



2013 Project Final Report



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**PART A: Project Description**

Mabou & Inverness Watershed Restoration  
Location: Inverness County, Cape Breton Nova Scotia  
Watercourse(s): & Watershed(s):

- |   |   |
|---|---|
| 1. Watercourse: Fraser's Brook<br>Watershed: Foot Cape - Inverness                                    | 8. Watercourse: Tributary , North East<br>Mabou<br>Watershed: Frankie Gillisses - Mabou |
| 2. Watercourse: More Brook<br>Watershed: Inverness  | 9. Watercourse: North East Mabou River<br>(Main)<br>Watershed: Mabou                    |
| 3. Watercourse: Mac Quarries Brook<br>Watershed: Brook Village - Mabou                                | 10. Watercourse: Mac Neils Brook<br>Watershed: Mabou                                    |
| 4. Watercourse: Shea's Brook ( Big Shea)<br>Watershed: Brook Village- Mabou                           | 11. Watercourse: Rankin's Brook<br>Watershed: Mabou                                     |
| 5. Watercourse: (Little Shea)<br>Watershed: Brook Village- Mabou                                      | 12. Watercourse: Glendyre Brook<br>Watershed: (Smith Ville)                             |
| 6. Watercourse: Broad Cove River<br>Watershed: Glenville - Inverness                                  | 13. Watercourse: Marimichi Brook<br>Watershed: Roseburn- Mabou                          |
| 7. Watercourse: Tributary to the North East<br>(Mabou River)<br>Watershed: Anne Jane Beaton's - Mabou |   |

**Project description and objectives:**

**Description**

This project has been a pre existing project identifying and addressing the habitat restoration issues in the Mabou and Inverness watershed for the past 10 years. Our long term objectives are to enhance water quality, encourage recreational fishery , become better stewards and improve upon habitat degradation within our watershed.

- **What habitat issues is this project is addressing?**

Debris jams - allowing for migration of fish.

Beaver dams -Flushing , possibly 1-2 years depending on the flow and residual silt sedimentation.

Mapping out and flagging areas where there is large woody debris present.

Difficulties contacting land owners for permission to continue with the restoration.

- **Specific restoration work done this year i.e. techniques used, scale of structures, hand or machine work etc:**

Technical training had been provided by Amy Weston to determine the design layout for installation of digger on the little Shea. Cape Breton groups have attended the training assisting in the process of the design.

**Project Design and Results (Please complete one for each watercourse)**

1. Watercourse: Fraser's Brook

Watershed: Inverness

Location : Inverness County , Cape Breton, Nova Scotia

Nearest Community: Foot Cape

Road crossing (access point):

Map # (NS Topo series 1:50 000): Lake Ainslie 11k/3

Coordinates: Easting & Northing

Start: N46 12 233, W61 19 330

Finish: N46 12 535, W61 19 839

In-stream Structures

- Design width: 5m
- Distance between structures: 27m ( 90 feet)
- Number and Type of Structures : 32 (Single/ Twin /Tree / Rock or Crib deflectors)
- Total length (meters) of stream restored: 864m
- Area in Sq. meters: 4,320 m<sup>2</sup>

Bank Stabilization and Riparian restoration:

- Length of bank: average 1- 4m
- Height of bank: 1- 4m
  
- Width of watercourse: Where water velocities do not exceed 4m
- Method of stabilization: Rock Or Bolder Gripping/ Rock Riprap
- # trees planted: 0

Other habitat restoration measures taken:

- 2 Beaver dams have been flushed .
- 2 beaver dams are to be removed .
- Quick sand is present
- Layout and flagging had been designed by Amy Weston
- 18 structures are in place

2. Watercourse: More Brook

Watershed: Inverness

Location : Inverness County , Cape Breton, Nova Scotia

Nearest Community: inverness

Road crossing (access point):

