

Group	Inverness South Anglers Association (ISAA)
Contact	Dave Cameron
Mailing Address	P.O. Box 255, Mabou N.S. B0E 1X0
Telephone	902-945-2356
Email	dcameroncb@gmail.com
Website	N/A

PROJECT TITLE:
Aquatic Habitat Restoration in Southern Inverness County Cape Breton

Site List (All):	
Watercourse(s):	More Brook, Fraser’s Brook, Broad Cove River, Glendyer Brook, Brook Village Road Brook, MacQuarrie Brook, Big Shea Brook, Little Shea Brook, Graham’s River
Watershed(s):	Broad Cove River Watershed, Mabou Harbour Watershed, Graham’s River Watershed

<p>PART A: Project Brief Description: 500 words max describing this year’s project. Include habitat issues this project is addressing, restoration techniques used.</p>
<p>The habitat restoration component of this project works to expand and enhance migratory access, holding capacity, and spawning areas alongside the continuous improvement of water quality in the Mabou River, Broad Cove River, Captain’s Brook and Graham’s River Watersheds. This year marked the final year in the Graham’s River Restoration Plan completed by MacInnis Natural Resources Inc. in 2015. Our focus for 2018 was to complete the final stretch of hand structures and machine work needed to restore Graham’s River. In total, 27 hand structures were installed along a 2.6km stretch up and downstream from John D. MacDonald Bridge in Judique. Armour stone rock bank work was completed above the Route 19 bridge in Judique near Graham’s Road and kickers and boulder groupings were also incorporated into the bank stabilization design to slow the flow of water. Specific restoration work done this year (i.e. techniques used, scale of structures, hand or machine work, etc):</p> <ul style="list-style-type: none"> • Removal of debris jams, beaver dams, and flood deposits • Installation of digger, deflector, and bank logs; rock deflectors, sills, and channel blockers • Bank rock stabilization by hand and by machine using class 2 armour rock

Project Detail:

LOCATION INFORMATION	
Watercourse:	More's Brook
Watershed:	Broad Cove River
Location:	Deepdale Road
Nearest Community:	Inverness
Road crossing (access point):	Deepdale Road
Map # (NS Topo series 1:50 000):	Lake Ainslie 11K/3
Coordinates: UTMS	
Downstream project limit: Easting	631896
Downstream project limit: Northing	5120475
Upstream project limit: Easting	633327.1
Upstream project limit: Northing	5120610.9

Project Design & Results:

Fish Passage Remediation	
# Culverts Assessed:	N/A
Type of barrier(s)	Fish ladder and tubs filled with silt and debris, woody debris clogging 2 chutes blocking fish passage. Debris/Windfall
Action taken	Using shovels and picks, the chutes were cleared out to allow water to flow through and ease of access for fish. The crew gave the fish ladder and tub 2 days to clear empty out the excess silt and cobble in the tubs. Cleared all debris and windfall by hand and with chainsaw
Upstream habitat gain (linear meters)	4,282.82m

Other Activities and Results:	
General maintenance work completed along the stretch of the project limits including re-rocking existing structures such as digger logs, deflectors and bank rock	Distance of Stream Restored (m): 1,620m

Project Detail:

LOCATION INFORMATION	
Watercourse:	Fraser's Brook
Watershed:	Broad Cove River
Location:	Foot Cape Road & Strathlorne Nursery
Nearest Community:	Inverness
Road crossing (access point):	Foot Cape Road
Map # (NS Topo series 1:50 000):	Lake Ainslie 11K/3
Coordinates: UTMS	
Downstream project limit: Easting	632064.2
Downstream project limit: Northing	5116862.7
Upstream project limit: Easting	630511.1
Upstream project limit: Northing	5116990

Project Design & Results:

Fish Passage Remediation	
# Culverts Assessed:	N/A
Type of barrier(s)	Debris/Windfall
Action taken	Minimal winter debris and windfall cleared with the chainsaw and by hand to allow water flow in the original stream bed.
Upstream habitat gain (linear meters)	4,520m

