



**Brian Abbott Fish Barrier Removal Board Meeting  
Proposed Agenda**

Tuesday, January 17, 2023: 9:00 a.m. to 12:00 p.m.

Teams Meeting Link: [Click here to join the meeting](#)

Or call in: [+1 872-242-8913](tel:+18722428913), [355522077#](tel:+1355522077)

Phone Conference ID: 355 522 077#

<p><b>Purpose of Meeting:</b></p>	<p><i>The intent of this monthly Board meeting is to provide general updates around fish barrier removal topics, share updates regarding ongoing federal funding programs, review the FBRB Bylaws, present FBRB project updates, and share upcoming opportunities for engagement.</i></p>	
<p><b>Time</b></p>	<p><b>Agenda Topic</b></p>	<p><b>Materials</b></p>
<p>9:00-9:15 a.m. (15 mins)</p>	<p><b>Welcome and Introductions</b> – <i>Joy Juelson (Facilitator), Triangle Associates; and Chair Tom Jameson, WDFW</i></p> <ul style="list-style-type: none"> <li>▪ Board and staff introductions</li> <li>▪ Review agenda and meeting purpose</li> <li>▪ Public Comments: Submit public comments via e-mail to <a href="mailto:FBRB@dfw.wa.gov">FBRB@dfw.wa.gov</a> for inclusion in the record <ul style="list-style-type: none"> <li>○ <b>Decision:</b> Approval of November 2022 meeting summary</li> <li>○ <b>Review:</b> December 2022 Subcommittee Notes</li> </ul> </li> </ul>	<p>Agenda</p> <p>November 2022 Meeting Summary</p> <p>December 2022 Subcommittee Notes</p>
<p>9:15-9:30 a.m. (15 mins)</p>	<p><b>General Updates</b></p> <ul style="list-style-type: none"> <li>▪ Fish Passage Strategy updates – <i>Chair Jameson</i></li> <li>▪ Governor’s 2023-2025 Budget overview – <i>Triangle Associates</i></li> </ul>	<p>Governor’s Budget and Salmon Brief</p>
<p>9:30-10:00 a.m. (30 mins)</p>	<p><b>Federal Funding Updates and Next Steps</b> – <i>Triangle Associates</i></p> <ul style="list-style-type: none"> <li>▪ PROTECT Funding – <i>Chair Jameson</i> <ul style="list-style-type: none"> <li>○ Share 2023 PROTECT funding updates and discuss the release of a Request for Proposals (RFP) for the remaining \$50m of FY 2024-2026 funding</li> <li>○ <b>Board Decision:</b> To release an RFP for remaining \$50m of FFY 2024-2026 funding</li> </ul> </li> <li>▪ USDOT National Culvert Removal, Replacement, and Restoration Grants (Culvert AOP Program) Update – <i>Board Members</i></li> <li>▪ USFWS National Fish Passage Program (NFPP) – <i>Chair Jameson</i></li> <li>▪ Discuss outreach methods and opportunities for future federal funding rounds</li> </ul>	<p>Federal Funding Table Handout</p> <p>USFWS NFPP Fact Sheet</p>

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<b>Time</b>	<b>Agenda Topic</b>	<b>Materials</b>
10:00-10:10 a.m. (10 mins)	<b>Review FBRB Bylaws – Triangle Associates &amp; Chair Jameson</b> <ul style="list-style-type: none"> <li>▪ Review Bylaws</li> <li>▪ Discuss questions or potential updates</li> </ul>	FBRB Bylaws
10:10-10:25 a.m. (15 mins)	<b>Break</b>	
10:25-11:20 a.m. (55 mins)	<b>FBRB Project Status Update – Christy Rains &amp; Technical Review Team (TRT), WDFW</b> <ul style="list-style-type: none"> <li>▪ Presentation on status of FBRB funded projects</li> </ul>	FBRB Project Presentation
11:20-11:30 a.m. (10 mins)	<b>Project and Policy Issues / Opportunities – Chair Jameson, WDFW</b> <ul style="list-style-type: none"> <li>▪ George Davis Creek</li> <li>▪ Additional topics or updates?</li> </ul>	
11:30-11:45 a.m. (15 mins)	<b>Discuss Upcoming Opportunities for Engagement – Triangle Associates &amp; Board Members</b> <ul style="list-style-type: none"> <li>▪ Strategic messaging for legislative session – Chair Jameson, WDFW</li> <li>▪ FBRB Session at 2023 Salmon Recovery Conference in April – Alex Sweetser <ul style="list-style-type: none"> <li>○ Early Registration Open until 3/8/2023</li> </ul> </li> <li>▪ Input from Board members</li> <li>▪ Additional items upon request</li> </ul>	
11:45 a.m. - 12:00 p.m. (15 mins)	<b>Action Items &amp; Review – Triangle Associates</b> <ul style="list-style-type: none"> <li>▪ Review action items / paths forward</li> <li>▪ Plan for future meetings: <ul style="list-style-type: none"> <li>○ Next meeting: February 21, 2023</li> <li>○ Moving to hybrid meetings</li> </ul> </li> </ul>	
12:00 p.m.	<b>Adjourn</b>	



## Brian Abbott Fish Barrier Removal Board – Informal December Meeting Draft Notes

**Date:** December 20, 2022

**Time:** 9:00 a.m. to 12:00 p.m.

**Location:** Virtual Meeting

**Meeting Purpose:** Discuss the recently released Governor’s Budget, the status of the Board’s 2023 *Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation* (PROTECT) funding list, and updates regarding federal funding grant programs with those available.

**Meeting Resources:** See calendar invite or pre-meeting email.

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### Attendees:

#### *Voting Members:*

- Chair Thomas Jameson, Washington Department of Fish and Wildlife (WDFW)
- Christy Rains, WDFW (alternate)
- Erik Neatherlin, Governor’s Salmon Recovery Office (GSRO)
- Jeannie Abbott, GSRO (alternate)
- Susan Kanzler, Washington State Department of Transportation (WSDOT)

#### *Additional Staff:*

- Dave Caudill, Recreation and Conservation Office (RCO)
- Alice Rubin, RCO
- Julie Grobelny, WDFW
- Alex Sweetser, Triangle
- Joy Juelson, Triangle

### PROTECT Funds and Local Programs

The Board solicited eligible city and county sponsors on the FBRB 2023-2025 ranked project list and received 10 applications for PROTECT funds. These projects matched the \$25 million available for obligation in 2023 and were advanced to WSDOT Local Programs. These projects will remain on the FBRB’s 2023-2025 ranked list to the legislature until funds are obligated. Board members discussed the pathway forward for PROTECT funds and identified the following discussion topics for the Board:

- *Future Discussion Topic:* How to manage applications from sponsors who missed the December 1, 2022 deadline to be placed on the 2023 PROTECT project list, which was sent to Local Programs. Potential options include listing the projects as alternates for 2023 or advancing them for funding in future years.
- *Future Discussion Topic:* How to structure and release an RFP to eligible sponsors in spring 2023 for the remaining \$50 million of PROTECT Funds.

## **US Department of Transportation's National Culvert Removal, Replacement, and Restoration Grants (Culvert AOP Program)**

The deadline to submit applications for this grant program is February 6, 2022. Currently, there has been little interest from local sponsors to apply in part due to the tight deadline and onerous requirements to receive federal funding. At the state level, WSDOT is developing an application for barriers outside the injunction area and is not currently seeking federal funding for injunction obligations. Board members discussed how to support WSDOT's application process and identified the following action item:

- **Action Item:** Board members and staff in attendance (specifically from GSRO, RCO, and WDFW) offered to coordinate with WSDOT's lead on ways to provide grant writing support. Additionally, they can explore outreach opportunities for barriers upstream and downstream of the ones WSDOT is proposing.

## **Sponsor Outreach for Federal Grant Programs**

Board members discussed the current federal funding opportunities and how to engage with sponsors. While the Board does not have capacity to sponsor applications, Board members recommended the Board engage in targeted outreach to increase sponsor awareness of federal funding opportunities and resources to improve their capacity to apply for funding. They recommended the Board

- **Future Discussion Topic:** The Board can explore outreach opportunities, methods, and venues with sponsors to increase their awareness of federal funding opportunities, help them understand the requirements for these programs, and identify resources to aid the application process.

## **Governor's 2023-2025 Budget**

Chair Jameson, WDFW, explained there was an administrative error with the list the Office of Financial Management (OFM) submitted to the Governor's Office. The list did not include the administrative fees for RCO and WDFW to run the grant program. WDFW is working with RCO and OFM to resolve this and prevent the same issue in the future.

## **Johnson Creek**

Dave Caudill, RCO, and Chair Jameson explained the sponsors of the Johnson Creek project wanted to add an additional barrier to the project. They received enough funds from PSAR and SRFB to cover this additional work and recent cost increases. Since the project is under agreement for 2021-2023 FBRB funds and received funding through other venues, Board members in attendance recommended pulling the project from the 2023-2025 FBRB project list.

# Salmon

*In Washington and across the Pacific Northwest, salmon populations are struggling against climate change, habitat loss, pollution and other factors. We are losing riparian, or streamside, habitat to increased human population and development, as well as pollution and degradation. Climate change contributes to this decline by increasing the number and magnitude of droughts and floods, worsening ocean conditions, warming streams, shifting food webs, intensifying pollutants and shifting the balance of predator populations.*

## **Saving Washington's iconic salmon**

Gov. Jay Inslee proposes new investments to protect and restore salmon populations and habitat across the state

Across the region, people have worked tirelessly to bring salmon back from the brink, and those efforts have restored thousands of acres of fish habitat. Still, salmon and other species are losing more habitat than they are gaining. Over 70% of our 14 populations of endangered or threatened salmon and steelhead are not keeping pace with recovery goals, are still in crisis, or require immediate action.

In 2021, Gov. Jay Inslee — drawing from decades of work by numerous experts, state agencies, salmon recovery partners, tribes and stakeholders — put forward an update to the state's salmon recovery strategy. To implement the strategy, Inslee proposed new and urgent investments to protect and restore salmon, steelhead and trout populations across the state. In addition, the Governor's Salmon Recovery Office convened the Natural Resources Subcabinet to develop a work plan around the new strategy priorities. That work plan was finalized in Nov. 2022.

The governor now proposes the strongest suite of budget and policy initiatives in Washington's history to help protect and restore vital salmon



*Sockeye salmon spawn in the Little Wenatchee River near Leavenworth, Washington. (U.S. Fish and Wildlife Service photo)*

habitat and restore salmon populations across the state. These initiatives address the highest priority actions in the governor’s Salmon Strategy, while aligning with known tribal priorities and regional salmon recovery plans. They include the following:

- Protect and restore riparian habitat.
- Invest in clean water for salmon and people.
- Correct fish passage barriers and restore salmon access to historical habitat.
- Protect and manage our state’s waters.
- Align harvest, hatcheries and hydropower with salmon recovery.
- Address predation and food web issues for salmon.

## Protect and restore riparian habitat

With this budget, the governor commits to historic investments that can restore and protect healthy functioning riparian ecosystems critical to salmon survival. The green corridors along rivers and streams are important during critical periods of a salmon’s lifecycle, providing shade and stream temperature moderation, water filtration, habitat for insects and other wildlife, and cover for spawning and foraging. In 2022, Inslee contracted a study and evaluation of all state voluntary and regulatory riparian programs. As part of this process, the governor convened roundtable discussions with tribes, farmers, cities, counties and state agencies. [Two final reports were issued in Dec. 2022](#) with recommendations for how to move forward on riparian protection.

It is within our best interest to maintain, preserve, conserve and rehabilitate riparian lands. Doing so will help us reduce water temperature, improve climate resiliency, maintain carbon sequestration and better protect the health of fish, wildlife and ecosystems for the economic and social well-being of this state and its people. To implement new

*The Climate Commitment Act (CCA), a new climate law, is generating significant revenue and is supercharging our investment in natural climate solutions that support salmon protection and restoration. In 2021, the Legislature passed the governor-requested bill to cap and reduce greenhouse gas emissions, invest proceeds in projects to reduce carbon emissions, expand clean transportation, and build healthier, more resilient communities. A portion of CCA funds is specifically dedicated to projects that make the state’s waters and forests more resilient to climate change impacts, conserve working forestlands, and increase their carbon pollution reduction capacity through sequestration and storage. This biennium, the governor will invest \$154 million in CCA revenues toward projects that support salmon protection and recovery.*

protections for salmon riparian habitat, the governor proposes the following steps:

- **Riparian program evaluation:** Continue the work of the Riparian Taskforce to engage stakeholders, tribes, and state agencies as they develop measures to improve and protect riparian areas across the state.  
*(\$489,000 GF-S)*
- **Riparian habitat assessments and mapping:** Continue work begun in the current biennium to assess and map the state’s riparian habitat. The Department of Fish and Wildlife (WDFW) will identify streams that — if conserved or restored — will provide the greatest habitat value and will demonstrate the extent of cumulative improvements to statewide riparian conditions over time. Ecology will also improve the state’s understanding and mapping of channel migration zones. To identify and monitor riparian areas, unstable slopes and fish habitat, the Department

of Natural Resources (DNR) will continue to collect statewide lidar data. This provides better data to protect and understand salmon habitat and stressors. In addition, the State Conservation Commission will enhance its efforts to monitor the effectiveness of the Voluntary Stewardship program.

*(\$10.1 million GF-S, \$1.4 Million Public Works Assistance Account)*

- **Integrated science hub for agriculture:** The State Conservation Commission will establish a program to connect scientists and practitioners to monitor and better quantify the benefits of agricultural Best Management Plans (BMPs). The commission will conduct additional social science research to understand how to best engage with landowners in implementing BMPs.

*(\$1.25 Million GF-S)*

- **Riparian public education:** Many landowners do not understand the importance of maintaining riparian areas whether they live in urban, suburban, rural, agricultural or forested areas. The State

Conservation Commission will develop and implement a program to educate landowners on how they can best manage and restore their lands to improve riparian habitat.

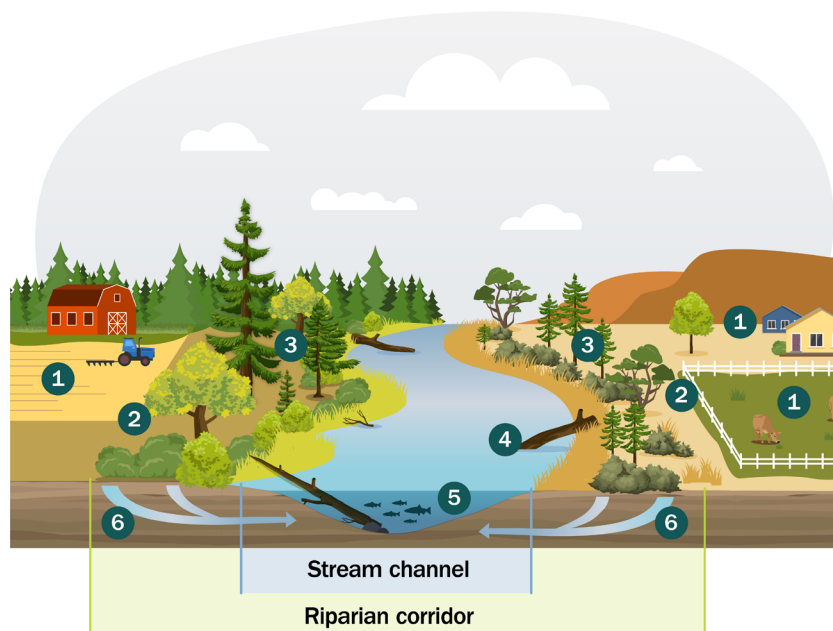
*(\$2.0 million GF-S)*

- **Riparian coordinator:** State riparian protection and restoration programs are not always coordinated, and do not share common metrics nor a consolidated data platform. The Recreation and Conservation Office will establish a position to coordinate projects between state agencies, develop common metrics across programs and consolidate data platforms.

*(\$398,000 Natural Climate Solutions Account)*

- **Riparian restoration on working lands:** To accelerate improvements to state riparian areas on agricultural and forest lands, the governor proposes significant new investments. This includes \$100 million for a new Riparian Conservation Grant program with the State Conservation Commission that provides financial assistance to landowners implementing riparian protection and

## Healthy riparian corridor



- 1 Using best management practices upland minimizes pollution
- 2 Healthy corridor filters pollutants before getting into the stream
- 3 Large trees help keep the stream cool and provide habitat
- 4 Fallen trees in the stream provide habitat
- 5 Fish thrive in cool and clean water
- 6 Groundwater inputs help support streamflows and keep water cool

*Department of Ecology*

restoration measures. Funds will also be available to conversation districts so that they can use technical assistance to help landowners develop farm plans and conservation projects. The state will match the funding for the existing federal Conservation Reserve Enhancement program, which works with willing farmers to plant native trees and shrubs and remove livestock and agricultural activities from riparian areas.

