

Nashwaak Watershed Association Inc.

ETF Final Report



Submitted February 22, 2017

Project No. 160272

Project Name: Re-establishing Flood Plain Forests in the Lower Nashwaak River

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Introduction

The Nashwaak Watershed Association Inc. (NWA) was founded as a non-profit organization in 1995 based on a shared belief that the Nashwaak River should be managed to balance economic, recreational, social, and landowner interests such that the health of the resource is maintained for generations to come.

The NWA has spent the past several years developing the Nashwaak Greenway project. The Nashwaak Greenway is a partnership between the NWA, the City of Fredericton, private landowners and local businesses, working toward securing, restoring and protecting an area of both private and publicly held forests and wetlands, from the mouth of the Nashwaak River to the end of the tidal water designation in Marysville.

To reach this goal the NWA understands that each property in the Greenway has specific protection and restoration needs. The NWA has identified retired hay fields in this region, held by the City of Fredericton, as a priority area for reforestation. In 2015, a management plan for the tree nursery was produced to support reforestation projects in the Nashwaak Greenway. Further, a management plan was also produced to guide tree planting in a hay field in Marysville.

In 2016-2017, with financial support from the NB ETF the NWA:

- 1) conducted a **reforestation** project on a disturbed section of the Maryville hay field, within the Nashwaak Greenway and built the appropriate tree stocks in the nursery for future reforestation projects in the Nashwaak Greenway
- 2) ran an educational program titled **Upstream/Downstream** for schools in the watershed
- 3) held **community events** to increase the number of members and volunteers

Human Resources

Developing strong conservation leaders is a goal of the NWA and through 2016 we had a number of people employed through this project. We employed three seasonal contractors hired for the restoration project. They primarily maintained the tree nursery and were integral to the Greenway restoration. We also employed a project assistant with the Upstream/Downstream Education Program. Our Project Coordinator was provided seven months of full time work while the Executive Director was employed 8.5 months.

We had a 4th year journalism student from St. Thomas University who chose the NWA for his internship. Our partnership with St. Mary's First Nation enabled us to complete tasks in the tree nursery and the Marysville Flats at the end of the growing season. A total of 339 volunteer hours for this project were provided by St. Mary's First Nation.

Activities

Reforestation projects

Both the 2005 soil erosion survey (NWA, 2005) and the 2016 geomorphic survey (Parish Aquatic Services, 2016) noted that riverbanks along the Nashwaak River with established, mature vegetation were more stable than those without mature vegetation. The 2005 NWA report concluded that the composition of the flora on the riverbanks and adjacent riparian zone appeared to be the most important factor influencing the rate of erosion. The Nashwaak River watershed is fairly small (1,707 km²) but most of its landscape has been altered either by forestry, agriculture, or by urbanization. Restoring native trees to the riparian landscape helps to address watershed health issues and has many

positive ecological benefits. The NWAJ started tree planting in 2005 in an effort to stabilize riverbanks. **Between 2005 and 2016, the NWAJ enhanced at least 6.95 km of shoreline with a minimum of 20,708 trees, acorns, and cuttings.**

Native Tree Nursery

The heavy equipment operators, nursery technician and NWAJ staff completed tasks according to our 2015 nursery management plan. From June 2016 – November 2016 they accomplished a number of jobs at the native tree nursery including:

- Clearing debris from beds
- Preparing all nursery beds (compost and tillage)
- Planting 1,250 silver maple seedlings in the tree nursery
- Collecting 1,000 Bur Oak acorns and receiving 500 by donation from NRCAN to be planted in 2017
- 2,000 native willow cuttings rooted and in pots
- Weeding nursery beds and mowing
- Planting winter rye as a cover crop in remaining nursery beds

Marysville Flats

The Marysville Flats total 11.2 hectares (27.6 acres) (PID #75457440) and they are owned by the City of Fredericton under the jurisdiction of the Parks and Trees Division. The NWAJ has begun the process of obtaining a lease for this property that would allow us to steward it and restore it back to silver-maple floodplain forest. Some of the property falls within a PSW based on the new DELG wetlands mapping. 76% of the property is an abandoned field, covered mostly with dense grasses and other herbaceous field vegetation (Figure 1). A few large silver maple trees are scattered along the shoreline, most likely left as shade trees for cattle. The flats are flooded annually in the spring and a low-lying area supports a number of backwater wetlands that remain saturated year-round. A significant amount of shoreline is devoid of any vegetation other than grasses and, in those locations, severe erosion has occurred. Recent construction on a sewer line under the Gibson trail resulted in land cleared of vegetation that has since become somewhat unstable. The NWAJ has already planted ~0.5 hectares of old field with a variety of tree species, which now makes up ~4.5% of the property. This property is part of what we term “The Greenway”.

