between WSDOT or other current opportunities
- Unlikely to receive grant funding

****Tiering is preliminary and subject to new information****

What are the results? Countywide Effort



What are the results?

Preliminary Planning Cost Estimations for Tier 1 and Tier 2 Culverts



Tier 1:

15 Fish Barrier Culvert Crossings – Estimated \$164M

Planning estimate figures are \$104,000,000 without Chambers Bay Estuary Restoration

Tier 2:

47 Fish Barrier Culvert Crossings – Estimated \$196M

3 already replaced (Schoolhouse@108th, Horsehaven@150th, Horsehaven@188th)





TOTAL Tier 1 and Tier 2:

62 Fish Barrier Culvert Crossings – Estimated \$360M




Planning estimate is \$300M without Chambers Bay Estuary Restoration



Puyallup White River Specific High-Ranking Culverts

Info	Tier	Crossing Name (Location)	Tributary Name	WRIA	Fish Species Presence at Crossing	Preliminary Planning Estimate
	1	Pioneer Way E crossing at Gay Rd	Clear Creek	10	8 species. 3 ESA. Pink, Chum, Chinook, Coho, Steelhead, SR Cutthroat, Bull Trout, Resident Trout	\$5M
	1	Pioneer Ave E crossing at Clear Creek	Clear Creek	10	8 species. 3 ESA. Pink, Chum, Chinook, Coho, Steelhead, SR Cutthroat, Bull Trout, Resident Trout	\$5M
	1	Pioneer Way E Diru Culvert - TMDL Project and Culvert Replacement Project	Diru Creek	10	6 species. 2 ESA. Chum, Chinook, Coho, Steelhead, SR Cutthroat, Resident Trout	\$9M
	1	McCutcheon Rd E at Fennel Creek (Phase 4 of Fennel Creek Restoration Project)	Fennel Creek	10	7 species. 2 ESA. Pink, Chum, Chinook, Coho, Steelhead, SR Cutthroat, Resident Trout	\$7M

Puyallup White River Specific High-Ranking Culverts

Info	Tier	Crossing Name (Location)	Tributary Name	WRIA	Fish Species Presence at Crossing	Preliminary Planning Estimate
	1	Pierce County Levee culvert at 134th Ave E	Puyallup River	10	8 species. 3 ESA. Pink, Chum, Chinook, Coho, Steelhead, SR Cutthroat, Resident Trout, Bull Trout	\$400K
	1	Lower Burnett Rd at Cascade Junction	South Prairie Creek	10	8 species. 3 ESA. Chinook, Steelhead, Coho, Chum, Pink, Cutthroat, Bull Trout, Resident Trout	\$3M
	1	South Prairie Creek-Carbon River Road culvert - across from Hwy 162 and north of Arline Road	South Prairie Creek	10	8 species. 3 ESA. Chinook, Steelhead, Coho, Chum, Pink, Cutthroat, Bull Trout, Resident Trout	\$7M
	1	Pioneer Way E bridge crossing at Swan Creek	Swan Creek	10	8 species. 3 ESA. Pink, Chum, Chinook, Coho, Steelhead, SR Cutthroat, Resident Trout	\$8M
	1	Swan Creek at 64th St E culvert	Swan Creek	10	8 species. 3 ESA. Pink, Chum, Chinook, Coho, Steelhead, SR Cutthroat, Resident Trout	\$33M

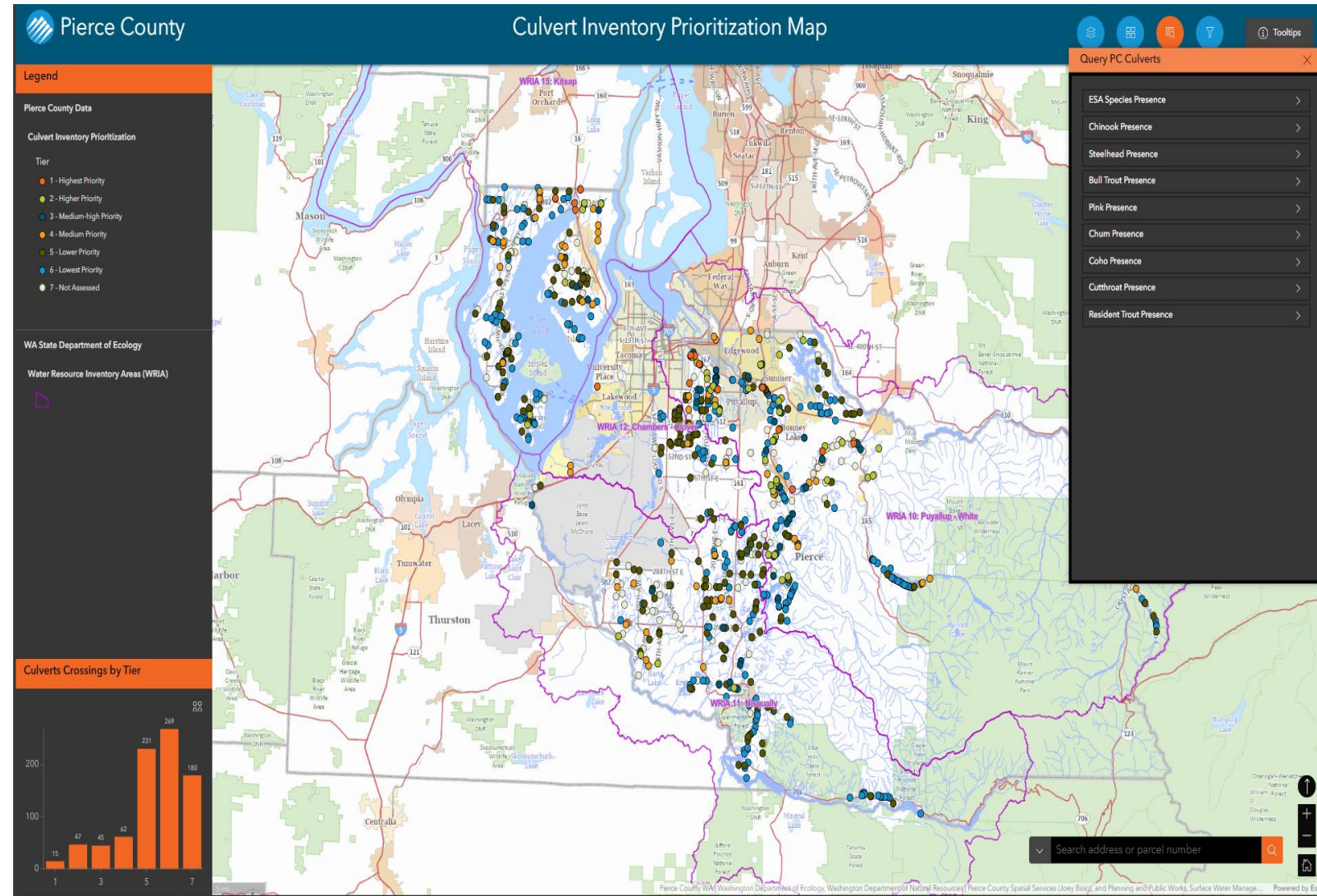
Draft Culvert Prioritization Resources

GIS Mapping Tool:

[Culvert Inventory Prioritization \(arcgis.com\)](https://experience.arcgis.com/experience/8fa83aec099745a9a928099c20879dc2/)

url –

<https://experience.arcgis.com/experience/8fa83aec099745a9a928099c20879dc2/>



Thank you. Questions?



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