Grant County
PUBLIC UTILITY DISTRICT
Excellence in Service and Leadership

PRCC Habitat Subcommittee

Conference Call

Thursday, 13 November 2025
1:00 p.m. – 2:30 p.m.

Final Meeting Minutes

PRCC Habitat Subcommittee Members

Tracy Bowerman, Shelby Fowler (alt), USFWS	Chris Fisher, CTCR
Dave Duvall, Deanne Pavlik-Kunkel (alt), GPUD	Brandon Rogers, Hans Smith (alt), YN
Scott Carlon, NMFS/NOAA[1]	Carl Merkle, CTUIR
Jeremy Cram, Cody Gillin (alt), WDFW	Erin Harris, GPUD
Nathan and Clayton Buck, Wanapum	Tracy Hillman, BioAnalysts, Chair

Meeting Attendees

Chris Fisher, CTCR	Dave Duvall, GPUD
Jeremy Cram, WDFW	Tracy Bowerman, USFWS
Brandon Rogers, YN	Chris Mott, GPUD
Cody Gillin, WDFW	Erin Harris, GPUD
Tracy Hillman, BioAnalysts, Chair	

Action Items:

- Dave Duvall with check with the Methow Salmon Recovery Foundation to see whether the Bartsch Acquisition – Lower Twisp River – Reach 2A Project can be closed.
- Dave Duvall will contact the Okanagan Nation Alliance and let them know that the PRCC HabSC would accept a specification sheet requesting funding to extend the ORRI Okanagan Falls Project.

[1] NOAA Fisheries did they notify the Chair requesting a delay in voting on decision items. Therefore, decisions were made by members present.

Decision Items[2]:

- ***Decision:*** *PRCC Habitat Subcommittee members approved $301,862.80 for the Okanagan Nation Alliance Okanagan Lake Dam East Salmon Passage Project. Funding for this project will come from Fund 602.*

I. Welcome and Introductions

Tracy Hillman welcomed everyone to the meeting and participants introduced themselves.

II. Agenda Review

The PRCC Habitat Subcommittee reviewed and approved the November meeting agenda.

III. September Meeting Notes

PRCC HabSC members reviewed and approved the 11 September 2025 meeting notes.

IV. Review Action Items

The PRCC HabSC reviewed the following action item from the September meeting:

- Tracy Hillman will share the agenda for the habitat projects tour in Canada as soon as it is available. **Complete. The agenda was sent to the PRCC HabSC on 30 September 2025.**

V. Project Updates

Members of the PRCC HabSC provided the following updates on funded projects:

- **Primary Appraiser (Pacific Appraisal Associates)** – Dave Duvall reported that there is no update on Pacific Appraisal Associates projects.
- **Primary Appraiser (Noble Ag Land Valuation) –** Dave Duvall reported that a contract has been signed with Mark Noble.
- **ORRI VDS Backwatering Project (ONA)** – Chris Fisher reported that there is no update on this project. The project was visited during the tours in Canada. This project can be closed once the final invoice is received.
- **Lower Wenatchee Instream Flow Enhancement Project, Phase II Project (TU)** – Tracy Bowerman reported that the sponsor began construction on this project on 1 October. Work focused on pump station demolition, tree removal, and site clearing adjacent to the ditch. Two crews are installing the pipeline. By the end of the third week of October, about 800 feet of HDPE (high-density polyethylene) pipe had been installed and backfilled, along with an 18-inch steel pipe crossing beneath the railroad right-of-way. Work at the pump station began in early November and includes structural steel installation, pan decking, and concrete floor placement.
- **Peshastin Creek RM 2.5 Project (CF)** – Tracy Bowerman indicated that the sponsor continued working through the environmental compliance process. The Conditional Letter of Map Revision (CLOMR) and Nationwide Permit (NWP) 27 have been issued, and Section 106 requirements are complete. The next step is to begin the floodplain development permit.

[2] All decision items listed here were approved by PRCC HabSC members.

- **Bockoven Entiat and Stormy Acquisition Projects (CDLT)** – Jeremy Cram reported that there is no update on this project. The landowner has put the sale on pause.
- **Canyon Creek Culvert Design and Construction Project (CF)** – Tracy Bowerman indicated that the sponsor is waiting for the US Forest Service to complete their review of the designs.
- **Eagle Rocks Habitat Enhancement Project (MSRF)** – Tracy Bowerman said the sponsor will begin gate construction after the cows are removed from the property. The irrigation system has been winterized, and the sponsor is removing extra materials and cleaning up the site.
- **Kedrowski Acquisition Project (MSRF)** – Tracy Bowerman indicated that the sponsor is reviewing boundary adjustment questions with Okanogan County Planning and drafted a Qualified Charitable Distribution (QCD) for Assessor review. They also met with the seller and are scheduled to close on 30 November 2025.
- **Bartsch Acquisition – Lower Twisp River – Reach 2A Project (MSRF)** – Dave Duvall said this project is complete and can be closed once the sponsor submits the final invoice. Dave will check with the sponsor to see whether the project can be closed.
- **Skyline Screen and Fish Return Upgrades Project (MSRF)** – Tracy Bowerman reported that the sponsor removed about 6,000 feet of corrugated metal pipe and graded the area for the new HDPE pipe. They fused HDPE fittings for dissimilar pipe connections and began fusing 30-foot lengths of pipe. The sponsor assisted with the shutdown of the irrigation system and the fish screen operation. They received the steel bridge and bridge components and developed access to both sides of Cub Creek for bridge installation. The trestle was set in place in early November.
- **Penticton Dam Fish Passage Construction (ONA)** – Chris Fisher reported that the fishway is complete and operating. Some members of the PRCC Habitat Subcommittee visited the fishway during the tour in Canada.
- **ORRI Okanagan Falls (ONA)** – Dave Duvall said this project is complete; however, the sponsor is interested in extending the project downstream. Dave asked whether the PRCC HabSC would be interested in a budget amendment and time extension or would prefer to review a new application. Members present agreed that the sponsor should submit a new application. Dave will relay this to the sponsor.
- **White River Ohme Acquisition (CDLT)** – Dave Duvall said the transaction is expected soon. Once the transaction is final, the project can be closed.
- **Enloe Dam Sediment Analysis and 30% Design (TU)** – Chris Fisher reported that the sponsor continues to make progress on this project. The elutriate tests will be conducted in two dilution series using composite samples from (1) the four hottest samples (with the most concentrated arsenic, >1,000 mg/l) and (2) moderately hot samples (arsenic concentrations over CSL but under 1,000 mg/l). This work is required for the 401 Certification. Depending on the testing results, selective dredging may be necessary. Chris said the sponsor may need a time extension.
- **Methow River Riparian Stewardship (MSRF)** – Dave Duvall reported that there is no new update on this project.
- **M2@3R Habitat Construction (MSRF)** – Dave Duvall reported that the sponsor is coordinating with stakeholders on the construction schedule. In addition, they had a site visit with the engineer to assess construction staging and access.

- **Libby Creek Fish-Passage Barrier Dam Removal (CF)** – Tracy Bowerman reported that the sponsor, WDFW, and USFWS are pursuing the possibility of converting the irrigator's water rights to groundwater. They are in the process of evaluating feasibility of this option with the Department of Ecology and Trust Water Rights. The irrigator is the last remaining surface water right in Libby Creek. In the past, the irrigator was not interested in moving to a well, but his current infrastructure is aged. The conversion could result in an overall cost and maintenance savings resulting in more water in-stream, while simultaneously removing the fish passage barrier completely, without requiring construction of a roughened channel. There are a lot of details to work out to see whether this is a feasible option.
- **Sugar Channels Reconnection Project (MSRF)** – Tracy Bowerman reported that work on this project is underway, with the sponsor completing work along the left bank of the river. She also shared photos of the constructed side channels (see Attachment 1).
- **Methow River – Integrated CMZ Project (MSRF)** – Dave Duvall reported that the contract with the sponsor has been finalized, and the sponsor provided their insurance certificates.
- **Wenatchee-Okanogan Comprehensive Thermal IR Surveys (CCD)** – Contract can begin with approved meeting minutes.
- **2026 Upper Columbia Salmon Recovery Board Science Summit (UCSRB)** – Dave Duvall reported that the Silver Sponsorship ($1,000) invoice is pending.