The property has been divided into four management zones (A-D) to guide restoration activities (Fig. 1). The objectives are to:

- Prevent riverbank erosion and sedimentation
- Restore floodplain forest species composition and structure

Management Zone A is designated for planting willow cuttings to stabilize the riverbank. Management Zone B is the most ecologically sensitive area. It buffers backwater wetlands and watercourses and machinery should not be used for site preparation or planting. Management Zone C are old fields and cleared land that are not considered ecologically sensitive. Machinery can be used for site preparation. Management Zone D is the area that has already been planted by NWAJ.

The best practice management actions will involve:

- Proper site preparation to ensure that planted trees can reach their full growth potential. This will involve:

- Controlling competing vegetation by mowing or mulching in sensitive areas or plowing and disking in less sensitive areas.
- Creating pit and mound topography to produce structural complexity and important habitat.
- Planting red-tipped willow (*Salix eriocephala*) and sandbar willow (*Salix exigua*) cuttings along riverbanks to slow erosion.
 - Willows will need to be replanted annually along sections due to ice scouring.
 - Planting should occur along a 4-metre swath of land along the river (Zone A).
 - Outside curves should be planted first as they are most susceptible to erosion.
- Planting a mix of 85% silver maple (*Acer saccharinum*) and 15% white elm (*Ulmus Americana*) in Zones B and C.
 - Planting stock should be >30 cm and preferably >50 cm or even 1 m.
 - Density should be 2 x 2 m spacing (2,500 trees/hectare), which will create competition and encourage upwards growth and facilitate rapid canopy closure, which will help suppress field vegetation
 - If machinery is needed to mow, then spacing should be 3 x 1.5 m (2,000 trees/hectare)
 - Field vegetation should be regularly mowed for at least three years after planting to control competition and discourage rodents from nesting and girdling young trees.
 - White elms are susceptible to Dutch Elm Disease and it is expected that some may die. However, resistant strains are becoming available and it is expected that in the future a resistant variety from the genetic stock of the St John River watershed will be available.
- Fill planting can be carried out in forests that are already established (either naturally or planted).
 - Replacing dead trees on newly planted sites
 - Planting canopy openings in existing floodplain forests
 - Planting patches that are cut for the purpose of planting in degraded forests.
- Pruning planted trees after their third growing season and every 2-3 years afterwards, as needed.

