**OREGON DEPARTMENT OF FISH AND WILDLIFE**

# Fish Passage Task Force

MEETING MINUTES

**ODFW Clackamas Office**

**Conference Room**

**Friday – March 7, 2025 @ *0900 to ~1200 hrs.***

| Members | Representing | Present In Person | Present Virtually | Absent |
|---|---|---|---|---|
| Kelly Moore | Fishing and Conservation | x | | |
| Denise Hoffert | Fishing and Conservation | x | | |
| Terry Turner (*Chair*) | Fishing and Conservation | x | | |
| Steve Albertelli | Water Users | x | | |
| April Snell | Water Users | | | x |
| Fred Messerle | Water Users | x | | |
| Zak Toledo | Public-At-Large | | | x |
| Ted Labbe | Public-At-Large | | x | |
| Tom Iverson | Public-At-Large | x | | |

**ODFW Staff in Attendance:**
Mac Barr, Fish Passage Coordinator
Greg Apke, Fish Screens and Passage Program Manager
Katherine Nordholm, Fish Screen and Passage Coordinator
Sharon Crowley, Assistant Fish Passage Coordinator
Steve Niemela, North Willamette Watershed District Manager
Kevin Stertz, North Willamette Watershed District Fish Biologist
Bryce Macnab, The Dalles Screen Shop Manager
Toby Schuyler, Northwest Oregon Field Coordinator
Art Martin, Columbia River Coordination Program Manager
Lance Solis*, Fish Screens and Passage Engineering Technician
Pete Baki*, ODFW-ODOT Liaison
Kevin Rybacki*, ODFW-ODOT Assistant Liaison
Linda Spansel*, Fish Division Program Analyst
Courtney Zambory*, REDD Assistant Project Leader

**Members of the Public in Attendance:**
Isaac Sanders, Clackamas River Basin Council Watershed
David Bugni, Clackamas River Basin Council Watershed
Chief Doug Barrett*, Confederated Tribes of Coos, Lower Umpqua and Siuslaw
Allen Gillette*, ODOT
Cash Chesselet*, ODOT
Pete McHugh*
Shane Scott*
Unknown virtual user*
*Attended virtually, *additional members of the public may have joined virtually throughout the meeting.*

## Meeting Agenda

**Call to Order Fish Passage Task Force Meeting**
Chair Turner called the meeting to order at 9:00 am.

**Review & Approve Agenda & December 6, 2024, Fish Passage Task Force Meeting Minutes**
Chair Turner asked if questions or changes were needed to the draft meeting minutes from the December task force meeting. Fred brought attention to the misspelling of the Haynes drainage district.

**Motion:** Tom moved to approve the minutes with the spelling typo fixed. Kelly seconded the motion. The task force voted to approve. All members in attendance voted to approve. No members in attendance voted to oppose. Motion passed.

**Motion:** Zak Toledo moved to approve the agenda. Steve Albertelli seconded the motion. All members in attendance voted to approve. No members in attendance voted to oppose.

**ODFW Administrative Updates *(ODFW Staff)***
Greg announced the ODFW Fish Screens and Passage program will receive $8.75 million from the Lottery Bond Sale for fish passage and fish screening priority restoration. An online solicitation for proposals was initiated a few weeks ago, and we encourage anybody to come forward with proposals. The lottery bond sale revenues will be coupled with some ODOT compensation funds. We are pushing out $11 million for the next 3 years. There are unique challenges with the lottery bond funds. They cannot be used for administrative or indirect costs, must be spent on a capital project, cannot be used for dam removal projects, such as small head dam abandonment, unless coupled with a capital project such as a fish screen. The request for proposals (RFP) closes March 17. We hope to have good projects and make decisions in the next few months. We want Task Force involvement in the RFP review. Terry commented that funds that come with a requirement of no-cost indirect make it very difficult for non-profit organizations because it is cost-negative. OWEB recently changed indirect from 10% to 15%. Tom asked if there are cost share requirements and if the final decision comes through the Task Force. Greg replied that match is not required and there is a three-year timeframe from the sale of the bonds to implement projects. The final decision comes through the agency, but we intend to have one member from each Task Force on the review team.