Map # (NS Topo series 1:50 000): Lake Ainslie 11k/3

Coordinates: Easting & Northing

Start: N46 13 529, W61 16 844

Finish: N46 13 971, W61 16 328

#### In-stream Structures

- Design width: 5 m
- Distance between structures: 27 m
- Number and Type of Structures: 16 Single/ Twin /Tree / Rock or Crib deflectors
- Total length (meters) of stream restored: 432 m
- Area in Sq. meters: 2,160 m<sup>2</sup>

#### Bank Stabilization and Riparian restoration:

- Length of bank : average 1- 4m
- Height of bank: 1- 4m
  
- Width of watercourse: : Where water velocities do not exceed 4m
- Method of stabilization:
- # trees planted: 0

#### Other habitat restoration measures taken:

- The more brook was assessed for Flagging
- 16 structures were maintained and repaired

3. Watercourse: Mac Quarries Brook

Watershed: Mabou

Location : Inverness County , Cape Breton, Nova Scotia

Nearest Community: Brook Village

Road crossing (access point):

Map # (NS Topo series 1:50 000):Lake Ainslie 11k/3

Coordinates: Easting & Northing

Start: N46 04 465, W61 14 989

Finish: N46 04 663, W61 14 989

In-stream Structures

- Design width: 6m
- Distance between structures: 27 m
- Number and Type of Structures : 24 (Single/ Twin /Tree / Rock or Crib deflectors)
- Total length (meters) of stream restored: 648 m
- Area in Sq. meters: 3, 888 m<sup>2</sup>

Bank Stabilization and Riparian restoration:

- Length of bank : average 1- 4m
- Height of bank: 1- 4m
  
- Width of watercourse: : Where water velocities do not exceed 4m
- Method of stabilization: : Rock Or Boulder Gripping/ Rock Riprap
- # trees planted: 0

Other habitat restoration measures taken:

- 24 structures have been put in place maintained and repaired.
- Amy Weston provided assistance for layout and flagging for structures.
- A large woody debris jam from stream bank side erosion had prevented further access upstream.
- Received difficulty contacting the landowner for permission to access their property for further design layout.

4. Watercourse: Shea's Brook ( Big Shea)

Watershed: Mabou

Location : Inverness County , Cape Breton, Nova Scotia

Nearest Community: Brook Village

Road crossing (access point):

Map # (NS Topo series 1:50 000):Lake Ainslie 11k/3 Coordinates: Easting & Northing

Start: N46 02 772, W61 18 065

Finish: N46 03 190, W61 17 525

#### In-stream Structures

- Design width: 8 m
- Distance between structures: 55 m (180 feet)
- Number and Type of Structures: 36
- Total length (meters) of stream restored: 1980 m
- Area in Sq. meters: 15,840 m<sup>2</sup>

#### Bank Stabilization and Riparian restoration:

- Length of bank: average 1- 4m
- Height of bank: 1- 4m
  
- Width of watercourse: : Where water velocities do not exceed 4m
- Method of stabilization:
- # trees planted: 0

#### Other habitat restoration measures taken:

- There was a need for machinery to remove a large woody debris jam caused by the 2010 natural disturbances,(near camp /cabin by the old mull river road ),
- Amy Weston was on site to assess the situation. The result concluded the river was redesigning itself to a natural water course and there was no need for heavy machinery.
- The river is widening and there is a need for an addition of spliced digger logs
- It is awaiting fagging.

