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# Consortium for Genomic Research on All Salmonids Project (cGRASP)

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| **Status** | Current |
| **Competition** | III |
| **Sector** | Fisheries |
| **Genome Centre** | Genome British Columbia |
| **Project Leaders** | Ben Koop, William Davidson & Stig Omholt |

## Project Description

Salmonids, a group of fish including salmon, trout, whitefish and char, are of great economic and societal importance in Canada. Given the development and expansion of the salmonid aquaculture industry in Canada, the impact of farmed fish on wild fisheries needs to be minimized. Farmed fish need to be more resistant to disease and better adapted to their environment. Wild fish needed to be better understood and in some cases managed.

Dr. Ben Koop, Director of the Centre for Biomedical Research at the University of Victoria, Dr. William Davidson, a molecularbiologist at Simon Fraser University specializing in molecular evolution, and Dr. Stig Omholt, a professor at Norway's Centre for Integrative Genetics, are project leaders of cGRASP – the Consortium for Genomic Research on All Salmonids Project. It follows up on the highly successful Genomics Research on Atlantic Salmon Project, previously funded by Genome Canada.

Salmonids have diverged over evolutionary time. Pacific salmon, trout, white fish and char may have broken away from Atlantic salmon 10 to 20 million years ago. Yet salmonids remain genetically quite similar today. cGRASP will expand existing research tools for Atlantic salmon (Salmo salar – the "leaper") and rainbow trout (Oncorhynchus mykiss), building on the base of knowledge already developed on these species, such as genetic mapping and gene identification. These resources will then be extended to pacific salmon, trout, whitefish and char as well as smelt (small silvery fish that migrate from salt to freshwater to spawn).

The information gained from this project is expected to yield practical benefits for salmonid production in the aquaculture industry while providing a rigorous evidence base for managing wild stocks. An important component of this project will be to study the ethical, environmental, economic, legal and social ($GE^3LS$) implications of salmonid genomics, in collaboration with "Building a $GE^3LS$ Architecture", a project led by Dr. Michael M. Burgess at the University of British Columbia.