Mac provided an update on the Fish Passage Task Force staffing. Chair Turner and member Zak Toledo have been on the Task Force since September 2017 and are coming to term this fall. We are going to begin recruitment to find replacements for one Fishing and Conservation representative and one Public At Large representative. We are looking for people from a diverse geographical location, and if we can increase our representation from the East side, that would be ideal.

Mac queued up an item for the next meeting. Bryce Macnab and Toby Schuyler from The Dalles Screen Shop are working on the Whiskey Creek project on the Oregon coast. The project involves barrier removal and a screen update associated with the hatchery. Depending on funding, the Screen Shop will need to spend over $75,000. A request for approval will be put before the Task Force at the next meeting.

Greg provided an update on the federal funding situation. Federal administrative funding streams are in a bit of chaos; there are a lot of questions and no real answers. The Fish Screening and Passage Program is reliant on federal funds. Pacific Coastal Salmon Recovery Fund (PCSRF) funds a lot of work we do on the ground and across the state. PCSRF has been identified as a strikethrough on the president's line item. The message from the ODFW Director is to stay the course. ODFW is working closely with the governor and DAS. The good news is we have about a $70 million ending balance on books for the Department, and we're going to be relying on that, if need be, to continue to provide as best we can program resources until there is clarity. Some federal partners are vanishing from the scene, and NOAA Fisheries and their engineering team are pretty much eviscerated. We rely on their engineers for collaboration on projects. There is a lot of uncertainty, and we'll keep the Task Force updated. Tom commented that legislators, Congress, and senators want to hear stories where personnel have been lost, and funding has stopped. Bonneville Power Administration (BPA) has been impacted, and reliability is an actual concern right now. We lost top leadership at NOAA for Columbia River salmon restoration, and it's really been traumatic. We need to be patient though because some of these things are being reversed, so it's just total chaos. Tom was in DC this week and met with a dozen legislators who are getting input and feedback from us because they are not getting it from the administration. Kelly asked if Washington, California, and Oregon are coordinating to press PCSRF? Greg replied he doesn't know. Terry was in DC for a week in February and met with Merkley, Wyden, and Bynum's offices. They are looking to us to provide stories showing we're on the hook with

contractors and funding is being withheld, illegally in our opinion. So, we're doing our best to try and provide all those stories.

**Legislative Updates *(ODFW Staff)***
Greg stated we are in the midst of a full Legislative session. The Agency is balancing more than 600 new bills. The next critical date is March 21. If a bill has not had a committee hearing by then, it's dead on arrival. Greg is tracking 10 bills for Fish Screening and Passage Program, all of which are moderate to low priority. There is nothing to date that affects our program with real consequences. The Agency has 3 fee bills in front of the Legislature for funding and all have passed out of committee. So far so good, but very busy. We will reach out to Chair Turner and down the line if there is anything we need written testimony on from the Task Force.

**Task Force Member Issues, Updates & Roundtable *(All)***
Task Force members shared updates related to their areas of representation.