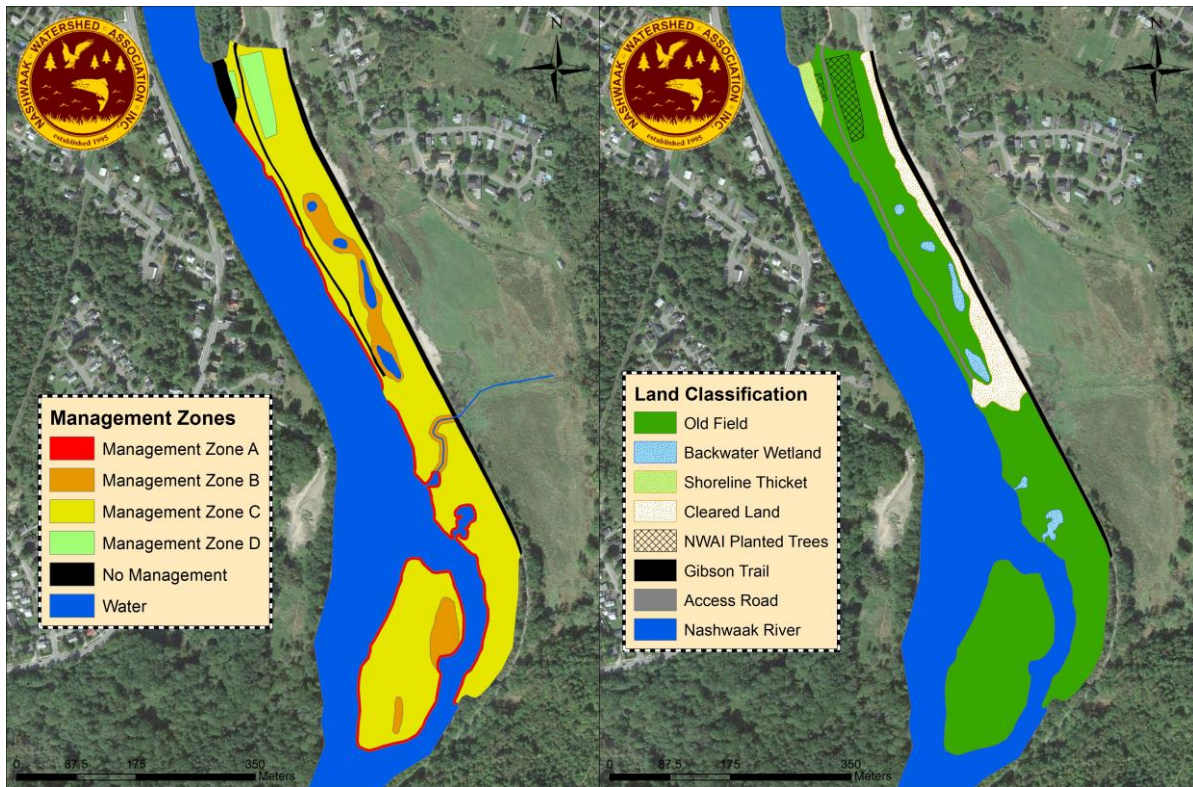


Figure 1 Management zones (left) and land classification (right) of the Marysville Flats. Source: NWAJ (2015).

Following the Marysville Flats Management plan the NWAJ is restoring a disturbed section of the Marysville Flats with silver maple caliper trees. Our initial plan was to complete the planting during late spring/early summer once the water has subsided from the Marysville flats but the majority of the work was extended into the fall of 2016. We used existing stocks of silver maple seedlings collected by the NWAJ and planted over 900 trees on the property.

The plantings were be done by a collection of student groups, community volunteers, and NWAJ staff. A call for volunteers will be made to the NWAJ membership, the community at large, and organized groups such as students, naturalists, and scouts during the spring, summer and fall of 2016. The Volunteer Report Forms for each planting event can be viewed in Appendix B. The volunteers and logistics for the plantings were organized by NWAJ staff with significant support from the board of directors.

Upstream/Downstream Education Program

We have also focused on educating elementary school students within the watershed in a program we call "Upstream/Downstream", which began in 2015. Our program targets grades three students at schools within the Nashwaak Watershed (Stanley, Nashwaak Valley, Gibson-Neill, and Barker's Point Elementary Schools and Fredericton Christian Academy). We deliver interactive classroom presentations followed by a field trip. The program aims to tie into the current grades three and four curriculums, in particular, the grade three unit on plants and habitat and the grade four unit on soils and erosion. Grade three field trips involve tree planting activities to help re-establish a silver maple wetland forest.

From July 2016 – March 2017 we accomplished the following:

- Classroom presentations at schools within the watershed: Nashwaak Valley School, Gibson Neill Memorial Elementary School, Barkers Point School and Fredericton Christian Academy
- Students from Garden Creek Elementary also participated in an outdoor education program at the Marysville Flats by special request even though their school isn't in the watershed
- Aiding schools with the cost of busing students to the Marysville Flats restoration site
- A Volunteer Event Report Form for each restoration event involving students was completed and is found in Appendix B
- Assigning "homework" to students consisting of a piece of written and/artwork inspired by the field trip

# of elementary students that took part in the activity	252 students
# of classes taking part in the activity	Ten classes
# of schools taking part in the activity	5 schools
# of recommendations for future activities	All the teachers indicated that they would like to participate in the Upstream/Downstream education program in future years.

This project helps build a sustainable and educated community within the Nashwaak Watershed. Elementary students will develop a connection to the natural world and the Nashwaak River. Students who participate in the *Upstream/Downstream* education program will learn about how science and engineering can be used to help restore rivers and improve habitat for wildlife. Students will develop a broader understanding of how a watershed works and a specific understanding of the Nashwaak Watershed.