5. Watercourse: (Little Shea)

Watershed: Mabou

Location : Inverness County , Cape Breton, Nova Scotia

Nearest Community : Brook Village

Road crossing (access point):

Map # (NS Topo series 1:50 000): Lake Ainslie 11k/3

Coordinates: Easting & Northing

Start: N46 01 891, W61 17 840

Finish: N46 01 839, W61 17 438

#### In-stream Structures

- Design width: 5m
- Distance between structures: 27 m
- Number and Type of Structures: 42
- Total length (meters) of stream restored: 1, 134 m
- Area in Sq. meters: 5, 670 m<sup>2</sup>

#### Bank Stabilization and Riparian restoration:

- Length of bank: average 1- 4m
- Height of bank: 1- 4m
  
- Width of watercourse: : Where water velocities do not exceed 4m
- Method of stabilization: : Rock Or Boulder Gripping/ Rock Riprap
- # trees planted: 0

#### Other habitat restoration measures taken:

- layout and flagging has been assessed by Amy Weston
- A technical work for various groups in Cape Breton was presented by Adopt-a-Stream to provide assistance in the installation of digger logs.
- 16 new structures of digger logs, deflectors and bank stabilization have been placed

6. Watercourse: Broad Cove River

Watershed: Inverness

Location : Inverness County , Cape Breton, Nova Scotia

Nearest Community: Glenville

Road crossing (access point):

Map # (NS Topo series 1:50 000): Lake Ainslie 11k/3

Coordinates: Easting & Northing

Start: N46 09 314, W61 18971

Finish: N46 09 092, W61 19 639

#### In-stream Structures

- Design width: 9 m
- Distance between structures: 55 m (180 feet)
- Number and Type of Structures: 19
- Total length (meters) of stream restored: 1045 m
- Area in Sq. meters: 9,405 m<sup>2</sup>

#### Bank Stabilization and Riparian restoration:

- Length of bank: average 1- 4m
- Height of bank: 1- 4m
  
- Width of watercourse: : Where water velocities do not exceed 4m
- Method of stabilization: : Rock Or Boulder Gripping/ Rock Riprap
- # trees planted: 0

#### Other habitat restoration measures taken:

- The stream has been maintained and repaired
- 9 structures have been attended to
- stream bank side erosion is a curtail factor a ½ km up stream . Bank stabilization was required.



7. Watercourse: Tributary to the North East (Mabou River)  
Watershed: Anne Jane Beaton's -Mabou  
Location : Inverness County , Cape Breton, Nova Scotia  
Nearest Community: Mabou  
Road crossing (access point):  
Map # (NS Topo series 1:50 000): Lake Ainslie 11k/3  
Coordinates: Easting & Northing  
Start: N46 05 220, W61 24 316  
Finish: N46 05 616, w61 24 395

In-stream Structures

- Design width: 5 m
- Distance between structures: 27 m
- Number and Type of Structures: 4
- Total length (meters) of stream restored: 108 m
- Area in Sq. meters: 540 m<sup>2</sup>

Bank Stabilization and Riparian restoration:

- Length of bank: average 1- 4m
- Height of bank:
  
- Width of watercourse: : Where water velocities do not exceed 4m
- Method of stabilization: : Rock Or Boulder Gripping/ Rock Riprap
- # trees planted: 0

Other habitat restoration measures taken:

- Maintenance /excessive debris removal
- Bedrock does not allow for structures
- No Material /low water levels 2- 3 inc

8. Watercourse: Tributary , North East Mabou  
Watershed: Frankie Gillisses – Mabou  
Location : Inverness County , Cape Breton, Nova Scotia  
Nearest Community:  
Road crossing (access point):  
Map # (NS Topo series 1:50 000): Lake Ainslie 11k/3  
Coordinates: Easting & Northing  
Start: N46 05 561, W61 23 385  
Finish: N46 05 868, W61 23 348

In-stream Structures

- Design width: 5 m
- Distance between structures: 27 m
- Number and Type of Structures: 4
- Total length (meters) of stream restored: 108 m
- Area in Sq. meters: 540 m<sup>2</sup>

Bank Stabilization and Riparian restoration:

- Length of bank: average 1- 4m
- Height of bank: 1- 4m
- Width of watercourse: : Where water velocities do not exceed 4m
- Method of stabilization: : Where water velocities do not exceed 4m
- # trees planted: 0

