

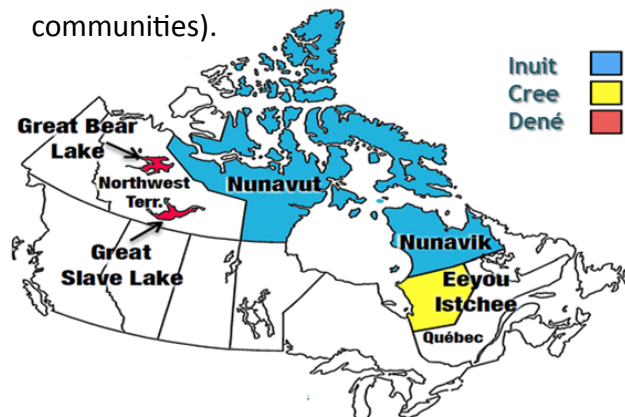
## Context

Food insecurity is a debilitating problem in Northern Canada. Increased shipping, tourism, and mining exploration and development pose serious risks for northern aquatic biodiversity and the fisheries it supports. Moreover, climate-induced changes in the geographic distribution and abundance of fish threaten the economic livelihoods of northern communities, their traditional harvesting practices as well as their ability to feed themselves and maintain access to healthy food. Consequently, reducing the potentially negative impacts of these threats on northern fisheries is crucial for communities who are tied to fish for their food security and culture.



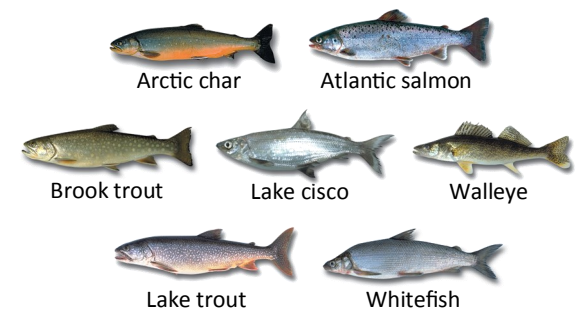
## Overarching goal

For these fisheries, the identification of regions important for subsistence and commercial harvesting and whether they comprise genetically distinct groups of populations is a key step towards a sustainable harvest. The project FISHERIES will develop and apply genomic approaches in concert with Traditional Ecological Knowledge (TEK) to address critical challenges and opportunities related to food security and Commercial, Recreational, and Subsistence (CRS) fisheries of northern Indigenous Peoples in Canada (Inuit, Cree and Dené communities).



## Solutions

We will develop genomic resources for seven species important to northern communities and use these resources to identify genetically distinct populations, assess their vulnerability to future climatic conditions, quantify their contribution to mixed-population harvests, and measure the contribution of fish from developing hatchery programs to subsistence harvests. Using a novel knowledge co-evolution framework, we will braid and bridge scientific information with TEK in support of sustainable harvests of CRS fisheries



## Benefits

FISHERIES will support the co-generation of knowledge to foster the **development and co-management of sustainable fisheries, increased food security and enhanced social well-being and cultural continuity**. FISHERIES will also contribute to our ability to forecast the response of key fisheries to rapid global socio-economic changes in northern Indigenous communities.