Community Outreach

To inform the general public of the work that NWA is doing, the organization produces an annual newsletter that is mailed to ~4,400 addresses in the watershed and select addresses in downtown Fredericton. The newsletter informs residents about our AGM in November and provides updates on that year's projects and programs. The ETF is acknowledged as a primary supporter of the NWA in the newsletter.

From May 2016 – March 2017 we accomplished the following:

- A summer kick off event held on June 10-11 2016 with the St. John River Summit. On Friday, June 10 the summit lasted from 9:30 – 4pm. Attendees heard what water actors are doing around the region in support of healthy watersheds. 40 people attended the summit.
- On Saturday, June 11th, 12 participants from the St. John River Summit enjoyed a guided canoe tour of the Nashwaak Greenway, launching from the Marysville Heritage Centre.
- Produced NWA's annual newsletter and hosted the annual general meeting with the NWA membership
- The annual general meeting with invited speaker Ron Jenkins of Matrix Solutions was held at the Ville Cooperative on November 23rd. 68 people were in attendance

# of newsletters distributed	4,400 by Canada Post with hundreds more distributed strategically throughout the
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	community. The newsletter is posted on our website.
# of community and NWAI members attending summer kick off and AGM	108
# of new members	20
# of new office volunteers	4 new volunteers in the office
# of volunteer hours	1,099 (see Appendix B for details)
Cash value for volunteer hours	\$15,395

Appendix A - Board of Directors

Name	Title
Peter Toner	President
Paul McLaughlin	Past-President
Stephanie Merrill	Vice-President
Joanna Nickerson	Treasurer
Monique LeBlanc	Recording Secretary (ex-officio)
Kent Fackenthall	Director
Peter Salenius	Director
Nicola Johnson	Director
Jean-Guy Leaman	Director

APPENDIX B – Volunteer Event Reports

Volunteer Event Report Form

Date: April 21, 2016

Reporter: Marieka Chaplin



Event Location:	Marysville Flats
Project Name:	Siemens Tree Planting

Activity Undertaken	Riparian Planting Event	X
	Water sampling	
	Rotary Fish Traps	
	Culvert assessment	
	Public meeting/presentation	
	Other (education/engagement)	

Number of people present	17
Number of groups represented and group names	Siemens Canada in Fredericton
Number of hours volunteered	2
Result of effort (# of trees planted, km of stream cleaned etc.) # people x # of hours = # volunteer hours	17 people x 2 of hours = 34 volunteer hours
Estimated cash value of volunteer effort Adult volunteers @ \$15/hr Youth volunteers @ \$10/hr	17 people x 2 hours @\$15/hr = \$510 Total volunteer cash value: \$510

Additional comments: An excavator was hired to lift 5ft Silver Maples from the first nursery bed in Durham Bridge, shake them out manually and haul them in to the Marysville Flats.

Volunteer Event Report Form

Date: September 21, 2016

Reporter: Marieka Chaplin



Event Location:	Marysville Flats
Project Name:	National Tree Day

Activity Undertaken	Riparian Planting Event	X
	Water sampling	
	Rotary Fish Traps	
	Culvert assessment	
	Public meeting/presentation	
	Other (education/engagement)	

Number of people present	25
Number of groups represented and group names	5 groups: McInnes Cooper City of Fredericton St. Mary's First Nation Tree Canada NWAJ
Number of hours volunteered	2
Result of effort (# of trees planted, km of stream cleaned etc.) # people x # of hours = # volunteer hours	25 people x 2 of hours = 50 volunteer hours
Estimated cash value of volunteer effort Adult volunteers @ \$15/hr Youth volunteers @ \$10/hr	50 people x 2 hours @\$15/hr = \$1,500 Total volunteer cash value: \$1,500

Additional comments: Perfect weather for the event. There were three presentations by dignitaries: Councillor Chase from the City of Fredericton, Paul McLaughlin from the Nashwaak Watershed Association and Nairn Hay from Tree Canada. Large, 5ft trees from the tree nursery were planted having been removed from the tree nursery the day before. Snacks were provided.