*(\$13 million GF-S, \$100 million Natural Climate Solutions Account)*

- **Protect forested riparian habitats:** The governor proposes to fund two major programs that protect forested riparian areas. DNR’s Forest Riparian Easement program reimburses landowners for the value of the trees they leave to protect fish habitat. And, the Rivers and Habitat Open Space program funds conservation easement purchases from willing private forest landowners to protect riparian open space, especially channel migration zones for Endangered Species Act-listed species.

*(\$11.6 Natural Climate Solutions Account, \$3.4 million bonds)*

- **Reforestation Strategy:** Restoring riparian habitats and areas impacted by wildfires requires tree seedlings. DNR will develop a comprehensive strategy to tackle barriers to reforestation, including through expanding seed collection, increasing the capacity of the state’s public nursery, and addressing workforce needs.

*(\$2 million Natural Climate Solutions Account)*

## Land use planning

Salmon need cool, clean water and a variety of habitats that allow them to feed, travel, rest, hide from predators, and spawn. Protecting and restoring these habitats requires a combination of voluntary programs and regulatory tools.

- **Incorporate salmon into land use planning:** Regulatory protection is necessary as Washington continues to grow, develop, and use more land and water. Regulations can prevent degradation and restore unavoidable impacts of permitted development. The Department of Commerce will provide local governments with technical assistance and grants to integrate salmon recovery plans and watershed characterization work into their land-use planning and regulation.

*(\$5.5 million Natural Climate Solutions Account)*

## Capital investments to protect and restore habitat

It is critically important to continue capital investments in habitat protection and restoration. These grant programs fund the highest priority projects in watersheds throughout the state — projects that have been scientifically and publicly vetted. This includes grant programs that implement the process established by the Salmon Recovery Act, where watershed-based groups act as lead entities to coordinate regional and local recovery plan priorities. It also includes state grant programs with a specific benefit to salmon recovery such as floodplain management, near-shore restoration or region-specific programs for Puget Sound or the coast. These programs have kept extinction at bay. The governor recommends the following investments to restore salmon habitat:

- **Estuary and Salmon Restoration program** (Recreation and Conservation Office) – Fund projects to advance Puget Sound near-shore recovery.

*(\$25.5 million bonds)*

- **Floodplains by Design** (Department of Ecology) – Re-establish floodplain functions to improve salmon habitat and reduce flood risk in Washington’s major river corridors.

*(\$49.8 million bonds)*



- **Puget Sound Acquisition and Restoration program** (Recreation and Conservation Office) – Fund habitat restoration and protection to restore Puget Sound’s natural systems.  
*(\$50 million bonds)*
- **Salmon Recovery Funding Board** (Recreation and Conservation Office) – Fund habitat projects and other necessary activities to achieve overall salmon recovery.  
*(\$40 million bonds, \$75 million federal)*
- **Salmon recovery region and lead entity capacity** (Recreation and Conservation Office) – Enhance local capacity to fully develop, implement and integrate recovery plans with state agency habitat recovery programs.  
*(\$4.5 million GF-S)*
- **Washington Coast Restoration and Resiliency Initiative** (Recreation and Conservation Office) – Fund grants to proactively address the region’s

highest priority ecological protection and restoration needs. This will ensure resilient coastal lands and waters.

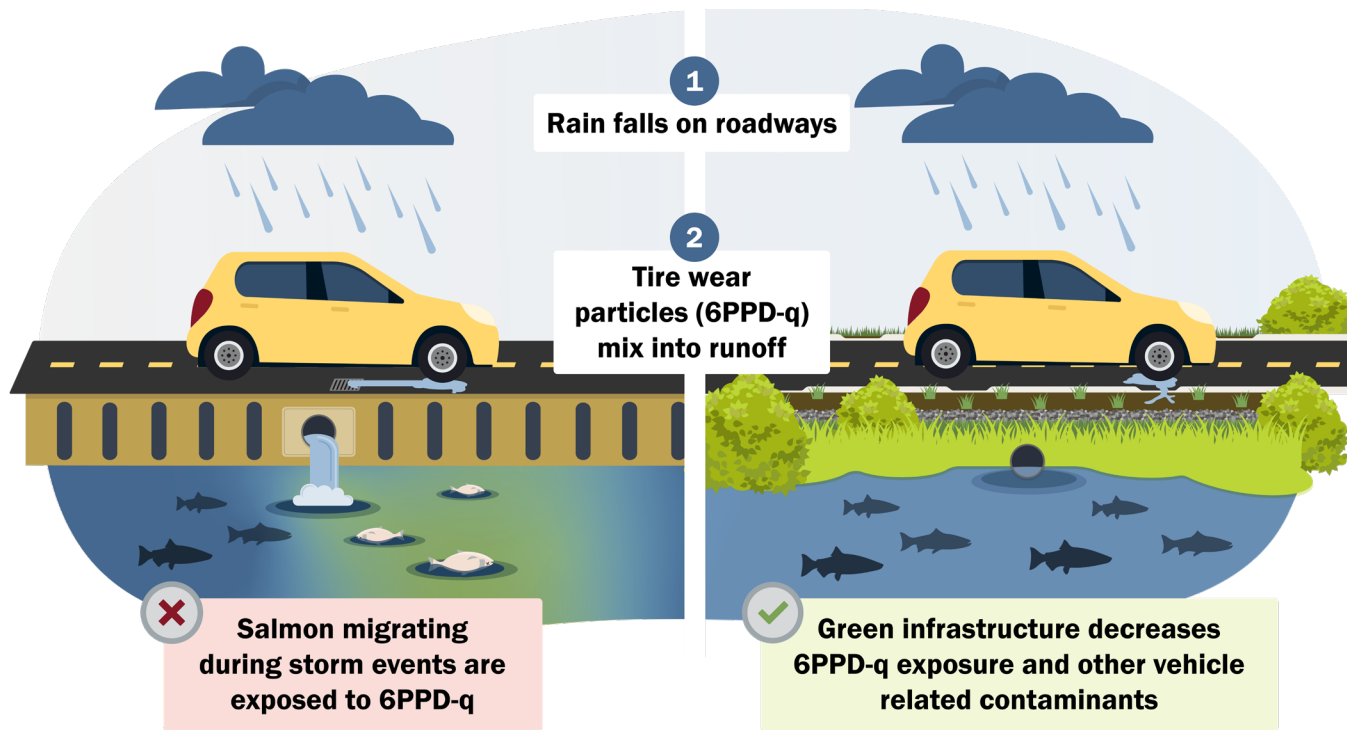
*(\$17.6 million bonds)*

- **Duckabush–Puget Sound Nearshore Ecosystem Restoration project** (Department of Fish and Wildlife) – Continue the next phase of the Duckabush estuary restoration project, reconnecting historical channels and removing estuary blockages such as highways, fill, levees and bridges.  
*(\$41 million bonds, \$30 million federal)*
- **Watershed Resilience Action Plan for Snohomish** (Department of Natural Resources) – Fund the Snohomish watershed-scale salmon recovery plan. This includes kelp and eelgrass monitoring, large woody material installations, and fish passage barrier surveys and outreach.  
*(\$2.8 million Natural Climate Solutions Account)*



Volunteers plant trees alongside streams in the Skagit River watershed. Trees are a critical part of the ecosystem, shading the river and keeping it cool for fish. Photo courtesy of Michelle Quast, Department of Ecology

## How toxic tire wear chemical 6PPD-q enters salmon habitat



Department of Ecology

### Invest in clean water for salmon and people

Salmon and people need clean water to survive. That's why the governor is prioritizing funding to reduce toxins in stormwater, improve stormwater infrastructure and support wastewater investments.

One of Inslee's highest-priority proposals this biennium will address the toxic chemical 6PPD-quinone, created when a commonly used chemical in tires interacts with ozone. This chemical runs into streams when it rains, entering the bloodstream of coho salmon and killing them. Scientists only recently identified this specific chemical, found in almost every automobile tire.

- **Tire dust in stormwater** (Department of Ecology)
  - Continue research to better monitor and understand 6PPD's persistence in the environment, and identify effective best management practices

to treat 6PPD and other tire wear chemicals in stormwater runoff.

*(\$5.2 million MTCA Operating Account)*

- **Toxic tire wear chemical** (Department of Ecology)
  - Develop a strategy and recommendations to eliminate 6PPD in tires. Funding also continues work from the previous biennium to expand research into safer alternatives to 6PPD and conduct alternative assessments for possible replacement chemicals.

*(\$2.7 million MTCA Operating Account)*

- **Emerging toxics in Chinook salmon and Southern Resident killer whale** (Department of Fish and Wildlife)
  - Track contaminants of emerging concern, including 6PPD-quinone, in the orca-salmon food web.

*(\$4.8 million MTCA Operating Account)*

The governor also proposes investments to accelerate improvements to water quality by addressing stormwater runoff and promoting good wastewater management.

- **Address nonpoint pollution** (Department of Ecology) – Enhance technical assistance to landowners, help promote best management practices and increase the timeliness of the state’s water quality assessment to improve nonpoint pollution control.

*(\$2.3 million MTCA Operating Account)*

- **Municipal wastewater permitting** (Department of Ecology) – Increase administrative capacity to reduce the backlog of expired municipal wastewater permits.

*(\$5 million MTCA Operating Account)*

- **Stormwater Financial Assistance program** (Department of Ecology) – Fund grants to local governments to finance stormwater retrofit projects that treat polluted stormwater. This reduces toxics and other pollution entering marine waters, estuaries, lakes, rivers and groundwater.

*(\$68 million MTCA Stormwater Account)*

- **Stormwater public-private partnerships** (Department of Ecology) – Support technical assistance and competitive grants to help communities assess and develop stormwater projects.

*(\$3 million MTCA Stormwater Account)*

- **Stormwater retrofits** (Dept. of Transportation) – Funds best management practices to improve the collection and treatment of stormwater runoff on the state’s highways.

*(\$20 million Move Ahead Washington Account)*

## **Correct fish passage barriers and restore salmon access to historical habitat**

Various human-made constructs block salmon from accessing large amounts of historic fish habitat. These include inaccessible culverts on roads and highways, and dams that limit important areas for rearing and spawning. The governor’s proposal expands state efforts to coordinate the correction of fish passage barriers, mitigate impacts of existing barriers, and prevent new barriers from occurring.

### **Remove fish passage barriers**

The state already uses established capital grant programs to identify and remove impediments to salmon and steelhead migration. Inslee proposes to continue investing in these programs as well as reintroduction efforts in the Upper Columbia.

- **Brian Abbott Fish Barrier Removal Board** (Department of Fish and Wildlife) – Fund and implement the statewide barrier correction strategy to restore access to salmon habitat.

*(\$27.3 million bonds, \$20.8 million Natural Climate Solutions Account)*

- **Family Forest Fish Passage program** (Recreation and Conservation Office) – Fund the ongoing grant program that provides financial assistance to family forest landowners to correct fish passage barriers.

*(\$10.9 million Natural Climate Solutions Account)*

- **Toutle River fish collection facility upgrades** (Department of Fish and Wildlife) – Fund improvements to the collection and transport of Endangered Species Act-listed coho salmon and steelhead to historic spawning habitat upstream of the Toutle River sediment retention structure.

*(\$17.3 million bonds)*

- **Hood Canal bridge fish passage improvements:**

The design of the Hood Canal bridge results in the death of 50% of juvenile steelhead passing through it. The Recreation and Conservation Office will provide a one-time grant to install and assess a near-term solution to reduce juvenile steelhead mortality.

*(\$3.6 million GF-S)*

- **Analyze new electrical generation and transmission for lower Snake River dam removal**

(Department of Commerce) - Earlier this year, Inslee and Sen. Patty Murray released a study determining that the lower Snake River dams could not be removed until clean energy alternatives can be developed to replace the power these dams generate. The governor's budget provides funding to develop a detailed replacement plan. This plan would lay out how to maintain the reliability and adequacy of the existing electrical power system, will be consistent with the Clean Energy Transformation Act, and can replace fossil fuels currently used in the transportation, industry and buildings sectors.

*(\$5 million GF-S)*

- **Analyze barge transportation options for the lower Snake River dams**

(Department of Transportation) - Funds the Department of Transportation to conduct an analysis of highway, road and freight rail transportation needs and options to accommodate the movement of freight and goods that currently move by barge through the lower Snake River dams. This analysis will evaluate existing freight volumes and traffic patterns as well as infrastructure needs, including costs, if the dams were removed.

*(\$5 million Motor Vehicle Account)*

- **Upper Columbia River reintroduction:** A priority action in the strategy is to reintroduce salmon above dams and other human-caused barriers. This better meets native peoples' cultural and spiritual values, honors treaty rights, supports recovery

efforts, and increases cultural and economic benefits for all Washingtonians. The upper Columbia tribes will be able to access grants to continue salmon reintroduction efforts in the upper Columbia River.

*(\$3 million GF-S)*

## Prevent future barriers

In addition to correcting barriers, it is important to invest in how we can plan and improve regulations to prevent future barriers. To help, the governor proposes the following:

- **Fish passage rulemaking:** WDFW will complete rulemaking for fishways, flow, and screening to protect fish passage when rivers and streams are modified for human uses.

*(\$388,000 GF-S)*

- **Statewide prioritization of barriers:** Continue work by the WDFW to prioritize fish passage barrier correction projects. This work will maximize salmon recovery efforts, integrate with regional organization barrier prioritization, and coordinate projects with the state's schedule for culvert corrections.

*(\$584,000 GF-S)*

- **Fish passage maintenance team:** Fishways and fish screens are required to provide safe passage for migrating fish. Hundreds of state, federal, and



*Riparian salmon habitat along Icicle Creek near Leavenworth.  
(Photo courtesy of Mark Duboiski)*

private fishways and fish screens provide passage for millions of migratory fish. WDFW owns 100 fishways that provide access to 1,768 miles of spawning and rearing habitat, and over 100 fish screens that protect downstream migrating fish. The department will increase its capacity to operate and maintain state fish passage facilities and to provide technical assistance.

*(\$3.6 million GF-S)*

## Protect and manage our state's waters

Climate change has, and will continue to alter where, when and how much water is available – it will increase the frequency of both drought and flooding events. Inslee proposes the following investments to help ensure we have adequate supplies to support communities, agriculture, our natural environment, ecosystem and aquatic species.

- **Drought preparedness and response** (Department of Ecology) – Through agency-request legislation, permanently fund drought planning and preparation to help communities develop resiliency to the effects of climate change, while also providing permanent and ongoing resources to support Ecology's effective emergency response to droughts when they occur.  
*(\$5.5 million GF-S)*
- **Streamflow Restoration program** (Department of Ecology) – Continue the Streamflow Restoration program by funding projects to acquire senior water rights, promote water conservation and water reuse, monitor streams and groundwater, and develop natural and constructed infrastructure to improve in-stream flows statewide.  
*(\$40 million bonds)*
- **Streamflow policy support** (Department of Fish and Wildlife) - The department will continue to provide policy and scientific support to the Department of Ecology regarding surface and

groundwater resource management issues with a focus on fish and wildlife needs for adequate instream flows.

*(\$1.0 million GF-S)*

- **Water Irrigation Efficiencies program** (Conservation Commission) – Fund projects to improve the efficiency of how water is delivered and applied on agricultural lands.  
*(\$6 million bonds)*

Some river basins have unique challenges that require a concerted and collaborative approach to addressing water management. Inslee supports the following basin-specific efforts to develop integrated water strategies:

- **Colombia River Basin Water Supply** (Department of Ecology) – Continue implementing the Columbia River Basin Water Supply Development program to deliver additional water supplies for agricultural purposes, meet the water needs for growing communities, and improve streamflow conditions for fish and other wildlife.  
*(\$42.4 million bonds, \$1.5 million other)*
- **Yakima Basin Integrated Plan Water Supply** (Department of Ecology) – Continue implementing the Yakima River Basin Integrated Water Resources Management Plan to provide comprehensive, long-term water resources. This includes a habitat improvement program to address the environmental and economic demands that support basin wildlife, irrigation and municipal water supplies.  
*(\$42 million bonds)*
- **Chehalis strategy implementation** (Department of Ecology) – Support the long-term flood damage reduction and aquatic species restoration plan in the Chehalis River basin.  
*(\$70 million bonds)*

- **Nooksack Basin flood prevention** (Department of Ecology) – Support state, provincial, tribal and local government planning to reduce flood hazards and restore ecosystem function in the Nooksack Basin and Sumas Prairie. Funding will also support project development and implementation to reduce flood risk in communities.

*(\$3.9 million GF-S)*

- **Upper Columbia and Nooksack adjudications** (Department of Ecology) – Prepare and file water right adjudications in the upper Columbia River (Water Resource Inventory Area 58) and Nooksack (Water Resource Inventory Area 1) watersheds. Adjudications resolve water right disputes by determining who has the legal right to use water, and the priority and quantity of each right.

*(\$4.3 million GF-S)*

- **Walla Walla 2050 water management plan** (Department of Ecology) – Proposed legislation would authorize projects that improve water supplies to benefit in-stream resources and out-of-stream uses. The proposal would coordinate efforts to implement the Walla Walla 2050 water management plan.

