

**Central Queens Wildlife Federation, West River Project
Beaver Management Plan for the West (Eliot) River Watershed**

Approved June 25, 2014



1. Background Context

The West River drainage basin is the third largest watershed on Prince Edward Island, draining 20,525 ha of land and supporting more than 320 km of stream. The bulk of the West River drains from the Bonshaw Hills and much of the terrain and streams have above average gradients when compared to other areas on PEI. The river is heavily groundwater spring-fed, which moderates seasonal water temperatures and flows. Further details on the physical characteristics of the watershed are provided in the West River Watershed Management Plan (2008).

The CQWF began a concerted program of stream and riparian restoration work on the West River in the summer of 2010. Prior to 2010, smaller enhancement projects occurred at popular angling locations near Crosby's Mill (Bonshaw) and Carragher's Pond (Emyvale). In support of the second goal of the watershed management plan, to 'enhance and protect fish and wildlife habitat', and to meet requirements for permit approval for in-stream restoration works (set by the federal Department of Fisheries and Oceans), a Fish Habitat Management Plan was developed in 2010 and expanded in 2012. The river supports native populations of brook trout, Atlantic salmon, rainbow smelts and blueback herring, as well as a population of the introduced rainbow trout.

The West River watershed also supports a small number of individual beavers and/or family units in any given year. Beavers were not present on the Island when Europeans first arrived and there is no strong evidence to suggest that they were ever a component of the natural aquatic ecosystem on PEI (Sobey 2007). The beaver population present today is the result of introductions in 1949. They were initially released in Kings County, but when increasing numbers created conflicts with landowners, individuals were moved to areas of Prince County. Beavers are now widespread throughout the province. Natural expansion of the current population on the West River is somewhat limited by the steep topography present throughout much of the upper watershed.

Beavers are described by the Cree First Nations as 'Nature's engineer' (loosely translated) because of their dam-building habits. Ecologists suggest that they are a mutualist species (Soulé et al. 2003) because they modify existing habitat thereby influencing its suitability for other community members. On the Island, they have a substantial impact on the proportion of slow-moving (lentic) relative to free-flowing (lotic) water in our naturally cold-water streams. Where they impound water behind dams, the surrounding riparian habitat becomes flooded, and the lowland area changes from forested or pastoral to wetland habitat over a number of years. Depending on the surface area of the impounded section of stream, the water can become much warmer and lower in dissolved oxygen, making it less suitable for native salmonids. Thus, whereas beaver activity in a watershed can increase the amount of wetland habitat for wildlife, it is often at the expense of native coldwater stream and Acadian riparian forest habitat.

PEI has few wildlife species that are officially considered 'threatened' or 'endangered', the most visible of these being the piping plover. The Atlantic salmon, while not officially recognized as a Species at Risk by the federal government, is being considered for such designation, based on a strong recommendation by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). COSEWIC lists the regional population of Atlantic salmon as of 'Special Concern' and indicates that it is threatened by land use practices that have degraded the available freshwater habitat severely, through sedimentation and nutrient enrichment.

A Conservation Strategy for Atlantic Salmon in Prince Edward Island was developed in 2009 (Guignion 2009). It indicated that existing salmon habitat was compromised by two main limiting factors: sediment infilling of streams; and beaver blockages of / modifications to coldwater habitats. The West (Eliot) River was identified as one of ten Class I Wilderness Rivers on the Island for Atlantic salmon. The recommended strategy for salmon conservation on these Class I rivers included rigorous control / removal of beaver populations as a top priority.

Two overarching goals of the CQWF are to restore the original Acadian riparian forests and coldwater streams of the West River Watershed. The presence of introduced beaver in the river puts Atlantic salmon freshwater spawning habitat and access to it at risk. While beaver can provide wildlife benefits to wetland species and may support trapping interests in the wider resource use community, these potential benefits do not outweigh the needs of the forest and coldwater stream ecosystem inhabitants for un-fragmented and healthy habitat.

2. Statement of Intent

The CQWF proposes to manage [most of the upper \(freshwater portion\)](#) West River watershed, including the Clyde River, as a beaver-free zone. Beavers inhabiting bank dens lower in the watershed [and at Carragher's Pond](#) likely pose little risk to riparian and coldwater stream habitats and will not be managed unless they attempt to dam the main river channels. With landowner permission, beavers and beaver dams will be removed within the trapping season wherever possible.

3. Plan Actions

- a. All tributaries in the watershed will be monitored on an ad-hoc basis for presence of beavers. The CQWF will rely heavily on seasonal staff and community residents in this regard.
- b. Where a beaver dam is found associated with a culvert at a public road crossing, the CQWF will alert the Department of Transportation and Infrastructure Renewal to any potential issues of infrastructure integrity and/or public safety. If DTIR do not have a trapper contracted at the time, the CQWF will request the removal of beavers by a local licensed trapper. The removal of the dam itself will then be left to DTIR, where liability associated with work inside a culvert is an issue.
- c. Where a beaver dam is found associated with a culvert at a private road crossing, the CQWF will seek landowner permission to trap the animals and remove the dam as quickly as possible, to avoid a potential blow-out of the stream banks and associated sedimentation downstream.
- d. Where a beaver dam is found above the head-of-tide away from road infrastructure, the CQWF will seek landowner permission to trap the animals using a local licensed trapper as soon as possible. The removal of the dam will be left to the normal permitted in-stream season (June 1 – Sep 30) unless there is a serious risk of downstream damage from a blow-out. If the latter, a special permit will be sought for removal.
- e. Dams will be removed over a period of several days, to limit the transport of sediment downstream. Initial dismantling will involve the notching of the top to promote gradual release of impounded water. Removed dam materials will be piled in the buffer zone to decay naturally.

- f. Areas cleared of dams will be monitored monthly for 6 – 12 months to ensure they remain free of beaver activity.

4. Licensed Trappers (as of January 2013)

Daryl Guignon, De Sable (658-2790)

Jordan Condon, De Sable (675-3026)

5. References Cited

Guignon D, 2009. A Conservation Strategy for the Atlantic Salmon in Prince Edward Island.

Prepared for the Atlantic Salmon Federation. Available online

www.atlanticsalmonfederation.org

Sobey DG, 2007. An analysis of the historical records for the native mammalian fauna of Prince Edward Island. Canadian Field-Naturalist 121(4): 384-396.

Soulé ME, Estes JA, Berger J and del Rios CM, 2003. Ecological effectiveness: conservation goals for interactive species. Conservation Biology 17(5): 1238-1250.