- Steve shared that at Mirror Pond Dam, near Bend, ODFW, the Deschutes Watershed Council, and PacifiCorp agreed to install a fishway. Greg has been working closely with PacifiCorp to orchestrate outcomes at Mirror Pond Dam, a complete upstream barrier, owned and managed by PacifiCorp. We now have a signed agreement allowing the state to fund the fishway design and River Design Group was hired to design it. $350,000 from the ARPA fund will be administered for the design with commitment to implement as early as 2026.
- Kelly highlighted success stories with PCSRF funds. First, a Western Rivers Conservancy article about salmon recovery in northern California. These populations had been written off but are now seeing good recruitment and monitoring. Second, NOAA and ODFW collaboration on Oregon production and harvest data and NOAA ocean conditions resulted in a well-managed coho fishery. All the data is supported by a lot of field work. They will announce open quotas soon. Anglers are happy. It's remarkable the fishery has maintained itself. We need to get the word out that if the fisheries are open, it means a lot of money for people and it's good for the resource. Populations are doing well.
- Denise thanked everyone working on Mirror Pond Dam in Bend and shared an update from the Oregon Watershed Enhancement Board (OWEB). OWEB has an opportunity for public comment on the Focused Investment Plan (FIP). The 6-year, up to $12 million, ecological priorities are now under review for public comment. The schedule for the next 2 public comment meetings and a survey to provide anonymous feedback are available on the website. OWEB is also following along with the statewide wildlife action plan update and plans to coordinate with ODFW on any updates they'd like to see on our maps and priorities. Regarding telling the story about PCSRF, OWEB has a grant offer called telling the restoration story where people get money to get their story out in the world. Audrey is administering these funds. OWEB also has tracking reports about FIP and the ecological outcomes achieved.
- Fred shared and there is uncertainty at the local level with the lack of federal clarity. It's a chance to look at potential opportunities here and at least acknowledge the effort of what can be done instead of beating on what we've always done. In our area, the working lands concept is not working, and we're seeing constraints on that. Some of our bigger tide gate projects have been implemented, but there are no resources to help with permitting or to help landowners comply and take advantage of these projects. The Beaver Slough tide gate project and Winter Lake project were 8 years ago, and we still can't get permits to take care of interior infrastructure to rebuild it. We get pushback when we say the permit needs to have a maintenance factor in it. We're having trouble getting them to discuss even a 10-year maintenance. Senate Bill 511 is a pilot program in the Coos and Coquille basins for a salmon credit which would provide an incentive to landowner participation in restoration projects and would provide an income stream to the landowner to keep them whole rather than absorb the whole expense. Again, there is still no response to the letter we sent to the Director over a year ago. The issues have not been alleviated or addressed, and there is still no guidance document to estuary tide gates after revision of the rule.
- Terry shared that some of the local Trout Unlimited chapter projects will be in David and Isaac's presentation. Salmon SuperHwy (SSH) is at 127 miles of reconnected stream. The original goal was 180 miles. SSH was a recipient of a FIP grant and it shows how successful it is in terms of fish passage improvements. At the end of the fiscal year, Trout Unlimited national staff and grassroots led projects have put $19 million of restoration projects on the ground here in Oregon with local contractors and jobs and will continue to do as much as funding allows.
- Tom shared he went with a team to Vicksburg, Missouri, to look at the model for the McNary Dam spill gates and run different scenarios. The McNary Dam in on the Columbia up by Umatilla. The gate hoists are breaking because they were designed to lift spill gates a couple times a year for flooding, but with the

new operations for salmon restoration, they're lifting them a couple times a day, and they are breaking down. Because of this, they're using a split leaf configuration, which means they aren't lifting the whole spill gate. They lift half the spill gate and lock it in. With this new operation, we don't know what the tail race flows look like to get the fish out of the tail race. Tom also shared the resilient Columbia Basin agreement with Washington, Oregon, the treaty tribes, and the federal government was a deal with the Biden administration. With the uncertainty of the new administration, they're fighting to keep this alive by changing the message to focus on economic benefits, in addition to biological benefits. The sovereign entities need to balance all the issues. A key element of the agreement was to keep BPA rates predictable, funding stable, and have the US government fund restoration to rebuild salmon stocks. The Office of Management and Budget (OMB) put out salmon cross-cut budget across all agencies, not just NOAA, but all the other programs. We've asked legislators to hold the Columbia River salmon funding stable for now until we can recreate relationships with the new OMB and new federal agency leads. Fish passage is a big part of this funding. Even in shifting those conversations, we can stress the community economic uplift of these fish passage and fish plans and the benefits to agriculture in the basin.

- Ted shared similar thoughts with Greg and Tom that we need to shift conversations to include economics in addition to biology and the economic impacts of neglect to infrastructure. There is a budget shortfall in the City of Portland and one of the bureaus hit hardest is the Dept of Transportation. Ted is thinking about the work we do in the non-profit sector, public benefits, and economic consequences of defunding biological projects. Ted is helping get word out about the fish passage priority list with groups like Metro.

