

Peace River Site C Hydro Project

Stage 2 – Environmental Studies

Study Outline: Fish Passage Assessment

Introduction

Fish telemetry studies conducted on the Peace River have shown that several fish species such as bull trout, Arctic grayling, mountain whitefish, rainbow trout and walleye occasionally migrate through the potential Site C project site. As such, BC Hydro is conducting a preliminary feasibility fish passage assessment study.

The purpose of the study is to assemble the information needed to identify and assess the viability of upstream and downstream fish passage options at the potential Site C dam and powerhouse facility, and to address regulatory and public inquiries concerning potential fish passage options. Identifying target species for passage is a key part of the task.

Study Objectives

The key objectives of this study include:

- Assessing the need for fish passage, understanding the biological rationale for fish passage and possible implications for the potential Site C project;
- Determining target fish species and developing biological criteria required to design upstream and downstream fish passage; and
- Assessing upstream and downstream fish passage options such as, conventional fishways, fish elevators, locks, use of diversion tunnels, turbine and spillway passage, behavioral and physical barriers, screens, bypass systems, and transportation.

Scope of Work

A key study objective is to develop an understanding of the biological rationale, including target species, for fish passage options and the possible outcomes if the project were to proceed with one of or a combination of fish passage options. A thorough review of the existing information available will be conducted, making use of the following: background information on the potential Site C project, applicable fisheries information and the use of information from Electric Power Research Institute (EPRI) on fish protection technologies.

From this review, a fish passage feasibility assessment will be undertaken to describe and assess the fish passage options identified. The assessment will describe the potential feasibility of options for the potential Site C project, advantages and disadvantages with the options, uncertainty with potential options, and operational constraints for these options. In addition, the most feasible upstream and downstream fish passage options for Site C will be identified.

Conceptual design features will be prepared for each type of passage, as well as preliminary cost estimates and recommendations for additional design studies to be performed in the future.

Reporting

A Preliminary Feasibility Fish Passage Study Report will be created to provide a summary of all reviewed materials and thoroughly discuss the need for fish passage, relevant fish species and biological criteria, pertinent fish passage methodologies and their potential application to the potential Site C including conceptual designs and cost estimates. It will also identify potential information gaps and recommendations for additional studies that may be required to identify and assess potential fish passage options. The final report will be available at the end of Stage 2.