Calling All Bull Trout Nerds



2026 Meeting of the Salvelinus confluentus Curiosity Society

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The annual meeting of the *Salvelinus confluentus* Curiosity Society (ScCS) brought together Bull Trout (*Salvelinus confluentus*) lovers from across Canada and the United States. This August we met in Exshaw, along the Bow River, to discuss the past, present, and future of Alberta's provincial fish.

The ScCS is a subcommittee of the Western Native Fishes Committee of the Western Division of the American Fisheries Society. It started up in 1989 as a collection of biologists, conservationists, and other lovers of this iconic species. The organization had a simple goal: share resources, research, and fieldwork expertise to work towards preservation of Bull Trout in their natural tributaries across their Northwest range. Now, more than ever, this conservation work is essential, as Bull Trout populations experience more and more challenges in their natural landscapes.

Bull Trout at one point had the largest distribution of all trout in Alberta. As an aquatic apex predator, they often eat smaller fish and invertebrates. They grow slowly and need cold, clean, and connected waters to complete their lifecycle. Spawning happens in early fall and requires the right type of gravel deposits within tributaries for females to deposit their eggs. As cumulative land impacts in and around their habitat have increased in Alberta over the years, they have declined to the state they currently rest at; Bull Trout are listed as Threatened under Alberta's *Wildlife Act*, and the main Alberta population is also Threatened under the federal *Species at Risk Act* (SARA).

This year's gathering spot for the ScCS was in the midst of the habitat for the Saskatchewan-Nelson River population. This is the population of Bull Trout that is the most threatened in Canada, and some of the most essential remaining habitat for their survival is contained in this region. This location gave us the chance to see some of the areas discussed during presentations, as well as complete some on-the-ground remediation and research work to try to have a direct impact on species recovery.

Sharing stories and strategies

Bright and early on the first day of the conference, we gathered in the Exshaw Community Hall. Looking around, we were met with a sea of fish-themed clothing, with multiple people sporting t-shirts and hats bearing designs from previous ScCS meetings. We were given a brief chance to chat with some of our associates from organizations like Freshwater Conservation Canada, the University of Calgary, the Miistakis Institute, fRI Research, and Parks Canada. We also got to meet some other fish fanatics from across Canada and the U.S.

With more than 20 speakers over the course of the conference, we had a packed schedule of presentations. Elder Tom Snow of the Stoney Nakoda First Nation started our day by introducing us to the land and sharing his history

of living and working within this area. Elder Snow spoke of his history and relationship with the region and the native trout, and he told stories of other beings with whom we share the land. After this, we got into the meat of the presentations, discussing trout diseases, threats to their survival, strategies for habitat rehabilitation and monitoring, tools to deal with invasive species and hybridization, and reintroduction programs. Presenters shared information from their local study areas and the lessons that could be applied elsewhere.

Our keynote presenter, Dr. John Post of the University of Calgary, gave a history of the designation process for at-risk fish species, and explained how Bull Trout populations have been assessed since we first began noticing their declines. He emphasized that local populations of species, such as the Bull Trout that live in the rivers and tributaries around the Bow Valley, often have unique adaptations and genetic variations that separate them from other populations, making them ecologically irreplaceable if they are lost. Dr. Post also spoke of the need for integration of traditional ecological knowledge (TEK), referencing the stories of Elder Snow and recognizing the place where TEK falls within Rumsfeld's "Known Unknowns" in our current scientific approach.

Although AWA was not presenting at the conference, fisheries biologist Matt Coombs was able to share his field research on behalf of AWA and the Canadian Parks and Wilderness Society – Southern Alberta Chapter (CPAWS SAB) on the logging reviews he completed in the field over the last couple of years. His research showed the many ongoing issues present at logging sites in Alberta's Eastern Slopes, which have damaged and degraded critical habitat for Bull Trout. Some of these issues included sedimentation into critical habitat, failing erosion and sedimentation controls, completely cut-over critical habitat, and insufficient buffers, to name a few.

