Backgrounder

Restoring wild Atlantic salmon in Eastern Nova Scotia

Historic Fisheries, Healthy Populations: Atlantic salmon in rivers along Nova Scotia's Eastern Shore and Bay of Fundy coastline are part of the Southern Upland population complex, one of 16 genetically distinct groups of Atlantic salmon in Canada. Southern Upland salmon were historically found in 72 rivers from Cape Split to Canso. Abundant annual runs once supported Indigenous, recreational, and commercial fisheries. In 1980, Fisheries and Oceans Canada estimated that 113,000 adult Atlantic salmon returned to Southern Upland rivers

Acid Rain and Fisheries Closures: In the mid-20th century, as North American factory emissions of sulphur dioxide and nitrogen oxide peaked, rivers along Nova Scotia's Eastern Shore were severely impacted by acid rain. The acidification of freshwater caused aquatic life to collapse. Salmon were completely lost in approximately half of the 72 rivers which historically had populations. Although the passage of key amendments to the U.S. Clean Air Act largely stopped acid rain, soils and waterways in eastern Nova Scotia are still recovering. The commercial fishery for Atlantic salmon in the Southern Upland region was closed in 1984 followed by a complete closure of the recreational fishery in 2009. Indigenous Food, Social, and Ceremonial licenses remain active, but fisheries are not currently exercised.

St. Mary's River Restoration and Recovery

Home to the largest remaining population of wild Atlantic salmon in the Southern Upland region, a large-scale restoration program was initiated by the St. Mary's River Association in 2014, supported by the Nova Scotia Salmon Association. More than $1 million has been spent on enhancing water quality and wildlife habitat since then. In 2019, the St. Mary's River Association secured a $1.2 million, three-year grant from Canada's Coastal Restoration Fund to continue the work. Upcoming projects include the use of lime to lower pH throughout the watershed to counter the lingering effects of acid rain. Habitat work will also continue, along with projects to support eco-tourism activities like kayaking and canoeing.

West River (Sheet Harbour) Restoration and Recovery

This river is home to a large-scale acid rain mitigation project led by the Nova Scotia Salmon Association and supported by the Nova Scotia government, ASF, and industry partners. Beginning in 2005, a machine was installed on the riverbank that deposits powdered lime into passing water to buffer the effects of acid rain. Lime increases the pH and adds calcium and magnesium. As a result, the ecosystem has become increasingly productive, evidenced by the fact that freshwater production of Atlantic salmon has more than tripled in the treated area of West River.

A second lime doser was commissioned in June 2018 on a major tributary of the West, the Killag River. Liming has also occurred throughout the watershed using helicopters. Aerial applications help repair damaged soils, bolster animal health, and improve water quality. The West River project has become a hub for salmon research, leading to multiple partnerships between university, government, and non-government scientists.

Protected Areas

The St. Mary's River valley is home to large areas of protected lands. These areas safeguard old growth and unique forest features while providing sanctuary to rare and endangered animals. They are frequently used for research, recreation, and other low impact human activities. The proposed Cochrane Hill mine would be situated close to these protected areas and the development footprint would actually cut into a parcel of reserved land.

The Nova Scotia Nature Trust has been working since 2006 to secure a "ribbon of green" along the St. Mary's. Thanks to generous donations, the Nature Trust now holds 12-properties adding up to 540 hectares of land including old growth forest and wetland. Nova Scotia Nature Trust lands protect approximately 21 kilometers of shoreline.

In addition, the province of Nova Scotia has nominated 3,100 hectares of provincial land along the St. Mary's to become a Provincial Park. This new park, combined with Nova Scotia Nature Trust lands, will protect a total of 3,600 hectares and 54 kilometers of shoreline.

Away from the river edge, but within the St. Mary's River Watershed, the province of Nova Scotia has proposed two additional Wilderness Areas, Archibald Lake and Nine Mile Woods, totalling 1,715 hectares. Part of the Archibald Lake Wilderness Area lies within the boundary of the proposed Cochrane Hill development and the company plans to draw water from the lake during construction and operation of the mine. Such a use would not be permitted within a Wilderness Area.

St. Mary's River Conservation Lands