

The Souris Watershed Project

Vision

A healthy sustainable community, based on environmental, economic & social values, with special consideration for resource-based industries including, tourism, fisheries, forestry and aquaculture

www.souiswl.ca

Souris Watershed

The Souris Watershed is managed by the Souris & Area Branch of the PEI Wildlife Federation. The non-profit organization was founded in 1954 as a chapter of the PEI Wildlife Federation. The Souris Watershed is located along the beautiful scenic coastal drive in eastern PEI.

Interesting Facts

- Its' streams support a tremendous number of species of flora and fauna, all of which form relationships that constitute a vital ecosystem.

- Social events have long been centered on the river and its tributaries, and the recreational fishery of the area persists as a rewarding way to actively engage the outdoors

- The majority of people in the watershed community have enjoyed predominantly clean drinking water up to date, but current trends in other regions expose the potential for dangerous contamination. These have included eutrophication and anoxic events, fish kills, bacterial contamination, shellfish closures, soil erosion, and other land use issues.

Souris H.A.D.D. Project

(Harmful Alteration, Disruption or Destruction)

Background

In the summer of 2008, funding was provided by the Souris Harbour Authority Inc., to install a salt water marsh within the upper estuary of the Souris River. The project was developed to mitigate habitat loss associated with necessary repairs made recently to the Souris Breakwater. Some interesting facts regarding the Marsh include:

- The construction of the 11,200 sq. metre brush mat structure mainly consists of softwood trees and organic matter in the water
- Through the creation of the salt water marsh, a new stream bank system and salt marsh ecosystem have been developed, with capability of supporting such plants as grasses and cattails
- The environmental benefits of this new marsh include providing unique wildlife habitat and absorbing excess nutrients from the water



- Through the environmental enhancements that have been made upriver, correlation overtime will provide prosperity to habitats downstream
- Currently, the enhancement benefits have included:
 - A variety of different species of birds that frequent the salt marsh
 - A major presence of vegetation that is beginning cultivate throughout the salt marsh zone
 - The marsh collects a significant quantity of "sea lettuce"
- Continuous monitoring of the salt marsh is prepared to authenticate variance in vegetation, inhabitants and growth

Procedure

Through the brush-matting technique developed by the Souris & Area Branch of the PEI Wildlife Federation (SABWF):

- Parallel to the channel of the river, two rows of trees were installed and staked
- Perpendicular rows of trees approximately two metres apart were then installed
- The trees, boughs and stakes were hauled manually to the sections of the location that had to be covered

Project WEB

(Watershed Evaluation of Beneficial Management Practices)

Background on the WEB's Project

The Watershed Evaluation of Beneficial Management Practices (WEBs) is a federally funded initiative with the purpose of measuring the economic and water quality impacts of selected agricultural beneficial management practices (BMPs) at seven watershed sites across Canada. Prince Edward Island was a desired location for a WEB's project because of its history of intensive agriculture. Potato crop acreage in Prince Edward Island grew rapidly in the late 1980's and early 1990's; as a result of this intensive crop rotation a dramatic increase in soil erosion was observed. In addition the province also observed an increase in groundwater nitrate levels in these intensive agricultural areas, creating public concern as more than half of the population rely on private wells for their drinking water.

The MacIsaac Field on Bear River Road is one of four sites being used as a Project WEB test field. All four of the WEB's sites are located within the Souris River Watershed which was the preferred location for the WEB's project on PEI because it is highly influenced by intensive agriculture production, there was a willingness from local agricultural producers to participate, as well as an existing good rapport between the Souris and Area Branch of the PEI Wildlife Federation and the local agriculture producers.

The WEB's project collaborators on the Souris River Watershed are: Agriculture and Agri-Food Canada; Souris and Area Branch of the PEI Wildlife Federation; The University of PEI Biology Department; The Nova Scotia Agricultural College; PEI Department of Agriculture; PEI Department of Environment Energy and Forestry.

The scope of the Souris River WEB's Project

Rigorous crop production has been associated with contamination of surface and groundwater from nutrient overload in excess of crop requirements and sedimentation run off. It is believed that these environmental risks can be greatly diminished by discouraging fall ploughing in favor of spring ploughing. The theory is that by reducing the over-winter nitrogen leaching losses from agricultural soils there is more nitrogen available for the next cropping season; therefore, requiring less fertilizer input. The scope of the three year WEB's study within the Souris River Watershed is to evaluate the watershed scale effects of utilizing spring ploughing versus fall ploughing following the hay crop in a potato-grain-hay rotation. The study will also include an evaluation of managed versus un-managed riparian zones in terms of the reduction of sedimentation run off and the associated impacts on aquatic habitat, as well as phosphorus loading of watercourses adjacent to agricultural lands.

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