



The Saw Mill River in Yonkers, New York was daylighted in 2011 after 90 years underground! Daylighting of the river recreated 13,775 square feet of aquatic habitat, including a tidal pool and two freshwater pools. The natural river channel flows parallel to the pre-existing underground pipe, which now serves as an overflow channel to protect the downtown area from floods. Credit: SES7 <https://www.flickr.com/photos/72131699@N00/8025048335/in/photostream/>

Briefing Note on Daylighting Sawmill River

Prepared by the Ecology Action Centre (EAC) and the Sackville Rivers Association (SRA)

In the coming years downtown Dartmouth will be experiencing considerable growth and renewal. Projects slated for implementation include the Shubenacadie Canal Greenway, traffic realignment work at the intersection of Portland and Alderney streets, the replacement of the Sullivan's Pond storm sewer, and major urban development through the construction of new residential and mixed use buildings. All of these projects are located within a narrow corridor of land from Sullivan's Pond to Dartmouth Cove in the Halifax Harbour. Considering the scale of work that is planned, EAC and SRA are urging the Halifax Regional Municipality and Halifax Water to seize the opportunity for urban renewal, community development, heritage interpretation, and environmental protection that these projects provide.

The EAC and SRA firmly believe that daylighting all or parts of the Sawmill River will bring maximum benefit to the municipality, the residents, the business sector and the environment. Moreover, an exposed stream has many additional benefits for the historical interpretation at the Shubenacadie Canal Greenway and for educational outreach opportunities with local schools and groups such as the Clean Foundation, located in Dartmouth.

Shubenacadie Canal Greenway

A daylighted Sawmill River would significantly enhance the future Shubenacadie Canal Greenway Park. The Ecology Action Centre's Water Coordinator met with Shubenacadie Canal Commission (SCC) board members in July 2014, during that meeting, board members agreed that the Canal Greenway Park would benefit from an exposed stream¹.

¹ Personal communication, July 17, 2014. Bernie Hart, Shubenacadie Canal Commission, Dartmouth, NS

Fish Passage

An exposed stream would also allow for migratory fish such as gaspereau, sea-run trout, eels, and Atlantic salmon to spawn in the Dartmouth lake system. According to DFO, fish passage such as that provided by an exposed stream could allow for up to 300,000 juvenile gaspereau into Lakes Banook and MicMac². When they return to the ocean, these juvenile fish could represent a net export of nutrients, potentially cutting off the nutrient supply to aquatic weeds, a bane of paddlers. The value of the elver (juvenile eel) fishery in NS in 2012 was approximately \$20 million, where the market price fluctuated between \$1,000/kg to \$4,000/kg depending on conditions³. In addition to their financial value, eels and elvers have very high cultural value for many Mi'kmaq communities.

Water Quality

A daylighted river would also help enhance water quality, which is needed to maintain the Blue Flag designation at Birch Cove beach in Dartmouth⁴. This past August, water quality at Birch Cove beach exceeded guidelines for recreational water quality on three separate occasions, including one instance where bacterial counts were five times higher than the recreational guidelines (200cfu/100 ml). According to the US EPA, daylighted streams are up to 23 times more effective at processing nitrogen than buried streams⁵.

Urban Development

The downtown Dartmouth area will be experiencing a significant increase in residential units in the coming years. When fully built out, the Dartmouth Cove (WDCL) and King's Wharf developments alone could total 2500 units representing between 4,300 and 5000 new residents⁶. An exposed stream and adjoining green-space would greatly enhance the liveability of the community for new and existing residents and could result in increased property values for the municipality.

Heritage Interpretation

The stream from Lake Banook to the harbour marked an important travel way for the Mi'kmaq, and was what made the Shubenacadie Canal possible. With the closure of the canal, the waterway was used to power Starr Manufacturing's operations. The presence of a surface waterway is vital not only to fish passage and environmental enhancement, but also to help HRM and the SCC interpret former canal features and tell the stories associated with the various phases of development in the area.

