

LITTLE

MARSH

CREEK

WATERCOURSE ASSESSMENT, JULY 2018

**GRAEME STEWART-ROBERTSON | ROXANNE MACKINNON | SHAUNA SANDS**

# SUMMARY

A watercourse assessment of Little Marsh Creek and its tributaries was conducted between June 19, 2018 to July 12, 2018 within the project area of the proposed development known as "The Crossing". This assessment process was initiated in order to address data gaps surrounding the watercourse within the project area, as well as the possible use of this section of the watercourse as a corridor to the upstream environment.

Between June 19, 2018 and July 10, 2018, Little Marsh Creek and its upstream tributaries were electroseined to identify any fish species present in the watercourse. In total, 19 different fish species were found within the project site and their surrounding tributaries, including salmonid species [Brook trout (*Salvelinus fontinalis*) and Brown Trout (*Salmo trutta*)] were captured, as well as American eel (*Anguilla rostrata*), which is currently listed as Threatened under COSEWIC (Committee on the Status of Endangered Wildlife in Canada) due to loss of habitat.

Stream cover was sparse in most areas, however large stands of willow are abundant in certain sections of the stream, allowing for excellent cover due to overhang. The stream was found to have a silty substrate throughout the project area, with the water depth ranging from 30 cm - 110 cm, while the stream width ranged between 4.5 m - 12 m and had minimal channel flow.

Overall, the water quality of Little Marsh Creek is of good quality and was observed to support a wide diversity of aquatic life, with persistent siltation being the primary deleterious impact. The water temperature, on average during the assessment period, was below 20°C and thus, well within acceptable limits for Salmonid species.

Further study of the upstream habitat may be necessary to determine possible barriers to fish passage and identify siltation issues, and it is recommended that additional electroseining within the project area be conducted outside of the peak water temperatures present during the months of June through August. Overall, Little Marsh Creek displays an abundance of resident aquatic life and forms a key corridor between Marsh Creek – and eventually the Bay of Fundy - and the seven lakes, along with numerous wetland habitats, located upstream of the proposed project area.



## **Introduction**

The epicentre of Saint John's commercial development over the past forty years has been the Marsh Creek watershed which contains eighteen lakes and countless wetlands, including a brackish semi-tidal wetland at its terminus. A watershed of over 4,200 hectares includes six distinct watercourses that originate in forested hillsides and descends into countless of commercial, industrial and residential developments before emptying into man-made tide gated into the Bay of Fundy in the Atlantic Ocean.

A proposed project by Horizon Management Ltd., known as "The Crossing" is a property of land that is located within a 49 hectare parcel on the east side of Saint John, New Brunswick. The property is bound on the east side of Highway 1, while both the Ashburn Road and a watercourse known as Little Marsh Creek would intersect the developed side on the west side.

As a result of queries submitted in response to the proponent's Environment Impact Assessment [EIA] submission to the Government of New Brunswick, ACAP Saint John was engaged to conduct a comprehensive fish population and habitat survey of the proposed project site. This assessment was achieved through electrofishing various sections within the Little Marsh Creek channel to gain a better understanding of fish diversity within the proposed project site. In addition, ground truthing and watercourse surveys of the watercourse were completed to complete an aquatic habitat assessment of the project site. Finally, water quality of the stream was assessed by measuring various water quality parameters using in-field sondes and meters.

## **Electrofishing**

Electrofishing was conducted to assess fish abundance, and presence and absence of fish, within Little Marsh Creek in and around the proposed project site throughout June 19, 2018 to July 10, 2018. To determine fish abundance in the work area, three different reaches were electrofished using barrier nets, two reaches at 50 m in length and one reach was 25 m in length (Figure 1). In addition to the areas that were electrofished using barrier nets, nine sites were also spot checked for presence/absence of fish using an electrofisher (Figure 1). Electrofishing activities were conducted using a battery-powered Smith-Root LR-24 electrofisher.

In total, 19 different fish species were found within the project site and their surrounding tributaries with the most abundant fish caught were various stickleback species. It was also found that American eels are quite abundant within the watercourse. This species plays an important role as a top aquatic predator and is an excellent indicator of habitat integrity. It should be noted that the American eel is currently listed as Threatened under COSEWIC (Committee on the Status of Endangered Wildlife in Canada) due to loss of habitat. Results from past electrofishing data from Ashburn Creek can be found in Appendix 1, Table 1.



