

Fish and Watershed Program



Overview

The Fish & Watershed Program has not only collected 15 years of fish habitat and biological information, but has also initiated and led projects and developed several tools for forest and land managers. Projects and tools include; stream crossing initiatives, topography based stream and watershed classification systems as well as local level aquatic indicators. All of our projects are collaborative with Universities, provincial and federal government agencies, local community groups and several oil and gas companies. The focus of these initiatives has been to aid managers in making better informed decisions and to maintain or improve fish habitat and water quality.



Fish and Fish Habitat Monitoring

The Fish and Fish Habitat Monitoring Program has been in existence within the Foothills Research Institute (FRI) for 15 years. The focus of the monitoring has traditionally been inventorying the species and associated habitat found within the foothills stream systems found in the FRI's study area. Various techniques are used to assess fish presence and absence. Backpack electrofishing has most widely been utilized as well as boat shocking, minnow traps and recently snorkeling. The program has contributed over 1200 sites with fish presence, absence and habitat information to the provincial Fish & Wildlife Management Information System. The program has also worked extensively with Hinton Wood Products a division of West Fraser Mills, other government agencies and the oil and gas industry found our region. For our shareholders we provide pertinent information to allow them to make informed land management decisions.

Foothills Research Institute is a leader in developing innovative science and knowledge for integrated resource management on the forest landscape through diverse and actively engaged partnerships.

The Foothills Research Institute landbase is located in west-central Alberta, and is based in the resource community of Hinton, some three hours west of Edmonton. It covers roughly 2.75 million hectare (27,500 square kilometres), and embodies Jasper National Park of Canada, the Willmore Wilderness Park, and the Forest Management Area of Hinton Wood Products, a Division of West Fraser Mills Ltd. It also includes some provincial "crown forest management units" and the Hinton Training Centre's Cache Percotte Training Forest. Within its boundaries are three forest areas—boreal, montane, and sub-alpine—and many forest uses including timber, petroleum, and coal extraction, tourism, and recreation.

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Estimating Arctic Grayling Population Size in Mid-Size Streams with Night Snorkeling



Arctic grayling (*Thymallus arcticus*) is listed as "Sensitive" in the province of Alberta. Its conservation requires implementation of long-term monitoring programs and development of field methods to address specific knowledge gaps. For example, little is known about the population status of Arctic grayling in mid-sized streams because these water bodies are not suited for traditional sampling procedures. They are too deep to backpack electrofish and too shallow for boat-based electrofishing. The goal of this research was to determine whether or not snorkeling in intermediate sized streams is a feasible and safe technique for estimating Arctic grayling population size.

In our pilot project, day and night snorkeling was employed at the first three sample sites, however only night snorkeling was effective. For example, at one reach, eight fish were counted during the day compared to 210 fish at night. Average visibility in the tannin stained boreal streams was less than optimal at 1.5 m, but still feasible for snorkeling.