## Align harvest, hatcheries and hydropower with salmon recovery

### Harvest management

Preventing overharvest of commercial and recreational fisheries is key to rebuilding critically low stocks and meeting the state’s co-management responsibilities with Washington tribes. Inslee’s budget creates a robust monitoring program to ensure recreational and commercial salmon and steelhead harvests are within permit limits. This would also demonstrate accountability on the state’s share of salmon harvest and ramp up enforcement and prosecution of fisheries crimes.



*Children watch salmon at Spring Creek Fish Hatchery (Photo -USFWS)*

The governor proposes the following harvest management investments this biennium:

- **Fisheries enforcement compliance:** Fund additional WDFW enforcement officers to increase fishery compliance since officers are encountering more recreational harvesters than ever before and find that many take more salmon than allowed.  
*(\$2.7 million GF-S)*
- **Salmon and steelhead monitoring:** Continue work by WDFW to improve Puget Sound steelhead spawning estimates. Funding would also help the state continue monitoring salmon migration to inform recreational fishery management decisions.  
*(\$1.6 million GF-S)*
- **Building salmon team capacity:** Salmon harvest management requires extensive data and modeling to understand fisheries impact and maintain fishing opportunities. Ongoing funding is provided to WDFW to provide additional analysis to better inform fisheries co-management negotiations with federal and tribal partners.  
*(\$680,000 GF-S)*

## Hatcheries

State hatcheries provide fish for harvest and help meet tribal treaty obligations. Inslee's budget proposal provides additional investments in hatcheries. This includes additional ongoing hatchery maintenance funding and one-time support of fish production at the Toutle and Skamania River hatcheries resulting from shortfall in federal Mitchell Act funding. It also includes extending a grant to the Lummi Tribe for improvements at the Skookum hatchery. (\$4.5 million GF-S)

Inslee's budget also funds the design and permitting for construction of a new hatchery on the Deschutes River in Thurston County to increase Chinook salmon production in South Puget Sound. (\$12 million bonds)

## Address predation and food web issues for salmon

As people modified habitat, they upset the food webs, the interconnected food chains in an ecosystem. Food webs became more accommodating to predators

and more hostile to salmon. Managing predators is a complicated issue, confounded by scientific uncertainty and ethical issues. Consider California sea lions, which are protected under federal law, yet have greatly increased their numbers in Washington. Pinnipeds (seals and sea lions) take full advantage of dams, fishways, and other habitat modifications to eat large amounts of juvenile and adult salmon.

The following investments implement the governor's priority to reduce impacts from predators such as seals and sea lions:

- **Columbia River pinniped predation:** Fund work by the WDFW to reduce the high number of sea lions eating salmon in the Columbia River. (\$1.5 million GF-S)
- **Salish Sea marine mammal surveys:** Expand Department of Fish and Wildlife surveys of diets of seals and sea lions in the Salish Sea and identify nonlethal actions to deter them from eating salmon and steelhead. (\$940,000 GF-S)



# Salmon strategic agenda

## Summary of investments, 2023-2025 operating and capital budgets

Proposal	Agency	Amount
<b>PROTECT AND RESTORE VITAL SALMON HABITAT</b>		
<b>Regulatory protection</b>		
Growth Management Act update for salmon habitat	Commerce	\$5,494,000
<b>Riparian management</b>		
Riparian program evaluation	Office of Financial Management	\$480,000
Integrated science hub for agriculture	Conservation Commission	\$1,250,000
Riparian public education	Conservation Commission	\$2,000,000
Voluntary Stewardship Program monitoring	Conservation Commission	\$1,420,000
Riparian systems assessment	Fish and Wildlife	\$1,994,000
River migration and stream mapping for salmon	Ecology	\$354,000
Statewide lidar acquisition and refresh	Natural Resources	\$7,756,000
Riparian coordinator	Recreation and Conservation Office	\$398,000
<b>Voluntary protection and restoration</b>		
Estuary and Salmon Restoration Program	Recreation and Conservation Office	\$25,492,200
Floodplains by Design	Ecology	\$49,800,000
Puget Sound Acquisition and Restoration Program	Puget Sound Partnership	\$50,000,000
Salmon Recovery Funding Board	Recreation and Conservation Office	\$115,000,000
Salmon recovery region and lead entity capacity	Recreation and Conservation Office	\$4,472,000
Washington Coast Restoration and Resiliency Initiative	Recreation and Conservation Office	\$17,563,000
Duckabush-Puget Sound Nearshore Ecosystem Restoration Project	Fish and Wildlife	\$71,000,000
Watershed Resilience Action Plan for Snohomish	Natural Resources	\$2,864,000



<b>Restoration of habitat on working lands</b>		
Riparian Conservation Grant Program	Conservation Commission	\$100,000,000
Conservation technical assistance	Conservation Commission	\$10,000,000
Conservation Reserve Enhancement Program	Conservation Commission	\$15,000,000
Forest Riparian Easement Program	Natural Resources	\$10,000,000
Rivers and Habitat Open Space Program	Natural Resources	\$5,020,000
Salmon Riparian Restoration Program	Conservation Commission	\$3,000,000
Reforestation Strategy	Natural Resources	\$2,066,000
	<b>Subtotal:</b>	<b>\$502,423,200</b>

<b>INVEST IN CLEAN WATER INFRASTRUCTURE FOR SALMON AND PEOPLE</b>		
<b>Toxics reduction</b>		
Tire dust in stormwater	Ecology	\$5,195,000
Toxic tire wear chemical	Ecology	\$2,702,000
Emerging toxics in Chinook salmon and Southern Resident killer whale	Fish and Wildlife	\$4,816,000
<b>Stormwater and wastewater infrastructure improvements</b>		
Addressing nonpoint pollution	Ecology	\$2,256,000
Municipal wastewater permitting	Ecology	\$5,002,000
Stormwater Financial Assistance Program	Ecology	\$68,000,000
Stormwater public-private partnerships	Ecology	\$3,000,000
Stormwater retrofits	Transportation	\$20,000,000
	<b>Subtotal:</b>	<b>\$110,971,000</b>

**CORRECT FISH PASSAGE BARRIERS AND RESTORE SALMON ACCESS TO HISTORICAL HABITAT**

Fish passage barrier removal		
Brian Abbott Fish Barrier Removal Board	Fish and Wildlife	\$48,146,000
Family Forest Fish Passage Program	Recreation and Conservation Office	\$10,870,000
Toutle River fish collection facility upgrades	Fish and Wildlife	\$17,321,000
Hood Canal Bridge Fish Passage	Recreation and Conservation Office	\$3,600,000
Analyze new electrical generation and transmission for Lower Snake River dam removal	Commerce	\$5,000,000
Analyze of barge transportation options for the lower Snake River dams	Transportation	\$5,000,000
Reintroduction		
Upper Columbia River reintroduction	Fish and Wildlife	\$3,000,000
Preventing future fish passage barriers		
Fish passage rulemaking	Fish and Wildlife	\$388,000
Statewide barrier prioritization	Fish and Wildlife	\$584,000
Fish Passage Maintenance Team	Fish and Wildlife	\$1,482,000
	<b>Subtotal:</b>	<b>\$95,391,000</b>

**PROTECT AND MANAGE OUR STATE’S WATERS**

Streamflow policy support	Fish and Wildlife	\$1,037,000
Streamflow Restoration Program	Ecology	\$40,000,000
Water Irrigation Efficiencies Program	Conservation Commission	\$3,000,000
Columbia River Water Supply Development Program	Ecology	\$43,850,000
Drought preparedness and response	Ecology	\$5,500,000
Upper Columbia and Nooksack adjudications	Ecology	\$4,274,000
Yakima Basin Integrated Plan Water Supply	Ecology	\$42,000,000
	<b>Subtotal:</b>	<b>\$139,661,000</b>

**ALIGN HARVEST, HATCHERIES, AND HYDROPOWER WITH SALMON RECOVERY**

Harvest management		
Fisheries enforcement compliance	Fish and Wildlife	\$2,714,000
Salmon and steelhead monitoring	Fish and Wildlife	\$1,644,000
Building Salmon Team capacity	Fish and Wildlife	\$680,000
Hatchery investments		
Toutle and Skamania River hatcheries	Fish and Wildlife	\$1,896,000
Support of tribal hatcheries	Fish and Wildlife	\$900,000
Critical infrastructure maintenance	Fish and Wildlife	\$1,771,000
Deschutes River Hatchery	Fish and Wildlife	\$12,000,000
		<b>Subtotal: \$21,605,000</b>

**ADDRESS PREDATION AND FOOD WEB ISSUES FOR SALMON**

Pinniped management		
Columbia River pinniped predation	Fish and Wildlife	\$1,506,000
Salish Sea marine mammal surveys	Fish and Wildlife	\$940,000
		<b>Subtotal: \$2,446,000</b>

		<b>Total: \$872,497,200</b>
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**Brian Abbott Fish Barrier Removal Board**

**Draft Reference Table of Upcoming Federal Funding Opportunities**

Funding Opportunity/ Grant Program:	USDOT’s Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation (PROTECT) program	USDOT’s National Culvert Removal, Replacement, and Restoration Grants (Culvert AOP Program)	NOAA’s Restoring Fish Passage through Barrier Removal grant program
Informational Resource Links (Hyperlinked)	<ul style="list-style-type: none"> <li>• <a href="#">Federal Highway Administration Announcement</a></li> <li>• <a href="#">USDOT’s PROTECT Program Fact Sheet</a></li> <li>• <a href="#">WA Joint Transportation Committee’s 2022 Memo</a></li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Culvert AOP Program Overview</a></li> <li>• <a href="#">USDOT’s Culvert AOP Program Fact Sheet</a></li> <li>• <a href="#">Grant.gov 2023 Application Portal</a></li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">NOAA’s 2022 Announcement</a></li> <li>• <a href="#">Grants.gov 2022 Application Portal</a></li> </ul>
Fiscal Sponsor	WSDOT Local Programs	WSDOT Local Programs	
Applicable Region	Washington State	National	National
Funding Cycle	<ul style="list-style-type: none"> <li>• One time for 2023</li> <li>• One time for FFYs 24-26</li> </ul>	Annually on a 5-year cycle	Annually on a 5-year cycle
Funds Available	<p>Total funds allocated for WA cities and counties: \$75m over four years.</p> <ul style="list-style-type: none"> <li>• \$25m available for 2023               <ul style="list-style-type: none"> <li>○ Funds unallocated in 2023 will no longer be available for cities and counties. Instead, it will be sent to WSDOT for culvert case injunction corrections.</li> </ul> </li> <li>• \$50m for FFYs 24-26               <ul style="list-style-type: none"> <li>○ Anticipated RFP to be released in spring (March/April) 2023.</li> </ul> </li> </ul> <p>Total additional funds allocated to tribal resiliency projects: \$25m for FFYs 23-26</p>	<p>Total Annual Funds:</p> <ul style="list-style-type: none"> <li>• \$200m per fiscal year               <ul style="list-style-type: none"> <li>○ \$800m from additional congressional appropriations.</li> <li>○ No additional funds were appropriated in 2022.</li> </ul> </li> </ul>	<p>Total Funds:</p> <ul style="list-style-type: none"> <li>• \$65m in 2022</li> <li>• \$12m of additional funds for Indian Tribes in 2022</li> </ul> <p>Future years anticipated to have similar funding levels.</p>

<p><b>Upcoming Deadlines</b></p>	<ul style="list-style-type: none"> <li>• Eligible sponsors on FBRB 2023-2025 ranked project list who are interested in 2023 funds must submit a brief email proposal to FBRB Chair Thomas Jameson by Dec. 1, 2022.</li> <li>• 2023 funds must be obligated by Sept. 15, 2023.</li> <li>• Timeline for FFYs 24-26 likely to be the same: Sept. 15, 2024.</li> </ul>	<ul style="list-style-type: none"> <li>• 2023 applications due on Feb. 6, 2023.</li> </ul>	<ul style="list-style-type: none"> <li>• 2022 applications were due Aug. 15, 2022.</li> <li>• Subsequent years may follow the same timeline as 2022. <ul style="list-style-type: none"> <li>○ RFP posted Jun. 14, 2022</li> <li>○ Applications due Aug. 15, 2022</li> </ul> </li> </ul>
<p><b>Sponsor Eligibility</b></p>	<ul style="list-style-type: none"> <li>• Cities and Counties: <ul style="list-style-type: none"> <li>○ Project must have a certified sponsor, have completed or will complete the National Environmental Policy Act (NEPA) process, and have or will certify proper right-of-way prior to the obligation date.</li> <li>○ Sponsor must be capable of advertising the project for construction within six weeks of funds being obligated.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• State governments/agencies</li> <li>• Local governments (cities and counties)</li> <li>• An Indian Tribe [§ 21203(a); 49 U.S.C. 6703(c)]</li> </ul>	<ul style="list-style-type: none"> <li>• Institutions of higher education,</li> <li>• Non-profits</li> <li>• Commercial (for profit) organizations</li> <li>• Small businesses</li> <li>• U.S. territories</li> <li>• State governments/agencies</li> <li>• Local governments (cities and counties)</li> <li>• Native American tribal governments</li> </ul>
<p><b>Additional Notes</b></p>	<ul style="list-style-type: none"> <li>• WDFW and WSDOT have held two information webinars for eligible city and county sponsors on the 2023-2025 ranked project list to gauge their interest in accepting PROTECT funds.</li> </ul>	<ul style="list-style-type: none"> <li>• The FBRB proposed they will not be advancing grant applications on behalf of project sponsors.</li> <li>• WSDOT applying for culvert case injunction corrections.</li> </ul>	<ul style="list-style-type: none"> <li>• The FBRB developed a project bundle proposal to submit to the 2022 grant round. Due to an administrative error, the proposal did not advance.</li> </ul>

**Additional Opportunity:** \$38 million nationwide from US Fish and Wildlife. Due December 16<sup>th</sup>. Initial proposal is small (like PROTECT) then increases. Unclear of requirements.

# USFWS National Fish Passage Program (NFPP)

As of December 7<sup>th</sup>, 2022

Tom Jameson Assessment: This grant program is not a pot of gold. This program has existed since 1999 and project sponsors know of its existence. The FY22 funding is already allocated with 6 projects in Washington State to receive funding which includes a project with a SRFB grant and a project with an FBRB grant both as partner match. Although not stated but based upon the Washington state projects funded for FY 22 successful applications should all have a tribal sponsor on the team and average match for these projects is 327%. This match average is not a typo. These USFWS grants are typically won to gain small money to push the project on to completion. These projects compete best for funding when they only need a small grant from USFWS to execute the project. For FY 22 Washington State will receive partial funding for 6 projects. A total award of \$2,719,000 of the \$38M available to the nation in FY22, or 7.16% of the total funding available. The average grant to these Washington State projects was \$453,000. The total match provided against the \$2.7M received is \$7,243,682.

## Informational Resource Links (Hyperlinked)

- <https://www.fws.gov/program/national-fish-passage>
- [FUNDING OPPORTUNITY NUMBER F23AS00078](#)
- [OVERVIEW AND GUIDANCE FOR THE 2023 NOTICE OF FUNDING OPPORTUNITY](#)

**The Opportunity:** The Bipartisan Infrastructure Law, signed in November 2021, includes \$200M for restoring fish and wildlife passage by removing in-stream barriers and providing technical assistance under the National Fish Passage Program.

- The funding is distributed over five years
- In FY 2022 USFWS distributed \$38M to 40 projects in 23 states and Puerto Rico.
- For FY 23 USFWS is seeking projects which will address outdated, unsafe or obsolete **dams, culverts, levees and other barriers** fragmenting our nation's rivers and streams.
- For FY 23 Estimated Total Program Funding \$38M, Award Ceiling: \$2M, Award Floor: \$100K

**Eligibility:** Any individual, organization, government, or agency. Proposals must be submitted and completed in cooperation with a Fish and Wildlife Conservation Office. Note: Fish passage projects being used for Federal or State compensatory mitigation or required by existing Federal or State regulatory programs are not eligible for funding through the National Fish Passage Program. (WA State Injunction obligation projects likely not be eligible?)

**How To Apply:** Applicants must work with a Fish and Wildlife Conservation Office Biologist to be considered for funding.