Figure 1: Map of electrofishing survey sites completed between June 19 – July 10, 2018.

Reach 1 was located downstream of the project site where two barrier nets were set 50 m apart (45.32183, -066.03529 and 45.32223, -066.03503). The habitat was found to be mostly tall grasses and shrubs with very little stream cover and a silty substrate. In order to calculate fish abundance, two passes with the electrofisher were conducted in the reach on July 3, 2018. A total of 78 fish were found along the reach between the two passes and 8 different species were identified (Table 1). Fourspine stickleback was the most abundant fish species found in this reach at 38.5%. Due to the highly silted stream conditions causing diminished visibility, greater numbers of fish were caught in the second pass than the first pass and therefore abundance could not be determined for this reach.

*Table 1: Fish species composition as a result of electrofishing using barrier nets in reach 1 (50 m) found within the project site in the Little Marsh Creek watershed on July 3, 2018.*

<b>Species</b>	<b>Total Number Caught</b>	<b>Percentage (%)</b>	<b>Range of Total Length (mm)</b>
Ninespine stickleback ( <i>Pungitius pungitius</i> )	8	10.2	33-50
American eel ( <i>Anguilla rostrata</i> )	12	15.4	115-365
Pumpkinseed ( <i>Lepomis gibbosus</i> )	10	12.8	73-100
Fourspine stickleback ( <i>Apeltes quadracus</i> )	30	38.5	20-46
White sucker ( <i>Catostomus commersonii</i> )	4	5.1	102-173
Brook trout ( <i>Salvelinus fontinalis</i> )	4	5.1	120-150
Banded killifish ( <i>Fundulus diaphanus</i> )	1	1.3	85
Golden shiner ( <i>Notemigonus crysoleucas</i> )	9	11.5	60-95

Reach 2 is located near the middle of the stream within the project site (45.32501, -66.03381 and 45.32457, -66.0342) and barrier nets were set 50 m apart. The habitat at this reach was found to be mostly tall grasses and shrubs with very little stream cover and a silty substrate. Two passes with the electrofisher were made to determine fish abundance on July 9, 2018. A total of 14 different species were caught between the two passes with a total of 655 individuals (Table 2). Fourspine stickleback was the most abundant fish caught along reach 2. Following the Zippen two-pass

depletion method the abundance of fish in this 50 m reach was determined to be  $1,357 \pm 233$  individuals (Lockwood and Schneider, 2000).

*Table 2: Fish species composition as a result of electrofishing using barrier nets in reach 2 (50 m) found within the project site in the Little Marsh Creek watershed on July 9, 2018.*

<b>Species</b>	<b>Total Number Caught</b>	<b>Percentage (%)</b>	<b>Range of Total Length (mm)</b>
Ninespine stickleback ( <i>Pungitius pungitius</i> )	140	21.4	15-55
American eel ( <i>Anguilla rostrata</i> )	43	6.6	45-710
Fourspine stickleback ( <i>Apeltes quadracus</i> )	343	52.4	15-50
Banded killifish ( <i>Fundulus diaphanus</i> )	5	0.7	48-89
Golden shiner ( <i>Notemigonus crysoleucas</i> )	4	0.6	76-96
Common shiner ( <i>Luxilus cornutus</i> )	5	0.7	42-80
Threespine stickleback ( <i>Gasterosteus aculeatus</i> )	51	7.8	15-72
Mummichog ( <i>Fundulus heteroclitus</i> )	36	5.5	30-82
Redbreast sunfish ( <i>Lepomis auritus</i> )	1	0.1	84
Northern Redbelly dace ( <i>Chrosomus eos</i> )	3	0.4	55-66
Eastern Blacknose dace ( <i>Rhinichthys atratulus</i> )	19	2.9	34-70
Pearl dace ( <i>Semotilus margarita</i> )	3	0.4	46-60
Creek chub ( <i>Semotilus atromaculatus</i> )	1	0.1	122
Brown bullhead ( <i>Ameiurus nebulosus</i> )	1	0.1	195

Reach 3 is located upstream of the project (45.32819, -66.03093 and 45.32806, -66.03124) and the barrier nets were set 25 m apart. The habitat at this reach was found to be mostly tall grasses and shrubs with very little stream cover and a silty substrate. Two passes with the electrofisher were made to determine fish abundance on July 10, 2018. A total of 9 different species were caught between the two passes with a total of 608 individuals (Table 3). Ninespine stickleback was the most abundant fish caught along this reach at 37.2%. The abundance for this reach was also calculated for this 25 m reach following the same method and was determined to be 1,037 ± 177 individuals.