Volunteer Event Report Form

Date: September 16 – October 5, 2016

Reporter: Marieka Chaplin



Event Location:	Marysville Flats and the Tree Nursery in Durham Bridge
Project Name:	St. Mary's First Nation – Aboriginal Fisheries Strategy

Activity Undertaken	Riparian Planting Event	X
	Water sampling	
	Rotary Fish Traps	
	Culvert assessment	
	Public meeting/presentation	
	Other (education/engagement)	x

Number of people present	3
Number of groups represented and group names	St. Mary's First Nation
Number of hours volunteered	113
Result of effort (# of trees planted, km of stream cleaned etc.) # people x # of hours = # volunteer hours	3 people x 113 hours = 339 volunteer hours
Estimated cash value of volunteer effort Adult volunteers @ \$15/hr Youth volunteers @ \$10/hr	339 hours @\$15/hr = \$5,085 Total volunteer cash value: \$5,085

Additional comments: During the fall St. Mary's First Nation (SMFN) provided a team of 3 staff for a total of 15 work days to help with project of the Nashwaak Watershed Association. The SMFN staff were involved in vegetation management, site preparation for tree planting, relocating and transplanting trees from the tree nursery in Durham Bridge to the Marysville Flats.

Volunteer Event Report Form

Date: September 24, 2016

Reporter: Marieka Chaplin



Event Location:	Marysville Flats
Project Name:	Tree planting and outdoor education – St. Thomas University

Activity Undertaken	Riparian Planting Event	X
	Water sampling	
	Rotary Fish Traps	
	Culvert assessment	
	Public meeting/presentation	
	Other (education/engagement)	

Number of people present	12
Number of groups represented and group names	St. Thomas University
Number of hours volunteered	2
Result of effort (# of trees planted, km of stream cleaned etc.) # people x # of hours = # volunteer hours	12 people x 2 hours = 24 volunteer hours
Estimated cash value of volunteer effort Adult volunteers @ \$15/hr Youth volunteers @ \$10/hr	12 leaders x 2 hours @\$15/hr = \$360

Additional comments: As tenants at The Ville Cooperative we were offered the volunteer time from 12 students from St. Thomas University. The NWA was represented by Peter Toner (Board of Directors), Diane Fraser (nursery technician) and Shawn Goff (communications intern). There was a TD planting event taking place close to the walking trail near the Marysville Flats and there was some discussion between Peter Toner and the TD representative about the appropriateness of the species they were planting.

Volunteer Event Report Form

Date: September 28, 2016

Reporter: Marieka Chaplin



Event Location:	Marysville Flats
Project Name:	Tree planting and outdoor education – Gibson Neil School

Activity Undertaken	Riparian Planting Event	X
	Water sampling	
	Rotary Fish Traps	
	Culvert assessment	
	Public meeting/presentation	
	Other (education/engagement)	

Number of people present	58 (10 leaders, 48 students)
Number of groups represented and group names	Gibson-Neil School UNB – Forestry and Environmental Management
Number of hours volunteered	2.5
Result of effort (# of trees planted, km of stream cleaned etc.) # people x # of hours = # volunteer hours	58 people x 2.5 hours = 145 volunteer hours
Estimated cash value of volunteer effort Adult volunteers @ \$15/hr Youth volunteers @ \$10/hr	10 leaders x 2.5 hours @\$15/hr = \$375 58 students x 2.5 hours @\$10/hr = \$1,450 Total volunteer cash value: \$1,825

Additional comments: The students were able to walk to the Marysville Flats and they were bussed back to the school at the end of the event. The group was divided into three smaller groups with the following rotations:

- Tree planting
- Critter dipping in the Nashwaak
- Active wetland games

UNB students studying forestry and environmental management volunteered and helped guide the elementary school students.

Volunteer Event Report Form

Date: October 4, 2016

Reporter: Marieka Chaplin



Event Location:	Marysville Flats
Project Name:	Tree planting and outdoor education – Barkers Point School

Activity Undertaken	Riparian Planting Event	X
	Water sampling	
	Rotary Fish Traps	
	Culvert assessment	
	Public meeting/presentation	
	Other (education/engagement)	

Number of people present	82 (10 leaders, 72 students)
Number of groups represented and group names	Barkers Point School
Number of hours volunteered	2.5
Result of effort (# of trees planted, km of stream cleaned etc.) # people x # of hours = # volunteer hours	82 people x 2.5 hours = 205 volunteer hours
Estimated cash value of volunteer effort Adult volunteers @ \$15/hr Youth volunteers @ \$10/hr	10 leaders x 2.5 hours @\$15/hr = \$375 82 students x 2.5 hours @\$10/hr = \$2,050 Total volunteer cash value: \$2,475

Additional comments: There were two French immersion classes and one English class. The technology lead for the area also attended and a few students had use of I-Pads to film and document the event. The weather was a treat and the snacks were most appreciated by the volunteers.

