

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 *kł ɕpəl̓k stíh*, which aims to return salmon to their natural habitats and ranges.

kł ɕpəl̓k stíh 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.





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

Restoring Salmonid Passage into kłuxsnitk 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

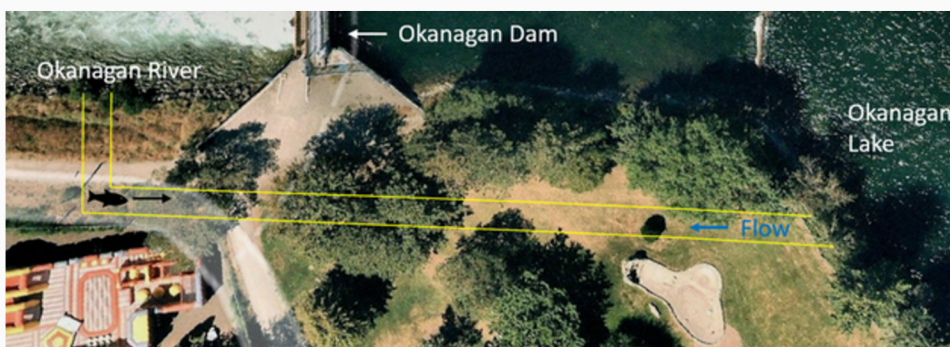


Photo: Illustrates new fish passage location

This Project Is Supported By:



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kł cǫǫk stīm 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, kł cǫǫk stīm, 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.