*Table 3: Fish species composition as a result of electrofishing using barrier nets in reach 3 (25m) found within the project site in the Little Marsh Creek watershed on July 10, 2018.*

<b>Species</b>	<b>Total Number Caught</b>	<b>Percentage (%)</b>	<b>Range of Total Length (mm)</b>
Ninespine stickleback ( <i>Pungitius pungitius</i> )	226	37.2	8-53
American eel ( <i>Anguilla rostrata</i> )	32	5.3	40-400
Fourspine stickleback ( <i>Apeltes quadracus</i> )	197	32.4	16-45
Banded killifish ( <i>Fundulus diaphanus</i> )	31	5.1	36-80
Common shiner ( <i>Luxilus cornutus</i> )	4	0.6	40-66
Threespine stickleback ( <i>Gasterosteus aculeatus</i> )	70	11.5	12-66
Mummichog ( <i>Fundulus heteroclitus</i> )	42	6.9	32-86
Eastern Blacknose dace ( <i>Rhinichthys atratulus</i> )	4	0.6	40-47
Pearl dace ( <i>Semotilus margarita</i> )	2	0.3	65

In addition to the three reaches, upstream of the proposed project area five sites were chosen for presence of fish species using the spot check method. In total, twelve different fish species were caught within the five upstream sites with a total of 158 individuals (Table 4). The majority of the fish that were caught were Ninespine stickleback at 44.3%.

Table 4: Fish species composition as a result of electrofishing in five different upstream sites in the Little Marsh Creek watershed.

Species	Total Number Caught	Percentage (%)	Range of Total Length (mm)
White sucker ( <i>Catostomus commersonii</i> )	3	1.9	109-170
American eel ( <i>Anguilla rostrata</i> )	17	10.7	55-380
Ninespine stickleback ( <i>Pungitius pungitius</i> )	70	44.3	13-60
Fourspine stickleback ( <i>Apeltes quadracus</i> )	32	20.2	17-47
Northern redbelly dace ( <i>Chrosomus eos</i> )	1	0.6	79
Brook trout ( <i>Salvelinus fontinalis</i> )	13	8.2	51-188
Common shiner ( <i>Luxilus cornutus</i> )	1	0.6	48
Chain pickerel ( <i>Esox niger</i> )	2	1.3	250-265
Banded killifish ( <i>Fundulus diaphanus</i> )	5	3.2	45-80
Mummichog ( <i>Fundulus heteroclitus</i> )	10	6.3	43-80
Threespine stickleback ( <i>Gasterosteus aculeatus</i> )	3	1.9	40-60
Golden shiner ( <i>Notemigonus crysoleucas</i> )	1	0.6	48

To the south/southwest of the proposed project site, four additional tributaries to Little Marsh Creek were electrofished for presence of fish using the spot check method. The majority of these sites are located upstream of portions of the project site [see Figure 1], or were identified as probable coldwater refuges for resident salmonids during high temperature events and/or seasons. In total,



six different species of fish were captured within the four tributaries with a total of 72 individuals (Table 5). The majority of the fish that were captured were identified as Brook trout [at 51.4%].

*Table 5: Fish species composition as a result of electrofishing in four different tributary sample sites located south of the proposed project area in the Little Marsh Creek watershed.*

<b>Species</b>	<b>Total Number Caught</b>	<b>Percentage (%)</b>	<b>Range of Total Length (mm)</b>
Brown Trout ( <i>Salmo trutta</i> )	14	19.4	42-138
American eel ( <i>Anguilla rostrata</i> )	13	18.0	90-650
Redbreast sunfish ( <i>Lepomis auritus</i> )	3	4.2	80-85
Fourspine stickleback ( <i>Apeltes quadracus</i> )	1	1.4	40
Eastern Blacknose dace ( <i>Rhinichthys atratulus</i> )	4	5.5	60-80
Brook trout ( <i>Salvelinus fontinalis</i> )	37	51.4	45-180