Economic Growth

In the U.S. daylighting projects have been completed in California, Michigan, Rhode Island, New York and many other states. The town of Kalamazoo in Michigan daylighted a 1.2 km long section of Arcadia Creek as part of a downtown revitalization project. A walkway runs

² Personal communication July 4, 2014. Mark MacLean, Department of Fisheries and Oceans, Dartmouth, NS

³ Personal communication October 16, 2014. Jordan Nikoloyuk, Atlantic Policy Congress of First Nations Chiefs

⁴ <http://environmentaldefence.ca/issues/blue-flag-canada/map/birch-cove-beach-dartmouth>

⁵ <http://www.epa.gov/research/gems/buriedstream.htm>

⁶ Personal communication July 30, 2014. Terry Drisdell, Waterfront Development Corporation Ltd, Halifax, NS

alongside the stream and connects with pedestrian and bicycle paths in the area. The daylighted stream and adjacent park “provides a very successful recreational and social amenity to the city” and generates about \$12 million annually in income from a variety of outdoor festivals⁷. In Canada, the city of Vancouver has had success restoring and daylighting sections of Still Creek. In a heavily industrialized environment, chum salmon have returned to spawn for two years in a row since the restoration and daylighting of the creek was accomplished⁸. The city of Vancouver has a long term plan to continue to enhance the area and daylight 80 meters of Still Creek. Here in Dartmouth, an open waterway in the urban core in conjunction with exposure and interpretation of heritage features would be a major draw to tourists and local visitors, helping to revitalize the business community.

HRM Policy

The Halifax Regional Municipality has a specific policy regarding daylighting of streams. This policy, adopted in 2006 by Regional Council, clearly states that the “preservation of watercourses by avoidance of enclosing or piping is the priority” and “HRM will encourage watercourse daylighting, as part of efforts to preserve or restore natural watercourses as a component of a stormwater management strategy”⁹. This visionary policy can be implemented for the first time in Dartmouth.

Public Support

In June 2014 over 80 people attended a film screening of the documentary *Lost Rivers*, organized by the EAC and SRA. Section 2.2.1 of the Canal Greenway Phase II: Coordinated Open Space Development Plan states that “A public workshop attended by over 100 participants was held on 15 September 2005”. “All groups saw the site being developed as passive open space and generally supported day-lighting (exposing) the maximum possible portion of the stream through the site”.

Feasibility

HRM and the Shubenacadie Canal Commission jointly undertook two major studies for the Canal Greenway between Sullivan’s Pond and Halifax Harbour. Each of these studies, prepared in 2003 and 2006 by professional engineers, landscape architects and planners, concluded that it was feasible to daylight a large portion of the existing stormwater pipe, extending from the intersection of Portland Street and Prince Albert Road across Irishtown Road and up onto a portion of the Starr Manufacturing site. This would allow a substantial surface stream. A plan prepared for the SRA in 2012 by a fisheries biologist demonstrated how a surface stream could be created to provide fish passage, while a revitalized underground pipe would continue to carry most of the stormwater below grade. Neither option interferes with the preservation or interpretation of historic features on the site.

⁷ Hoobyar, P. 2002. “Daylighting and Restoring Streams in Rural Community City Centers: Case Studies” National Park Service. We accessed from: <http://www.nps.gov/ncrc/programs/rtca/helpfultools/daylighting.pdf>

⁸ “Salmon Make a Miraculous Reappearance in East Vancouver” <http://www.cbc.ca/news/canada/british-columbia/salmon-make-a-miraculous-reappearance-in-east-vancouver-1.2416126>

⁹ <http://www.halifax.ca/energy-environment/environment/PolicyonRiverDaylighting.php>

Conclusion

It is crucial for HRM to be working closely with Halifax Water on the Sullivan's Pond Storm Sewer Renewal project. It is also essential to comprehensively consider all the work that needs to be done in the corridor between Sullivan's Pond and the Harbour before proceeding with any one of the projects so as not to jeopardize the success of the whole.

In 2026, the Shubenacadie Canal will be celebrating its 200th anniversary. The opportunity to paddle a canoe the Halifax Harbour to the Bay of Fundy would be a wonderful achievement with historical, environmental and cultural significance. HRM and Halifax Water need to take action now to ensure this opportunity is not to be missed. Access to this world-class attraction would make downtown Dartmouth a tourist mecca for generations to come!