Other habitat restoration measures taken:

- Windfall , tree removal
- lack of material
- Bedrock interference for installation of digger logs

9. Watercourse: North East Mabou River (Main)

Watershed: Mabou

Location : Inverness County , Cape Breton, Nova Scotia

Nearest Community: Mabou

Road crossing (access point)

Map # (NS Topo series 1:50 000): Lake Ainslie 11k/3

Coordinates: Easting & Northing

Start: N46 05 561, W61 23 385

Finish: N46 05 801, W61 22 991

In-stream Structures

- Design width: 6 m
- Distance between structures: 27
- Number and Type of Structures: 6
- Total length (meters) of stream restored: 162 m
- Area in Sq. meters: 972 m<sup>2</sup>

Bank Stabilization and Riparian restoration:

- Length of bank: average 1- 4m
- Height of bank: 1- 4m
  
- Width of watercourse: : Where water velocities do not exceed 4m
- Method of stabilization: : Rock Or Bolder Gripping/ Rock Riprap
- # trees planted: 0

Other habitat restoration measures taken:

- Two tributaries to the northeast were assessed
- Lack of material was present for placement of structures
- Non forested area
- 6 structures have been maintained on the main course (Frankie Gillisses) near the Bridge.

10. Watercourse: Mac Neils Brook  
Watershed: Mabou  
Location : Inverness County , Cape Breton, Nova Scotia  
Nearest Community:  
Road crossing (access point):.....  
Map # (NS Topo series 1:50 000): Lake Ainslie 11k/3  
Coordinates: Easting & Northing  
Start: N46 03 771, W61 23 115  
Finish: N46 03 537, W61 23 160

In-stream Structures

- Design width: N/A
- Distance between structures: N/A
- Number and Type of Structures: N/A
- Total length (meters) of stream restored: N/A
- Area in Sq. meters: N/A

Bank Stabilization and Riparian restoration:

- Length of bank: N/A
- Height of bank: N/A
  
- Width of watercourse: N/A
- Method of stabilization: N/A
- # trees planted: 0

Other habitat restoration measures taken:

- Awaiting DOT to remove the active beaver dam (In progress).

11. Watercourse: Rankin's Brook

Watershed: Mabou

Location : Inverness County , Cape Breton, Nova Scotia

Nearest Community: Mabou

Road crossing (access point):

Map # (NS Topo series 1:50 000):Lake Ainslie 11k/3

Coordinates: Easting & Northing

Start: N46 03 641, W61 22 429

Finish: N46 03 396, W61 22 106

In-stream Structures

- Design width: N/A
- Distance between structures: N/A
- Number and Type of Structures N/A
- Total length (meters) of stream restored: N/A
- Area in Sq. meters: N/A

Bank Stabilization and Riparian restoration:

- Length of bank : N/A
- Height of bank: N/A
  
- Width of watercourse: N/A
- Method of stabilization: N/A
- # trees planted: 0

Other habitat restoration measures taken:

- Debris Removal
- Active Beaver dams
- allow for fish migration
- Layout and flagging of structures to be assessed in 2014.

12. Watercourse: Glendyre Brook

Watershed: Mabou

Location : Inverness County , Cape Breton, Nova Scotia

Nearest Community: Smith Ville

Road crossing (access point):

Map # (NS Topo series 1:50 000):Lake Ainslie 11k/3

Coordinates: Easting & Northing

Start: N46 04 387, W61 21 585

Finish: N46 05 459, W61 20 838

#### In-stream Structures

- Design width: 8 m
- Distance between structures: 27 m
- Number and Type of Structures 45
- Total length (meters) of stream restored: 1, 215
- Area in Sq. meters: 9,720 m<sup>2</sup>

#### Bank Stabilization and Riparian restoration:

- Length of bank: average 1- 4m
- Height of bank: 1- 4m
  
- Width of watercourse: : Where water velocities do not exceed 4m
- Method of stabilization: : Rock Or Boulder Gripping/ Rock Riprap
- # trees planted: 0