- To begin this process, submit a Letter of Intent to your Regional Fish Passage Coordinator by December 16, 2022.
- The letter of intent is a brief document that outlines the applicant's intent to work with the Service to propose a project for consideration under NFPP BIL FY2023.
- Full proposals (by invitation only) are due in GrantSolutions by 11:59 p.m. Eastern Time on December 31, 2023. **Discrepancy:** WA Regional Coordinator Miranda Plumb states the suspense for invited proposals to be submitted is January 10, 2022
- Interested parties should submit a Letter of Intent to the National Fish Passage Program regional coordinator (John Netto), via email (John\_Netto@fws.gov) and cc me (Miranda\_Plumb@fws.gov), by December 16, 2022. Letters of Intent should include several components:
  - A statement of interest in receiving funding under the NFPP BIL FY2023 funding opportunity announcement.
  - The name and location of the project.
  - A brief (1-2 sentence) project description.
  - The requested funding amounts.
  - Names of the expected partners.
  - The name and contact information of the interested applicant.
  - Prior to submitting a letter of intent, eligible applicants should contact their respective NFPP Regional Coordinator (John Netto) or FAC program field staff (Miranda Plumb in western WA) to discuss how their project aligns with NFPP BIL, regional, and Service priorities.
  - Miranda Plumb, Fish Biologist | U.S. Fish and Wildlife Service, Western Washington Fish and Wildlife Conservation Office, Lacey, WA., 360.742.4990

### **Background on the FY 22 USFWS NFPP Washington State Recipients for 2022**

USFWS National Fish Passage Program Projects to be funded in Washington State in 2022 – **Total of 6 projects one has a SRFB grant, and one has an FBRB grant as match**

- **Anton & Cedar Creek Fish Culvert Redesign** – project lead Coast Salmon Partnership, this project will correct two fish passage barriers on a Clallam County owned road within the Sol-Duc watershed on the Olympic Coast.

NFPP Funding \$992,000., Partner Match \$1,125,232. = 123% Match

Partners Involved - Community Support Wild Salmon Center, Coast Salmon Foundation, Trout Unlimited, Clallam County, Washington DFW, Quileute Tribe

- **Wisem Creek Fish Passage Restoration** – project lead Trout Unlimited, this project will replace three undersized culvert fish barriers: one culvert on Wisem Creek and two culverts on Wisem Branch Creek.

NFPP Funding \$551,000. Partner Match \$713,000. = 129% Match

Partners Involved - Community Support Wild Salmon Center, Coast Salmon Foundation, Trout Unlimited, Clallam County, Washington DFW, Quileute Tribe

- **Schaffer Boom Road Camp Creek Fish Passage Barrier Removal** – project lead Chehalis Basin Fisheries Task Force, this project is to remove a 33% passable fish passage barrier on Schafer Boom Road in Grays Harbor.

NFPP Funding \$75,900. Partner Match \$313,061. = 412% Match

Partners Involved - Chehalis Basin Fisheries Task Force, Grays Harbor Stream Team, Grays Harbor County, **Salmon Recovery Funding Board**

- **West Fork Grays River Fish Passage Project** – project lead Cowlitz Indian Tribe, The Cowlitz Indian Tribe proposes to remove the derelict water intake infrastructure previously operated to support the Grays River State Fish Hatchery, owned by Washington Department of Fish and Wildlife (WDFW) and located in Pacific County

NFPP Funding \$99,800. Partner Match \$295,389. = 296% Match

Partners Involved - Washington DFW, Cowlitz Indian Tribe, Columbia Land Trust, local organizations, Chinook Indian Nation, private landowners, and Wahkiakum and Pacific County commissioners

- **Fish Ladder and Spillway Addition on Tieton Dam** – project lead Yakima County, this project involves the construction of a fish passage and enhanced spillway at Tieton Dam to allow fish access to the SF Tieton River from Rimrock Reservoir

NFPP Funding \$400,000. Partner Match \$2,450,000. = 612% Match

Partners Involved - Yakima County, Yakima Basin Integrated Plan, BOR, USFWS

- **Johnson Creek Culvert Replacements** - Project lead Trout Unlimited, this project will replace four undersized barrier culverts in lower Johnson Creek (one of which is under a state highway) with appropriately sized precast concrete box culverts and remove two other in-channel barriers

NFPP Funding \$600,000. Partner Match \$2,347,000. = 391% Match

Partners Involved - Trout Unlimited, Colville Confederated Tribes, Washington State **Fish Barrier Removal Board**, USFWS, Washington



BYLAWS  
FISH PASSAGE BARRIER REMOVAL BOARD (FBRB)  
March 2019

**ARTICLE I - Name**

The name of this board shall be the Brian Abbott Fish Barrier Removal Board (FBRB) ([RCW 77.95.160](#)).

**ARTICLE II - Purpose**

The purpose of the board shall be to identify and expedite the removal of human-made or caused impediments to anadromous fish passage in the most efficient manner practical. This will be completed through the development of a coordinated approach and schedule that identifies and prioritizes projects necessary to eliminate fish passage barriers caused by state and local roads and highways and barriers owned by private parties ([RCW 77.95.160](#)). The board will develop a statewide fish passage barrier correction strategy. This strategy will focus on the principals in [RCW 77.95.180](#) and [RCW 77.95.160](#) including development of recommendations for funding as well as the review and approval of projects to be funded under the fish passage barrier removal program.

**ARTICLE III - Membership**

Members of the FBRB will be selected based on membership recommendations in [RCW 77.95.160](#).

Original voting members of the FBRB include one representative from the Department of Fish and Wildlife (DFW), Department of Transportation, Department of Natural Resources, Governor's Salmon Recovery Office, counties, cities, Confederated Tribes of the Colville Reservation, and Yakama Nation.

The FBRB, after consideration, has added the Council of Salmon Recovery Regions as a voting member and NOAA Fisheries as a non-voting member.

The Chair shall be held by the DFW representative ([RCW 77.95.160](#)). If the Chair is not present, the DFW alternate designee will serve as Chair.

Each organization may designate a primary representative and an alternate representative. Each organization will have one vote. Only the primary and alternate designated representatives that have been identified in writing to DFW are entitled to participate in conducting board business. If an alternate is designated, they can serve as the proxy in the absence of the designated representative. Each designated alternate member will abstain from voting when the organization's primary designee is present.

Once a statewide coordinated approach has been developed, the board may consider inviting others to participate in conducting board business. The FBRB shall consider new members that can contribute to making the board a success and can be additive to the overall goals and objectives of the FBRB. The board shall determine, in consultation with the chair, whether an organization should be invited to participate and whether they are considered a voting member. The FBRB will discuss any potential new members.

The Chair will officially request an organization to join the FBRB if the members support the action.

If a member does not attend three regularly scheduled meetings in a row, and fails to send their alternate, she or he may be considered “inactive” and will be ineligible to participate in formal decisions. The FBRB may elect to address non-attendance by members, as appropriate. Members may also declare themselves inactive for future time periods if they anticipate poor attendance in upcoming months, thereby allowing the FBRB to more effectively make decisions.

Board members shall provide written notice of their intent to leave the board. The departing board member may recommend a replacement board member from within their organization. The Chair will officially request that the organization choose a replacement board member.

## **ARTICLE IV – Roles and Responsibilities**

### Chair Responsibilities

The Chair has primary responsibility to set up the board, invite participants, develop meeting agendas, and represent the FBRB in all appropriate matters.

Responsibilities of the Chair include, but are not limited to, ensuring all members are heard equally in debate, facilitate the discussion and keep order, and strive to ensure the meetings stay on track with the agenda so the meetings are as effective as possible. The Chair is responsible for reporting to the legislature on FBRB progress and recommendations.

The Chair is the spokesperson for the FBRB. Board members should not represent or speak on behalf of the FBRB when attending other meetings or forums unless assigned to do so by the Chair.

### Board Member Responsibilities

All voting members are expected to attend each meeting. If a board member is unable to attend a meeting, he/she will notify the Chair prior to the meeting whether they are sending their alternate designee to serve as a voting member.

Responsibilities of board members shall be to develop a statewide coordinated approach to barrier corrections and thereafter, apply the approach to review and adopt barrier projects for funding and update the approach as needed.

## **ARTICLE V - Meetings**

### Frequency

Regular meetings of the Board will be scheduled on the third Tuesday of each month. The Chair or the Board may set additional meetings as necessary. All meeting times and places may be changed, as needed, with at least a 5 working day notice.

### Open public meetings

Meetings of the FBRB are open to the public and follow the Open Public Meetings Act ([RCW 42.30](#)). Materials explaining the provisions of this law are available at the Office of the Attorney General's Open Government Internet Manual webpage. All new members must take open government training within 90 days of assuming their duties. The training must cover Open Public Meetings, Public Records, and Records Retention.

Members acknowledge that all documents generated in this process are a public record and are subject to the Public Records Act (RCW 42.56)

Meeting agendas, minutes, and materials will be posted on the DFW Board website (<http://wdfw.wa.gov/about/advisory/fbrb/>).

### Special Meeting

A special meeting may be called at any time by the Chair or by a quorum of the board. The purpose, time, and location of the meeting shall be set forth in the notice. Written notice of a special meeting shall be delivered, including electronically, at least 24 hours in advance to all board members.

### Executive Session

The FBRB, by call of any voting member and approval from the Chair, may excuse itself to an executive session by closing a meeting to all non-members. An executive session can be called for any reason allowed by law, if deemed appropriate by the Chair, but no formal recommendations will be adopted during an executive session.

## **ARTICLE VI - Meeting Ground Rules**

The board is comprised of people with a variety of perspectives and interests representing organizations with varied missions. Each member is an equal participant in the process, and thus has an equal opportunity to voice opinions and contribute ideas. Differences of opinion are to be expected and will be respected. Members will honor brainstorming without being attached to their own viewpoints.

With respect for every member's time and perspective, each member agrees:

- 1) To review any provided materials prior to meetings;
- 2) To contribute to discussions at every meeting;
- 3) To stay on track with the agenda;
- 4) To listen actively and keep an open mind;
- 5) To pose questions and comments to the group as a whole;
- 6) To respect the rights of others, especially in debate; and
- 7) To participate fully through open, honest and candid discussions.

Meeting materials will be sent to board members at least 5 business days in advance of the meetings to allow for proper preparation. Information (studies, reports, data, etc.) requested by a board member will be made available to all members.

Meeting minutes will be prepared and distributed to all board members.

Interested parties not participating as a board member may attend meetings and sit in the audience. The Chair will provide an opportunity at least once during each meeting for interested parties to provide input.

## **ARTICLE VII - Voting**

The board shall strive for consensus on matters and issues that are brought before it. Key actions shall be voted on and each voting organization will have one vote. Key actions are those such as, but not limited to the prioritization strategy, and project list recommendations. Key actions that will be voted on will be identified prior to the meeting on the meeting agenda.

A quorum of the FBRB must be present during a meeting to vote on key actions. A simple majority of the entire active membership constitutes a quorum. Key actions will be passed by simple majority vote however, a minimum of 5 votes in favor of, is needed to pass a key action. The chair shall be a voting member. Voting members not present at a meeting may vote by their alternate designee, by telephone, by written communications (including electronic transmissions) prior to the meeting, or by other means deemed appropriate by the Chair. In the absence of a simple majority vote, committee members will be asked to indicate clearly where they disagree, and their individual level of support for the proposal. The formal action will describe areas of agreement and disagreement. Every effort will be made to state all points clearly, accurately and fairly.

During the process, the board will revisit decisions only when it can be demonstrated that new information will improve their quality.

Key actions made by the board will be documented in meeting minutes.

To reduce the potential for conflict of interests which may be relevant to a matter requiring action by the FBRB, the interested person shall call it to the attention of the Board, provide any and all relevant information, and shall not participate in the final deliberation or decision regarding the matter under consideration, and not vote on the matter. At the discretion of the disinterested persons present, the person may be required to leave the meeting during the discussion and the voting on the matter.

## **ARTICLE VIII – Committees**

From time to time the board may establish standing or advisory committees for the purpose of assisting the board in carry out its responsibilities as well as obtain the community involvement and representation.

## **ARTICLE IX – Amendments to Bylaws**

Amendments to these bylaws shall be by a majority of the total voting membership. Any proposed change or changes shall be furnished to each member at least 5 days prior to the business meeting at which change is considered. Amended bylaws are effective immediately after adoption.

# 2019-2021 Grant Round Update



Restoration Projects Completed

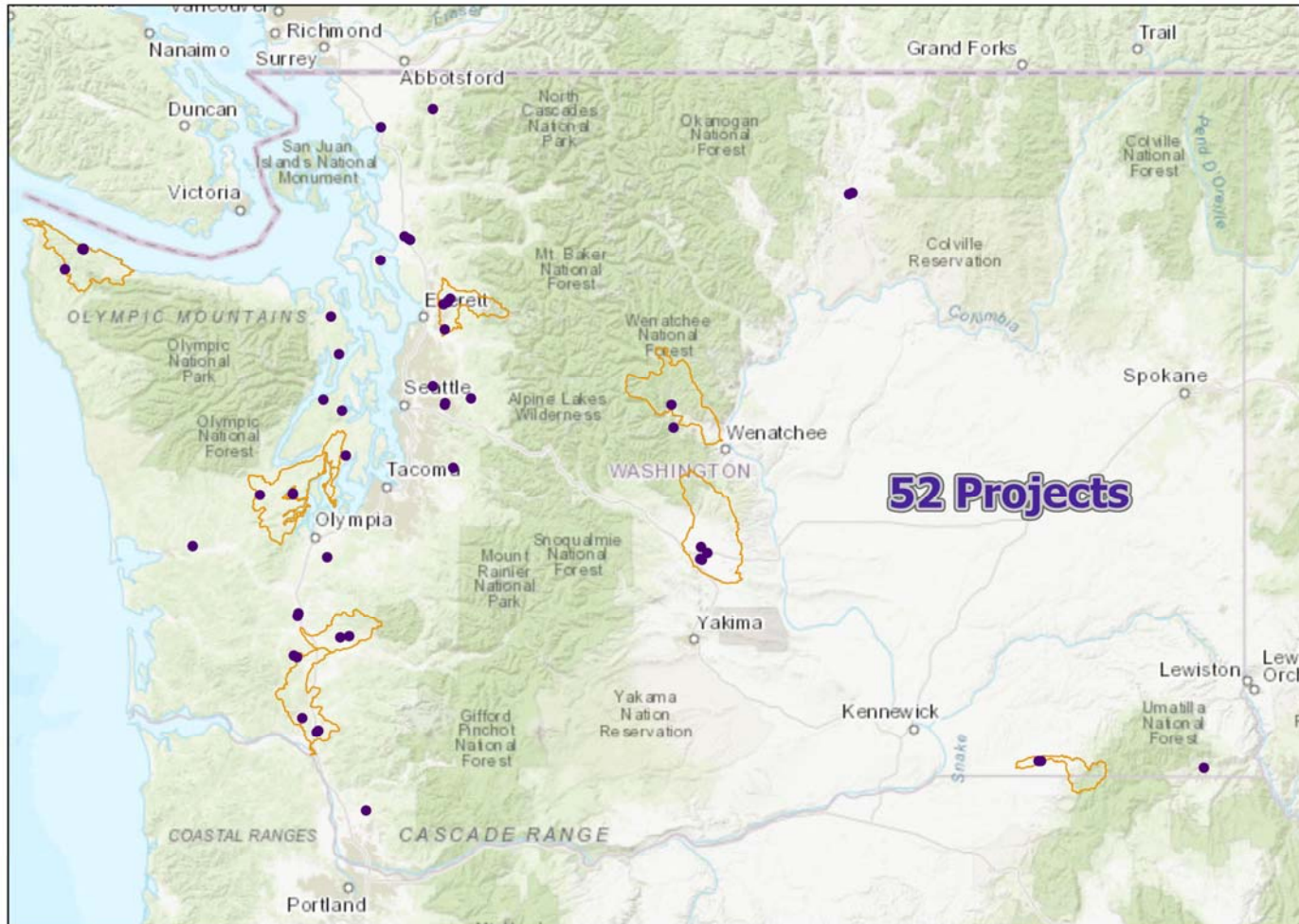
January 2023

## 2019-2021 Funded Projects List, ~\$24.7 M

Rank	Project Name	County	Miles Opened	Project Type
1	Johnson Creek	Clallam	2.4	Planning
2	MF Newaukum River	Lewis	1.3	Planning
3	NF Ostrander Creek	Cowlitz	18.05	Restoration
4	Johnson Creek	Okanogan	1.01	Restoration
5	Coleman Creek	Kittitas	0.35	Restoration
6	Cottonwood Creek	Asotin	2.54	Restoration
7	Dayton Creek	Mason	0.8	Restoration
8	Catherine Creek	Snohomish	3.9	Planning
9	Chumstick Creek	Chelan	14.29	Restoration
10	Little Pilchuck Creek	Snohomish	11.2	Planning
11	Uncle Johns Creek	Mason	0.4	Planning
12	Mill Creek	Walla Walla	0.38	Restoration
13	Cooke Creek	Kittitas	1.34	Restoration
14	Johnson Creek	Okanogan	0.07	Restoration
15	NF Ostrander Creek	Cowlitz	1.12	Planning
16	Trib to MF Newaukum River	Lewis	2.2	Planning
17	Lower Hoko Wetland Complex	Clallam	2.4	Planning
18	Thorndyke Creek	Jefferson	10.04	Planning
19	Railroad Creek	Clallam	0.15	Restoration
20	Delameter Creek	Cowlitz	2.1	Planning
21	Johnson Creek	Okanogan	0.34	Restoration
22	Caribou Creek	Kittitas	0.86	Restoration
23	Mill Creek	Walla Walla	0.24	Planning
24	Uncle Johns Creek	Mason	1	Restoration
25	Trib to Little Pilchuck Creek	Snohomish	1	Restoration
26	Mill Creek	Chelan	4.35	Restoration

