

Notice of Determination

This notice of determination is being issued by Parks Canada under the *Impact Assessment Act*. Parks Canada has decided that the project is not likely to cause significant adverse environmental effects. Mitigation measures will be implemented for the following: hydrology, freshwater quality, fish and fish habitat, archaeological resources, visitor experience and access to the Cavendish Grove Property, as well as a suite of valued components considered to be low risk.

The Cavendish Grove Stream currently exists in an anthropogenically modified state, such that ecological functions are compromised (i.e., the current configuration of the ponds and associated structures restricts natural water flow and fish passage). The Cavendish Grove pond system is also subject to low-flow conditions, elevated water temperatures, and nutrient enriched/eutrophic conditions, which lead to poor ecological integrity ratings for Lake of Shining Waters downstream.

The proposed project focuses on the ecological restoration of the Cavendish Grove Stream system by removing the existing earthen dams, culverts, and associated utilities located along the stream between Clarkes Lane and the Lake of Shining Waters, constructing a continuous stream channel, and removing the existing culvert and stream crossing at Balsam Hollow Brook. The DIA evaluated the interactions of the proposed project with natural resource, cultural resource, and visitor experience values. The DIA examined in detail, potential impacts of the proposed project on hydrology, freshwater quality, fish and fish habitat, archaeological resources, and visitor experience and access to the Cavendish Grove property.

The proposed project is expected to have positive effects on the hydrology of Cavendish Grove Stream by removing the existing in-stream structures and constructing a continuous stream channel to create a robust channel design that maintains natural functions.

Positive effects are also expected for water quality by decreasing temperatures and increasing oxygen content in the water. This will also assist in improving ecological integrity measures for the Lake of Shining Waters downstream. Re-establishing the riparian zone in disturbed areas along the stream will provide shade to further assist in lowering water temperatures.

The long-term effects of the project on fish passage are expected to be positive by providing unrestricted access upstream and downstream for fish within Cavendish Grove Stream. Improvements in water quality, as well as keeping portions of the existing ponds intact as part of the restoration design, are also expected to be beneficial for fish and fish habitat.

Extensive earthworks/ground disturbance and watershed modification associated with the project have the potential to impact potential unknown buried archaeological resources in the area. An Archaeological Impact Assessment was conducted, and no significant archaeological resources were encountered. Mitigations are included in the DIA should any be discovered and, in that event, further consultation with Mi'kmaq representatives, and/or additional mitigation measures will be required.

The maintenance of long-term convenient and accessible visitor entry into the Cavendish Grove property is expected to be achieved through constructing a pedestrian bridge immediately following the removal of the existing earthen dam and associated stream restoration activities. It is anticipated that the restoration activities will allow visitors to enjoy a natural and overall positive experience at the site with future opportunities for additional visitor facilities and education/interpretation.

Mitigation measures to address potential negative impacts of changing the stream hydrology, including significant changes to water velocity and stream slopes, and erosion and sedimentation have been addressed through the restoration design. In addition, mitigation measures related to hydrology, freshwater quality, fish and fish habitat, archaeological resources, and visitor experience will be implemented during the project. The development of additional mitigations will be the subject of ongoing collaboration between Parks Canada and the Mi'kmaq of PEI.

Comments on the project and draft DIA were received from environmental non-governmental organizations, the general public, local stakeholders, and the local municipality. Some concerns about the original timeline of the DIA public review period, as well as the best way to implement the project were raised, and recommendations were provided.

The timeline for public review was extended to accommodate the concern around the original review period. The key areas of concern identified for the proposed project included 1) potential impacts of upcoming work to be undertaken by other parties on upstream elements outside of Parks Canada property, 2) timing of various elements of the project to account for seasonal life-cycle requirements of various species, and 3) the size of one of the ponds and corresponding impacts to wildlife. This feedback has resulted in some clarification in the DIA and the identification of additional considerations for construction planning and monitoring.

Through the consultation process, the Mi'kmaq of PEI indicated that they do not object to Parks Canada commencing the work on the proposed project. They require that if there are any findings of cultural, archaeological, or paleontological significance, all work must immediately come to a halt, the L'nuey Senior Archaeologist is to be notified, and the archaeologist having jurisdiction over the area is to be contacted, as per the applicable legislation and regulations, and further consultation must be undertaken. This wording was added to the DIA mitigations required for archaeological resources.

Due to the complexities associated with watershed modification, there is a level of uncertainty as to the effectiveness of the design in achieving desired outcomes with respect to hydrology, freshwater quality, fish and fish habitat, and visitor experience. Follow-up monitoring will be necessary to evaluate the efficacy of the restoration design. Adaptive management, including potential adjustments to the restoration design based on the evaluation of the follow-up monitoring results, may be necessary.

Taking into account the overall benefits of the project to the Cavendish Grove Stream ecosystem and downstream to the Lake of Shining Waters, as well as the implementation of mitigation measures outlined in the assessment, the project is not likely to cause significant adverse environmental effects.

To request a copy of the Detailed Impact Assessment report, contact:

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