VI. Restoration/Protection Projects

Okanagan Lake Dam East Salmon Passage Project

Dave Duvall introduced the Okanagan Lake Dam East Salmon Passage Project Specification Sheet and noted that although the project is complete, the sponsor (Okanagan Nation Alliance; ONA) indicated that several constraints encountered during construction resulted in additional unavoidable costs. This was a very complex project with significant challenges that were not foreseen during the design phase of the project. Dave outlined the five major challenges encountered during construction of the project. Dave indicated that the sponsor is asking for $332,315.08 to cover the unforeseen expenses.

Members discussed the major challenges and the estimated budget. They questioned why service lines and a utility pole were not known to be an issue before construction. In addition, the sponsor should have known before construction that the vehicle bridge would need to meet seismic needs for soil strength. Regarding the budget, members questioned why there are line items for Administration and Contingency, given that the project is complete. As a result of these concerns, the PRCC HabSC decided to table a funding decision on this project and request additional information from the sponsor. Specifically, the PRCC HabSC requests that the sponsor respond to the following questions/comments:

1. Because the project is complete, why is there a request for additional funding for Administration and Contingency?
2. Please provide more information on how the Administration cost was estimated and why it is so large ($53,310.82)?
3. The Subcommittee was surprised that issues such as relocation of service lines and a utility pole and the design of the vehicle bridge to meet seismic needs were not addressed in the designs before construction was initiated. These appear to be challenges that should have been known and addressed during the design phase. Please comment on why these were not evaluated during the design phase of the study.

After the sponsor responds to the PRCC HabSC's questions/comments, the PRCC HabSC will make a funding decision.

Following the meeting, the PRCC HabSC received a revised specification sheet from ONA that included an updated budget based on the PRCC HabSC questions. The sponsor reduced both the Administration and Contingency costs. The total request changed from $332,315.08 to $301,862.80. On Tuesday, 25 November, the PRCC HabSC approved funding for the project. The PRCC HabSC indicated that at the end of the project, they want the sponsor to reconcile the actual exchange rate with the Contingency rate identified in the revised application. That is, the sponsor should bill only for the actual exchange rate, not the full contingency amount.

Decision: *PRCC Habitat Subcommittee members approved $301,862.80 for the Okanagan Nation Alliance Okanagan Lake Dam East Salmon Passage Project. Funding for this project will come from Fund 602.*

VII. Administration and Information Updates

Okanagan Habitat Tour in Canada

Tracy Hillman and Chris Fisher summarized the tour that occurred in Canada in October. They walked through the tour packet provided by ONA (see Attachment 2). In addition, Tracy provided photos of completed and proposed projects visited during the tour (see Attachment 3).

VIII. Adjourn

Tracy Hillman adjourned the meeting at 2:30 pm.

IX. Next Meeting

The next meeting of the PRCC HabSC will be on 11 December 2025.

Attachment 1

Photos of the Sugar Channels Reconnection Project taken by Tracy Bowerman

Attachment 2

Tour Packet Provided by the Okanagan Nation Alliance during the Tour in October

Equesis/6 Mile Creek- Westside Road Fish Habitat Restoration
FACT SHEET

Okanagan Indian Band

Restoring Fish Passage & Habitat in 6 Mile/Equesis Creek

KEY MESSAGES:

- 6 Mile/Equesis Creek is one of the main contributors to the kłusxənitkʷ (Okanagan Lake) system. This creek is one of the last remaining Okanagan creeks with long stretches of healthy fish and wildlife habitat.
- Before the Okanagan Lake dam was built, 6 Mile/Equesis Creek was incredibly important to indigenous fish, especially salmon and fish that support mussels like Rocky Mountain Ridged Mussels.
- Fish passage is being restored into kłusxənitkʷ (Okanagan Lake) at Okanagan Lake dam in Penticton. This means that salmon will soon have unrestricted access to all kłusxənitkʷ (Okanagan Lake)'s tributaries, like 6 Mile/Equesis Creek.
- Two major man-made barriers prevent passage to over 20 km of high-quality creek habitat:
    1. Equesis/6 mile Dam: fish passage construction completed in 2024.
    2. Westside Rd weirs: current discussion, planned for 2025 construction.

GOAL:

- restore year-round fish passage and improve fish & wildlife habitat,
- increase bank stabilization and decrease bed erosion,
- maintain water withdrawal function and access.

PARTNERS:

- Okanagan Indian Band, Okanagan Nation Alliance.
- Engineer: Watershed Engineering Ltd; construction contractor: to be confirmed.
- Funding: Department of Fisheries & Oceans Canada's Canada Nature Fund for Aquatic Species At Risk, others to be confirmed.

THE PLAN:

Habitat target outcomes for riffles and bank vegetation

6 Mile Dam restoration outcomes in 2024: similar approach proposed for Westside Rd

For more information please contact OKIB TSD: Research.manager@okanagan.org, 250-241-1749

nlux^{w}lux^{w}ɬcwix (Lower Trout Creek) Restoration

2025 ONAFD FACT SHEET

Okanagan Nation Alliance

PROJECT BACKGROUND:

- Trout Creek represents the Okanagan basin's second largest watershed. This creek is a historically important creek for indigenous fish, especially salmonids (resident and anadromous). nlux^{w}lux^{w}ɬcwix (lower Trout Creek) was also historically composed of a large black cottonwood and water birch floodplain home to a great diversity of living beings, and which provided many ecosystem benefits.
- Channelization in the 1940s and 1970s, combined with upstream slide activity have resulted in extreme creek degradation, impacts of which include:
    - kokanee spawning population has reduced from many thousands to ~300 fish annually
    - creek's carrying capacity for wildlife species at risk greatly reduced;
    - 90-100% of instream habitat is large cobble riffles and glides, unsuitable for indigenous fish. No pools exist for rearing juvenile fish, and there is a sever lack of instream cover (ex. large woody debris) for fish and wildlife.
- This is a Penticton Indian Band project that ONA is engaged to support.
- The ad-hoc Trout Creek Steering Committee was initiated in 2019 to direct restoration goals and initiatives nlux^{w}lux^{w}ɬcwix (lower Trout Creek), from the canyon mouth to Okanagan Lake.
- Construction began in August 2022, from the canyon to 900 m upstream Highway 97 Bridge and included completion of riffle 4 with bank widening and floodplain area.
- Construction continued and was completed in October 2023 and included completion of riffles 1-3 with channel widening and remaining floodplain area.
- In the summer of 2025 channel bank widening, 3 more riffles and spawning areas were completed downstream of the previous site.
- Further floodplain construction is currently in design and pending funding.

PROJECT GOALS: restore self-sustaining creek habitat form and function which requires minimized human intervention in the long-term, and which is compatible with upstream slide mitigation efforts. Construction includes:

- Floodplain re-engaged floodplain wetted according to 2-year freshet discharge (per natural floodplain).
- Widened bankfull (creek channel) width to restore more natural sediment/water movement in freshet.
- Installed riffles to help retain salmonid spawning materials and bring habitat diversity back to the creek.
- Installation of spawning gravels at the crest of each riffle to increase oval available spawning habitat within the creek.

