

Research Bulletin

NWT Cumulative Impact Monitoring Program

Combined Changes to Char Habitat and Fishing Affect Gwich'in and Inuvialuit Values

Summary

Knowledge holders from Gwich'in and Inuvialuit communities have noticed dramatic changes to Dolly Varden (known locally as char), as well as other aspects of the fishery and environment. We set out to understand these changes and how they affect community members. People told stories of changes to water and air temperatures, shorelines (slumping and vegetation growth), as well as changes in catch rates, timing, and migration paths. Similarly, there have been changes to fisheries management and changes to the community, such as difficulty engaging youth, expense of store-bought food, and the expense of getting out on the land. Recognizing and valuing how these changes affect people in the communities is important to consider when determining long-term fisheries management strategies.

Why is This Important?

Understanding the cultural, nutritional, and social significance of the fishery is essential for informed decision-making. Harvest strategies that reflect community values help maintain traditions, support food security, and strengthen connections to the land. By recognizing these priorities, fisheries management can better balance ecological sustainability with the well-being of the communities.

What Did We Do?

We worked with youth ambassadors to interview over 50 knowledge holders from Inuvik, Aklavik, and Fort McPherson. These interviews were guided by questions related to values of the fishery, how they fish now, in the past, and changes they have seen in the environment, the char, and the fishery.



Michael Berry (SFU; GRRB) holding a spawning and tagged Dolly Varden (char) while seining at Rat River fish hole. (Credit: C. Gallagher)



What Did We Find?

- Values associated with the char fishery centre around culture and tradition, health and nutrition, and subsistence.
- The char fishery is important to Gwich'in and Inuvialuit people because it is part of their culture and tradition, passed down through family members, but also provides healthy, nutritious food.
- Though it is no longer necessary for survival, the char fishery provides a healthy alternative to store-bought food, gets people out on the land, and contributes to community cohesion.
- Changes to the land, including river flow, river channels, water temperatures, sea ice, and slumping of shorelines all contribute to changing migration timing, fish abundance, catch rates, and the ability of fishers to reach their fishing camps.



Harry Carmichael removing a fish from his net. (Credit: M. Townend)

What Does This Mean?

The interactive effects of multiple changes on the landscape and the communities are leading to long-term impacts on the fishery and the fish. This work highlights how changes to the environment affect both fish abundance and availability, as well as affecting fishers directly. People talk of needing to move their fish camps because of slumping, difficulty navigating changing channel routes in increasingly turbid water, and the cost of getting out on the land.

What's Next?

We are finalizing work comparing different harvest control recommendation rules for char, which provide a framework for decision-making, based on the values established here. These recommendations will be shared with local communities for feedback and implementation. This model will provide a framework to make decisions despite ongoing climate change impacts to the environment and the fishery, so these values are maintained for future generations.

For More Information

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NWT Cumulative Impact Monitoring Program
(CIMP235)

NWT CIMP is a source of environmental monitoring and research. The program coordinates, conducts and funds the collection, analysis and reporting of information related to NWT environmental conditions. If you're conducting environmental monitoring and research, consider sharing your information with northern residents and decision-makers in a Bulletin.