

Flow Regime of Natural versus Regulated Rivers



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Rationale: The flow regime of a river determines both channel form and habitat availability. Some rivers regulated by dams are subject to drastically altered flows while others remain largely unchanged. In order to gauge the effects of river regulation on the habitats and the ecosystems that they support, we must quantify how regulation has altered flow parameters known to impact ecosystems.

Description: Develop a methodology using regional trends to estimate hydrologic alteration in regulated rivers when pre-dam discharge data is limited or missing, and assess how flow regime changes can improve or deteriorate specific fish habitats.

Outcomes :

- Overview of regional hydrological trends across Canada.
- A quantification of hydrologic alteration for the dams in the dataset.
- Insight into quality and type of bed and riparian fish habitat at a subset of sites.

Benefits from this research: Progress towards prescription of ecologically sustainable environmental flows in Canada, for example by setting appropriate building block requirements, based on a comprehensive analysis of available (largely publically available) discharge and landscape data.



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