### **Habitat Assessment**

A full habitat assessment was conducted between June 22, 2018 to July 12, 2018 within the proposed project area. The habitat surrounding the watershed in the project area showed little change along the 1390 metre stretch. The vegetation consisted of mostly tall grasses, alders and willow species (Appendix 2, Figure 1). Some areas along the watercourse were found to have fern species or coniferous trees along the bank. Stream cover was sparse in most areas, but when willow was abundant, sections of the stream were found to have good cover due to overhang. The stream was found to have a silty substrate throughout the project area, with the water depth ranging from 30 cm-110 cm. The stream width ranged between 4.5 m-12 m and had minimal channel flow.

A retention pond (0.52 ha) can be found east of the watercourse (45.32259, -66.03386) with an outlet that feeds into Little Marsh Creek (45.32354, -66.03324) (Appendix 2, Figure 2). A mixed forest surrounds the pond with wetland grasses on either side of the outlet. Although fishing efforts were not conducted in the pond, fish were seen swimming during the habitat assessment.

Signs of wildlife could be seen throughout the whole watercourse including prints from North American raccoon (*Procyon lotor*), North American river otters (*Lontra canadensis*), and White-Tailed deer (*Odocoileus virginianus*). Many songbirds and waterfowl were also flushed while completing the survey, as well as many fish and invertebrates, including several unclassified freshwater mussel species, could be seen within the stream.

During the habitat assessment it was found that the project site contains natural barriers that once likely blocked fish passage. There were remnants of three beaver dams along the stream that have signs of human removal, likely to allow for water flow and some pooling can still be seen upstream and downstream of the dams (Appendix 2, Figure 3).

A large culvert can be found within the project site and can be accessed easily from Ashburn Road (45.32282, -66.03483) (Appendix 2, Figure 4). However, there seems to be no evidence that this culvert is causing any barriers to fish passage.

On June 28, 2018 a major rainfall event (65.5mm of rain) was observed to have caused water levels in the project area to become very high and flood sections of Ashburn Road (Appendix 2, Figure 5). This demonstrated that there exists a high variability of flow and channel depth within the project site, suggesting that further assessments may be necessary during seasonal freshet events.

### Water Quality

Water quality parameters were measured within the project area and were measured using a Professional Plus YSI meter, as well as a Sper turbidity meter (45.32574, -66.03202). Samples were taken on a biweekly basis beginning on October 31, 2017 to November 28, 2017 and again starting on May 16, 2018 and have are still ongoing. The observed water quality within the proposed project area can be found in the table below (Table 6). Overall, the water quality of Little Marsh Creek is of good quality to support a wide diversity of aquatic life, with siltation remaining an issue. The water temperature, on average, was below 20°C and thus, well within acceptable limits for Salmonid species.

*Table 6. Water quality parameters measured for Little Marsh Creek within the proposed project site.*

<b>Water quality Measurements</b>	<b>Oct. 31, 2017</b>	<b>Nov. 17, 2018</b>	<b>Nov. 28, 2017</b>	<b>May 16, 2018</b>	<b>May 29, 2018</b>	<b>June 12, 2018</b>	<b>June 28, 2018</b>	<b>July 13, 2018</b>
Temperature (°C)	11.4	7	1.6	11.4	14.5	13.9	15.2	20.6
Dissolved Oxygen (%)	28.4	69.1	76.3	95.6	67.4	92.1	64.3	97.7
Dissolved Oxygen (mg/L)	3.09	8.36	10.7	10.4	6.84	9.36	6.39	8.76
Specific Conductivity (µs/cm)	727	481.7	496.4	730	835	884	689	665
Total Dissolved Solids (mg/L)	474.5	312	322.4	474.5	539	572	448.6	370.5
Salinity (ppt)	0.36	0.23	0.24	0.36	0.41	0.44	0.34	0.27
pH	7.85	7.87	7.79	7.2	7.35	7.66	7.42	7.69
Turbidity (NTU)	0	19.31	6.99	0.29	0	7.87	0	4.86

**References:**

Lockwood, Roger N. and J. C. Schneider. 2000. Stream fish population estimates by mark and-recapture and depletion methods. Chapter 7 in Schneider, James C. (ed.) 2000. Manual of fisheries survey methods II: with periodic updates. Michigan Department of Natural Resources, Fisheries Special Report 25, Ann Arbor.