Rank	Project Name	County	Miles Opened	Project Type
27	Parke Creek	Kittitas	2.3	Restoration
28	Talbot Creek	Clallam	0.4	Planning
29	Mason Creek	Clark	3.15	Planning
30	Seabeck Creek	Kitsap	10.2	Restoration
31	Kenney Creek	Whatcom	4.26	Planning
32	Squalicum Creek	Whatcom	8.9	Restoration
33	Fisher Creek	Skagit	1.91	Planning
34	Fisher Creek	Skagit	3.48	Planning
35	Spurgeon Creek	Thurston	1.2	Restoration
36	Naylors Creek	Jefferson	4.93	Planning
37	Geissler Creek	Grays Harbor	2.35	Restoration
38	Scammon Creek	Lewis	1.21	Restoration
39	Scammon Creek	Lewis	0.83	Restoration
40	Dickerson Creek	Kitsap	3.42	Restoration
41	Minter Creek	Pierce	1.26	Planning
42	George Davis Creek	King	0.38	Planning
43	Langlois Creek	King	1.37	Planning
44	Ebright Creek	King	1.11	Planning
45	Kristoferson Creek	Island	0.82	Restoration
46	Starbird Creek	Skagit	8.56	Planning
47	Scammon Creek	Lewis	1.37	Planning
48	Sexton Creek	Snohomish	1.1	Planning
49	King Creek	Lewis	1.6	Restoration
50	King Creek	Lewis	1.12	Restoration
51	Willows Creek	King	1.79	Restoration
52	Ravensdale Creek	King	0.65	Restoration

## Fish Barrier Removal Board: 2019 to 2021 Funded Projects



# 2019-2021 Funded Restoration Projects

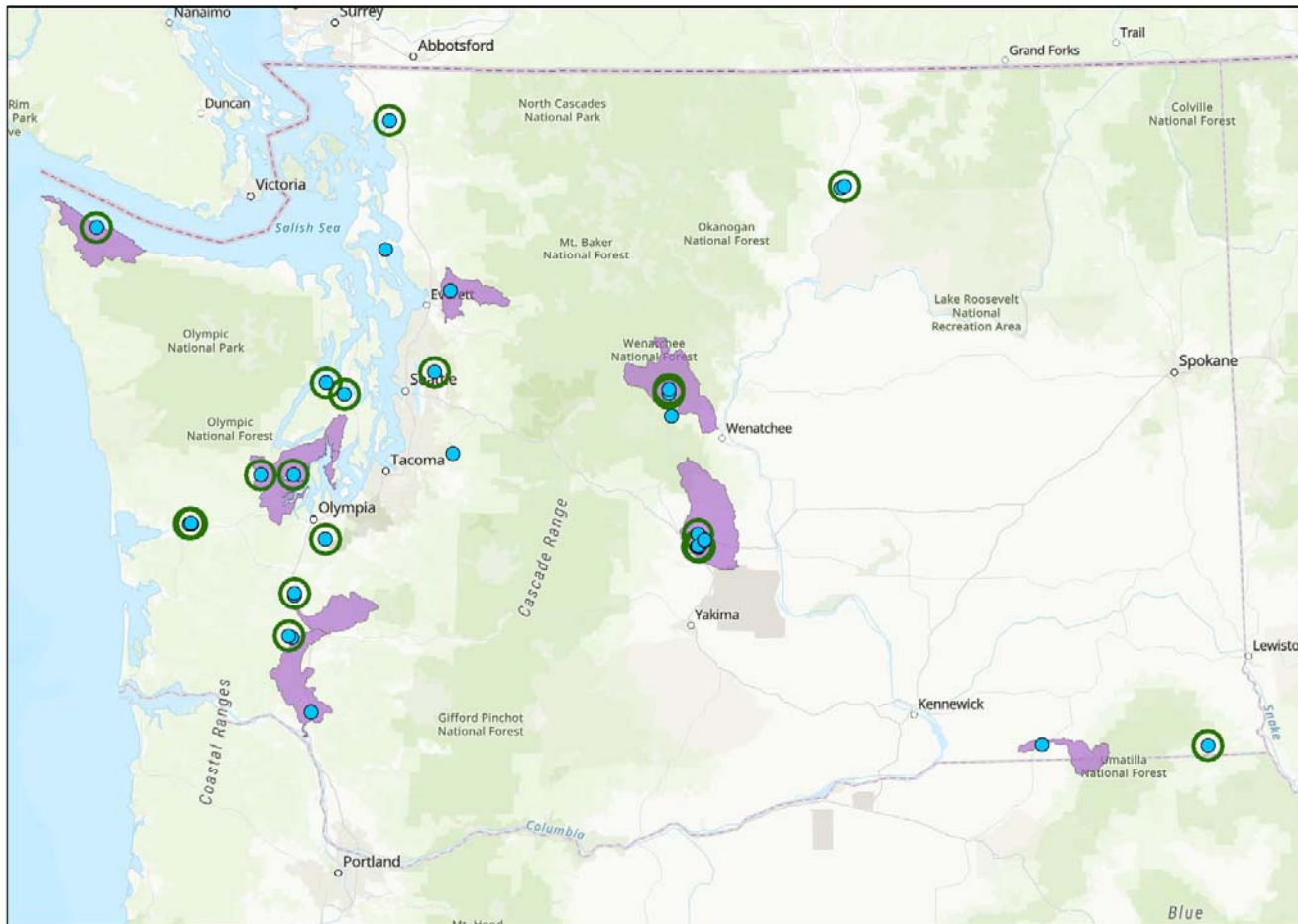
## Completed Projects – 17

Rank	Project Name	County	Miles Opened	Project Type
3	NF Ostrander Creek	Cowlitz	18.05	Restoration
4	Johnson Creek	Okanogan	1.01	Restoration
5	Coleman Creek	Kittitas	0.35	Restoration
6	Cottonwood Creek	Asotin	2.54	Restoration
7	Dayton Creek	Mason	0.8	Restoration
9	Chumstick Creek	Chelan	14.29	Restoration
12	Mill Creek	Walla Walla	0.38	Restoration
13	Cooke Creek	Kittitas	1.34	Restoration
14	Johnson Creek	Okanogan	0.07	Restoration
19	Railroad Creek	Clallam	0.15	Restoration
21	Johnson Creek	Okanogan	0.34	Restoration
22	Caribou Creek	Kittitas	0.86	Restoration
24	Uncle Johns Creek	Mason	1	Restoration
25	Trib to Little Pilchuck Creek	Snohomish	1	Restoration
26	Mill Creek	Chelan	4.35	Restoration

Rank	Project Name	County	Miles Opened	Project Type
27	Parke Creek	Kittitas	2.3	Restoration
30	Seabeck Creek	Kitsap	10.2	Restoration
32	Squalicum Creek	Whatcom	8.9	Restoration
35	Spurgeon Creek	Thurston	1.2	Restoration
37	Geissler Creek	Grays Harbor	2.35	Restoration
38	Scammon Creek	Lewis	1.21	Restoration
39	Scammon Creek	Lewis	0.83	Restoration
40	Dickerson Creek	Kitsap	3.42	Restoration
45	Kristoferson Creek	Island	0.82	Restoration
49	King Creek	Lewis	1.6	Restoration
50	King Creek	Lewis	1.12	Restoration
51	Willows Creek	King	1.79	Restoration
52	Ravensdale Creek	King	0.65	Restoration



## Fish Barrier Removal Board: 2019-2021 Restoration Projects



**Barriers Corrected**

**17 Projects, 23 barriers**

**Opened ~53 miles**

**Ownership breakdown:**

- 11 county
- 9 private
- 3 city

# #19 Railroad Creek at a relic railroad grade

Site ID: 601572





## Railroad Creek trib to the Hoko River

- Ownership: Private
- Passability: 67% (slope)
- Gain to next barrier: 0.16 miles and 2.49 acres forested wetland
- One (1.5ft) round culvert  
Replaced with open channel
- Potential species benefit: Coho, Steelhead, Sea-run Cutthroat, resident trout



# #30 Seabeck Creek at Holly-Seabeck Rd

site ID 15.0400 0.60





# Seabeck Creek trib to the Hood Canal

- Ownership: County
- Passability: 33% (velocity)
- Gain to next barrier: 10.2 miles
- One (6ft) round culvert  
Replaced with 60 ft bridge
- Potential species benefit:  
Coho, Chum,  
Steelhead, Sea-run  
Cutthroat, resident trout









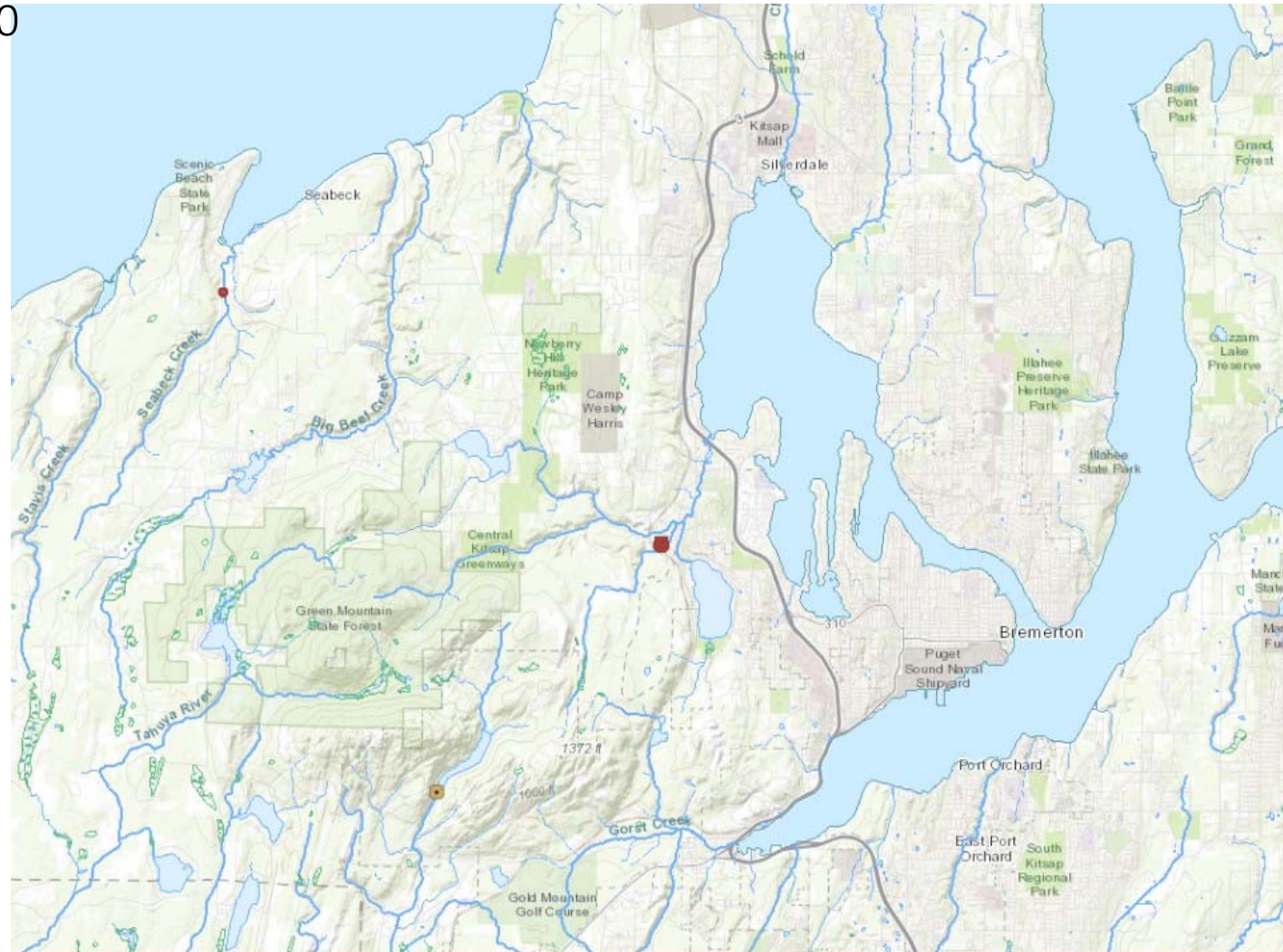






# #40 Dickerson Creek at Northlake Way NW

Site ID 15.0231 0.40





## Dickerson Creek trib to Chico Creek

- Ownership: Private
- Passability: 33% (WSD)
- Gain to next barrier: 3.42 miles
- Failed fishway replaced with rerouted channel and ELJ's
- Potential species benefit: Coho, Chum, Steelhead, Sea-run Cutthroat, resident trout



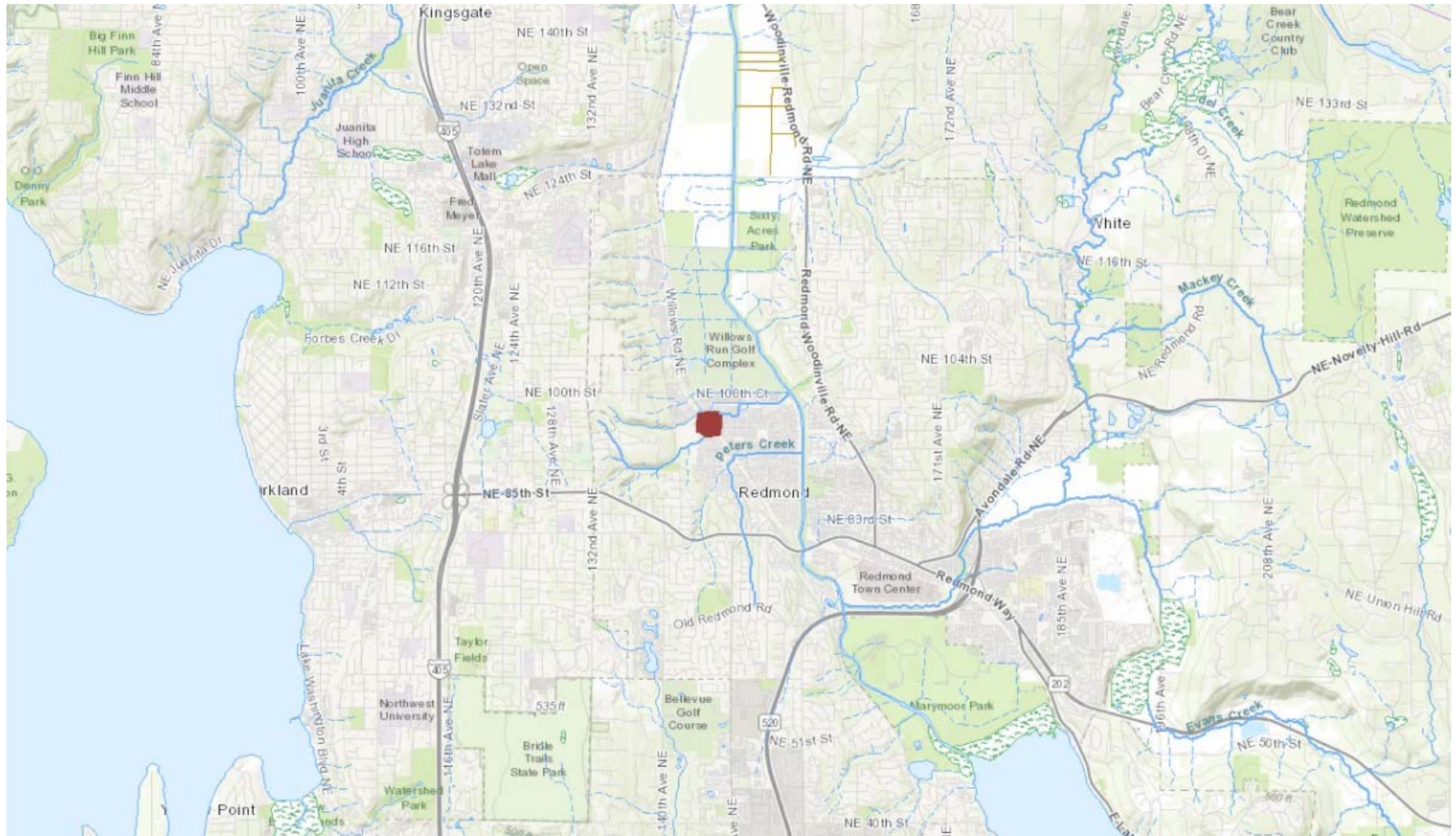






# #51 Willows Creek at Willows Rd NE

Site ID # 600300



# Willows Creek trib to the Sammamish River



- Ownership: City
- Passability: 33% (depth)
- Gain to next barrier: 1.79 miles
- One (3.3ft x 2.4 ft) round culvert replaced with 12 ft wide box culvert
- Potential species benefit: Sockeye, Coho, Steelhead, Sea-run Cutthroat, resident trout