Greg welcomed and introduced Steve Niemela, North Willamette Watershed District Manager. The NWWD includes a large population and many passage barriers with all the infrastructure. Kevin Stertz, NWWD Coast Range District Biologist. Kevin has no items on the agenda today but is expected to have some at the next meeting and future meetings as well. Mac said he and Kevin have been working with Portland BES for a possible waiver or exemption for the next Task Force meeting. Bryce Macnab, The Dalles Screen Shop Manager, and Toby Schuyler, Northwest Oregon Field Coordinator, will be asking for an exception at the next meeting for $75,000 for a project at the coast. Greg said the screen shop staff absolutely epitomize the program and get money on the ground. Greg also welcomed Isaac Sanders with Clackamas River Basin Council Watershed who will give a presentation later in the meeting.

Break from 9:52-10:00

**Public Comment Period at 10:00**

Chief Doug Barrett with the Confederated Tribes of Coos, Lower Umpqua and Siuslaw gave a statement to the Task Force. Good morning and thank you for the opportunity to address you this morning. We are salmon people and rely on salmon for ceremonies a lot. Please consider the tribes for subsistence, and for all our tribes, and tribes on the coast mainly, we've seen considerable drop in a lot of our salmon, our lamprey. Lamprey are an integral part of the ecosystem and they are 4 million years old, and I don't want to lose them on my watch. So please consider when you are doing these fish ladders, please add a lamprey ramp. A good one is down in Lakeside where our past chief and I were part of the tagging and trying to bring back lamprey to Eel Lake. They weren't able to get there until you changed the culvert, and it helped. Now they're in the lake again. Our ecosystem is so far out of balance we need to fix it yesterday, not tomorrow. So please consider that. Our killer whale babies are dying because there's not enough Chinook salmon for them to eat. We have a considerable problem with sea lions in every bay. There used to be 300. Now there's 1,000 to 3,000 in every bay. They're wiping out our salmon, and please help us protect our salmon. Our way of life. And you know everything about our salmon and lamprey are real special to us. I just want to say please think about our kids, my great grand kids, our kids in the future. We need to protect our salmon, even if we do need to close down the ocean for a year or some of the rivers to protect our salmon. The Siuslaw was second only to the Columbia River. Think about that for a minute. Little old Siuslaw River was second only to the Columbia. That's a big statement in itself. We used to be able to catch them by hand, even sometimes they used to jump over the net and land in a canoe, according to my grandpa. So, our lamprey are disappearing out of our river and our Chinook salmon are disappearing. Coho is not too bad, but we might want to think about some way of managing those. I appreciate your time and thank you very much for letting me speak.

Katherine received 4 public comments submitted for the Statewide Priority Barrier draft list which have been distributed to the task force prior to the meeting. She has summarized them in her presentation and has a couple printed out if anyone needs copies.

Mac received a public comment from Shane Scott about flexi baffles, which Greg read aloud. This is not new technology and has been looked at by ODOT for culverts. Greg suggested maybe we can have a topic at a future meeting to discuss the flexi baffles. They would be experimental and there are rules in place for experimental design.

Greg expressed his appreciation to Chief Barrett for sending his message. Lamprey are one of focal species for fish and wildlife on the species list, and we tried to best to include lamprey in the OAR process and statewide barrier list. Our program worked on Eel Lake, a focused effort on behalf of the department. Thank you for your comment. ODFW thanks you for that.

**ODFW Statewide Priority Barrier List (*All*)**
Katherine gave a presentation on the draft Statewide Priority Barrier List. This is the end of the process for the 5-year update. The list is required by law, in statute and rules, and is required to be updated every 5 years, approved by Commission. It was originally for enforcement, but rules were modified to note that it is also used for restoration efforts. The draft list now includes climate change in the scoring. We are working collaboratively with owners of structures on this list. This is an agenda item we're seeking a Task Force vote today to bring as a package to the Commission in April. Katherine thanked everyone who provided public comments throughout the process and reviewed the most recent public comments. Terry and Denise were on the subcommittee, and present in the room. Zak was on the committee, but is absent, so Terry read his email comments. The current draft list has 611 barriers scored and ranked. Katherine provided a high-level review of the 2025 scoring equation and gave a huge shout-out to Courtney Zambory for being at the helm of the climate change variables and for speaking to the Commission next Friday on the thermal suitability work she's done. Greg thanked Katherine for her hard work on the Priority Barrier List and reiterated the importance of the list as a tool to help shape and guide fish passage in the state. Discussion among Task Force members included responses to the public comments, appreciation for the district biologists, how to track barriers to add to the list for future iterations, and the overall ranking and groups of barriers on the list. Next steps include presentation at Commission, website updates, a video presentation, FAQ, an interactive map (Shiny app), and project solicitation because every barrier counts!

