



BC HYDRO'S REVELSTOKE WILDLIFE ENHANCEMENT PROJECTS FACTSHEET—JANUARY 2013



BC Hydro is planning to construct a number of wildlife habitat enhancement projects in the Arrow Lakes Reservoir drawdown zone (flats) south of Revelstoke under the Columbia River Water Use Plan. The projects are expected to benefit waterfowl, birds, turtles and other wetland wildlife species affected by BC Hydro's Arrow Lakes Reservoir operations.

Projects include:

- Cartier Bay Wetland: Infilling two gaps in the abandoned railbed to protect and enhance existing wetland.
- Airport Slough Outflow Protection: Rip-rapping along bank of erosion channel adjacent to the old Arrowhead highway just downstream of the mouth of the Illecillewaet River in an effort to halt erosion and protect high value wildlife habitat.
- Nest boxes: To provide additional nesting habitat for cavity nesting ducks.
- Nesting islands: To provide additional habitat for western painted turtles and other species.

The Revelstoke Reach Wildlife Enhancement Projects were recommended to BC Hydro by a Committee of technical experts, not for profit organizations, regulatory agency staff and interested residents. The Committee met over 8 months in 2009 to assess and evaluate potential wildlife enhancement projects identified by the Columbia River Water Use Plan Consultative Committee.

Map showing main areas of Revelstoke Reach, Upper Arrow Lakes Reservoir

GD512-309



Cartier Box Culvert

CARTIER BAY WETLAND

Located 8 kilometres south of Revelstoke, Cartier Bay is an important wetland, well used by a number of wildlife species including migratory waterfowl, herons, western toads and western painted turtles. BC Hydro will complete two dyke projects along the abandoned railbed that runs west of the Cartier Bay peninsula to protect the existing wetland and create additional wetland habitat.

The Cartier Bay wetland, approximately 26 hectares in size, is created by a collapsed box culvert in a gap in the abandoned railbed that runs 300 metres west of the Cartier Bay peninsula and parallel to the old highway. The culvert holds back water, preventing the Cartier Bay wetland from draining during low Arrow Lakes Reservoir levels. The first project will replace the box culvert with an engineered dyke. The new dyke will be built to the height of the existing railbed, just over one metre higher than the existing culvert. This is expected to double the size of the current wetland to 54 hectares.

The second project will fill another gap in the abandoned railbed, located approximately 300 metres north of the first site. This dyke will create new wetland habitat during low Arrow Lakes Reservoir levels by helping to hold water back in several deep back channels adjacent to the existing Cartier Bay wetland. The project is expected to create roughly 8 hectares of semi-permanent ponds.

Both dykes will be constructed with layers of crushed rock that will be covered by rock rip rap. The dykes will be built to the level of the existing railbed and will be surfaced to allow pedestrian, non-motorized, and motorized vehicle passage. The dykes are expected to help protect adjacent wetland and meadow habitat by encouraging recreational users of the area to travel along the railbed in that area. However these projects will not create a continuous travel corridor along the railbed through the flats due to other gaps in the railbed both north and south of the project areas.

CARTIER BAY PROJECT CONSTRUCTION

The Arrow Lakes Reservoir water level must be low to allow dyke construction. Low water levels typically occur in the spring and the drawdown lands also need to be free of snow. An archaeological assessment is scheduled for spring 2013. If no archaeological sites are found, the dykes will be constructed when spring water levels and ground conditions are suitable. Machinery will access the railbed sites from the 6-mile turnout on Airport Way south of Revelstoke. Project construction is expected to take about two months.



Cartier Bay wetland enhancement and location of two new dykes (red dots). Current wetland is dark blue, new wetland habitat created is light blue.



Airport Outflow Erosion Channel

AIRPORT SLOUGH OUTFLOW PROTECTION

Columbia River flows, snowmelt, and reservoir operations continue to enlarge a 115 metre long Y-shaped erosion channel into the flats adjacent to the old Arrowhead highway runs from the south side of the Illecillewaet River mouth to Machete Island north of the Revelstoke airport. The intent of this project is not to create additional habitat, but to attempt to save existing high value habitat at risk due to ingress of this channel. The work at this site will test whether erosion can be reduced or stopped by lining the bank of the west arm of the erosion channel with small riprap. The site will be monitored to see if the rip-rap successfully reduces erosion of the west arm compared to the untreated east arm.



Erosion Channel at Airport Slough Outflow

AIRPORT SLOUGH OUTFLOW CONSTRUCTION

The Arrow Lakes Reservoir water level must be low to allow the rip-rapping of the erosion channel bank. Low water levels typically occur in the spring and the drawdown lands also need to be free of snow. An archaeological assessment is scheduled for spring 2013. If no archaeological sites are found, the rip-rap will be placed when spring water levels and ground conditions are suitable. Machinery will access the site from the road on the south side of the Illecillewaet River past the Selkirk Saddle Club. Rip-rap placement is expected to take about two months.



Nesting Island

NESTING ISLANDS

BC Hydro originally planned to install three artificial nesting islands at the main wetland areas south of Revelstoke during the summer of 2013. Artificial islands have been used successfully in other small BC Hydro reservoirs and it is expected that these artificial islands would also provide resting sites for local painted turtles. However it is unclear if the artificial islands can withstand the changing water levels and hydrologic conditions of the large Arrow Lakes Reservoir. BC Hydro now plans to install one artificial nesting island as a test. If successful, BC Hydro expects to install additional islands in future years.



Nest Box

NEST BOXES FOR CAVITY-NESTING DUCKS

BC Hydro also plans to install 30 to 50 nesting boxes at various locations in the Revelstoke Reach flats (including Cartier Bay, Montana Slough, and 9-mile) to provide nesting-sites for six species of cavity nesting ducks that breed in Arrow Lakes Reservoir. These species include six species of waterfowl – wood ducks, common and hooded mergansers, bufflehead, and Barrows and common golden eye.



Baby Turtle

FOR MORE INFORMATION

For more information about BC Hydro's Revelstoke wildlife enhancement projects search for 'CLBworks 29a' on bchydro.com.

Questions? Please contact:
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BC Hydro is also currently conducting numerous studies under the Columbia River Water Use Plan to better understand the impacts of our Arrow Lakes Reservoir operations on a number of non-power values including vegetation, fish, wildlife, recreation and archaeology and help future decision-making. For more information about the Columbia River Water Use Plan, search for 'Columbia River Water Use Planning' on www.bchydro.com