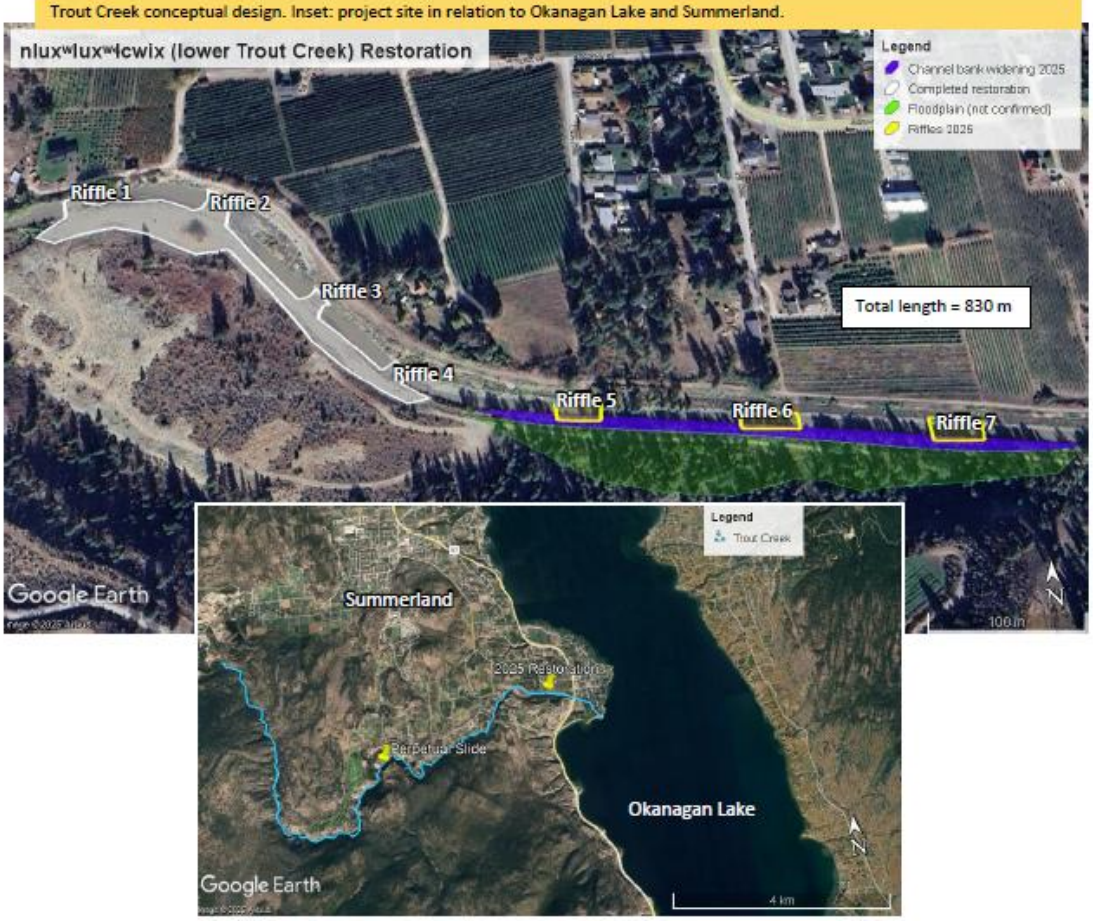
STEERING COMMITTEE:

- Penticton Indian Band
- Okanagan Nation Alliance
- The En'owkin Center
- Fisheries and Oceans Canada
- District of Summerland
- Watershed Engineering
- BC Parks
- Agriculture and Agri-food Canada
- Freshwater Fisheries Society of BC
- Mariposa Consulting (Communications)
- Water Lands And Natural Resource Stewardship (WLRS)

TIMELINE:

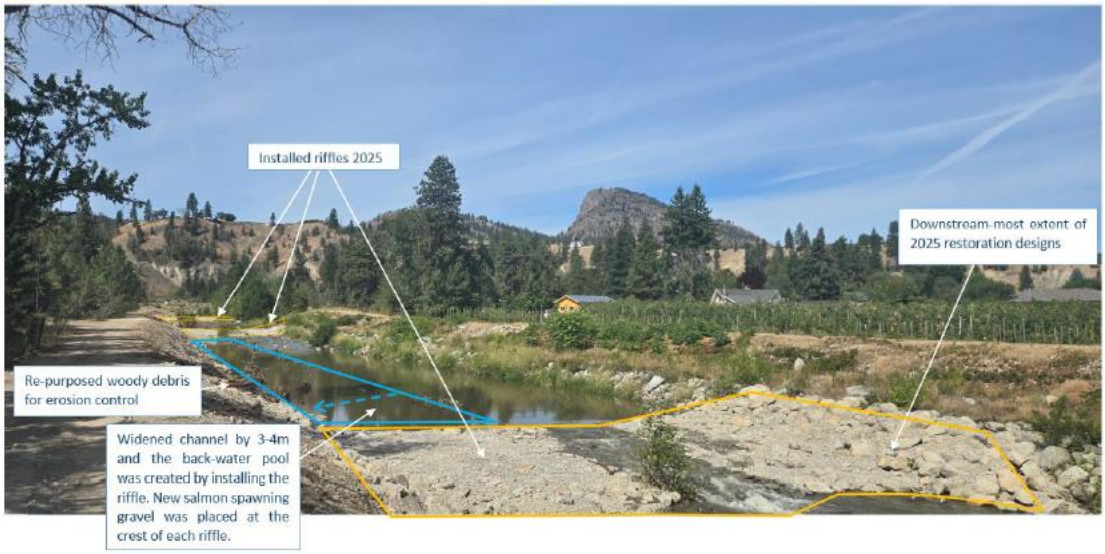
- 2019 – 2022: planning and coordination, engineer designs.
- August – September 2022 year 1, riffle 4 construction and floodplain setback
- July 2023 – October 2023 : Year 2, construction
    - Riffle 1-3 construction, floodplain setback, shaping of dryland fill area.
    - Fall 2023: revegetation of floodplain riparian area.
- 2024 revegetation, terrestrial revegetation of dryland fill area, monitoring, and adaptive management,
- August-September 2025: Phase 2, stage 1 construction.
    - 3 riffles
    - Bank widening
- 2025 + Phase 2, stage 2-floodplain construction (Pending funding).
- 2025++ revegetation, monitoring, adaptive management.

Trout Creek conceptual design. Inset: project site in relation to Okanagan Lake and Summerland.



Year 1 2022 construction outcome with riffle 4 and re-contoured floodplain area dry and at freshet. Construction continued in 2023 for riffles 1-3 and floodplain upstream of riffle 4.

Trout Creek restoration outcomes from summer 2025 construction prior to revegetation



DECEMBER 2024

Salmon Passage

Okanagan Lake Dam East Salmon Passage

BACKGROUND

In the late 1990s, the future of Okanagan salmon appeared bleak. Indigenous salmon populations had either been completely wiped out or were at alarmingly low levels. The loss of these salmon would have significant repercussions.

What led to this decline?

In the early 1900s, extensive flooding disrupted colonization efforts. To address this, the river was straightened, narrowed, and diked. A dam was constructed to regulate the flow from Okanagan Lake into the Okanagan River, altering the riverbed from gravel—ideal for salmon nests (redds)—to larger cobbles and sand. Essential habitats such as pools, riffles, eddies, and riparian zones were destroyed, resulting in a 50% reduction in the river's length and the loss of 90% of riparian habitat.

With the river disconnected from its floodplain, it could no longer perform its ecological functions. The construction of McIntyre and Skaha Dams in the southern Okanagan further impeded salmon migration upstream. This transformed ecosystem could no longer sustain a large salmon population.

Pre-channelization (Penticton Archives, 1942)

After channelization - Present Day

The Okanagan Nation Alliance continues the work of our ancestors by caring for the land and the living things that inhabit it. This initiative is part of our broader mission of kɬ cp̓alḱ stiḿ, which aims to return salmon to their natural habitats and ranges.

kɬ cp̓alḱ stiḿ is an nsyilxcen term that roughly translates to "cause to come back". This phrase captures the essence of restoration and revival, highlighting our commitment and duty to rejuvenate what has been nearly lost.

Okanagan Nation Alliance

OKANAGAN NATION ALLIANCE

Photo: Okanagan Lake Outlet Dam. In 2019, the existing west fishway was opened allowing migrating fish to enter Okanagan Lake.

Restoring Salmonid Passage into kłusxnitk ʷ Okanagan Lake

The **main project goals** are to enhance passage for indigenous salmonids throughout all migration periods, spanning from February to November, to ensure access to their historical spawning grounds. Additionally, the project aims to increase food security for all species, including humans, by fostering a sustainable and thriving ecosystem.

