

Presentation to Courtenay
City Council, Nov. 27, 2024

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Morrison Creek
Streamkeepers

**RESTORE SALMON
&
LAMPREY PASSAGE
in
MORRISON CREEK
at
1ST St. CULVERT**



Morrison Creek

- Unique, spring-fed stream, flows through Courtenay to Puntledge River at Puntledge Park
- Home to:
 - 4 species of salmon.
 - endangered and protected Morrison Creek Lamprey – found nowhere else in the world.
 - 3 species of trout.
- Habitat fragmentation is a threat to fish populations.





THE CHALLENGE

- Culvert at 1st St.
 - partial barrier to fish passage
 - as identified by DFO and MCS.
- High velocity flow
- Shallow flow
- Drop from culvert to resting pool
- Poor baffles
- Upstream passage difficult for
 - Adult salmon
 - Juvenile salmonids
 - Lamprey

September 2023

Salmon and lamprey encountered challenges entering the culvert and moving past the first baffle.



November 2024



Coho fry at 1st St culvert

- Many fry attempt to move upstream in the fall
- Many fry observed unable to enter culvert

May 2023



Lamprey spawn in Puntledge Park in spring

- Weaker swimmers
- Unable to enter culvert and move upstream
- Species most impacted by habitat fragmentation

SOLUTION – “THE CADILLAC”

BOTTOMLESS STEEL ARCH CULVERT

Replace the existing culvert with a bottomless steel arch culvert, to accommodate 1:100 year rain events, and provide fish passage.

Schedule: Per Integrated Rainwater Management Plan

- months of construction
- meet regulatory compliance



SOLUTION - "THE VOLKSWAGON"

RESTORE THE EXISTING RIFFLE CREST FOR TAILWATER CONTROL

Restore the existing riffle crest to its original design height: (30cm above the culvert outlet).

- back-water the culvert,
- provide unimpeded fish passage into the culvert.

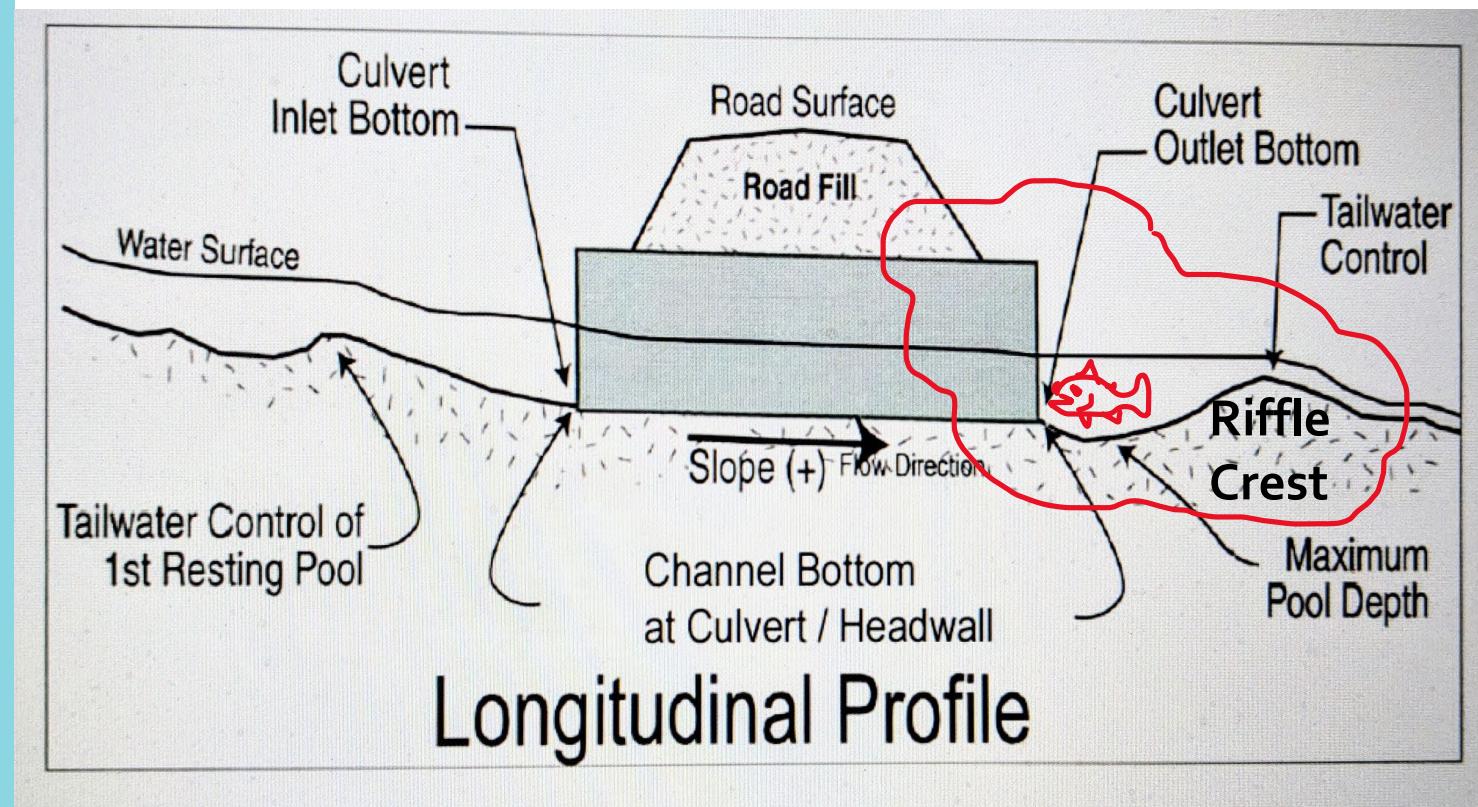
Schedule: July / August 2025.