## Appendix 1.

Table 1. Compiled fish species composition as a result of electrofishing in Ashburn Creek in 2009, 2013 and 2014.

<b>Species</b>	<b>Total Number Caught</b>	<b>Percentage (%)</b>	<b>Range of Total Length (mm)</b>
Brown Trout ( <i>Salmo trutta</i> )	19	20.6	35-188
American eel ( <i>Anguilla rostrata</i> )	12	13.0	120-300
Eastern Blacknose dace ( <i>Rhinichthys atratulus</i> )	19	20.6	30-85
Brook trout ( <i>Salvelinus fontinalis</i> )	41	44.6	16-319
Mummichog ( <i>Fundulus heteroclitus</i> )	1	1.1	42

**Appendix 2.**







*Figure 1. Multiple images (a, b, c, d & e) of various sections along Little Marsh Creek that fall within the project area.*





*Figure 2. (a) Retention pond found east of Little Marsh Creek that drains into the watershed, specifically into the project boundaries (45.32259, -66.03386). (b) Outlet to the retention pond, surrounded by cattails and tall grasses (45.32354, -66.03324).*







*Figure 3. Beaver dams found along Little Marsh Creek that have been damaged to allow for natural stream flow. (a) 45.322291, -66.035046 (b) 45.32383, -66.03473 (c) 45.326126, -66.03102*



Figure 4. Large culvert found along Little Marsh Creek (45.32282, -66.03483). (a) Upstream of the culvert (b) Downstream of the culvert





(b)



(c)



*Figure 5. Aftermath of a major rainfall event on June 28, 2018 (65.5mm of rain) in Little Marsh Creek within the proposed project area. (a) Flooding near the culvert (45.32282, -66.03483). (b) Flooding along the stream near Ashburn Road (c&d) Flooding on Ashburn Road.*

# STREAM ASSESSMENT DATA SHEETS



# Stream Assessment

**Stream Name:** LMCG  
**Date:** 22 June 2018 **Time:** 10:36  
**Samples Collected by:** Andrew, cristian, shawna  
**GPS Coordinates:** 45.3977 06603725  
**Weather:** SUN 07 clouds  
**Photo #:** LMCG (1-3)

<p><b>Stream Cover:</b> <u>30%</u> Dense (81-100%)                  Record estimated % cover on the appropriate line  <u>70%</u> Moderate (51-80%)                  _____ Sparse (21-50%)                  _____ Open (0-20%)</p>	<p><b>Channel:</b> _____ Riffle                  _____ <input checked="" type="checkbox"/> Run                  _____ Pool</p>
<p><b>Left Bank:</b> Please record estimated % of each cover type</p> <p>Mixed _____  <u>50%</u> Hardwood/Deciduous                  _____ Softwood/Coniferous  <u>40%</u> Small trees/Shrubs  <u>10%</u> Grasses/ferns                  _____ Moss                  _____ Anthropogenic</p> <p><b>Comments:</b> <u>cherry, willow, alder</u></p>	<p><b>Right Bank:</b> Please record estimated % of each cover type</p> <p>Mixed _____  <u>50%</u> Hardwood/Deciduous                  _____ Softwood/Coniferous  <u>50%</u> Small trees/Shrubs                  _____ Grasses/ferns                  _____ Moss                  _____ Anthropogenic</p> <p><b>Comments:</b></p>
<p><b>Left Bank:</b></p> <p><input checked="" type="checkbox"/> Intact  <input type="checkbox"/> Some Erosion  <input type="checkbox"/> Extensive Erosion</p>	<p><b>Right Bank:</b></p> <p><input checked="" type="checkbox"/> Intact  <input type="checkbox"/> Some Erosion  <input type="checkbox"/> Extensive Erosion</p>
<p><b>Substrate (most common):</b>                  Please record estimated % of each substrate type in 5% classes</p> <p>_____ Bedrock                  _____ Boulder                  _____ Cobble                  _____ Gravel                  _____ Sand  <u>100</u> Silt/Clay/ Mud                  _____ Detritus</p>	<p>Average Bankfull width: <u>8.6</u> m                  Average Wet Width : <u>6.1</u> m                  Water Depth: <u>33.5</u> cm</p>