Volunteer Event Report Form

Date: October 17, 2016

Reporter: Marieka Chaplin



Event Location:	Durham Bridge Tree Nursery
Project Name:	Winter rye cover crop planting and outdoor education – Nashwaak Valley School

Activity Undertaken	Riparian Planting Event	
	Water sampling	
	Rotary Fish Traps	
	Culvert assessment	
	Public meeting/presentation	
	Other (education/engagement)	X

Number of people present	51 (2 leaders, 49 students)
Number of groups represented and group names	Nashwaak Valley elementary school students
Number of hours volunteered	2
Result of effort (# of trees planted, km of stream cleaned etc.) # people x # of hours = # volunteer hours	51 people x 2 hours = 102 volunteer hours
Estimated cash value of volunteer effort Adult volunteers @ \$15/hr Youth volunteers @ \$10/hr	2 leaders x 2 hours @\$15/hr = \$60 49 students x 2 hours @\$10/hr = \$980 Total volunteer cash value: \$1,040

Additional comments: The students from Nashwaak Valley school were able to hike along the NB Trail to arrive at the tree nursery. All the tree seedlings had been planted for the year so the group planted winter rye as a cover crop in the open beds in the tree nursery.

Volunteer Event Report Form

Date: October 24, 2016

Reporter: Marieka Chaplin



Event Location:	Marysville Flats
Project Name:	Tree planting and outdoor education – Garden Creek School

Activity Undertaken	Riparian Planting Event	X
	Water sampling	
	Rotary Fish Traps	
	Culvert assessment	
	Public meeting/presentation	
	Other (education/engagement)	

Number of people present	32 (4 leaders, 28 students)
Number of groups represented and group names	Garden Creek School
Number of hours volunteered	2
Result of effort (# of trees planted, km of stream cleaned etc.) # people x # of hours = # volunteer hours	32 people x 2 hours = 64 volunteer hours
Estimated cash value of volunteer effort Adult volunteers @ \$15/hr Youth volunteers @ \$10/hr	4 leaders x 2 hours @\$15/hr = \$180 28 students x 2 hours @\$10/hr = \$560 Total volunteer cash value: \$560

Additional comments: There was a bussing problem that resulted in a 1 hour delay to the start time of the program. When the group arrived, they were keen to participate. The group was divided in two. Group one planted trees and then rotated to group two for an active wetland game and critter dipping in the Nashwaak River.

Volunteer Event Report Form

Date: November 23, 2016

Reporter: Marieka Chaplin



Event Location:	Community Room, The Ville Cooperative
Project Name:	NWAI Annual General Meeting

Activity Undertaken	Riparian Planting Event	
	Water sampling	
	Rotary Fish Traps	
	Culvert assessment	
	Public meeting/presentation	X
	Other (education/engagement)	

Number of people present	68 adults
Number of groups represented and group names	(5) Atlantic Salmon Federation The Ville Cooperative The Nature Trust of NB The Ruffed Grouse Society The Nature Conservancy of Canada
Number of hours volunteered	2 (7-9pm)
Result of effort (# of trees planted, km of stream cleaned etc.) # people x # of hours = # volunteer hours	68 people x 2 hours = 136 volunteer hours
Estimated cash value of volunteer effort Adult volunteers @ \$15/hr Youth volunteers @ \$10/hr	\$2,040

Additional comments: The AGM was well attended and included the presentation by Ron Jenkins of Matrix Solutions. Ron summarized the 2016 geomorphic assessment of the Nashwaak River and answered a lively round of questions at the conclusion of the presentation. Nathan Wilbur of the Atlantic Salmon Federation included some of the results in the ASF submission to DFO regarding public review of the Fisheries Act.