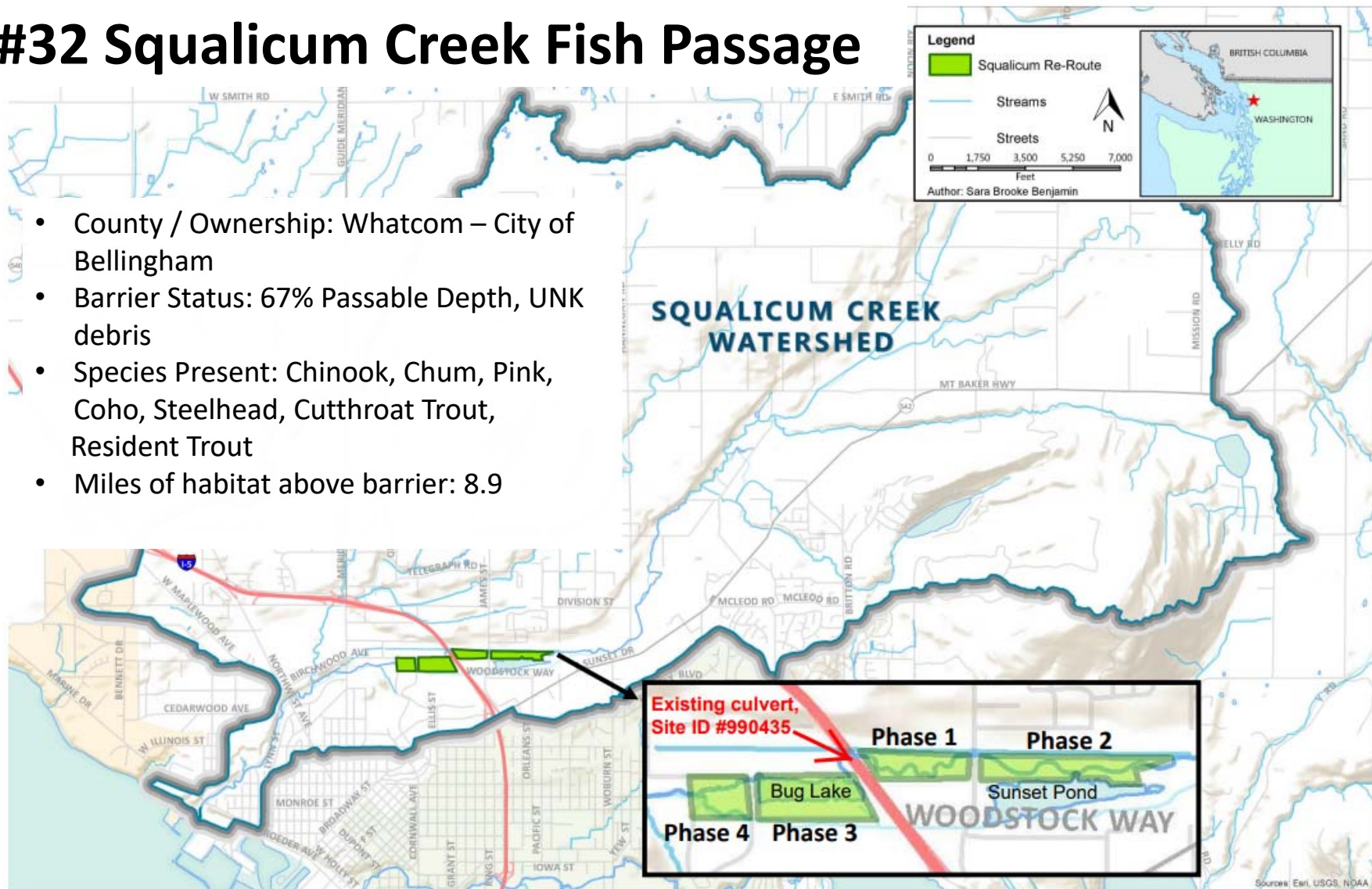
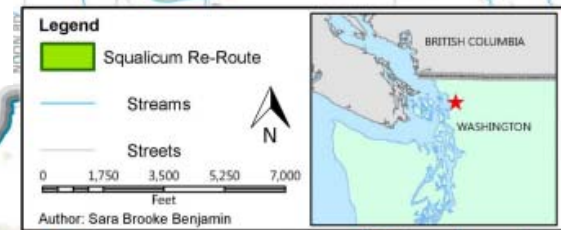






# #32 Squalicum Creek Fish Passage

- County / Ownership: Whatcom – City of Bellingham
- Barrier Status: 67% Passable Depth, UNK debris
- Species Present: Chinook, Chum, Pink, Coho, Steelhead, Cutthroat Trout, Resident Trout
- Miles of habitat above barrier: 8.9



Source: Esri, USGS, NOAA

# Squalicum Creek Fish Passage



Before: Three Corrugated Metal Pipe Culverts – various lengths, and spans. Spall rock dumped throughout site.



After: Bottomless Steel Plate Arch Culvert – 60 feet in length and 30 feet wide



1 in = 0.25 miles Miles



# #38 Scammon Creek – Hamilton Fish Passage Project

- Scammon Creek Subbasin
- Shoreline Stream
- Wetlands
- Culvert Proposed for Replacement
- Fishbearing Stream
- Roads

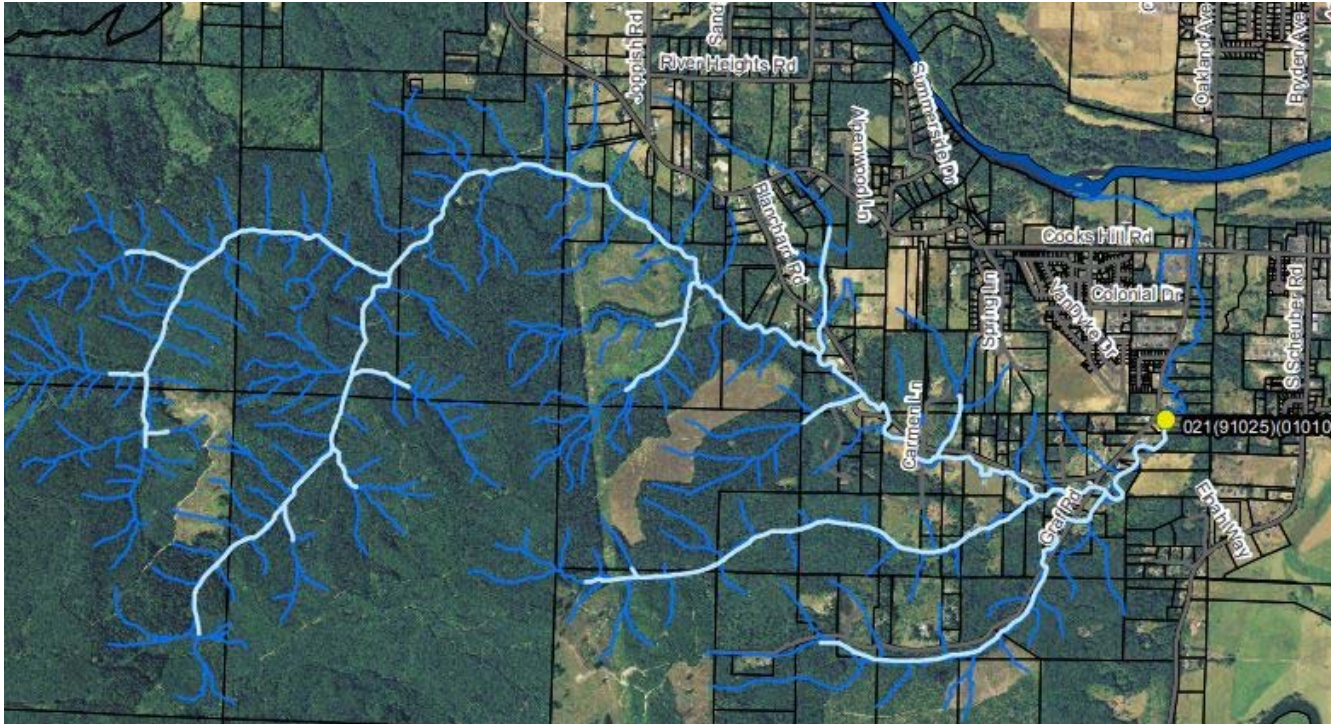
Watershed Information  
Scammon Creek Subbasin - Site 601854

# Scammon Creek – Hamilton Property

- County / Ownership: Lewis / Private
- Barrier Status: 33% Passable Slope Barrier
- Species Present: Chinook, Chum, Coho, Steelhead, Cutthroat Trout, Resident Trout
- Miles of Habitat made accessible: 1.21
- Before: 4.5ft x 20 ft round culvert After: 44ft bridge



# #39 Scammon Creek – RM 1.15



- County / Ownership: Lewis / County
- Barrier Status: 33% Passable Depth Barrier
- Species Present: Chum, Coho, Steelhead, Cutthroat Trout, Resident Trout
- Miles of Habitat made accessible: 0.83
- Before: Twin Box Culverts 42ft L x 10ft W x 10ft H
- After: 50 ft bridge

## Scammon Creek – RM 1.15

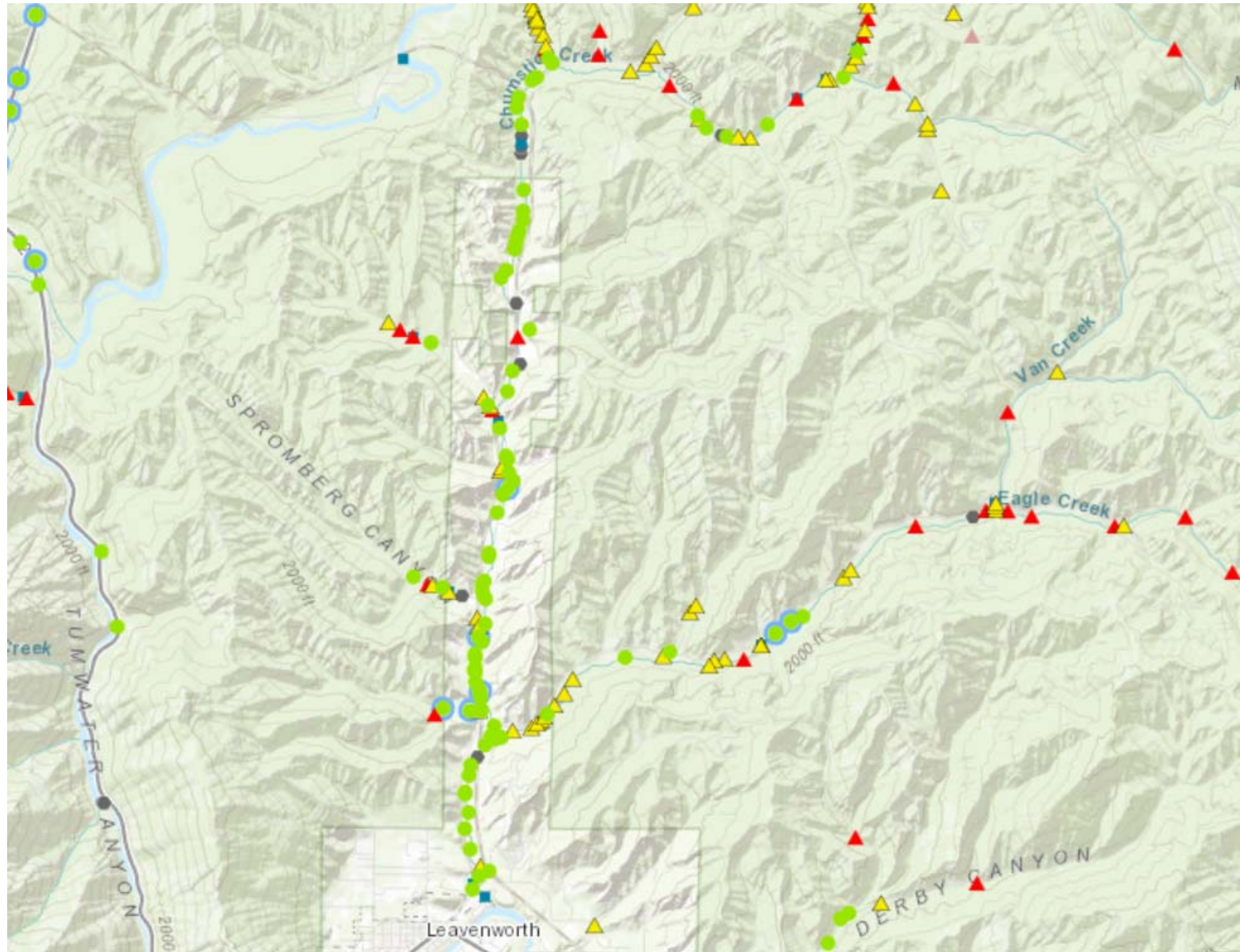


021(91025)(01010) Before



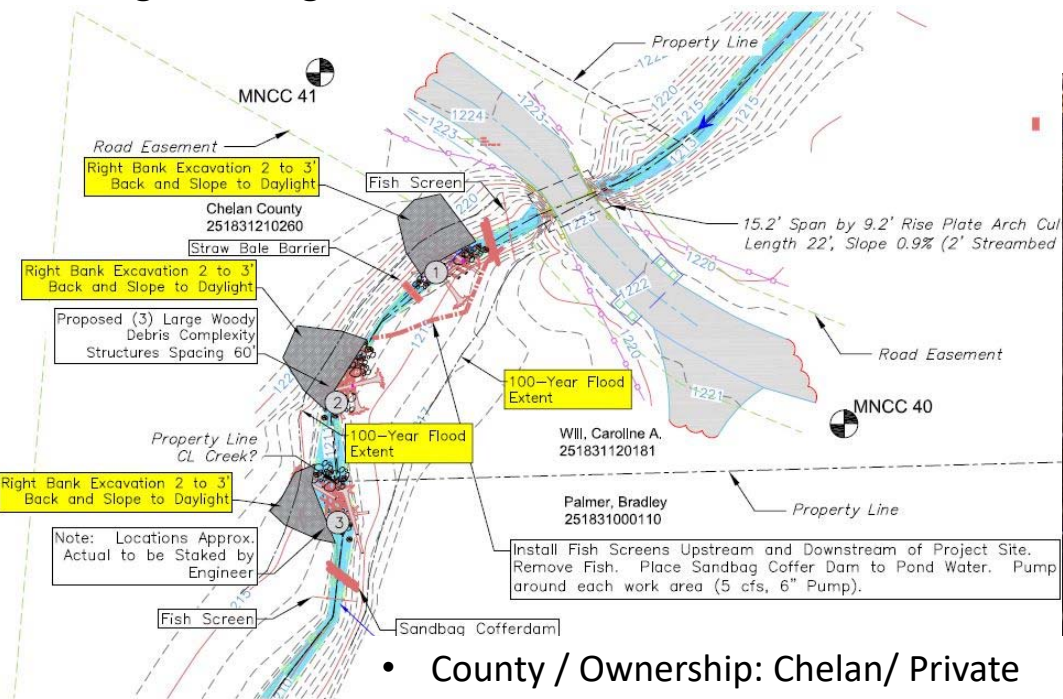
021(91025)(01010) After

**#9  
Chumstick  
Creek  
Culverts:  
Alpenview  
and  
Motteler**



# Alpenview Road: Adaptive Management

- Initial survey 11/16/2017: Slope barrier, not countersunk
- Structure survey during design in 2019: sediment aggradation, countersunk, non-barrier
- Flashy bedload characteristics in stream due to lack of any key pieces of LWM and past and ongoing land use
- FBRB approved alternative design to install immobile LWM jams, in channel, to maintain minimum bedload height through structure.

