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Westslope cutthroat trout

Finding a Natural Refuge

Saving Wild Trout in Banff National Park

Banff National Park is known world-wide for its iconic mountains, hot springs and wildlife, especially large animals like bears and elk. But for aquatic specialist Shelley Humphries, Banff holds yet another treasure – a unique opportunity to create a special refuge for a species at risk - the westslope cutthroat trout.



Waterfall barrier-Upper Corral Creek



Electrofishing to remove invasive species

A high elevation prize

The **westslope cutthroat trout**, with its distinctive orange-red slash below the jaw, is highly prized by the sportsfishing community. Once found throughout the Pacific Northwest, including Montana, Oregon, British Columbia and Alberta, its range is now vastly reduced. In Alberta alone, westslope cutthroat trout are limited to less than 10% of their historical range.

Westslope cutthroat trout depend on cold, fast-flowing water as well as riparian and instream cover such as undercut banks. They prefer cooler and higher elevation streams than other trout species; as a result, they are found primarily in headwater streams and lakes and the upper reaches of mainstem rivers.





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Struggling to compete

The westslope is one of two subspecies of cutthroat trout in Canada. There are two westslope populations - one in Alberta and one in British Columbia. Because these populations are separated by the Rocky Mountains and movement between them is impossible, each population (or discrete unit) has been considered separately by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

Intensive inventories have revealed that westslope cutthroat trout with high quality genetics remain in only about 55 small locations in Alberta, of which ten occur in **Banff National Park**. Parks Canada is therefore an important partner in recovery efforts for this species, working with other federal and provincial agencies and key stakeholders.

In Alberta, COSEWIC found that westslope cutthroat trout are declining for a number of reasons, including loss of habitat, changes in habitat quality, and exploitation by anglers. Another major factor is competition from brook trout and hybridization (i.e. cross-breeding) with closely-related species such as rainbow and Yellowstone cutthroat trout, which have been introduced to a number of rivers and lakes across Alberta. As a result, the Alberta population was designated as Threatened under the **Species at Risk Act** in 2013.

A hidden refuge

Hidden Lake and Upper Corral Creek are located to the north-east of Lake Louise, one of the jewels of Banff National Park. Once teeming with westslope cutthroat trout, this changed dramatically with the mysterious appearance of brook trout in the 1960s. Ironically, while considered an invasive species in western Canada, brook trout are actually in decline – and the focus of restoration efforts - in the eastern part of the country.

Parks Canada, in partnership with Trout Unlimited Canada and the Fairmont Chateau Lake Louise, has launched an ambitious project to help restore westslope cutthroat trout in the Hidden Lake and Corral Creek drainage. This involves creating a long-term headwater refuge in the area, in order to give westslope cutthroat trout a place to recover without the constant pressures of competition from other species.

First, Parks Canada is working to remove brook trout from the headwaters, using a combination of gill and trap netting, angling and electrofishing. Once removed, larger fish are being frozen and donated to a regional rehabilitation centre to feed hurt or captive birds of prey – a delicious solution for all involved!



Banff National Park of Canada

Parks Canada is taking advantage of a naturally-occurring barrier – a waterfall – to prevent brook trout from returning to the refuge once they have been removed. Given their sensitivity to changes in temperature, this high elevation refuge may also provide the westslope cutthroat trout additional protection in the event of climatic changes.

Once brook trout removal is complete, staff will expand the population of westslope cutthroat trout by translocating wild trout into both the lake and the upper reaches of both Hidden and Corral Creeks. This will involve capturing, storing, transporting, and releasing trout from the middle and lower reaches of Corral Creek. These fish will be carefully selected to make sure that they bear no trace of cross-breeding with other species.



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Making Progress

After three years, Park staff are confident that they have removed the majority of the adult brook trout from the area. Efforts are now being focused on small juvenile fish that were spawned in 2011 and 2012. They have also started experimenting with new genetic screening tools that will help them in both selecting and monitoring translocated fish.

One of the surprises in the first few years of the project has been the amount public interest it has been generated, despite the fact that Banff is typically known for more photogenic animals!

And while her work keeps her feet firmly planted in the water, Humphries can't help but enjoy sharing the basin with these other wildlife species. 'I love checking nets in the belly boat with herds of big horn sheep or mountain goats contentedly looking on from the slopes or the rocks up above' she says. Indeed, Hidden Lake has become a refuge not just for the westslope cutthroat trout, but also for those who work to protect them.

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