**Recommendation Motion:** Tom moved that the Fish Passage Task Force recommend the ODFW Commission approval of the 2025 Fish Passage Priority list, including the changes discussed and presented during this meeting. Kelly seconded the motion. The task force voted to approve. All members in attendance voted to approve. No members in attendance voted to oppose. Motion passed.

Greg thanked the Task Force, the priority barrier list subcommittee, Courtney, and Katherine. Greg asked Chair Turner to participate in the Commission meeting. Chair Turner said he will.

**Presentation: Fish Passage and the Clackamas River Basin Council Watershed *(Dave Bugni and Isaac Sanders)***
Chair Terry discussed the North Fork Eagle Creek Dam Removal bank stabilization on a landowner's property has addressed. The dam, which had been partial barrier for adult salmon and full barrier for juveniles, is now removed with full passage provided. The project is 95% done, with only riparian plantings remaining. Dave Bugni gave a presentation on fish passage improvements in the Eagle Creek subbasin that included dam removal at Eagle Fern Park, culvert replacement on Little Eagle Creek, and restoration projects on North Fork Eagle Creek and Bear Creek with large wood placement and riparian plantings that opened several miles of fish passage and improved habitat for salmon and steelhead. Denise thanked Dave for being able to wrangle the resources of his neighbors and the power of community to get something big done, and for his contributions to the projects and work over the years. Isaac Sanders gave a presentation on other fish passage and restoration work in the Clackamas River basin, including the J Creek side channel reconnection project, largely funded by Clackamas FIP and USFS, and contracted with local businesses. The CTWS side channel reconnection project that provided fish egress through a bypass channel and protection from natural hot springs was in collaboration with Clackamas FIP, NOAA, and the Confederated Tribes of Warm Springs. Isaac also discussed future projects and funding resources.

Chair Turner adjourned the meeting at 11:57 AM.

**Comment from Member Zak Toledo read aloud during meeting, re: Priority Barrier Update**

“I am writing to express my full support for the work the Department has done to update the Statewide Priority Barrier List.

I have had the opportunity to work on two update cycles in my tenure with the ODFW Fish Passage Task Force. The first one was able to expand the consideration for coastal areas with tide gates as well as substantially leverage GIS data sets to inform the ranking.

This cycle has been able to incorporate climate change - with consideration to fish needs and predicted stream responses - using best available science, sensitivity-verified metrics, and recent predictive models. The attention to both science and reasoning reflected by the Department should be commended.

I have reviewed the public comments - current and over the years. My overarching guidance for a response is to go back to the statute: what does the law require? Often, interested parties are looking for answers from this list beyond its intended function. Has the approach developed by the Department met the requirements outlined in statute and rule? In my opinion, the answer is a resounding yes.

I would like to again note my regret for missing the meeting this week. I would also like to reiterate my respect and support for the product the Department's dedicated team has developed.

Please let me know if you have any questions.

Thank you,

Zak Toledo”

**Public Comments Received:**

**“**March 7, 2025

RE: Comments to the Oregon Department of Fish and Wildlife (ODFW) Fish Passage Task Force

Subject: Implementing Flexi Baffles for Cost-Effective and Biologically Effective Culvert Retrofits