Other Activities and Results:	
General maintenance work completed along the stretch of the project limits including re-rocking existing structures such as digger logs, deflectors and bank rock	Distance of Stream Restored (m): 1,264m

Project Detail:

LOCATION INFORMATION	
Watercourse:	Broad Cove River
Watershed:	Broad Cove River
Location:	Glenora Distillery & Strathlorne
Nearest Community:	Inverness
Road crossing (access point):	Route 19
Map # (NS Topo series 1:50 000):	Lake Ainslie 11K/3
Coordinates: UTMS	
Downstream project limit: Easting	632104.3
Downstream project limit: Northing	5117289.7
Upstream project limit: Easting	628722.6
Upstream project limit: Northing	5112197

Project Design & Results:

Fish Passage Remediation	
# Culverts Assessed:	N/A
Type of barrier(s)	Debris/Windfall
Action taken	Winter debris and windfall cleared with the chainsaw and by hand to allow water flow in the original steam bed.
Upstream habitat gain (linear meters)	5,780m

Other Activities and Results:	
General maintenance work completed along the stretch of the project limits including re-rocking existing structures such as digger logs, deflectors and bank rock	Distance of Stream Restored (m): 960m

Project Detail:

LOCATION INFORMATION	
Watercourse:	Glendyer Brook
Watershed:	Mabou River
Location:	Smithville
Nearest Community:	Mabou
Road crossing (access point):	Smithville Road
Map # (NS Topo series 1:50 000):	Lake Ainslie 11K/3
Coordinates: UTMS	
Downstream project limit: Easting	629207.4
Downstream project limit: Northing	5108539.1
Upstream project limit: Easting	630585.9
Upstream project limit: Northing	5108135.9

Project Design & Results:

Fish Passage Remediation	
# Culverts Assessed:	N/A
Type of barrier(s)	Debris/Windfall
Action taken	Winter debris and windfall cleared with the chainsaw and by hand to allow water flow in the original steam bed.
Upstream habitat gain (linear meters)	6,996.54m

Other Activities and Results:	
General maintenance work completed along the stretch of the project limits including re-rocking existing structures such as digger logs, deflectors and bank rock	Distance of Stream Restored (m): 1,880m

Project Detail:

LOCATION INFORMATION	
Watercourse:	MacQuarrie Brook
Watershed:	Mabou River
Location:	West River / Hays River
Nearest Community:	Centreville
Road crossing (access point):	Unnamed Road connecting Lake Ainslie Chapel Brook Village Road and East Sky Glen Road
Map # (NS Topo series 1:50 000):	Lake Ainslie 11K/3
Coordinates: UTMS	
Downstream project limit: Easting	635027.1
Downstream project limit: Northing	5103427.4
Upstream project limit: Easting	635257.1
Upstream project limit: Northing	5103623.9

Project Design & Results:

Fish Passage Remediation	
# Culverts Assessed:	N/A
Type of barrier(s)	Debris/Windfall
Action taken	Winter debris and windfall cleared with the chainsaw and by hand to allow water flow in the original steam bed.
Upstream habitat gain (linear meters)	1,840m

Other Activities and Results:	
General maintenance work completed along the stretch of the project limits including re-rocking existing structures such as digger logs, deflectors and bank rock	Distance of Stream Restored (m): 274.4m

Project Detail:

LOCATION INFORMATION	
Watercourse:	Big Shea Brook
Watershed:	Mabou River
Location:	Brook Village
Nearest Community:	Mabou
Road crossing (access point):	Old Mull River Road
Map # (NS Topo series 1:50 000):	Lake Ainslie 11K/3
Coordinates: UTMS	
Downstream project limit: Easting	629997.9
Downstream project limit: Northing	5100089.3
Upstream project limit: Easting	630478.5
Upstream project limit: Northing	5100238.4

Project Design & Results:

