



## Cheverie Creek Salt Marsh Restoration Project

Cheverie Creek is a tidal river located on the Minas Basin, part of the greater Bay of Fundy. The goal was to restore the natural hydrology to the site, enhancing the salt marsh habitat existing at the site and to increase the extent of salt marsh. There is a six-year post-restoration monitoring program associated with this project.

**Monitoring Program:** 2005 – 2011

**Location:** Hants County, Nova Scotia

**Client:** Nova Scotia Department of  
Transportation & Infrastructure  
Renewal (NSTIR)  
Dr. Bob Pett  
902.424.4082  
pettrj@gov.ns.ca

Fisheries & Oceans Canada –  
Small Craft Harbours Branch (DFO-SCH)  
Paul MacDonald  
902.863.5670  
MacDonaldPG@dfo-mpo.gc.ca

**Project Managers:** Tony M. Bowron  
Nancy C. Neatt

**Key Personnel:** Jennie Graham (CBWES)  
Dr. Danika van Proosdij (SMU<sup>1</sup>)  
Dr. Jeremy Lundholm (SMU)

### Project Details:

During the fall of 2005, the NSTIR, in partnership with DFO-SCH, the Ecology Action Centre (EAC), and Ducks Unlimited Canada (DUC), undertook construction activities to restore tidal flow and fish passage to the Cheverie Creek salt marsh and tidal river system in Cheverie, Hants County, NS. Restoration of this site has resulted in the establishment of marine habitat restoration compensation banks for both NSTIR and DFO-SCH based on the Memorandum of Understanding (MOU) among DFO-Habitat



<sup>1</sup> SMU – Saint Mary's University

Protection and Sustainable Development, DFO-SCH, and NSTIR. Restoration activities consisted of the replacement of the existing tidally restrictive culvert with a more appropriately sized and positioned structure, which resulted in the near complete elimination of the tidal restriction.

An extensive baseline study of the restoration site and nearby unrestricted ecosystem was initiated by the EAC (May 2002 - October 2004). Additional pre-construction monitoring was conducted during the summer and fall of 2005 by CBWES. A long-term monitoring program for the project was developed and implemented by CBWES for years' one and two post-restoration (2006 and 2007).



### Long-term Monitoring Program:

The monitoring program utilized for this project was adopted and adapted by CBWES from a set of regional protocols (The Global Program of Action Coalition for the Gulf of Maine Regional Monitoring Protocol<sup>2,3</sup>) developed for use as part of tidal wetland restoration projects in the Gulf of Maine and Bay of Fundy.



### Indicators used to assess this project:

#### Geospatial Attributes

- Digital Elevation Model
- Habitat Mapping

#### Hydrology

- Hydroperiod
- Water Table Depth
- Water Quality

#### Soils and Sediments

- Pore Water Salinity
- Soil Characteristics
- Sediment Accretion and Elevation

#### Vegetation

#### Nekton

#### Benthic and Other Aquatic Invertebrates



### Project Reports:

1. Bowron, T.M. and N.C. Chiasson. 2006. Pre-Construction Monitoring of the Cheverie Creek Salt Marsh Restoration Project. Report Prepared for Nova Scotia Department of Transportation and Public Works. CB Wetlands & Environmental Specialists Publication No. 1
2. Bowron, T.M. and N.C. Neatt. 2007. Post-Construction Monitoring (Year 1) of the Cheverie Creek Salt Marsh Restoration Project. Report Prepared for Nova Scotia Department of Transportation and Public Works. CB Wetlands & Environmental Specialists Publication No. 5
3. Bowron, T.M., N.C. Neatt, J.M. Graham, J. Lundholm and D. van Proosdij. 2008. Post-Construction Monitoring (Year 2) of the Cheverie Creek Salt Marsh Restoration Project. Report Prepared for Nova Scotia Department of Transportation and Infrastructure Renewal. CBWES Inc. Publication No.6

\*Electronic copies of the latest project report are available: [www.gov.ns.ca/tran/enviroservices/enviroSaltMarsh.asp](http://www.gov.ns.ca/tran/enviroservices/enviroSaltMarsh.asp) or by contacting CBWES at [info@cbwes.com](mailto:info@cbwes.com)

<sup>2</sup> Neckles, H. and M. Dionne. (eds.) 2000. Regional Standards to Identify and Evaluate Tidal Wetland Restoration in the Gulf of Maine. A GPAC Workshop. Wells National Estuarine Research Reserve, Wells, ME.

<sup>3</sup> Neckles, H.A., M. Dionne, D.M. Burdick, C.T. Roman, R. Buchsbaum, and E. Hutchins. 2002. A Monitoring Protocol to Assess Tidal Restoration of Salt Marshes on Local and Regional Scales. *Restoration Ecology*, 10(3): 556 – 563.