The Project Will:

- Build a nature-like fishway channel from Okanagan River into Okanagan Lake bypassing the Okanagan Lake Outlet Dam.
- Provide consistent velocities and depths through the fishway for all indigenous salmonids.
- Provide an adjustable invasive species migration barrier to deter invasive passage into Okanagan Lake.
- Accommodate the current needs for dam operations by the Province, operable during extreme drought and lake level fluctuations.
- Minimize maintenance and operation requirements.
- Provide a monitoring station for research purposes.
- Enhance riparian and dry land habitat for native wildlife species, including species-at-risk.
- With NO increased flood risk to infrastructure or public safety.

Timeline:

- 2025: Passage construction and revegetation
- 2025-2026: Post-construction monitoring

Photo: Illustrates new fish passage location

This Project Is Supported By:

Habitat Conservation Plan Wells, Rocky Reach, Rock Island Tributary Committees

HABITAT SUBCOMMITTEE OF THE PRIEST RAPIDS COORDINATING COMMITTEE

TD Friends of the Environment Foundation

City of Penticton

British Columbia

kɬ cp̓əlḱ stiḿ Initiative KEY HIGHLIGHTS

Bringing the salmon back to the Okanagan Basin from the brink of extinction required a tremendous effort, one that the ONA started in 1996. Here are a few key highlights:

- Years of advocacy to gain partners and support to begin the process to return sockeye to their natural habitat.
- A 12 yr Sockeye reintroduction program into Skaha Lake. After the 12-yr mark (or 4 life cycles) a decision was made that sockeye had forever passage with little effect on other species.
- The ONA built a conservation hatchery, kɬ cp̓əlḱ stiḿ, to raise Okanagan salmonids in efforts to rebuild salmon populations in their traditional territory.
- Modifications to both McIntyre Dam (Oliver) in 2009 and Skaha Dam (Okanagan Falls) in 2014 allowing salmonid migration upstream to Okanagan Lake Outlet Dam. In 2019 the existing west fishway was opened at Okanagan Lake Outlet Dam. (see photo)
- Extensive spawning beds were created below Okanagan Lake Dam Outlet (Penticton) since all spawning areas were lost due to channelization.
- The Okanagan River was reconnected with two oxbows and its floodplain just north of Oliver. Setting back the dike and re-meandering the river restores the river's ability to function while increasing habitat diversity and quality.
- 20 plus habitat restoration and fish passage projects have been completed throughout the Okanagan River and its tributaries.
- A 2022 technical review by ONA determined the existing fish passage at Okanagan Dam has structural deficiencies which delay migration, limit passage capacity and reduce accessibility at certain lake levels

These efforts have yielded remarkable results, sockeye returns have increased significantly, with record numbers observed in recent years. In 2024, sockeye returns at Bonneville dam reached 755,909.

OKANAGAN NATION ALLIANCE

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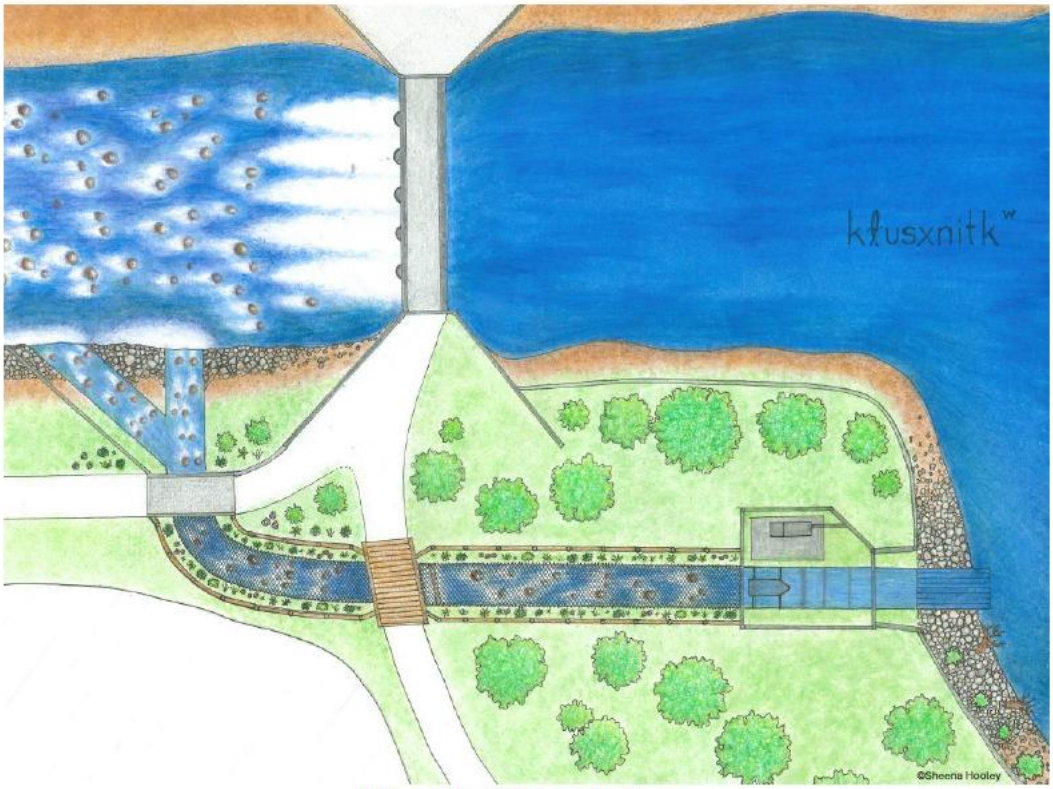
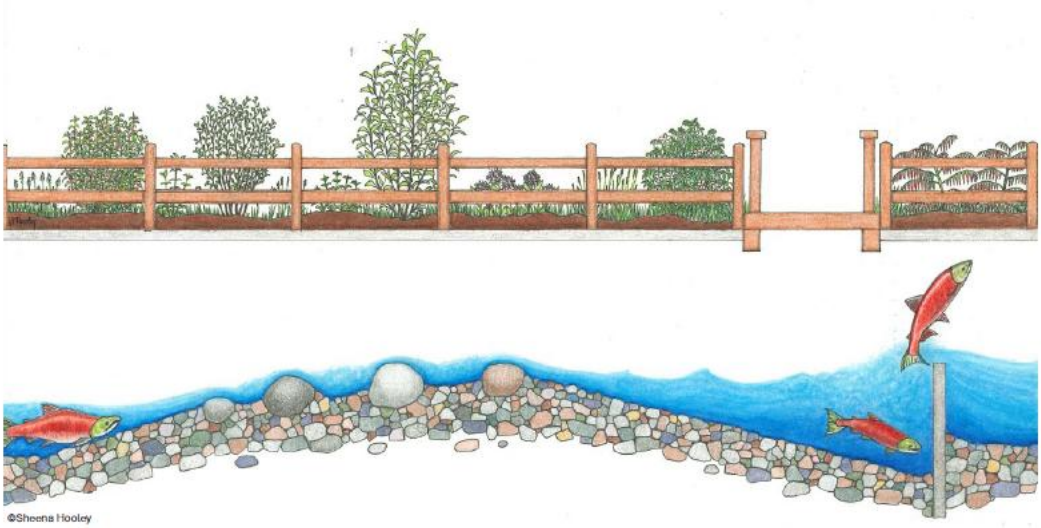
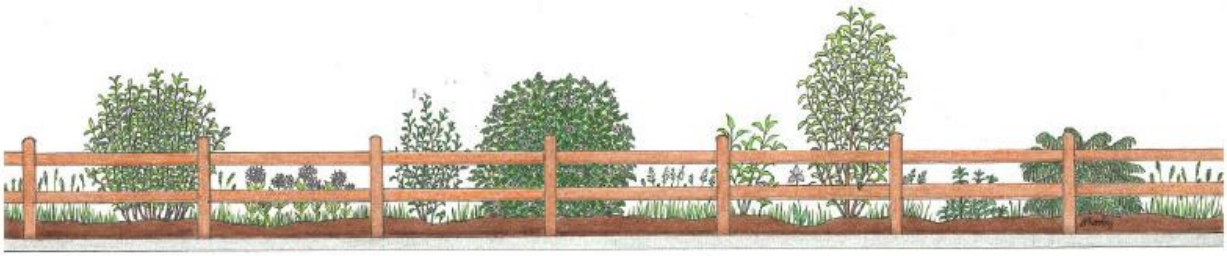