Fish Passage Remediation	
# Culverts Assessed:	N/A
Type of barrier(s)	Debris/Windfall
Action taken	Winter debris and windfall cleared with the chainsaw and by hand to allow water flow in the original steam bed.
Upstream habitat gain (linear meters)	5,910m

Other Activities and Results:	
General maintenance work completed along the stretch of the project limits including re-rocking existing structures such as digger logs, deflectors and bank rock	Distance of Stream Restored (m): 1,750m

Project Detail:

LOCATION INFORMATION	
Watercourse:	Little Shea Brook
Watershed:	Mabou River
Location:	Brook Village
Nearest Community:	Mabou
Road crossing (access point):	Old Mull River Road
Map # (NS Topo series 1:50 000):	Lake Ainslie 11K/3
Coordinates: UTMS	
Downstream project limit: Easting	630373.3
Downstream project limit: Northing	5100026.3
Upstream project limit: Easting	631196
Upstream project limit: Northing	5099358.3

Project Design & Results:

Fish Passage Remediation	
# Culverts Assessed:	N/A
Type of barrier(s)	Debris/Windfall
Action taken	Winter debris and windfall cleared with the chainsaw and by hand to allow water flow in the original steam bed.
Upstream habitat gain (linear meters)	3,320m

Other Activities and Results:	
General maintenance work completed along the stretch of the project limits including re-rocking existing structures such as digger logs, deflectors and bank rock	Distance of Stream Restored (m): 1,180m

Project Detail:

LOCATION INFORMATION	
Watercourse:	Unnamed Tributary #1
Watershed:	South West Mabou River
Location:	MacLeod Settlement
Nearest Community:	Judique
Road crossing (access point):	MacLeod Settlement Road
Map # (NS Topo series 1:50 000):	Whycocomagh 11F/14
Coordinates: UTMS	
Downstream project limit: Easting	627604.1
Downstream project limit: Northing	5088050.2
Upstream project limit: Easting	627724.7
Upstream project limit: Northing	5088052.7

Project Design & Results:

In-stream Habitat Structures:	
Design width:	4-6m
Distance between structures (average/ design)	60m
Number and Type of Structures	2 digger logs
Total length (meters) of stream restored:	151.65m
Area in Sq. meters:	496.8m ²

Project Detail:

LOCATION INFORMATION	
Watercourse:	Graham's River
Watershed:	Graham's River
Location:	Route 19 & J.D. MacDonald Road
Nearest Community:	Judique
Road crossing (access point):	Route 19 Bridge & J.D. MacDonald Bridge
Map # (NS Topo series 1:50 000):	Whycomagh 11F/14
Coordinates: UTMS	
Downstream project limit: Easting	616403.9
Downstream project limit: Northing	5079934.9
Upstream project limit: Easting	618194.5
Upstream project limit: Northing	5079582.8

Project Design & Results:

Fish Passage Remediation	
# Culverts Assessed:	N/A
Type of barrier(s)	Debris/Windfall
Action taken	Winter debris and windfall cleared with the chainsaw and by hand to allow water flow in the original steam bed.
Upstream habitat gain (linear meters)	15,780m

Other Activities and Results:	
General maintenance work completed along the stretch of the project limits including re-rocking existing structures such as digger logs, deflectors and bank rock	Distance of Stream Restored (m): 1,431.63m

In-stream Habitat Structures:	
Design width:	4-6m
Distance between structures (average/design)	30-60m
Number and Type of Structures	16 Log Crib Rock Deflectors, 10 rocked banks, 7 Channel Blockers (logs & Rocks), 2 hand rocked sills
Total length (meters) of stream restored:	2,516.03m
Area in Sq. meters:	323,608.68 m ²

Bank Stabilization and Riparian restoration:	
Length of bank:	70m, 60m, 35m, 20m, 10m (x2)
Height of bank:	Between 2m-5m
Width of watercourse:	10-12m
Method of stabilization:	Armor rock; Class 2 rip rap with kickers and boulder groupings included in the design to avoid displacing the energy downstream.
# trees planted:	N/A – we will be accessing river next year

