

Workshop to Compare Methods to Quantify the Productive Capacity of Fish Habitat Impacted by Large-scale Hydropower Operations

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TERMS OF REFERENCE

Background

River-based hydropower generation results or potentially results in large-scale changes to fish habitat in drainage basins in Quebec, Labrador and elsewhere across Canada. In 2005 a workshop was held to review methods proposed by Hydro-Québec to evaluate the effects of large hydroelectric projects on fish habitat (CSAS Science Advisory Report SAR-AS2005-038). The workshop was successful in identifying approaches that were innovative and novel, but emphasized that further research and development was required to reach consensus on appropriate methods for determining habitat productive capacity for large-scale projects.

The 2005 CSAS workshop report recommended that a number of outstanding methodological issues should be addressed through a technical working group and workshop involving national representatives from DFO science, the Oceans and Habitat Sector, and academia. This workshop addresses that recommendation. Advancement or possibly achievement of consensus on national standards and methods for large-scale habitat assessment, before and after hydropower development, is the main goal of this workshop.

Objectives

The objectives of the workshop will be to: 1) provide a science review of methods obtained from the primary literature, industry and elsewhere for evaluating the productive capacity of fish habitat for large-scale projects; 2) shortlist the summarized methods and evaluate their applicability across systems and development scenarios; 3) assess the scientific soundness and practicality of the remaining methods; 4) if possible, reach consensus on when (stage of development, i.e., referral assessment, compliance or effectiveness monitoring, or research) and where (ecosystem and habitat types) the methods would be applicable and could be employed, and by whom; 5) identify systems and referral scenarios not covered by one of the short-listed methods; 6) where gaps are identified or where further validation (using unique data) of existing approaches are needed, identify science needs to develop standard approaches to research and

monitoring; and 7) define standard metrics to assess change in habitat productive capacity.

Products

The products from this National Workshop will be threefold: 1) a peer-reviewed Technical Report that summarizes existing methods for determining the productive capacity of fish habitat for large-scale hydropower projects; 2) a CSAS Proceedings Report (documentation of the workshop discussion, conclusions and recommendations); and 3) possibly (if consensus on appropriate methods is reached at the workshop) a Science Advisory Report.

Participation

Participation will be solicited regionally from the following:

- DFO Science and the Oceans and Habitat Sector, NCR and all DFO Regions

- Provincial Governments

- Academia

- Industry (hydropower) representatives

The number of participants will not exceed 50.