Artistic rendition of fishway, overhead view

Artistic rendition of salmon entrance from river into fishway



Artistic rendition of within the fishway at the invasive deterrent jump



Artistic rendition of within the fishway

Looking down at low flow riffle fish entrance

Looking downstream at both fish entrances (low and high flow)

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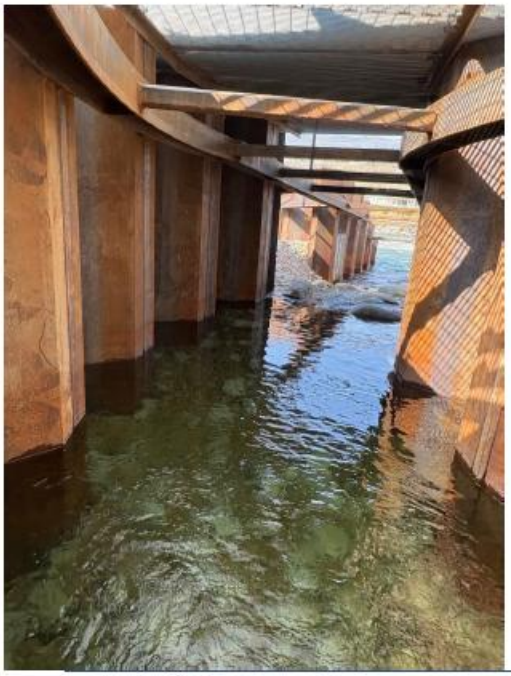
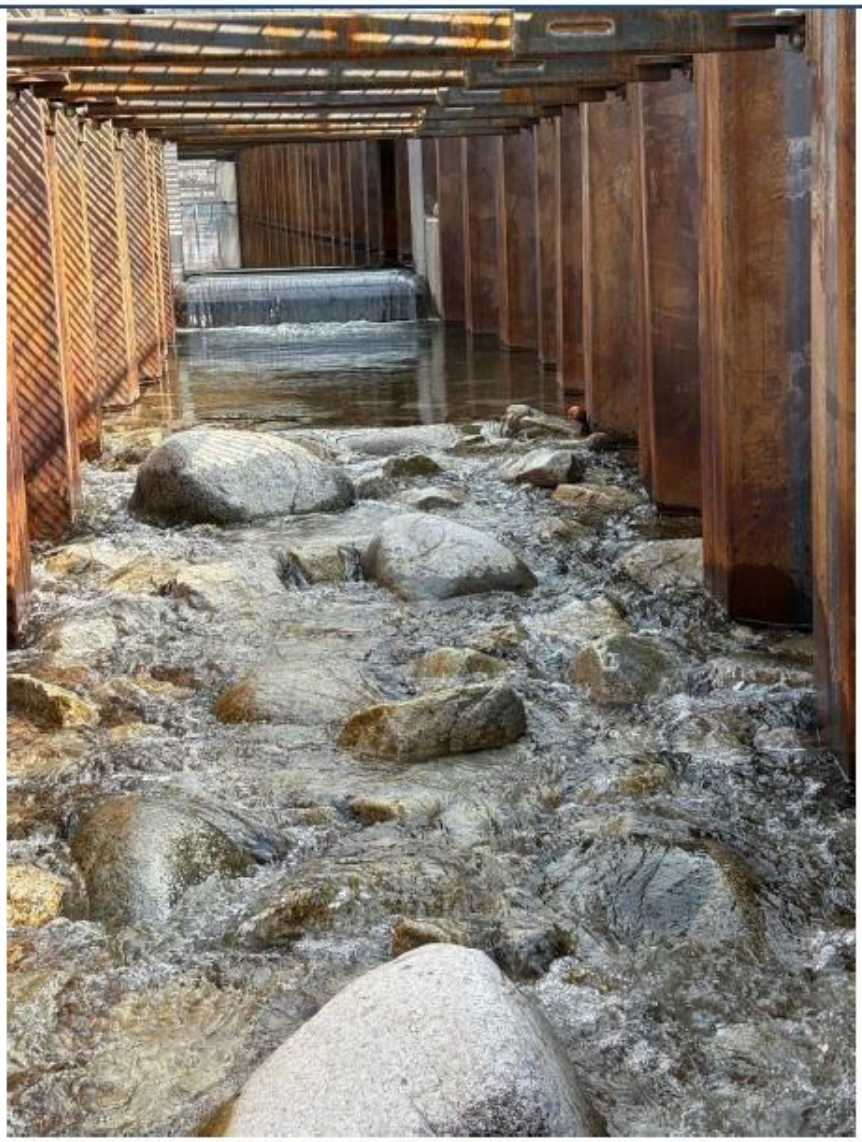


Looking downstream at pool

Looking upstream at pool

2



Looking upstream at riffle, pool and invasive exclusion jump

3

Trash rack

Looking downstream through fishway at stop logs

4

OKANAGAN RIVER RESTORATION INTIATIVE (ORRI)
IMPROVING FISH & WILDLIFE HABITAT BELOW sx̌ʷəx̌ʷnitkʷ (OKANAGAN FALLS)

ORRI Background:

- The health of the *sc̓awsitkʷ* (Okanagan River) has been severely impacted by channelization during the mid-1950's. This process straightened, narrowed and diked 84% (30 km) of the river. Only 16% (5 km) of the entire river remains in a natural (3 km) or semi-natural (2 km) condition.
- The Okanagan River Restoration Initiative (ORRI) was conceived in 2000 to re-establish the lost natural aquatic and terrestrial habitat features. ORRI is an ecosystem based collaborative approach assembling First Nations, governments and local stakeholders, returning sections of the channelized river back to more natural, complex and diverse conditions.

Project Issues:

- The four vertical drop structures (VDS 14 to 17) were constructed during channelization to stabilize the riverbed's increased slope.
- These alterations destroyed fish habitat. Rearing and spawning habitat is currently marginalized in this section of the river and fish migration delays occur at each VDS.
- The VDS are now aging (built over 70 years ago) and will eventually need repairs/maintenance.

Example of existing VDS at high flow (80 m^3/s).

Map of the 4 VDSs (VDS17 to VDS14) in the *sc̓awsitkʷ* between Skaha and Vaseux Lakes, in sx̌ʷəx̌ʷnitkʷ (Okanagan Falls).

Main Project Goals:

- Backwatering each VDS with a nature-like riffle improving fish passage, improving spawning habitat and increasing habitat diversity. (ex. Riffle 1, below VDS17 constructed in 2021-2022)
- Adding habitat diversity riffles within the confined channel (ex. Riffles 2 & 3, below Riffle 1)

Outcomes:

- Enhancing quality of rearing habitat for native salmonids. Improving fish migration. Enhancing spawning habitat.
- Enhancing habitat for at-risk Rocky Mountain Ridged Mussels.
- Reduction of exotic species, such as Eurasian watermilfoil.
- Enhancing riparian habitat for native wildlife species, including species-at-risk.
- Potentially reconnecting isolated wetland area (future phases).
- Maintaining channel flood capacity and bed stability.

2024 – 2025: Construction of the next phase completed between VDS16 and VDS15, and below VDS14

2025-2026: Revegetation and monitoring

Okanagan Nation Alliance

Osoyoos Indian Band

For more information contact,
Lee McFadyen, ORRI Public Relations
T: 250-499-5404 E: mariposaorgf@hotmail.com

HABITAT SUBCOMMITTEE
OF THE PRIEST RAPIDS COORDINATING COMMITTEE

Fisheries and Oceans Canada | Pêches et Océans Canada

HABITAT CONSERVATION TRUST FOUNDATION

RDOS OKANAGAN-SIMILKAMEEN

SOUTH OKANAGAN CONSERVATION FUND

OKANAGAN waterwise

Okanagan Basin Water Board

ORRI – Vaseux Floodplain Re-engagement

Project background

Building dams to regulate flows in the Okanagan Basin started as early as 1912 with extensive upgrades in the 1950s, resulting in:

- Massive losses of wetland and riparian forests throughout the valley, including the Vaseux floodplain area
- Loss of essential habitat for salmonid species
- Loss of connectivity, contributing to reductions in biodiversity and water quality, and the rapid sedimentation of Vaseux Lake

Fig. 1 The Okanagan River before and after channelization

Re-naturalization goals and benefits

Re-establish or improve key characteristics of functional floodplains, wetlands, and riparian forests, including:

- Establish self-sustaining populations of locally endangered plants like bulrush, black cottonwood, and water birch
- Provide off-channel rearing habitat for Chinook and other salmonids
- Create fish-free breeding ponds for amphibians like tiger salamanders and spadefoots
- Improve river-floodplain-wetland-aquifer connectivity to cool, filter, and store water
- Enhance the aesthetic, recreational, cultural, spiritual, and mental health-related values associated with healthy riverscapes.