SUMMARY

OVERALL PROJECTS RESULTS (All sites)	
Total Number and Type of Structures:	37 = 16 Log Crib Rock Deflectors, 10 rocked banks, 7 Channel Blockers (logs & Rocks), 2 hand rocked sills, 2 digger logs
Total length (m) of stream restored Via Structure Installation:	2,667.68m
Total Length (m) of Stream Restored through general maintenance:	10,360.03m
Total Stream Habitat Area in Sq. meters:	324,105.48m ²
Total Upstream Habitat Gain:	48,429.36m
Total Length of Bank Restored Using Armour Rock:	205m
Total Riparian Area in Sq. meters:	N/A
Total Number of Trees planted:	N/A
Total number of fish passage remediation sites	8
Total upstream habitat gain (linear meters)	45,428.36 m

Past Work & Future Plans: Putting this year's project in context of the watershed.

Has habitat work been done on the watercourse(s) in previous years? Which? How much?
Yes, habitat work has been done in the past on all the above-mentioned watercourses. All work completed by ISAA has been inventoried dating back to 2009.
Is further additional work planned or anticipated?
All the previously installed structures require assessment and maintenance work each year, therefore providing ISAA ongoing work regarding existing structures. Additional rock sills (armour stone) are in the plan for the 2019 work season for Graham's River. The 2019 work

season will be focusing on the remaining armour stone rock sill work in Graham's River along with the implementation of the Southwest Mabou River Restoration Plan.

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

PEOPLE POWER

VOLUNTEERS	
<p>Describe how volunteers contribute to your Adopt-A-Stream project and to your organization in general.</p>	<p>ISAA volunteers have been working since 2004 with AAS funds and knowledge to fulfill our missions. The success of our partnership has been instrumental in attracting the long-term interest and investment of other partners. They include the Atlantic Salmon Conservation Foundation, the Recreational Fisheries Conservation Partnership Program, and Wild Salmon Unlimited. Volunteers with ISAA have contributed to:</p> <ul style="list-style-type: none"> • Fish Stocking • Coordinating the Fishing Derby • Brood Stock Collection • Restoration Work • Conference Attendance • Mileage (Transportation)
Number of People volunteering on all aspects of the project:	
Total Volunteer Hours	
Approximate breakdown of roles	
Management / Supervision:	
Labour:	
Other:	

PAID PERSONNEL	
Number of project workers:	
Total Tally Weeks of work:	18 weeks
Start Date:	March 28 th , 2018

End Date:	September 28 th , 2018
Other Paid staff contributing to the project:	

PARTNERS

Other Project Contributors	Contribution Description	Cash	Inkind
Wild Salmon Unlimited	Cash	\$50,000	
Recreational Fisheries Partnership Program	Cash	\$38,500	
Atlantic Salmon Conservation Foundation	Cash	\$10,000	
Mabou River Inn	Meeting Room		
Landowners	Materials		
Mileage			

OTHER GOOD STUFF

Please convey any other additional activities undertaken to support the project (education, promotion, population assessments etc.) even if not directly funded by NSLC Adopt A Stream.
The annual Fishing Derby was held this season to promote outdoor activity and responsible angling as well as the Learn 2 Fish program put on by the Inland Fisheries department and hosted by ISAA. Monitoring is conducted through RivTemp, CAMP, Redd counts, and electrofishing.

IMPORTANT - ATTACHMENTS –

- ✓ **Please include your organization’s name (or acronym) in all the file names.**
- ✓ **PLEASE SEND PHOTOS AS SEPARATE FILES NOT JUST EMBEDDED IN THE REPORT. These may be used for publication and promotion purposes.**
- ✓ **Please also include copies of any media articles about the project**
- ✓ **Attach completed detailed Financial Statement**