A common theme throughout the presentation days was the desire to connect more people to trout and to the water systems they rely on. Many of the conference participants were avid fisherpeople, and they shared common experiences of hoping to protect the species and the water so that this land-based tradition can continue. Although Bull Trout in Alberta have been catch-and-release only since 1995, angling surveys are a common sampling method for determining fish presence in waterbodies, and they were included as part of our field day assignments.

One of our presenters, Shona Derlukewich, shared how seeing a fish up close and being able to ID it can change our entire perspective on why it's important, how we connect with it, and how we protect it. Shona has been working to educate people on Alberta's fish through her project "School of Fish" and has also released a very comprehensive "Fishes of Alberta Field Identification" guide to aid others in their journey towards understanding Alberta's fish species.

It was emphasized throughout our discussions that in order for recovery efforts to be successful, critical habitat for Bull Trout must be preserved. As we crawled into our tents each night, we thought about the history of this land-based tradition in the ScSC, which began with members camping together in Oregon during their first year at the Gearhart Mountain Bull Trout workshop. It's a good way to remind us all that we are a part of this land and this habitat, and that we depend on these tributaries and clean water as much as the fish we are fighting to protect.

Getting our feet wet for fish

Phil Howell, one of the society's original members, explained that one reason for the summertime gathering was to bring enough field biologists together to complete monitoring projects in regions that do not always have the necessary resources. There has always been a focus on getting participants out into the field, and this year was no exception. On the second day of the conference, we awoke bright and early to participate in our chosen field activity, which ranged from snorkelling surveys to electrofishing to habitat rehabilitation work.

Sara was part of the group that set out to collect environmental DNA (eDNA) samples from tributaries around the Jumpingpound Creek watershed, led by Sandi Riemersma of the Jumpingpound Creek Watershed Partnership. The goal of this field project was to collect environmental information that would show whether Bull Trout and other fish species were present in



Sara measuring water depth and velocity.
Photo © N. Sinnatamby

these tributaries. Sandi had emphasized in her presentation at the community centre that being physically on the land and walking these creeks puts everything into a new lens. We all experienced the truth of this as we created new connections with the land and felt the importance of the project that we had learned about on a projector screen.

At each of the four sites that we visited, we unloaded the cars and hiked down to the open tributaries that we were sampling. Our team of eight collected eDNA using equipment that ran the creek water through a small filter to collect any suspended particles. These filters will then be sent to the lab to see if there is a positive DNA match to any of our target fish species, which would indicate that those fish are present in the water system. Knowing where species at risk like Bull Trout can currently survive is important information for determining where recovery efforts should be focused, and what kind of environmental conditions are required.

To complement the eDNA collection, at each location the team also collected information on the health and condition of the water habitat and the surrounding riparian habitat, land uses in the region, and water quality indicators such as temperature, pH, velocity, and the presence of aquatic invertebrates. Sandi walked us through each new measurement and how to use the equipment, reminding many of us of our field school days from university. Trying out the new techniques brought about lively discussions on the different sampling methods and equipment that each person was familiar with. One of the highlights of the day for us was trying out these new field methods together, reminding us that science can be done in a variety of ways for the same purpose.

Making pals by making PALS (post-assisted log structures)

While Sara was collecting samples from some of the creeks in the Jumpingpound, Cam travelled to Banff National Park to complete some real-time fish habitat restoration, led by Dan Struthers and Nicole Sulewski of Parks Canada.

In 1941, nine kilometres of the former Cascade River were dammed, which created what we know today as Cascade Creek. It became a spillway for the Lake Minnewanka dam project, now owned by TransAlta Utilities. Lake Minnewanka has a long history of dam projects, first aimed at improving boating access in 1895, then for hydroelectric power generation in 1912 and again for the current dam, which finished its construction in 1941. Nearly 50 years later in the 1990s, murmurs about the restoration of Cascade Creek began to emerge.