Design Elements

- In Feb.-March 2024, a portion of the floodplain was excavated, bringing the water table to or below the surface at a variety of depths and inundation durations according to habitat requirements for target plant and animal species
- Public volunteer-based planting is currently in progress

1

- In August, a culvert will be installed in the dike, allowing surface water to move between the main channel and floodplain

Fig. 2 Off-channel rearing habitat for Chinook, before, during, and after construction.

Fig. 3 Water birch being planted, fish free pond, and ephemerally wet amphibian breeding area.

Construction Timeline

Feb. 24 - March 7, 2025 – floodplain excavation (complete)
August 2025 – culvert installation

If you have any questions or concerns regarding this project, please contact:
Amanda Anderson - Referrals Manager (OIB) 250-498-3444 or referrals@oib.ca
Lee McFadyen – Outreach Coordinator 250-499-5404 mariposaorgf@hotmail.com

Project Partners:

Fisheries and Oceans Canada | Pêches et Océans Canada
Environment and Climate Change Canada | Environnement et Changement climatique Canada
PACIFIC SALMON FOUNDATION
SOUTH OKANAGAN CONSERVATION FUND
Osoyoos Indian Band

2

Vaseux Creek Diversions

2025 ONAFD FACT SHEET

Okanagan Nation Alliance

PROJECT CODE: 755-H, 882, 866A

KEY MESSAGES: Removal of surface water from Vaseux Creek via a surface water diversion on the fan continues to reduce the quantity and quality of available fisheries habitat and exacerbate drought impacts. ONA is working with landowners and the Province to develop point of diversion restoration options, monitor the amount of water removed and the impact on creek flow, groundwater levels and available fish habitat.

TIME FRAME/SCHEDULE: Initial restoration planning is to be finalized by November 2025. Water and habitat monitoring is on-going.

ONAFD TEAM:

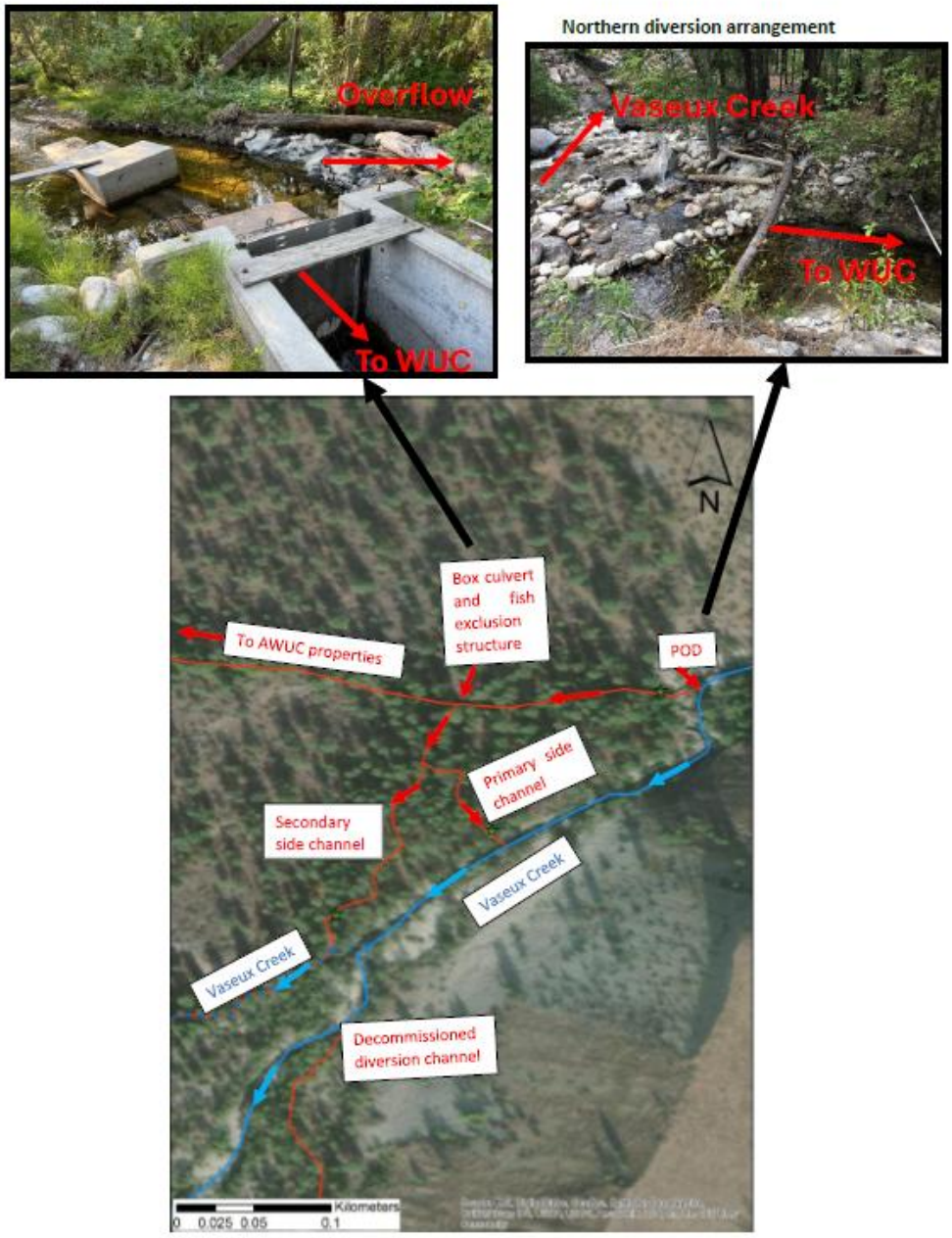
- OIB: Colette Louie, Fisheries
- ONA: Chani Welch (lead), Jamison Squakin and Schafer Montgomery (field leads)

BACKGROUND/HISTORY: Vaseux Creek has a long history of water use conflict and modification that has resulted in an unnatural flow regime, annual dewatering, and loss of fisheries habitat and connectivity to the Okanagan River main stem. Technical groundwater and habitat studies complete in 2021-2024 demonstrated that creek dewatering is exacerbated by two surface water diversions on the alluvial fan taking too much water. This strands fish in the creek and the unscreened diversion. Adult and juvenile chinook, coho, sockeye, O.Mykiss, northern pike minnow, whitefish and long-nose dace were observed in the creek in 2024. The northern diversion is operated by the Vaseux Creek Water User Community (Vaseux WUC). The VWUC is seeking funding to convert their agricultural operations to a groundwater source and close the surface water point of diversion. The southern diversion was operated by a single family. Closure of this diversion in December 2024 resulted in increased creek flow.

PROJECT PARTNERS: Province's Water Land and Resource Stewardship Authorizations, Water Resources, and Groundwater Science teams and Ministry of Environment and Parks Hydrology and Hydrometrics unit; Nature Trust of BC; Vaseux Water User Community, First Nations Fisheries Council.