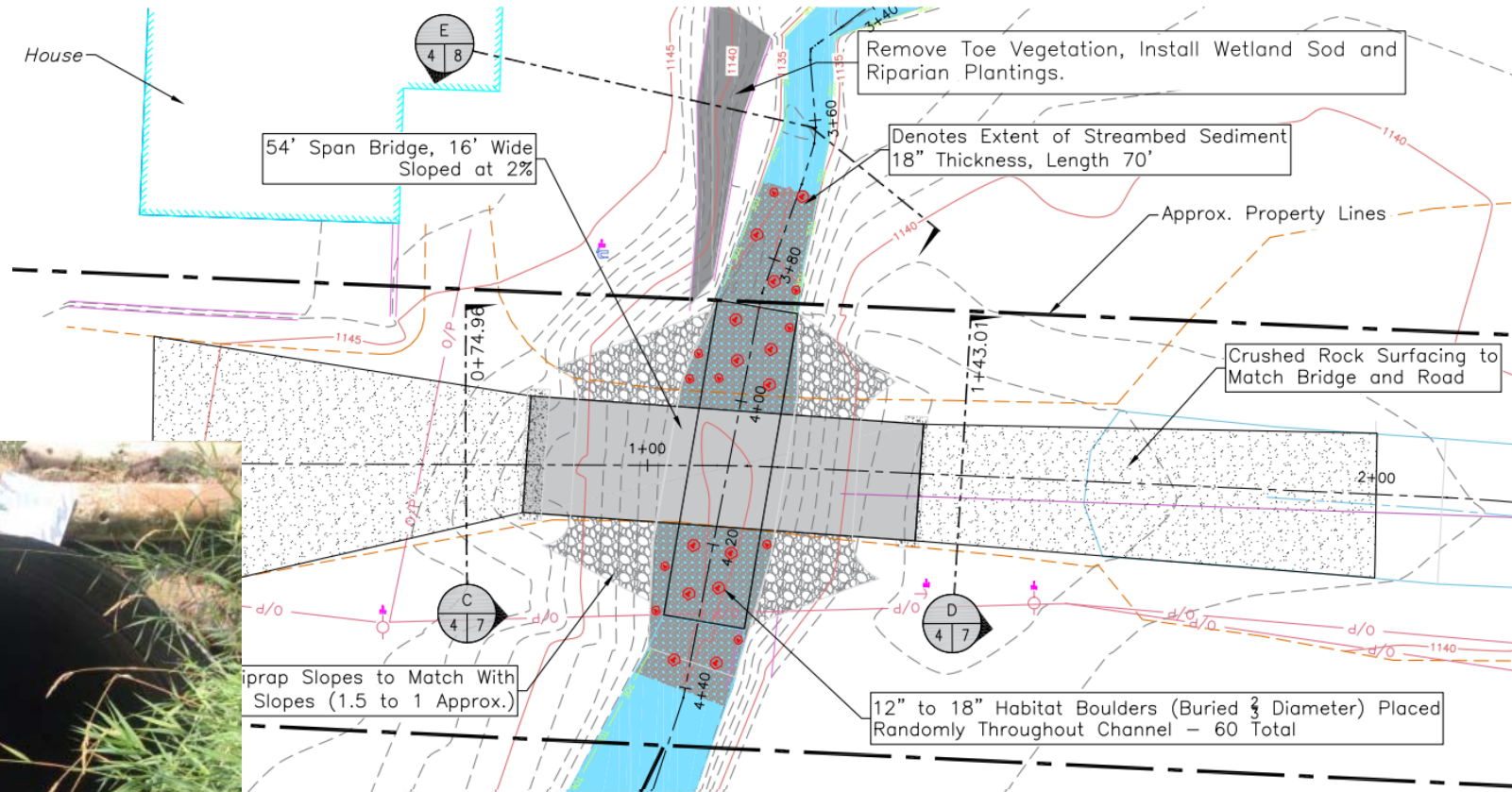


- County / Ownership: Chelan/ Private
- Barrier Status: 100% Passable

- Species Present: Chinook, Coho, Steelhead, Resident Trout
- Miles of Habitat made accessible: 14 (from lower barrier)

# Motteler Road

- County / Ownership: Chelan/ County
- Barrier Status: 67% Passable Slope Barrier



- Species Present: Chinook, Coho, Steelhead, Resident Trout
- Miles of Habitat made accessible: 14



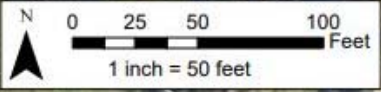
# Motteler Road



Project in final stages, all in water work finished. Planting and paving scheduled for spring 2023



# #49 King Creek Barrier Removal



- County / Ownership: Lewis / County
- Barrier Status: 33% Passable Depth
- Species Present: Coho, Steelhead, Cutthroat Trout, Resident Trout
- Miles of Habitat made accessible: 2.3

**Legend**

- Existing Culvert
- Proposed Culvert



# King Creek Barrier Removal



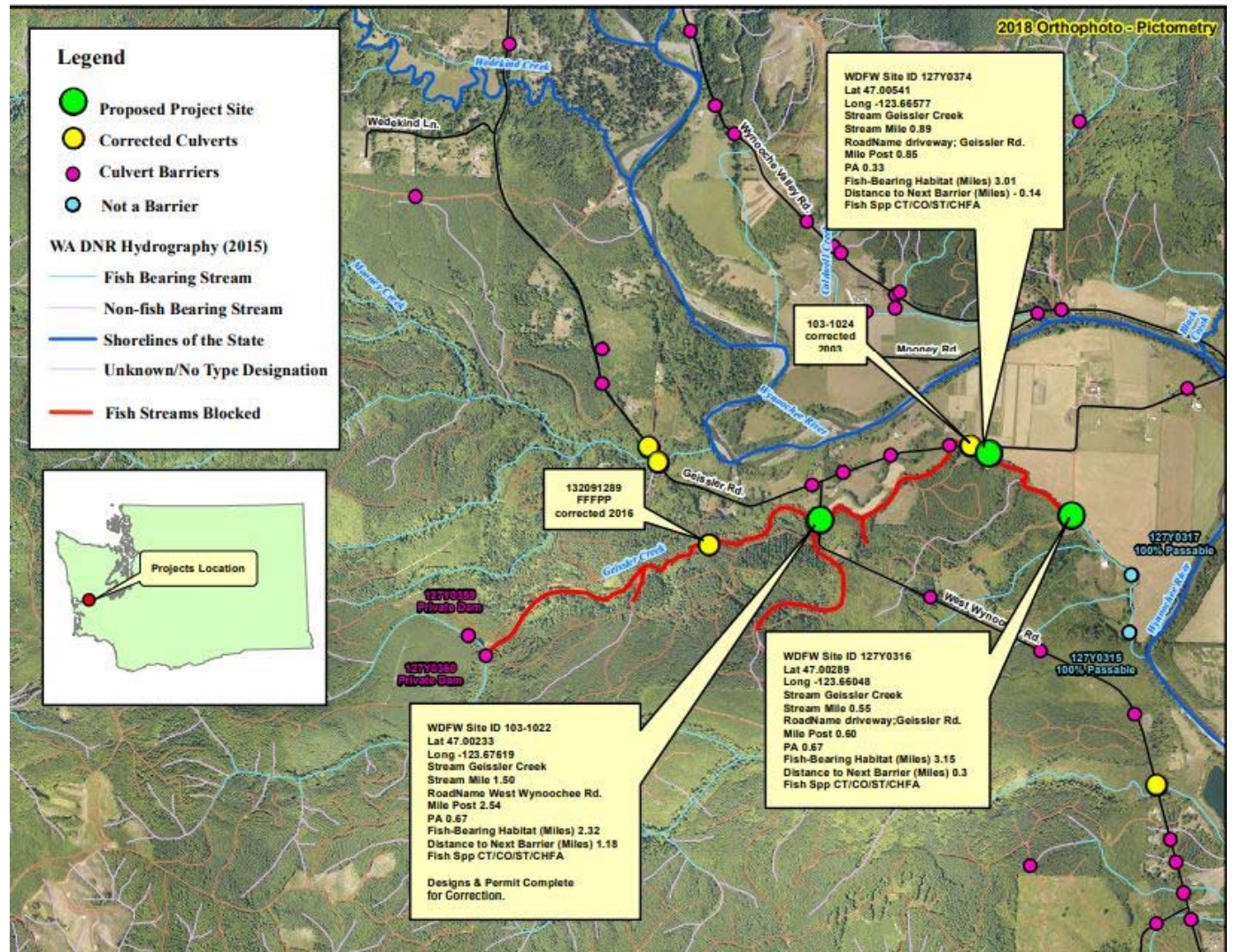
Before: 4ft x 45ft squash culvert



After: 16ft x 8ft x 36ft Box Culvert

# #37 Geissler Creek Fish Barrier Corrections

- Three barriers replaced for ~550K
- County / Ownership: Grays Harbor / County x 2 Private x 1
- Barrier Status: 67% Passable Velocity and Slope
- Species Present: Coho, Steelhead, Cutthroat Trout, Resident Trout
- Miles of Habitat made accessible: 2.35



# Geissler Creek Fish Barrier Corrections



103-1022 Before: 4ft x 35ft round culvert



After: 19ft x 55ft arch culvert

# Geissler Creek Fish Barrier Corrections



127Y0316 Before: 5ft x 40ft round culvert



After: 60ft steel bridge

# Geissler Creek Fish Barrier Corrections

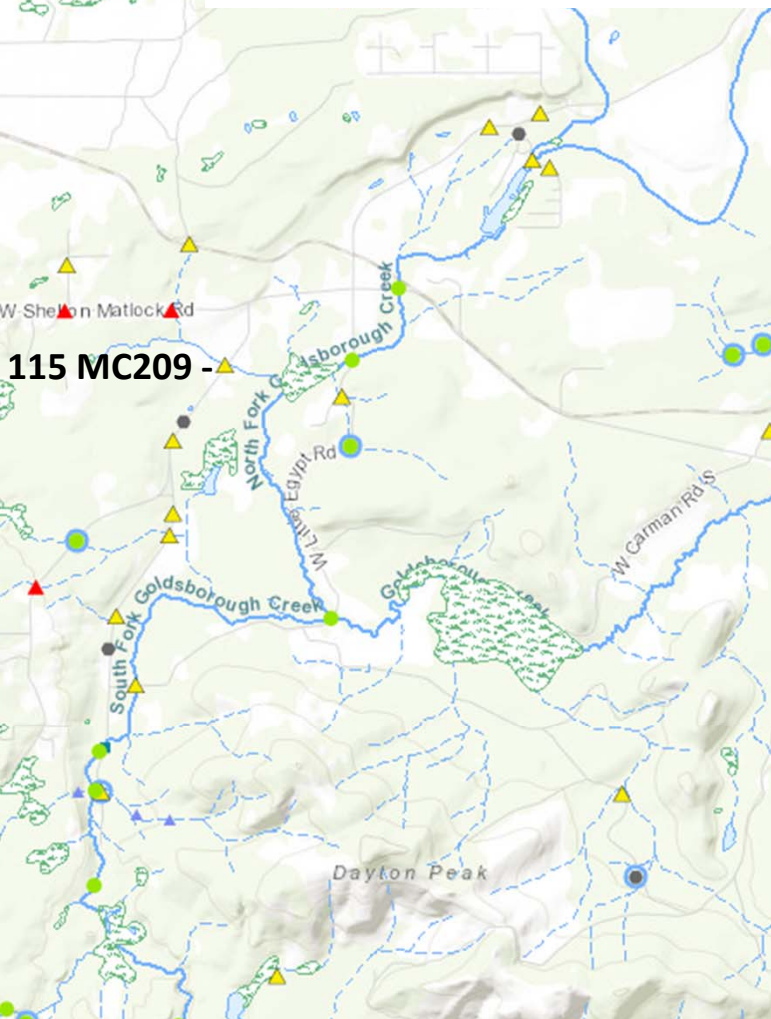


127Y0374 Before: 4ft by 25ft round culvert

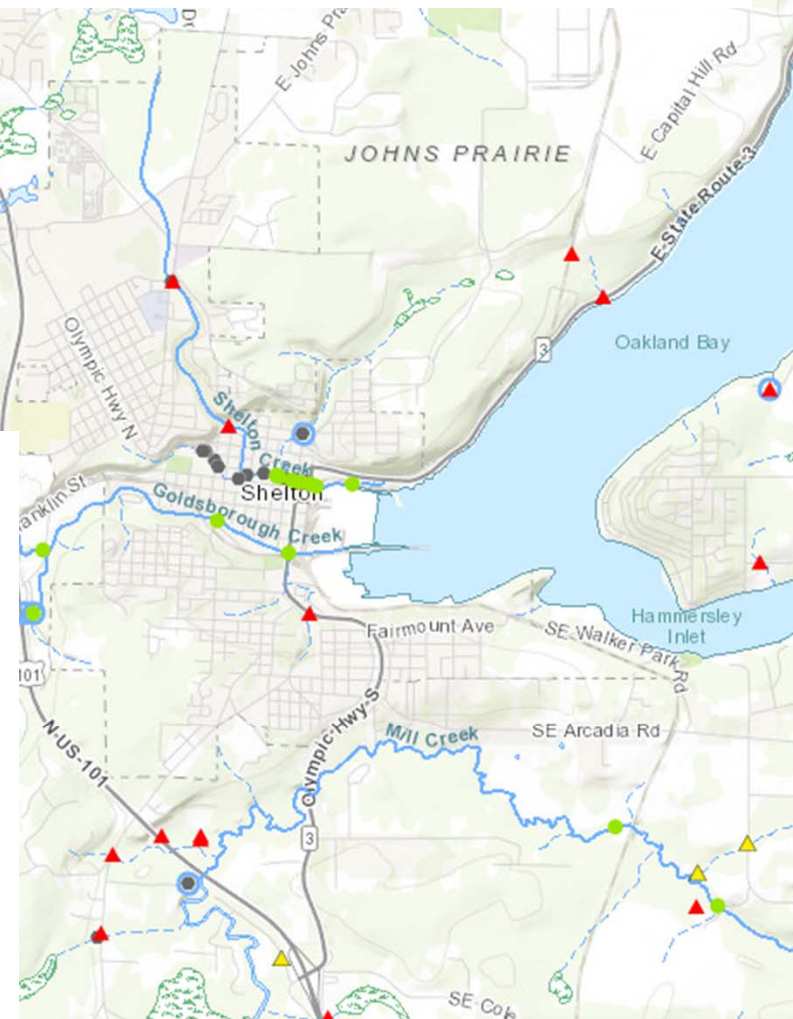


After: 50ft Steel Bridge

# #7 Dayton Creek- Highland Road Fish Barrier Correction



- Ownership: Mason County
- Priority watershed: Goldsborough
- Upstream Gain: 0.8 miles
- Potential Species Benefit: coho, steelhead, sea run cutthroat and resident trout



# Dayton Creek

## Before:

- 67% fish passable (slope barrier)
- Crossings: 2 5.5 ft squash corrugated steel culverts
- Hydraulic drop at Outlets of culverts





# Dayton Creek Barrier Correction

4-sided box culvert with 19 ft hydraulic opening



# #24 Uncle Johns Creek Fish Barrier Corrections

- Ownership: Mason County
- Upstream Gain: 1 miles, no upstream barriers
- Potential Species Benefit: chum, coho, steelhead, sea run cutthroat & resident trout



# Uncle Johns Creek Upper Fish Barrier Corrections



## Before:

- Passability: 67% (velocity barrier)
- Crossing: 4ft diameter precast concrete culvert, rip rap upstream & downstream



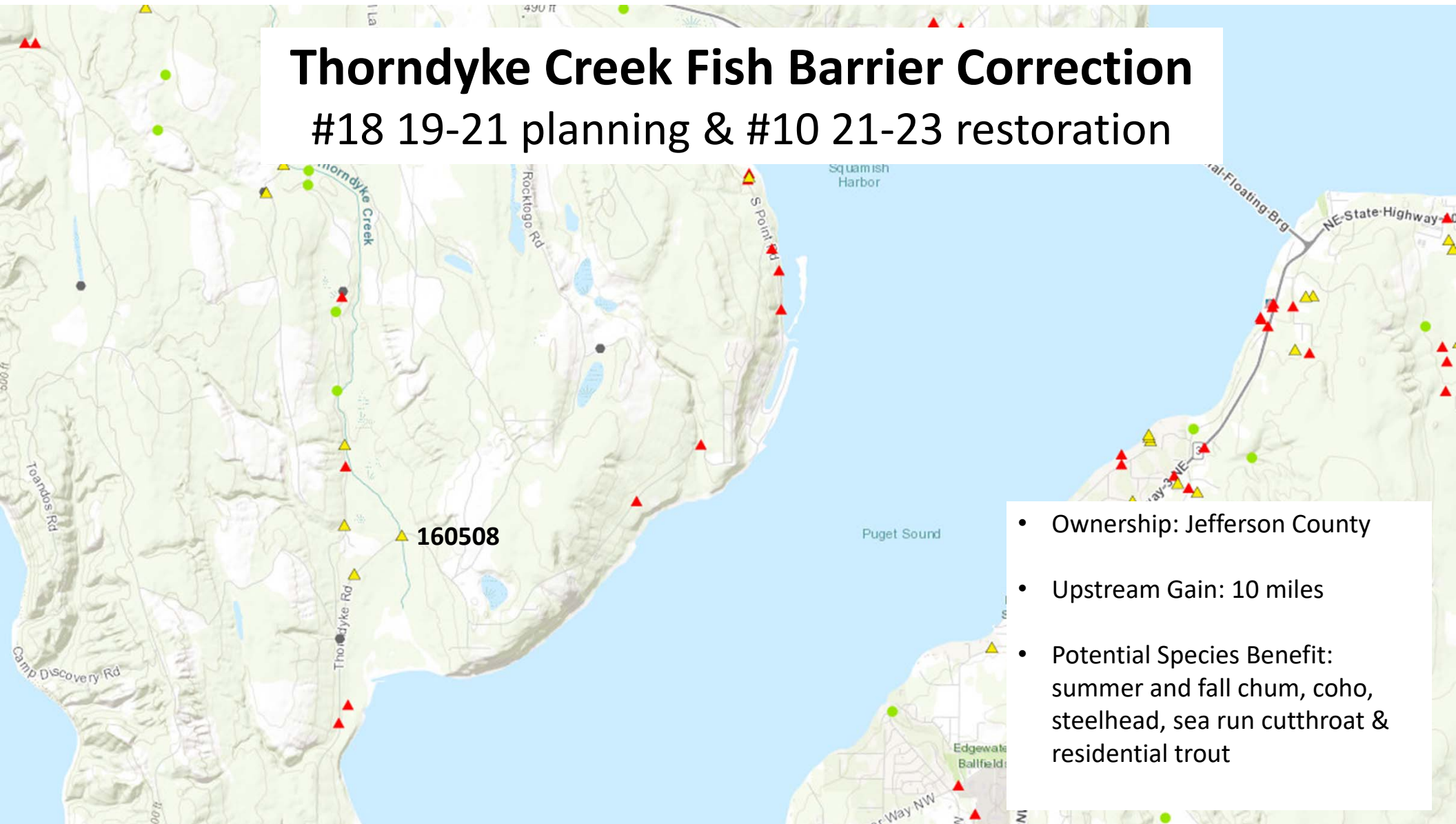
# Uncle Johns Creek Upper Fish Barrier Correction

