

A group of salmon swimming in a river over a rocky bed. The water is clear, and the fish are in various positions, some near the surface and others deeper. The background shows a rocky riverbed and some greenery.

PROVIDING SAFE PASSAGE

By Sophie Vigneau

In the fall, salmon embark on a rigorous journey back to the rivers in which they were born. They fight powerful currents and rapids, leap over waterfalls, and try to avoid savvy predators such as osprey, bears, eagles and humans. In addition to these natural obstacles, man-made barriers along our waterways restrict access to historical ideal salmon spawning and rearing habitat, making the salmon's journey even more difficult and less likely to succeed.

Blocking the Way

Man-made barriers prevent salmon from completing their passage, often because barriers are too high for salmon to jump over, or because culverts don't allow enough water flow for salmon to access waterways. These barriers are having negative effects on salmon life cycles. For every thousand eggs laid and fertilized by a pair of adult salmon, very few adult salmon survive the life cycle. With a growing number of fish passage barriers blocking our nation's waterways, the survival rate of salmon will likely continue to decline.

Fish barriers are truly becoming a global problem for migrating fish, but are especially threatening to anadromous species — fish that migrate from the sea to freshwater to spawn. These species, including many salmon species, rely on networks of connected waterways to complete their long-distance journey. Five species of Pacific salmon (Chinook, Chum, Coho, Pink and Sockeye), as well as Steelhead, are struggling to survive due to the artificial and natural obstacles they face during their crucial migration through disconnected river networks. These barriers make it difficult for salmon to access their spawning and rearing habitat, limiting their reproduction and causing a decline in the sustainability of fisheries in British Columbia.



Passage of large adults returning to their spawning grounds must be accessible. Several species remain resident in the stream for up to two years. During this rearing period, these small juveniles need to be able to access refuge habitat from low and/or high flow events and predators. This could be done by ensuring passage over low flow barriers during periods when stream temperatures may reach lethal ranges.

Providing Safe Passage

The Canadian Wildlife Federation is working towards a brighter future for Pacific salmon species by improving waterway passage to and from their spawning and rearing habitat.

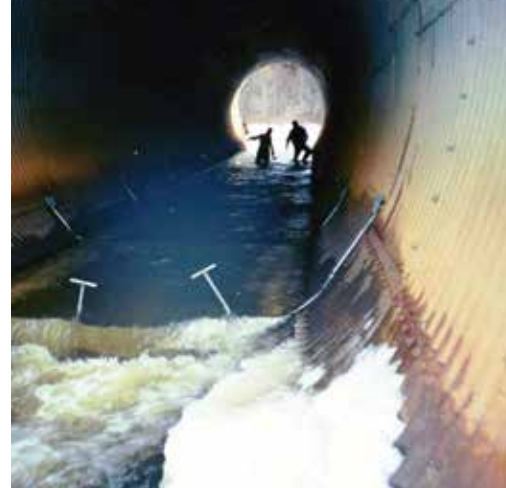
CWF's goal is to reconnect streams and rivers by remediating obstacles such as rail and road culvert crossings, weirs, levees and dams. CWF is working to improve our nation's fish passage waterways using two major strategies:

1. Work with municipal, provincial, federal and Indigenous governments, coupled with stewardship and industry groups, to secure the funding, support and technical expertise needed to implement and enhance fish passage improvement projects, starting in British Columbia and extending to our entire nation.
2. Identify and prioritize barriers for remediation in a national database that organizations can use to assess and move forward with fish barrier remediation in their given areas.

“Fish barriers like dams and dykes have been identified as a critical reason why many fish stocks are in decline,” says Nick Lapointe, CWF’s Senior Conservation Biologist for Freshwater Ecology. “It’s more important than ever that we take a good hard look at these barriers and start fixing them to allow fish to migrate freely.”

In British Columbia, CWF is working in partnership with the Pacific Salmon Foundation and the B.C. Fish Passage Technical Working Group and others to implement these strategies. British Columbia has demonstrated leadership in fish passage remediation and removal. CWF's goal is to expand the beneficial fish passage work already happening in B.C. and to apply the successful strategies from these additional projects to the rest of Canada. CWF is also conducting fish passage work outside of B.C. through research, advocacy and by exploring other pilot project opportunities.

There are many ways to remove or remediate fish barriers. Creating a nationwide database of existing barriers allows for prioritization and optimization of remediation and/or removal that yields the greatest ecological value to fish populations within a given budget. Securing funding and providing technical expertise in fish barrier removal or remediation will allow local projects and groups to improve fish passage within their geographical areas. CWF will strategically plan fish passage improvements to help ensure that current and projected habitat quality remains the same or improves as a result of remediation and removal, taking into consideration changing environmental conditions.



The Canadian Wildlife Federation is eager to implement positive change in Canada's waterways through the removal and remediation of fish barriers to help migratory fish species. Our nation's waterways are in need of improvement and, thanks to the support of RBC Foundation funding, as well as financial support from the Canadian Nature Fund for Aquatic Species at Risk and the British Columbia Salmon Restoration and Innovation Fund, we have been given the opportunity to make a real difference for these species.