GOALS:

- Document on-going removal of surface water from Vaseux Creek
- Assess impact on downstream flow
- Monitor
- Develop restoration plans for diversion closure

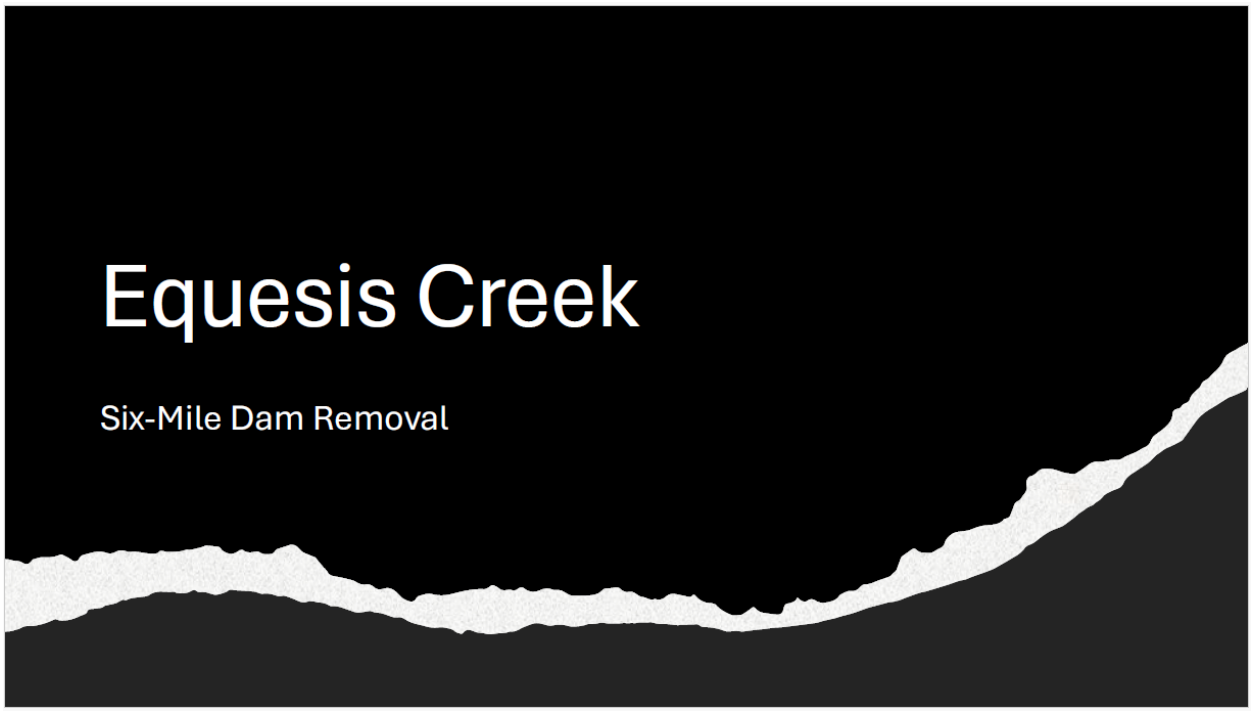

Overflow
To WUC
Northern diversion arrangement
Vaseux Creek
To WUC
N
Box culvert and fish exclusion structure
To AWUC properties
POD
Primary side channel
Secondary side channel
Vaseux Creek
Vaseux Creek
Decommissioned diversion channel
Kilometers
0 0.025 0.05 0.1

PUBLICATIONS:

- Welch, C., Montgomery, S.S., Louie, C., Pyett, N., and Pogson, J. 2025. Assessment of Groundwater – Surface Water Interactions on the Vaseux Creek Alluvial Fan, Oliver, B.C. Water Science Series, WSS2025-06. Prov. B.C., Victoria B.C. https://a100.gov.bc.ca/pub/acat/public/viewReport.do?reportId=63269
- Welch, C. and K. Alex. 2024. *Improving Water Management in Tributaries of the sq̓awsitkw (Okanagan River) Critical to Chinook Rearing: Final Report*. Prepared by Okanagan Nation Alliance Fisheries Department for the Department of Fisheries and Oceans. Westbank, BC.
- Welch, C. 2025. *Okanagan Drought Monitoring 2024*. Prepared by Okanagan Nation Alliance Fisheries Department for the first Nations Fisheries Council and Pacific Salmon Foundation. Westbank, BC.
- Alex, K. and Welch, C. 2025. Memorandum: Vaseux diversion closure and fish salvage summary. From ONA Fisheries Department to James Telford, Assistant Water Manager, Ministry of Water, Lands, and Resource Stewardship Thompson Okanagan Region, January 27, 2025.

Attachment 3

Photos of Completed and Proposed Projects taken during the Tour in Canada in October



