

# **Pine Creek Fish Passage Investigations 2016**

## **Funded by-The Yukon Fish and Wildlife Enhancement Trust Fund**

### **March 2016**

#### **Background**

Pine Lake is situated approximately 8 kilometres from Haines Junction. This lake has been a popular lake for fishing by families because of its small size, its close proximity to the town, and it being a location of a government campground. Lake Trout populations are diminished and considered to be in decline, thereby a no-retention rate has been imposed on this lake. The Alsek Renewable Resource Council is looking for other options for residents, especially young people, to be able to fish, while investigating an area that were once thought to be more productive.

#### **Project Activities**

Through Environmental Dynamics Inc. and the Alsek Renewable Resource Council members and staff 3 main activities were completed.

- 1) A compilation and review of Arctic Grayling presence in Pine Creek watershed was performed and we now have a good inventory of known work that has taken place around Pine Creek.
- 2) A field investigation (that included fish sampling) took place in May and September, and a local person was hired to assist with this work. Other information collected as a result, but not included in this project will be 1 year of temperature data.
- 3) A series of interviews was performed by 2 ARRC members, and by EDI. They spoke with 15 local people that have a long term history of the area, and recorded information about historical fishing and recreational usage of the area.

The outcome of all of this work offers us the opportunity to take a holistic view of the situation presently and historically and to have a snapshot of Pine Creek, at this present time.

#### **Investigation**

Pine Creek was found to have no barriers up to the Alaska Highway, as was originally thought. Barriers like beaver dams tend to change habitat, but none were found intact, and any remnants of dams did not impede the flow of the creek. The culvert outflow at Pine Creek and the Alaska Highway were both tested and found to be within range to be considered passable for adult grayling. The water quality was found to be sufficient as well.

There was found to be a resident population of Grayling living within this system, and in this population was found “young of year” (yoy), indicating that grayling were spawning here. The population was noted to be low compared to resident populations in other parts of the Yukon, and the habitat was found to be of low quality for grayling. Grayling tend to prefer overhanging banks, deep pools, clean gravel and cobble-like areas for spawning, rearing and over-wintering. All of this was observed in Pine Creek, but in a limited amount.

The interviews ALL described Pine Creek as a place with good fishing potential for grayling, and many described a change occurring in the 1980's. During this time there were modifications to raise that lake's water levels, notably for recreational purposes. This tends to correspond with the information received through the interviews.

### **Conclusion**

This project still leaves the Alsek Renewable Resource Council with questions about the Pine Creek, its relationship to Pine Lake and the known issues around declining Lake Trout populations, and the habitat conditions for grayling. We would like to continue to learn about Pine Creek, remediate areas that may have been affected when water levels were raised, and investigate the limiting factors to grayling reproduction and continued habitat utilization. We hope to continue with this project into 2017-2018, with a focus on habitat restoration that could have a public engagement component.

The Alsek Renewable Resource Council is grateful for the assistance of the Yukon Fish and Wildlife Enhancement Trust Fund for the encouragement, and funding, without which this project would not have occurred. This report and the final report will be made available on the AlsekRRC website [www.alsekrcc.ca](http://www.alsekrcc.ca) with the sanction of the Yukon Fish and Wildlife Enhancement Trust Fund, so that we may share what we have learned with the residents of the Champagne Aishihik Traditional Territory, and the Yukon public at large. We will also post a link to direct the public to view this report at the Yukon Fish and Wildlife Enhancement Trust Fund web site, through our Facebook page, acknowledging your support.