**Notes:** pond weed  
fish present

# Stream Assessment

**Stream Name:** LMC7  
**Date:** 22 June 2018 **Time:** 10:42  
**Samples Collected by:** \_\_\_\_\_  
**GPS Coordinates:** 45.31984 66.03722  
**Weather:** Sun 0% cloud  
**Photo #:** LMC7(1-6)

<p><b>Stream Cover:</b> _____ Dense (81-100%)          Record estimated % cover on the appropriate line _____ <u>40%</u> Moderate (51-80%)          _____ Sparse (21-50%)          _____ <u>60%</u> Open (0-20%)</p>	<p><b>Channel:</b> _____ Riffle          _____ <input checked="" type="checkbox"/> Run (slow)          _____ Pool</p>
<p><b>Left Bank:</b> Please record estimated % of each cover type</p> <p>           _____ Mixed            _____ Hardwood/Deciduous            _____ Softwood/Coniferous  <u>76%</u> Small trees/Shrubs  <u>25%</u> Grasses/ferns            _____ Moss            _____ Anthropogenic         </p> <p><b>Comments:</b> <del>less</del> <u>less</u> cover due to lack of vegetation</p>	<p><b>Right Bank:</b> Please record estimated % of each cover type</p> <p>           _____ Mixed  <u>70%</u> Hardwood/Deciduous            _____ Softwood/Coniferous  <u>30%</u> Small trees/Shrubs            _____ Grasses/ferns            _____ Moss            _____ Anthropogenic         </p> <p><b>Comments:</b> <u>Better cover</u></p>
<p><b>Left Bank:</b></p> <p> <input type="checkbox"/> Intact  <input checked="" type="checkbox"/> Some Erosion  <input type="checkbox"/> Extensive Erosion         </p>	<p><b>Right Bank:</b></p> <p> <input checked="" type="checkbox"/> Intact  <input type="checkbox"/> Some Erosion  <input type="checkbox"/> Extensive Erosion         </p>
<p><b>Substrate (most common):</b></p> <p>Please record estimated % of each substrate type in 5% classes</p> <p>           _____ Bedrock            _____ Boulder            _____ Cobble            _____ Gravel            _____ Sand  <u>100%</u> Silt/Clay/ Mud            _____ Detritus         </p>	<p>Average Bankfull width: <u>7.9</u> m</p> <p>Average Wet Width : <u>5.5</u> m</p> <p>Water Depth: <del>110</del> <u>70</u> cm</p>

Notes: lost cover on left side of Bank  
2 ducks present

# Stream Assessment

**Stream Name:** LMC8  
**Date:** 22 June 2018 **Time:** 10:53am  
**Samples Collected by:** Christian, Andrew, Shauna  
**GPS Coordinates:** N 45.32016° W 066.03703°  
**Weather:** Sunny (no cloud)  
**Photo #:** LMC8 01-6