Equesis Creek

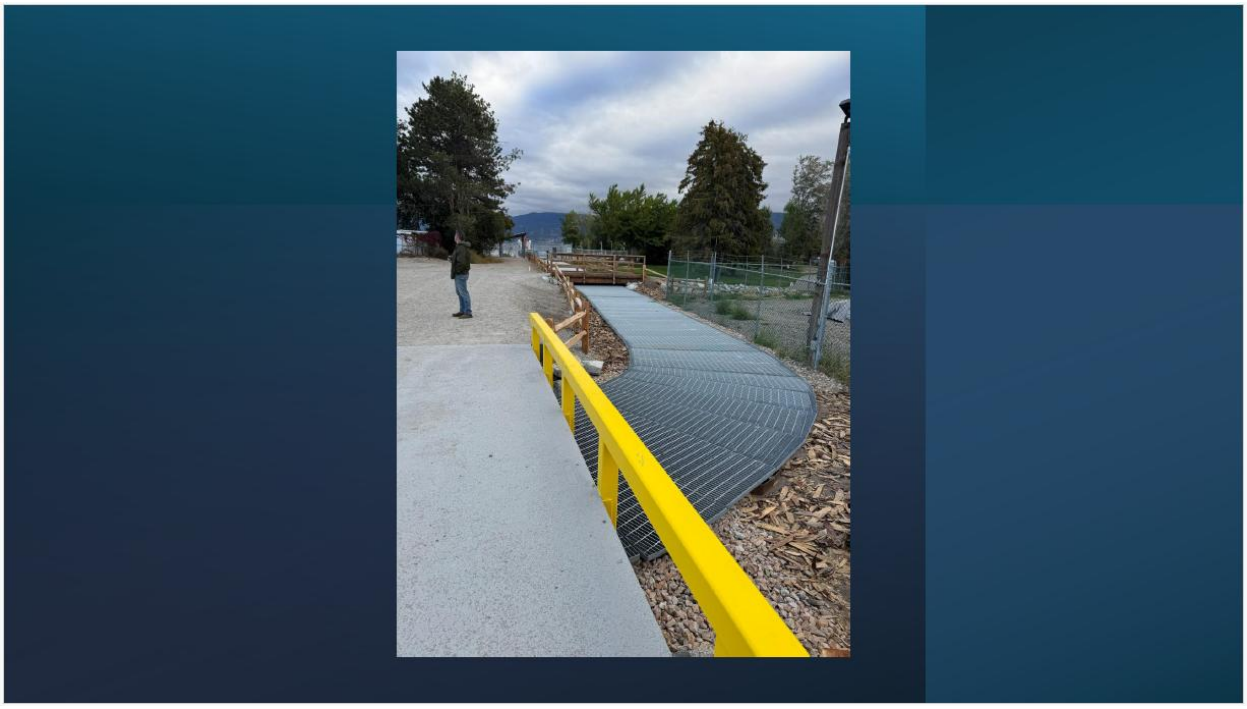
Westside Weir Fish Passage

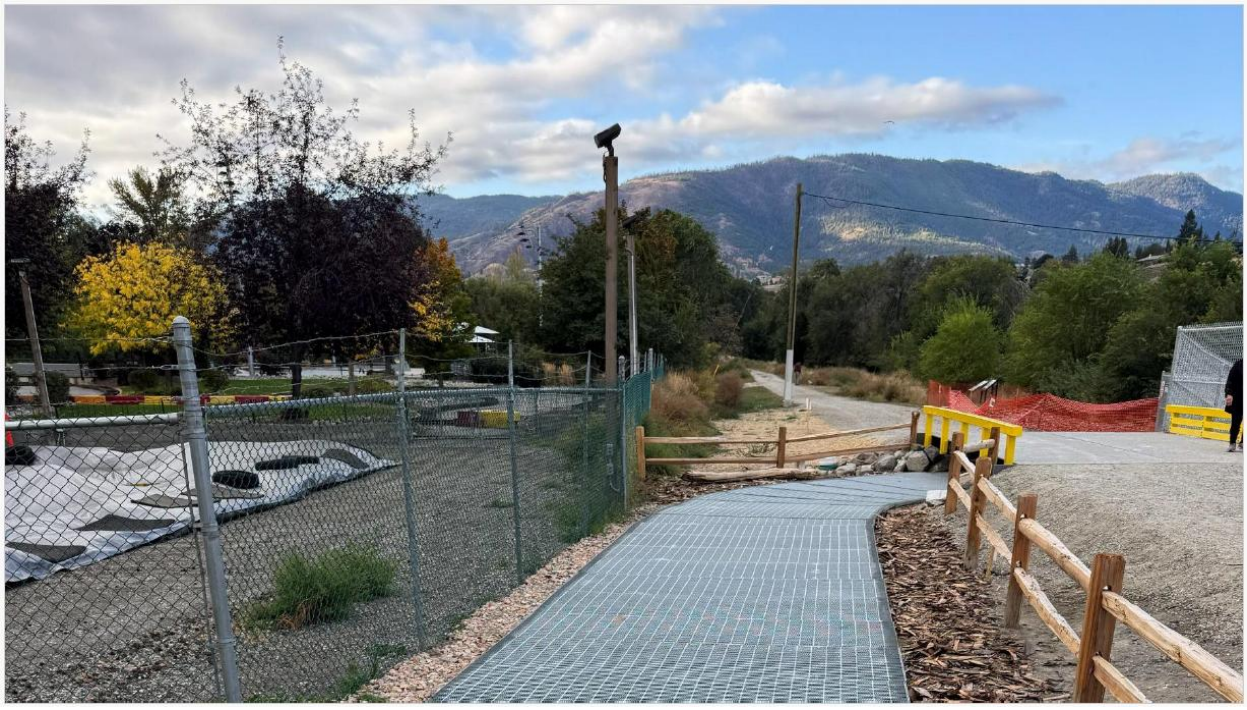
Trout Creek

Habitat Restoration

Penticton Dam

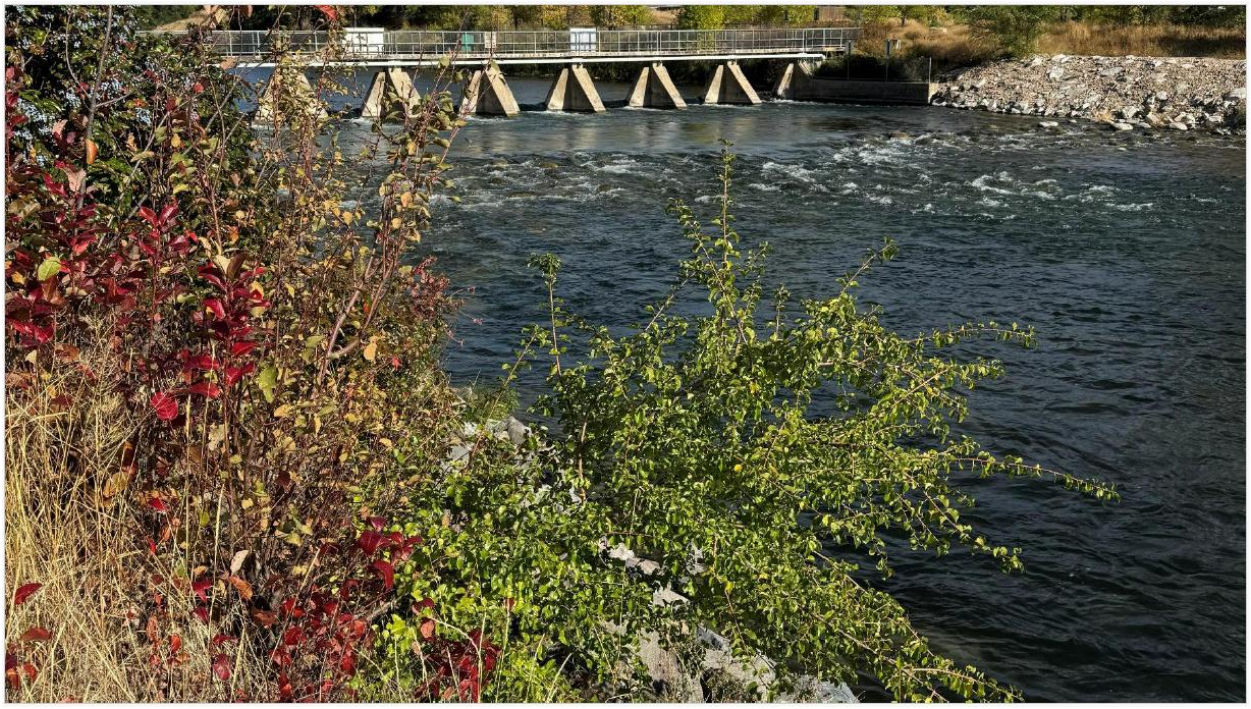
Fish Passage

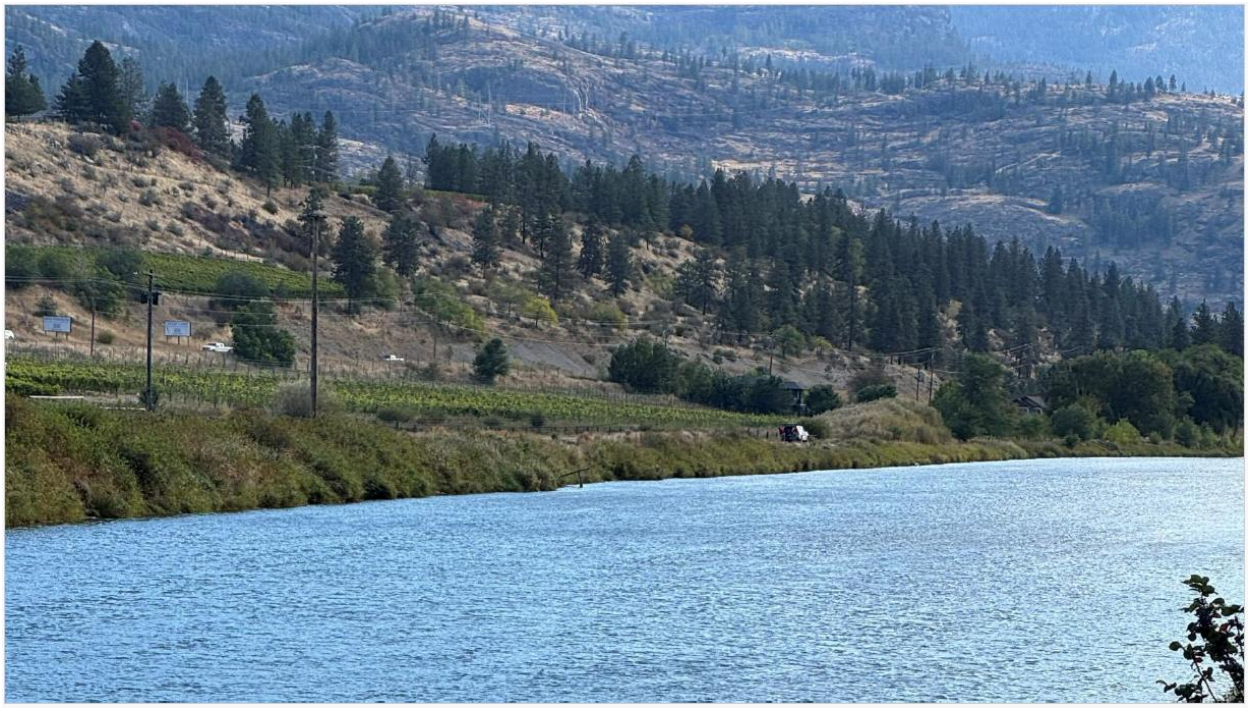




Okanogan River

Vertical Drop Structures





Vaseux Floodplain

Floodplain Reconnection