



FRESHWATER FISH ANALYSIS

Whitehorse's Environmental Dynamics Inc. collaborates to better understand the trout population in Teslin Lake

Looking out across one of the Yukon's vast lakes may seem like a fisher's dream. However, there has been a steady adjustment in angler restrictions over the years. That's one of the reasons why Whitehorse's Environmental Dynamics Inc., commonly known as EDI, is taking a closer look.

"A lot of our big Yukon lakes are actually relatively unproductive. They're ice covered for more than half the year. They just don't have a lot of nutrients in them to produce fish," says Ben Schonewille, a fish and wildlife biologist with EDI. "But fish like lake trout are often very readily captured by anglers, so it can be really tricky to make sure the amount of harvest is done in a sustainable way."

A few years ago, the Teslin Renewable Resources Council initiated a research project with EDI that would lead to a better understanding of the lake-trout population in Teslin Lake. This information would then help make more informed management decisions.

"There are not as many lake trout out there as people think," Schonewille says. "You look out at that lake and it's huge, so you think it's just filled with fish. But in reality that's not how it works."

It's easy to tell Schonewille is excited to lead this Teslin Lake project for EDI. He has worked for the environmental consulting firm for almost 13 years, but more importantly, he grew up in Teslin, a small community in southern Yukon, along the Alaska Highway.

"I've worked on a lot of different projects with EDI, including some hydroelectric projects for Yukon Energy, and a lot of that work revolved around lake trout, which was something I was always interested in," he explains. "It tied back to growing up in Teslin and spending a lot of time fishing on Teslin Lake."

Schonewille, like those who still live in the small town, has seen things change over time.

"Teslin Lake has a really long history of concern about the conservation of stocks. It stems all the way back to when the Alaska Highway was built. There used to be commercial fisheries on the lake, but there's been a constant decline in angling limits," he explains. "When I was growing up there, 20 years ago or more, you were allowed to keep five lake trout of any size. In the mid-1990s, the restriction was reduced even more, down to three, then down to two, and then one—and it has to be a smaller one."

While the territorial government has surveyed Teslin Lake over the years, Schonewille says this collaborative project goes even further in identifying spawning areas, collecting genetic samples for analysis, and assessing the lake's population structure.

Fieldwork began last summer and continued into the fall. Lab analysis was conducted throughout the winter, leading to a report this past March. Schonewille says those results laid the groundwork for studies this summer and fall, with the goal of obtaining an even larger sample size. And along with the scientific work comes public outreach.

"A lot of people out there in the community are interested in this project," Schonewille says. "We do information sessions, but we're also working on signage that will be out there where people launch their boats to illustrate the importance of lake-trout conservation and ways people can help."

The crew has also tagged roughly 400 lake trout in hopes anglers will catch the tagged fish, which will provide information about how the trout move around the lake.



Opposite page: EDI biologists work out on Teslin Lake. Above left: Emily McDougall and Ben Schonewille examine their find. Right (both photos): Juvenile lake trout.

One of the key elements of the project is collaboration. Schonewille says the Teslin Renewable Resources Council's involvement is essential to the project, as is input and support from the Teslin Tlingit Council and the Yukon Fish and Wildlife Management Board (YFWMB). According to Graham Van Tighem, executive director of YFWMB, this is an admirable approach.

"This project looks to address [management] in a more comprehensive manner rather than simply putting limitations on licensed anglers and then waiting for the stock to recover," Van Tighem says. "It's essentially putting the *Umbrella Final Agreement* into action. If we had the ability to do projects like this throughout the Yukon, we would probably see a lot more local buy in and more success."

Schonewille shares the opinion. While a big chunk of EDI's work is based in development, he says the Teslin Lake project is a prime example of one of the firm's community-driven ventures working with First Nations.

"These are some of the projects where we really feel we're able to contribute something," he says. "We can use our knowledge

and expertise to help better the communities and provide them with the information they want to inform management."

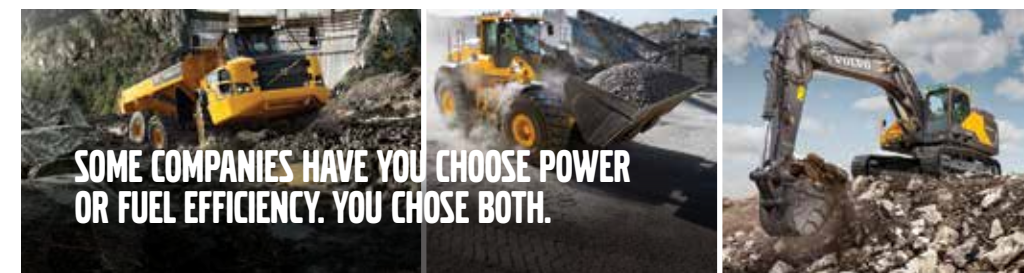
This fall, the crew will continue gathering samples from about 120 sites across the lake, and then it's back to the lab this winter for more genetic analysis. After the report is completed, next March, there may be potential for spinoff work.

On a colour-coded spreadsheet, Schonewille points out the types of lake trout they've found so far based on 21 different genetic markers in each sample. He says this advanced level of detail makes the project such an interesting task. Plus, it doesn't feel like work.

"Obviously it's great to be out on the water anywhere, but it's especially great to be out on the water there," Schonewille says. "Last year I learned a lot about the lake that I didn't even know before."

Ultimately, the biologist says he's focused on successful management for the future, with hopes he can take his young son fishing on Teslin Lake someday. **Y**

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