Dear Members of the Fish Passage Task Force,

I appreciate the opportunity to provide comments on innovative solutions for improving fish passage in Oregon. I would like to introduce the Flexi Baffle, a biologically effective and economically efficient means of enhancing aquatic organism passage (AOP) in culverts. We agree that removing and/or replacing a culvert with a professionally designed open bottom culvert is the best way to mitigate fish passage problems at culverts. However, often the cost to remove/replace and sheer number of culverts is prohibitive especially in times of limited budgets.
By way of brief introduction, I have worked as a fisheries biologist in the Pacific Northwest for 35 years. I have first worked on fish passage at dams, with Tacoma Power, then with the Washington Department of Fish and Wildlife, then the Public Power Council. With my own consulting firm, I have worked on fish passage projects in Asia, North America and Europe. In 2019, I founded SSA Environmental in Vancouver, WA, focusing on fish passage and aquatic organism passage (AOP) at culverts across North America. For more information, please visit our website: https://ssaenvironmental.com/flexi-baffle/

Introduction to Fish Passage Solutions and the Flexi Baffle
Weirs and baffles are proven technology for improving fish passage at dams and similar structures. For over a century, fish passage engineers have relied on weirs and baffles to modify water velocity and depth, creating conditions suitable for fish migration. The first fish ladder, which used a stepped-pool design like baffles, was developed in Scotland in 1837 to help Atlantic salmon bypass barriers. Since then, traditional solid baffles—typically made from concrete, wood, or metal—have been incorporated into fishways and culverts to slow water

velocity and create resting pools for migratory species. However, these rigid structures often result in debris accumulation, reduced hydraulic capacity, and high maintenance requirements.

The Flexi Baffle represents an advancement in fish passage technology, designed specifically to overcome these limitations. Developed to improve aquatic organism passage through culverts, Flexi Baffles are constructed from a durable, non-toxic rubber polymer that is flexible yet resilient. Unlike traditional solid baffles, they bend under high flows. This flexibility preserves the hydraulic capacity of the culvert and allows debris to pass through without clogging the system. The flexibility of our baffle maintains culvert capacity and passes debris while preserving the essential "weir and pool" structure that facilitates fish movement.
Of significant mention is that the Johnson Creek Watershed Council from Portland, Oregon was the first organization to install Flexi Baffles in North America. They now have installation on three culverts on NF Johnson Creek in Gresham, Oregon.
How the Flexi Baffle Improves Fish Passage Through Culverts
Culverts often pose major obstacles to fish migration due to a combination of high-water velocity, insufficient depth, steep gradients, and excessive drop heights. Culverts often create a shallow, high water velocity condition in the culvert that impedes fish passage. Flexi Baffles create habitat "complexity" in the culvert to mimic that in the adjacent streambed. Flexi Baffles address these challenges in several key ways:
• Slowing Water Velocity: By creating a series of pools and small weirs within the culvert, Flexi Baffles break up the flow, reducing velocities to levels that fish and other aquatic organisms can navigate. Computational fluid dynamics (CFD) modeling has demonstrated that these baffles significantly lower water speeds, even under high-flow conditions.

• Increasing Water Depth: Many culverts create shallow water conditions, making passage difficult for smaller fish and lamprey. Flexi Baffles trap and retain water within the culvert, increasing depth and ensuring a continuous wetted pathway for fish and other aquatic species.

• Providing Resting Areas: Migrating fish expend energy when swimming against strong currents. The staggered placement of Flexi Baffles creates small, calm resting pools within the culvert, helping fish conserve energy during passage.

• Accommodating a Wide Range of Species: The adaptable design of Flexi Baffles makes them suitable for multiple fish species, including salmon, trout, lamprey, and eels, as well as amphibians and aquatic insects. Their flexible nature allows them to be installed in culverts with varying slopes and sizes, making them a versatile and customizable retrofit solution.

• Resilient to Environmental Conditions: Traditional solid baffles can crack, corrode, or require frequent maintenance. Flexi Baffles are highly durable, non-toxic, resistant to extreme temperatures, and can be installed as a temporary or permanent solution, providing long-term improvements to fish passage with minimal upkeep.