2-3 days construction. (estimated).

Cost: \$10k to \$20k. (estimated).

- Hydrological assessment and permitting required.

CULVERT CROSS SECTION



• The Drivers (why do this?)

Morrison Creek is a rare and unique stream, a cool water refuge for wild fish, and a jewel in our community.

• We are fortunate to have the opportunity to improve the health of this incredible and valuable watershed.

- Secure populations of endangered Morrison Creek Lamprey, and salmon – particularly Coho salmon.
- Compliance with the Provincial Water Act and the Federal Fisheries Act.
- Follow other jurisdictions in remediation of barriers to fish passage.
- Increase the overall health of this amazing watershed, for the benefits of so many.

THE GOAL

Culvert at Comox Logging Road

Outlet Control Weir
Constructed in 2015.

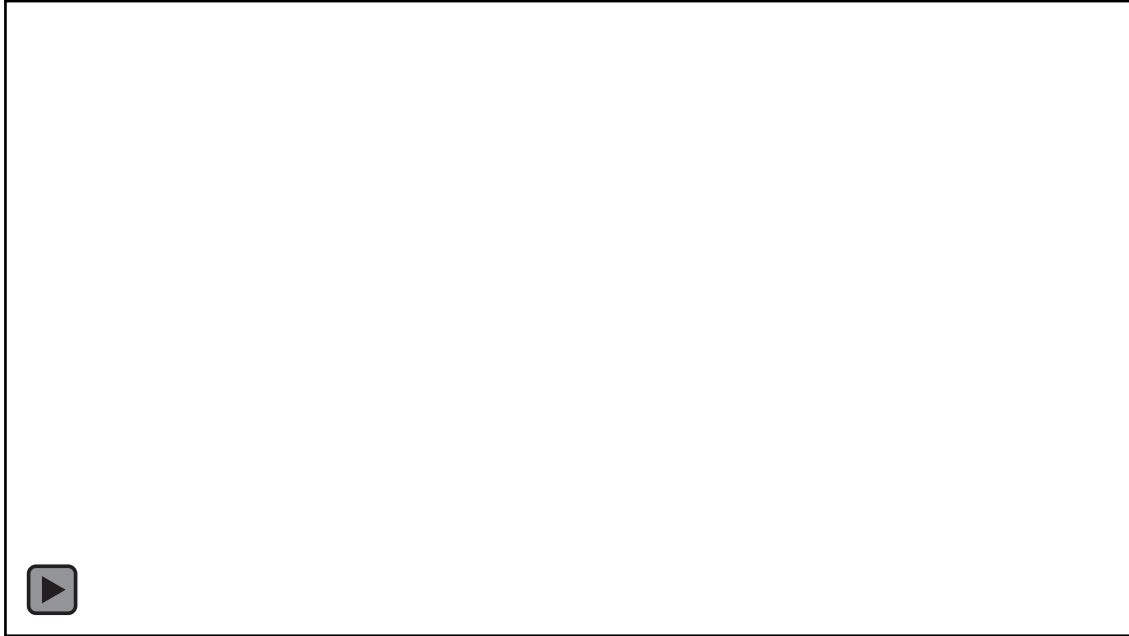
Backwatered Outlet.

Slow and deep flow.

No Barrier to Fish
Migration.

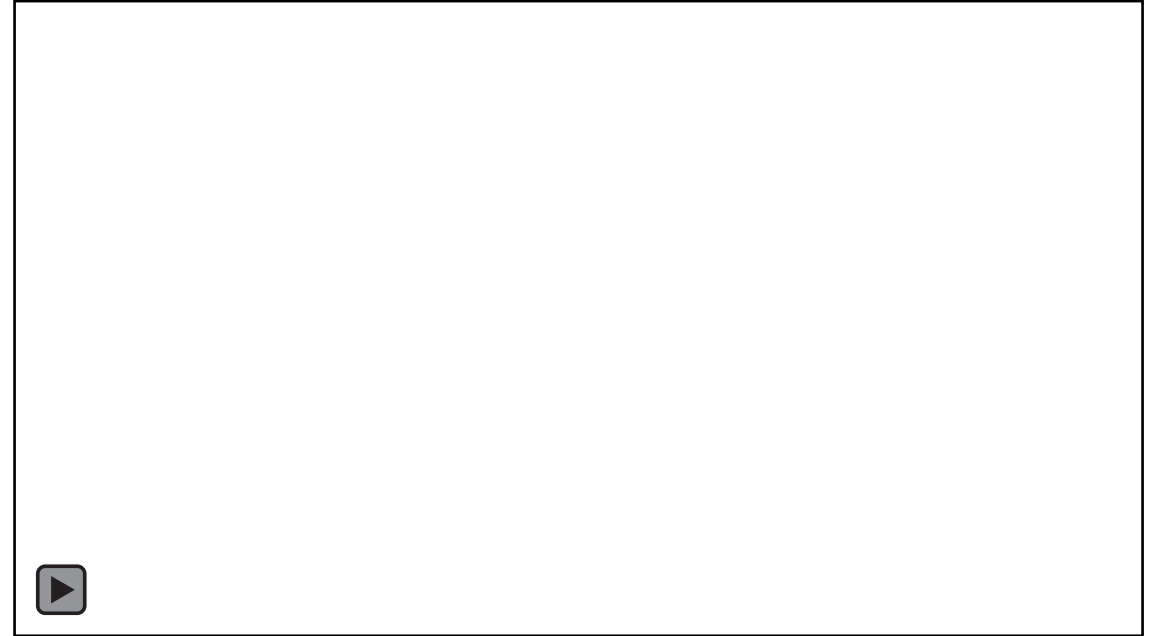


1st St. Culvert



Ready for Barrier Remediation to Restore Fish Passage

Comox Logging Road Culvert



Barrier Remediated in 2015 to Restore Fish Passage