APPENDIX C – Public Presentation Reports

Public Presentation Report Form

Date: June 10 -11, 2016

Presenter: Heather Loomer

Organizer: Nashwaak Watershed Association and WWF-Canada



Presentation Location:	Wu Conference Centre, Fredericton
Presentation Subject/Title:	St. John River Summit: Watershed Planning and Action

Number of people present	40 (June 10) 12 (June 11)
Handouts provided	Yes
Funding for presentation provided by?	NB ETF

Additional comments: On Friday, June 10 the summit lasted from 9:30 – 4pm. Attendees heard what water actors are doing around the region in support of healthy watersheds. The complexity of watersheds, involvement of local communities, planning and action were key themes. Heather Loomer delivered a PowerPoint Presentation during the summit.

On Saturday, June 11th, 12 participants enjoyed a guided canoe tour of the Nashwaak Greenway, launching from the Marysville Heritage Centre.

Public Presentation Report Form

Date: September 12 and 13

Presenter: Dr. Paul Adamus

Organizer: Christie Ward, NB Department of Environment and Local Government



Presentation Location:	Beaubassin Field Station in Aulac, NB
Presentation Subject/Title:	Training in the Wetland Ecosystem Service Protocol for Atlantic Canada (WESP-AC)

Number of people present	30
Handouts provided	Yes
Funding for presentation provided by?	NB ETF

Additional comments: This two-day course on WESP-AC will be useful for assessing wetland functions and benefits, monitor restored wetlands, or conduct watershed assessments. The first day Dr. Adamus explained its origins, overall structure, and how it is being used elsewhere. He concluded by explaining components of each of the models which automatically compute relative estimates of a wetland's importance for three hydrologic functions, four water quality functions, nine habitat functions, and carbon storage. We assessed approximately 4 wetlands over the two days. Once the new wetland strategy is approved this training may be applied on the Nashwaak.

Public Presentation Report Form

Date: 8 December, 2016

Presenter: Jeff Hoyt, NB DELG

Organizer: NB Environmental Network



Presentation Location:	Webinar
Presentation Subject/Title:	NB Climate Change Plan

Number of people present	20
Handouts provided	None
Funding for presentation provided by?	N/A

Additional comments: The webinar included the PowerPoint presentation by Jeff Hoyt and a question and answer session.

Public Presentation Report Form

Date: 12/13 January 2016

Presenter: Dr Lindsay Brin

Organizer: Canadian Rivers Institute



Presentation Location:	University of New Brunswick
Presentation Subject/Title:	Introduction to R for Ecological Data Analysis Workshop

Number of people present	8
Handouts provided	Intro to R manual, online reference material
Funding for presentation provided by?	The workshop was free to attend

Additional comments: The workshop provided a good refresher on how to use R (a computer program designer for statistical analysis that can be combined with GIS for mapping or planning exercises) and gave some concrete examples using the types of data that a watershed group may encounter. I foresee the skills I learned being quite useful to analyse water quality, benthic, or climate data.

Public Presentation Report Form

Date: February 2, 2017

Presenter: Kristin MacKenzie

Organizer: Kristin MacKenzie, NWA



Presentation Location:	Fredericton Christian Academy
Presentation Subject/Title:	World Wetlands Day

Number of people present	19
Handouts provided	Yes
Funding for presentation provided by?	ETF

Additional comments: This was a 1-1.5 hour educational presentation for World Wetlands Day. The attending students were in grades 4 and 5. The presentation covered what a watershed is, how the wetlands are related to the watershed, why the wetlands are important to the environment, and the risks that are currently being posed to the wetlands. Students had several take-home activities and handouts to work on, along with the games and activities that took place during the presentation.

Public Presentation Report Form

Date: February 15, 2017

Presenter: Kristin MacKenzie, Mike Hardy

Organizer: Kristin MacKenzie, NWA



Presentation Location:	Fredericton Christian Academy
Presentation Subject/Title:	World Wetlands Day

Number of people present	18
Handouts provided	Yes (Listed below)
Funding for presentation provided by?	ETF

Additional comments: This was a 1.5 hour educational presentation for World Wetlands Day. The attending students were in grades 2 and 3. The presentation covered what a watershed is, how the wetlands are related to the watershed, why the wetlands are important to the environment, and the risks that are currently being posed to the wetlands. Students had games and activities that took place during the presentation, as well as two take home hand-outs.

Handouts: a wetlands word search and coloring page, and a track identification guide of a variety of tracks from common local animals.