4-side box culvert with 18 ft hydraulic opening



# Thorndyke Creek Fish Barrier Correction

#18 19-21 planning & #10 21-23 restoration



- Ownership: Jefferson County
- Upstream Gain: 10 miles
- Potential Species Benefit: summer and fall chum, coho, steelhead, sea run cutthroat & residential trout

# Thorndyke Creek

## Before:

- 33% fish passable (velocity barrier)
- Crossings: 2 60-inch diameter corrugated steel culverts
- Inlet & outlet of right bank culvert perched at low flows



# Re-watering Thorndyke Creek

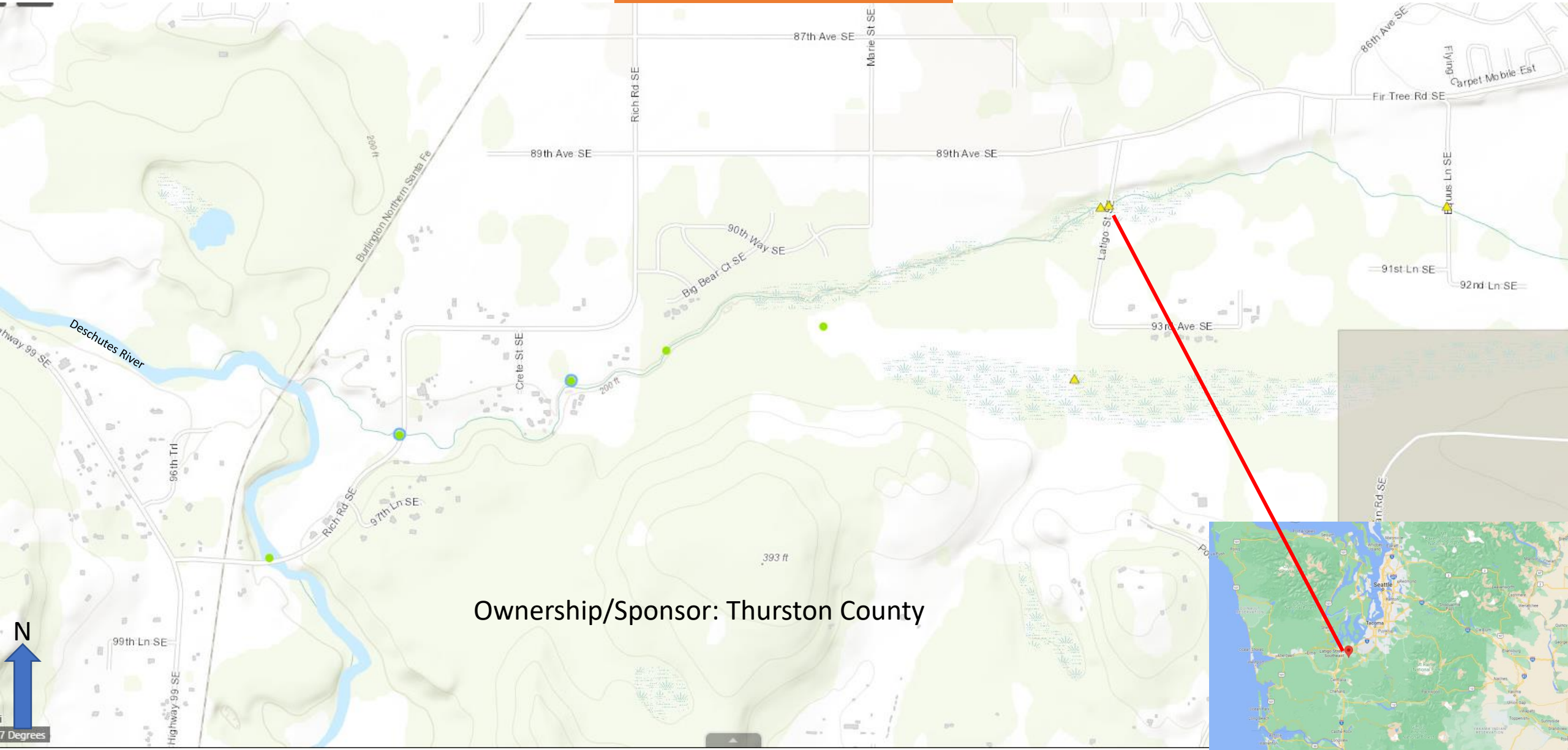


# Thorndyke Creek Post Restoration

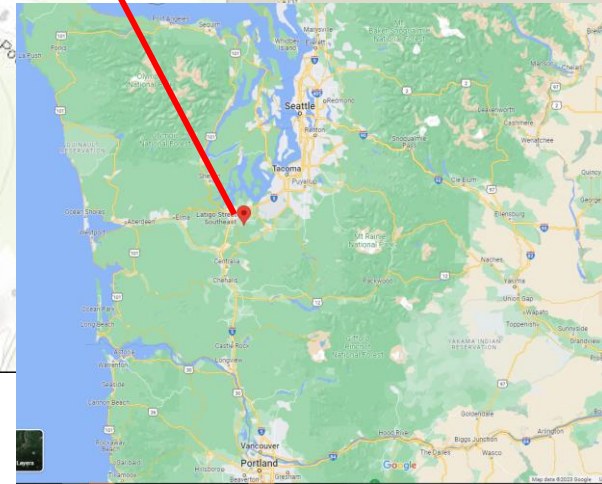




# Spurgeon Creek



Ownership/Sponsor: Thurston County



# Spurgeon Creek 2 barrier removals

Chehalis Western Trail Site ID# 115 TC125

Before



Passability: 33% (velocity)  
Gain to next barrier: 50'  
Two 4ft round culverts  
Replaced with 86 ft bridge

Potential species benefit: Chum,  
Chinook, Coho, Steelhead, SR  
Cutthroat, Resident Trout

Latigo Street SE Site ID# 341645

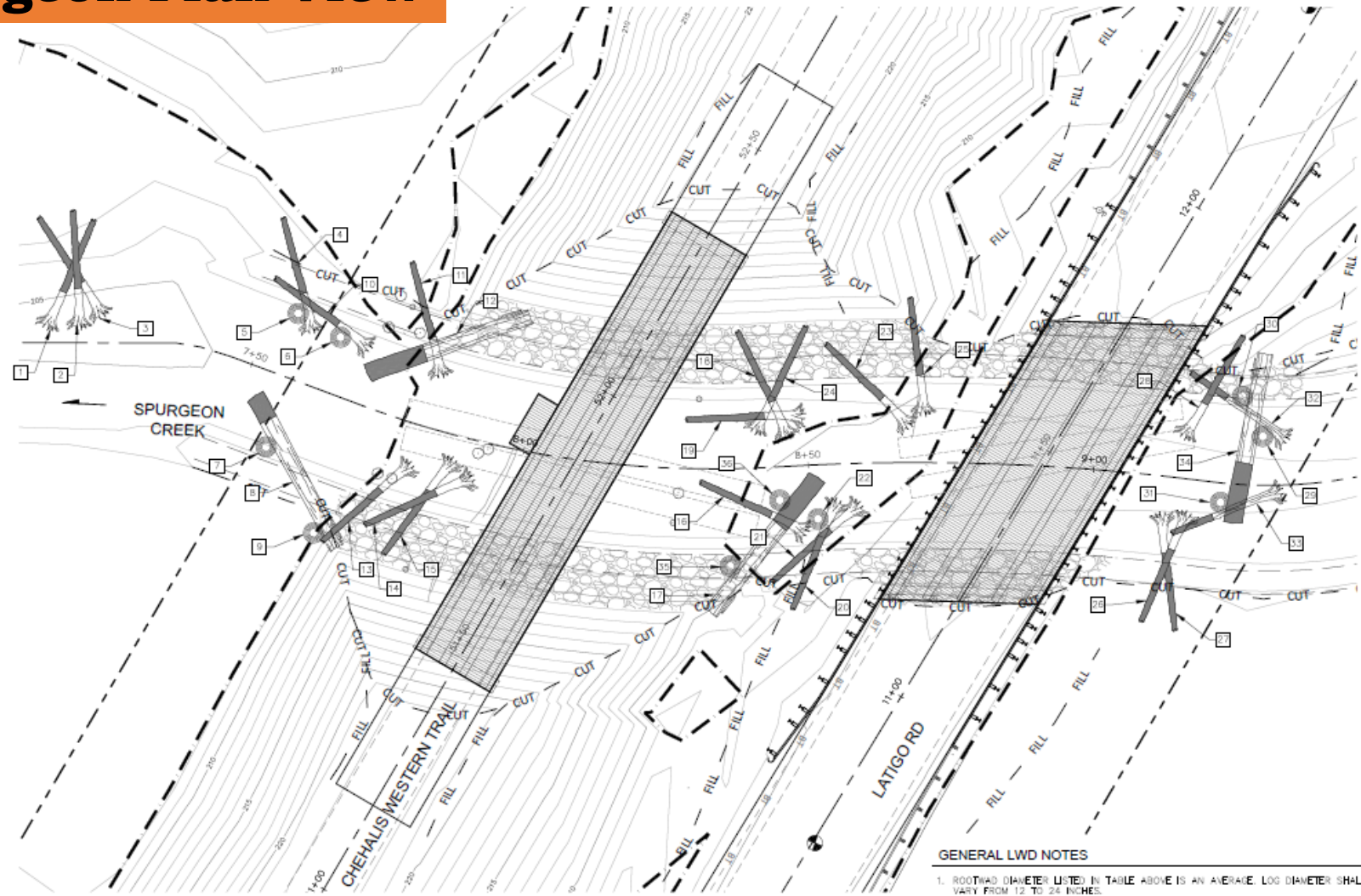
Before



Passability: 33% (velocity)  
Gain to next barrier: 3/4 mile  
Two 3.5' round culverts  
Replaced with 55 ft bridge

# Spurgeon Plan View

T.17 N.R.1 W. SEC. 16  
LAT: 46.95 LONG: -122.81



### LOG LEGEND:

- KEY LOG (3" DIA, 30' LONG)
  - PIER LOG (8" DIA, 10' LONG)
  - LOG WITH ROOTWAD (18" DIA, 20' LONG)
- \*GRAY PORTIONS OF LOG INDICATES BURIED END

### SHEET LEGEND

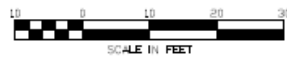
- RIGHT OF WAY
- GRADING LINES  
CUT  
FILL
- WETLAND BOUNDARY
- LIGHT LOOSE RIP RAP UNDER STREAMBED MATERIAL
- EXISTING TREES TO BE REMOVED

### LOG INFORMATION

LOG NUMBER	LOG TYPE	TOTAL LENGTH (FT)	BURIED LENGTH (FT)	DIAMETER (FT)	SLOPE (FT/FT)	MIN DEPTH (FT)
1	ROOTWAD	20.0	13.33	1.5	-0.044	3.5
2	ROOTWAD	20.0	13.33	1.5	-0.044	3.5
3	ROOTWAD	20.0	13.33	1.5	-0.044	3.5
4	ROOTWAD	20.0	13.33	1.5	-0.044	3.5
5	PIER LOG	10.0	6.66	0.7	-	8
6	PIER LOG	10.0	6.66	0.7	-	8
7	PIER LOG	10.0	6.66	0.7	-	8
8	KEY LOG	35.0	11.67	3.0	-0.268	6
9	PIER LOG	10.0	6.66	0.7	-	8
10	ROOTWAD	20.0	13.33	1.5	-0.176	5
11	ROOTWAD	20.0	13.33	1.5	-0.176	5
12	KEY LOG	35.0	11.67	3.0	-0.268	7.5
13	ROOTWAD	20.0	13.33	1.5	-0.176	7
14	ROOTWAD	20.0	13.33	1.5	-0.176	7
15	ROOTWAD	20.0	13.33	1.5	-0.176	7
16	ROOTWAD	20.0	13.33	1.5	-0.176	3
17	KEY LOG	30.0	10.0	3.0	-0.141	5.0
18	ROOTWAD	20.0	13.33	1.5	-0.176	7.5
19	ROOTWAD	20.0	13.33	1.5	-0.268	5
20	ROOTWAD	20.0	13.33	1.5	-0.268	7
21	ROOTWAD	20.0	13.33	1.5	-0.268	7
22	PIER LOG	10.0	6.66	0.7	-	8
23	ROOTWAD	20.0	13.33	1.5	-0.176	4.5
24	ROOTWAD	20.0	13.33	1.5	-0.194	3.5
25	ROOTWAD	20.0	13.33	1.5	-0.141	6
26	ROOTWAD	20.0	13.33	1.5	-0.176	3
27	ROOTWAD	20.0	13.33	1.5	-0.176	3
28	ROOTWAD	20.0	13.33	1.5	-0.268	8.5
29	PIER LOG	10.0	6.66	0.7	-	8
30	PIER LOG	10.0	6.66	0.7	-	8
31	PIER LOG	10.0	6.66	0.7	-	8
32	ROOTWAD	35.0	23.33	1.5	-0.268	9.5
33	ROOTWAD	25.0	16.66	1.5	-0.150	5.5
34	KEY LOG	35.0	11.67	3.0	-0.213	9.5
35	PIER LOG	10.0	6.66	0.7	-	8
36	PIER LOG	10.0	6.66	0.7	-	8

### GENERAL LWD NOTES

- ROOTWAD DIAMETER LISTED IN TABLE ABOVE IS AN AVERAGE LOG DIAMETER SHALL VARY FROM 12 TO 24 INCHES.
- PIER LOG DIAMETER LISTED IN TABLE ABOVE IS AN AVERAGE LOG DIAMETER SHALL VARY FROM 8 TO 16 INCHES.
- KEY LOG DIAMETER LISTED IN TABLE ABOVE IS AN AVERAGE LOG DIAMETER SHALL VARY FROM 30 TO 42 INCHES.
- LOGS SALVAGED DURING CLEARING AND CRUSHING MAY BE USED AS LWD IF LOGS MEET PROJECT SPECIFICATIONS. LOGS SHALL RETAIN ALL BRANCHES FOR USE AS LWD.
- CONTRACTOR SHALL FILL OVER EXCAVATED AREAS FOR LWD PLACEMENT WITH STREAMBED MATERIAL AT THE CONTRACTORS EXPENSE.
- SEE SPECIAL PROVISIONS FOR FURTHER INFORMATION.



W.D.F.W. HPA HPA 2020-X-XXX+01  
U.S.A.C.F. REFERENCE RWS-2020-XXXX  
DATE: 12-18-2020

C:\Projects\08\_CapitalConst\63008 Spurgeon Creek Fish Passage Replacement\Design\CADD\Current Design\63008\_LWD\_12\_14\_20.dwg 3/15/2021

THURSTON COUNTY PUBLIC WORKS  
9605 TILLEY RD S. STE-C  
OLYMPIA, WA 98512-9140  
(360)867-2300

Designed: \*\*\*  
Drafted: RME  
Checked: \*\*\*  
Scale: AS NOTED

Revisions: \_\_\_\_\_  
Date: \_\_\_\_\_

FISH PASSAGE ENHANCEMENT PROGRAM  
LATIGO RD AND CHEHALIS WESTERN TRAIL  
AT SPURGEON CREEK

CP No. 63008 FA No. \_\_\_\_\_

LOG PLACEMENT PLAN

Sheet

8 of 11

# Spurgeon Completed



Fish Passage Enhancement  
Completed 2018

SALMON RESTORATION  
TWIN HARBOR  
BRIAN ABBOTT

# Ebright Completed

19-21 FBRB planning project  
constructed by City of  
Samammish

\*Ownership/Sponsor: City of  
Sammamish

\*Site ID# 920108

\*Passability: 67% (slope)

\*Gain to next barrier: ~ 1 mi

\*Two 2.5 ft concrete culverts

\*Replaced with 14 ft box  
culvert

