

Notice of Determination

This notice of determination is being issued by Parks Canada under the *Impact Assessment Act*. Parks Canada has decided that the Big Egg Lake Water Control Structure project (the project) is not likely to cause significant adverse environmental effects.

The Big Egg Lake Water Control Structure was identified by the Athabasca Chipewyan First Nation (ACFN) as a project that could restore water levels seasonally to their reserve lands, which are located adjacent to Wood Buffalo National Park. Parks Canada and the ACFN have collaborated to investigate the feasibility, and then further the design and impact assessment of this proposed project, which was identified under the Wood Buffalo National Park World Heritage Site (WBNP WHS) Action Plan. The project is proposed to be located on the east-connecting channel between Big Egg Lake and the Athabasca River, within the lands of the Athabasca Chipewyan First Nation Jackfish Reserve (I.R. 201). Because Parks Canada has provided funding for the feasibility study, design, and impact assessment to-date and because the project would occur on federal lands (specifically ACFN reserve lands), Parks Canada has an obligation as a Federal Authority to make a determination on the significance of adverse environmental effects.

The proposed project consists of a channel enlargement and flap-gated weir structure that would enable more frequent inundation of Big Egg Lake to help locally restore ecological integrity and cultural way of life in the Big Egg Lake area of the Peace-Athabasca Delta. Parks Canada and Environment and Climate Change Canada have collaboratively designed the Big Egg Lake Water Control Structure with ACFN technical support and via a community working group.

The Detailed Impact Assessment (DIA) was also collaboratively developed with ACFN, who shared Indigenous Knowledge, provided technical direction and reviews, authored cultural heritage sections, and contributed to the development of mitigation measures.

The DIA assessed the potential effects of construction and operation of the Big Egg Lake Water Control Structure on Valued Components that were collaboratively identified with ACFN. Valued Components included the following:

- Indigenous Culture, Heritage & Way of Life,
- Cultural Resources,
- Water Quality
- Fish and Fish Habitat and Aquatic Invertebrates
- Vegetation and Wetlands, and
- Wildlife and Wildlife Habitat

The project was designed to provide numerous positive ecological and cultural benefits, including improved aquatic habitat (e.g., open water and emergent marsh) preferred by muskrat with benefits for other wildlife including waterfowl, migratory birds, and moose. The project is also expected to contribute to reducing the encroachment of terrestrial vegetation cover, particularly of willows around Big Egg Lake. These key benefits are anticipated to have positive impacts on ACFN's Culture and Way of Life in the Big Egg Lake area.

ACFN community members along with Parks Canada and Environment and Climate Change Canada technical staff and scientists considered potential impacts and identified acceptable standard mitigation

measures for potential impacts on Valued Components. Key mitigations identified in the DIA include vegetation clearing and in-stream isolation works outside of migratory bird and fish restricted timing windows, using coffer dam isolations to minimize sedimentation and erosion, ensuring the salvage and protection of fish during construction, and ensuring long-term maintenance and appropriate operation of the structure.

The DIA was posted on the Canadian Impact Assessment Registry for public comment for 30 days from July 10 to August 9, 2024. The notification provided details on how to view and comment on the DIA. Few public comments were made and none were specific to the project; as a result no changes were made to the DIA.

Considering the scientific information, Indigenous Knowledge, and community knowledge shared, along with the mitigation measures outlined in the DIA, Parks Canada has decided that the project is not likely to result in significant adverse environmental effects.

Approved by:

Moira McKinnon
A/Field Unit Superintendent
Southwest Northwest Territories Field Unit

Date