Unfortunately, by then the creek had filled with sediment due to its restricted flow, causing the local native trout populations to struggle with habitat loss and competition from non-native species such as Brook Trout entering the stream. Brook Trout were introduced to Alberta from Ontario as a stock fish in the early 1900's. These Char started to compete and occasionally hybridize with the local Bull Trout populations (another member of the Char genus). Brook Trout are well adapted to silty, warmer, low-flow streams like the conditions present in Cascade Creek at the time. Eventually, the lack of flow proved too much for the native Bull and Westslope Cutthroat Trout (another threatened native Alberta trout species), and the local populations disappeared from Cascade Creek.

In 2010, formal discussions began around the restoration of Cascade Creek, and in 2013, there was a push from Mother Nature herself. The floods of 2013 gave this project a hand when the Cascade Creek spillway was opened for the first time since its creation in 1941. Although this event was quite destructive, it provided a unique opportunity from which restoration work on Cascade Creek could begin. By clearing out the sediment-laden creek and removing old, undersized road-stream crossings, the flood provided clean water from which to begin the restoration project.

Fast forward to Aug. 19, 2026, Day 2 of the ScCS conference. Cascade Creek had since received new culverts more conducive to the movement of trout, allowing them to move upstream through the culverts. Volunteers from AWA, fRI Research, InStream Fisheries Research, Department of Fisheries and Oceans, the Alberta Government, and others from ScCS came together alongside the Parks Canada Banff Field Unit team and Freshwater Conservation Canada to take the next step in the restoration of Cascade Creek. With infrastructure improvements in 2017, TransAlta has been to provide an adequate base flow for the fish, and with a



Bull Trout in Kananaskis Country.
Photo © R. Blanchard



Constructing PALS on Cascade Creek.
Photos © C. Hunter

recent reintroduction of Westslope Cutthroat Trout by Parks Canada, the next step for Cascade Creek was to create some complexity within their newly reformed habitat by constructing what are known as PALS, or post-assisted log structures.

These structures are created as a low-tech restoration technique to mimic natural features like log jams. The PALS aim to create complexity in the creeks by helping promote the creation of natural pools that provide habitat for fish. They also capture sediment, reduce erosion, and improve bank stability. Simply put, they are piles of woody debris that are then reinforced with untreated wooden posts. The goal is to reduce the use of unnatural materials, such as cables, so that as the PALS break apart, they do not leave dangerous or unnatural material behind in the ecosystem.

Throughout the day, and with the help of a hydraulic post-pounder, the team came together to construct five bank-attached and one mid-stream PALS on Cascade Creek to provide shelter and habitat complexity for the resident Westslope Cutthroat Trout. Bull Trout themselves were not reintroduced first in Cascade Creek, as they are known piscivores (fish who predate upon smaller fish). In the coming years, Parks Canada will consider reintroducing Bull Trout and eventually other native fish species into the creek. For the time being, the newly introduced Westslope Cutthroat Trout are being monitored and given some time to establish their population in their restored home, without the added predatorial pressure of Bull Trout.

In the coming years, Parks Canada will be constructing a total of 20 to 25 PALS within Cascade Creek, and the spillway will receive experimental "flushing flow" to remove sediment that may be accumulating within the creek. This strategy aims to keep this critical habitat clean, clear, and complex for the Westslope Cutthroat Trout and other future fish species who will be reintroduced to the gorgeous montane waterway.

Creating new streams of collaboration

Sharing our evenings at the campground gave us the chance to connect on topics that we had not discussed during our formal presentation days, ask follow-up questions, and learn more about the different strategies people were using to understand and protect this essential fish species. We also had the chance to check out an incredible resource: the ScCS Bull Trout digital library, where research, gray literature, and knowledge about trout conservation could be accessed by everyone. As we mingled around the campfire, it was intriguing to hear about what monitoring and recovery strategies our colleagues in the U.S. have been utilizing, and how these compared to those of us coming from across Canada.

Many people shared stories of how they first became interested in fish work, and although many had different backgrounds and experiences, what united us all was a true love for these charismatic species. Horror stories from the field were shared alongside the memories of once-in-a-lifetime experiences that you can only get from being outside and learning from the natural world around you. As bats weaved through our campsites, we shared contact details, planned collaborations for the future, and considered how we could work together to achieve the same goals. The sun was setting on the day, and on the conference as a whole.