#### Other habitat restoration measures taken:

- Heavy rains cause alterations in the watercourse

- 2013 has been successful for maintenance and repairs
- The river can be wide in sections making it difficult to maintain after a heavy rain
- Flushing has taken place in the active beaver dam

13. Watercourse: Marimichi Brook

Watershed: Mabou

Location : Inverness County , Cape Breton, Nova Scotia

Nearest Community: Roseburn

Road crossing (access point):

Map # (NS Topo series 1:50 000): Lake Ainslie 11k/3

Coordinates: Easting & Northing

Start: N46 00 060, W61 17 443

Finish: N46 00 164, W61 16 787

#### In-stream Structures

- Design width: 4 m (12 feet)
- Distance between structures: 55 m (180 feet)
- Number and Type of Structures: 19
- Total length (meters) of stream restored: 1,054 m
- Area in Sq. meters: 12, 648 m<sup>2</sup>

#### Bank Stabilization and Riparian restoration:

- Length of bank: average 1- 4m
- Height of bank: 1- 4m
- Width of watercourse: : Where water velocities do not exceed 4m
- Method of stabilization: : Rock Or Boulder Gripping/ Rock Riprap
- # trees planted: 0

#### Other habitat restoration measures taken:

- Heavy rains cause alterations in the watercourse
- 2013 has been successful for maintenance and repairs
- The river can be wide in sections making it difficult to maintain after a heavy rain
- Flushing has taken place in the active beaver dam

### Overall Project Results

- Total Number and Type of Structures : 247
- Total length (meters) of stream restored: 8,741
- Total Stream Area in Sq. meters: 65, 703
- Total Riparian Area in Sq. meters:
- Total Number of Trees planted: 0

### Past Work & Future Plans:

Has habitat work been done on this watercourse in previous years? How much? Is further additional work planned or anticipated?

### PART B: Project Delivery (Overall project, not by watercourse)

#### Volunteer Contribution

- Describe how volunteers contribute to your Adopt-A-Stream project and to your organization in general.

Volunteers will contribute in attending meetings , assist in training sessions , help out with Trout stalking and brood stalk retrieval. They are resourceful when seeking information for land and water based activities including forestry activities such as (harvesting sites) & Recreational Fishery (sport fishing location).

- Number of People volunteering on all aspects of the project: 17
- Total Volunteer Hours :52
- Approximate breakdown of roles



- Management / Supervision:  
Project Administration – 2 (Dave Cameron , Cathy Mac Eachern)
- Labour:  
Restoration Crew – Alex Mac Kinnon , Kyle Mac Dougall, Nathan Mac Lean  
Off Season Watershed – 2 D. Mac Issac, A. Mac Kinnon
- Other:

#### Paid Crew

- Number of workers:  
Restoration Crew- 3
- Weeks of work: ( 2-15 weeks, 1- 12 weeks)
- Off Season Watershed – 2 crew members ( 250 hrs)

#### Other Information

- List other project sponsors and contributions:  
  
Atlantic Salmon Conservation Foundation
  
- Please describe any other additional activities undertaken to support the project (education, promotion, population assessments etc.):

#### Brood Stalk Retrieval

In October the fall of 2013 , brood stalk retrieval took place in the Mull River. 4 males and 5 females were extracted and delivered to the Margaree Hatchery. The testing results have concluded the mature Atlantic Salmon were healthy. Approximately 30,000 eggs were obtained to be raised at the hatchery and returned back to the river the fallowing year. In Mid November the mature Atlantic salmon were released back into the Mull River.

IMPORTANT -

PLEASE SEND PHOTOS AS SEPARATE FILES NOT JUST EMBEDDED IN THE REPORT. These may be also be used for publication and promotion purposes.

Please also include copies of any media articles about the project