Successful Implementations of Flexi Baffles
My business partners and I have hundreds of Flexi Baffle installations around the world. To list a few, we have successful installations in 15 States and 4 Provinces all over North America, New Zealand, Australia and several European countries. We have mitigated passage conditions for a wide range of species from salmon in Alaska to ESA-listed turtles in Pennsylvania, freshwater shrimp in New Zealand and eels in the Maritime Provinces and river herring in New England. We have had some great recent success, including returning salmon to a creek in British Columbia where they extirpated over 70 years ago. Here are some examples:

1. Schoenbar Creek, Ketchikan, Alaska: A 475-foot-long, 12' x 8' corrugated metal pipe (CMP) culvert was retrofitted with 81 ten-foot Flexi Baffles after its bottom had eroded. The project, completed by the City of Ketchikan, cost approximately $35,000 for materials and successfully improved fish passage. Fish were observed to enter and pass the culvert two hours after the culvert was rewatered.

2. Bon Accord Creek, Surrey, British Columbia: A 500-foot-long, 6-foot-wide concrete channel, originally built in the 1950s, blocked fish migration for over 70 years due to its gradient (1%–2%). In August 2023, sixty 6-foot Flexi Baffles were installed at 9-foot intervals by a group of high school student volunteers. The project allowed salmon to access 2.5 km of upstream habitat. The material cost was $18,700, and installation took just four days with

student volunteers. Salmon began passing the channel in November 2024. The first juvenile coho salmon were observed in June 2025, over 70 years after salmon were extirpated from Bon Accord Creek.

Economic Comparison: Flexi Baffles vs. Culvert Replacement

Replacing culverts with bridges or open-bottom structures is often considered the ideal solution for restoring fish passage. However, the high costs associated with full culvert replacement frequently make retrofits the only feasible option. King County, WA developed cost estimates for several culverts that are planned to replace over the next several years. We looked at many of these culverts that were identified as velocity, gradient or shallow water barriers to fish where the Flexi Baffle would be an appropriate mitigation option. Here are some examples of potential cost savings:

Case Study: Harris Creek, King County, WA

- Culvert dimensions: 9' x 6.5' CMP, 55 feet long
- Estimated cost of full culvert replacement (bridge): $5,319,000
- Cost of Flexi Baffle retrofit: $8,900 (materials) + one day labor for three staff.

Case Study: Watercress Creek, King County, WA

- Culvert dimensions: 4' round CMP, 44 feet long
- Estimated cost of culvert replacement (bridge): $1,878,000
- Cost of Flexi Baffle retrofit: $4,700 (materials) + two days labor for three staff.

In both cases, using Flexi Baffles could save over 99% of the cost compared to culvert replacement while significantly improving fish passage.

The Need for Action in Oregon

The National Aquatic Barrier Inventory estimates that over 6 million culverts in the United States create a passage barrier to fish and other aquatic organisms. The 2006 ODFW-ODOT Statewide Culvert Inventory identifies over 5,500 fish passage barriers in Oregon. I am confident many more culverts have been identified since that time. The current 2025 ODFW Statewide Fish Passage Barrier List identifies 210 culverts considered to be a priority for fish passage because access to stream habitats is a critical element for sustained fish populations and ecosystem functions.

In 2013, the Washington State Legislature allocated $300 million for culvert replacements. Recent reports indicate a significant increase in costs, with projections rising by an additional $3.5 to $4 billion, bringing the total estimated expenditure up to $7.8 billion. The average cost to replace a culvert has surged from $5 million in 2018 to approximately $20 million, influenced by complex engineering requirements, construction expenses, and labor shortages.

Conclusion and Recommendations

Flexi Baffles present a proven, affordable, and biologically effective solution for improving fish passage through culverts. Their successful deployment across North America, New Zealand, and Europe highlights their versatility and impact.

I strongly encourage the Oregon Department of Fish and Wildlife Fish Passage Task Force to:

1. Evaluate and pilot Flexi Baffle installations in key culverts across the state.
2. Incorporate Flexi Baffles into statewide fish passage guidelines as an alternative to full culvert replacement.
3. Engage with municipalities and transportation agencies to promote cost-effective culvert retrofits.

By leveraging modern baffle technology, Oregon can restore vital aquatic habitats while optimizing financial resources. Thank you for your time and consideration. I look forward to further discussion on this important initiative.

Sincerely,

Shane Scott Senior Biologist and Owner SSA Environmental 4719 NE Salmon Creek St
Vancouver, WA 98686 Email: shane@ssaenvironmental.com
Telephone: 360 601-2391