<p><b>Stream Cover:</b> <u>90</u> Dense (81-100%)          Record estimated % cover on the appropriate line  <u>10</u> Moderate (51-80%)  <u>0</u> Sparse (21-50%)  <u>0</u> Open (0-20%)</p>	<p><b>Channel:</b> <u>  </u> Riffle  <u>  </u> Run (slow)  <u>  </u> Pool</p>																												
<p><b>Left Bank:</b> Please record estimated % of each cover type</p> <table style="width: 100%; border: none;"> <tr><td style="width: 10%;"><u>20</u></td><td>Mixed</td></tr> <tr><td><u>  </u></td><td>Hardwood/Deciduous</td></tr> <tr><td><u>  </u></td><td>Softwood/Coniferous</td></tr> <tr><td><u>80</u></td><td>Small trees/Shrubs</td></tr> <tr><td><u>  </u></td><td>Grasses/ferns</td></tr> <tr><td><u>  </u></td><td>Moss</td></tr> <tr><td><u>  </u></td><td>Anthropogenic</td></tr> </table> <p>Comments: <u>  </u></p>	<u>20</u>	Mixed	<u>  </u>	Hardwood/Deciduous	<u>  </u>	Softwood/Coniferous	<u>80</u>	Small trees/Shrubs	<u>  </u>	Grasses/ferns	<u>  </u>	Moss	<u>  </u>	Anthropogenic	<p><b>Right Bank:</b> Please record estimated % of each cover type</p> <table style="width: 100%; border: none;"> <tr><td style="width: 10%;"><u>100</u></td><td>Mixed</td></tr> <tr><td><u>  </u></td><td>Hardwood/Deciduous</td></tr> <tr><td><u>  </u></td><td>Softwood/Coniferous</td></tr> <tr><td><u>  </u></td><td>Small trees/Shrubs</td></tr> <tr><td><u>  </u></td><td>Grasses/ferns</td></tr> <tr><td><u>  </u></td><td>Moss</td></tr> <tr><td><u>  </u></td><td>Anthropogenic</td></tr> </table> <p>Comments: <u>  </u></p>	<u>100</u>	Mixed	<u>  </u>	Hardwood/Deciduous	<u>  </u>	Softwood/Coniferous	<u>  </u>	Small trees/Shrubs	<u>  </u>	Grasses/ferns	<u>  </u>	Moss	<u>  </u>	Anthropogenic
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<p><b>Substrate (most common):</b>          Please record estimated % of each substrate type in 5% classes</p> <table style="width: 100%; border: none;"> <tr><td><u>  </u></td><td>Bedrock</td></tr> <tr><td><u>  </u></td><td>Boulder</td></tr> <tr><td><u>  </u></td><td>Cobble</td></tr> <tr><td><u>  </u></td><td>Gravel</td></tr> <tr><td><u>  </u></td><td>Sand</td></tr> <tr><td><u>100</u></td><td>Silt/Clay/ Mud</td></tr> <tr><td><u>  </u></td><td>Detritus</td></tr> </table>	<u>  </u>	Bedrock	<u>  </u>	Boulder	<u>  </u>	Cobble	<u>  </u>	Gravel	<u>  </u>	Sand	<u>100</u>	Silt/Clay/ Mud	<u>  </u>	Detritus	<p>Average Bankfull width: <u>7.6</u> m</p> <p>Average Wet Width : <u>5.4</u> m</p> <p>Water Depth: <u>30</u> cm</p>														
<u>  </u>	Bedrock																												
<u>  </u>	Boulder																												
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<u>  </u>	Sand																												
<u>100</u>	Silt/Clay/ Mud																												
<u>  </u>	Detritus																												

Notes: Small inlet (toward road), flows to culvert  
 culvert to road  
 dumping (flooding)



# Stream Assessment

**Stream Name:** LMC9  
**Date:** 22 June 2018 **Time:** 11:05  
**Samples Collected by:** Crishan Andrew Shauna  
**GPS Coordinates:** N 45.32035° W 065.03682°  
**Weather:** Sunny  
**Photo #:** LMC9(1-5)

<p><b>Stream Cover:</b> _____ Dense (81-100%)          Record estimated % cover on the appropriate line                                    <u>60%</u> Moderate (51-80%)                                    _____ Sparse (21-50%)                                    <u>40%</u> Open (0-20%)</p>	<p><b>Channel:</b> _____ Riffle                            <u>✓</u> Run (slow)                            _____ Pool</p>																												
<p><b>Left Bank:</b> Please record estimated % of each cover type</p> <table style="width: 100%; border-collapse: collapse;"> <tr><td>_____</td><td>Mixed</td></tr> <tr><td>_____</td><td>Hardwood/Deciduous</td></tr> <tr><td>_____</td><td>Softwood/Coniferous</td></tr> <tr><td><u>100%</u></td><td><u>80%</u> Small trees/Shrubs</td></tr> <tr><td><u>20%</u></td><td>Grasses/ferns</td></tr> <tr><td>_____</td><td>Moss</td></tr> <tr><td>_____</td><td>Anthropogenic</td></tr> </table> <p><b>Comments:</b> _____</p>	_____	Mixed	_____	Hardwood/Deciduous	_____	Softwood/Coniferous	<u>100%</u>	<u>80%</u> Small trees/Shrubs	<u>20%</u>	Grasses/ferns	_____	Moss	_____	Anthropogenic	<p><b>Right Bank:</b> Please record estimated % of each cover type</p> <table style="width: 100%; border-collapse: collapse;"> <tr><td>_____</td><td>Mixed</td></tr> <tr><td><u>60%</u></td><td>Hardwood/Deciduous</td></tr> <tr><td>_____</td><td>Softwood/Coniferous</td></tr> <tr><td><u>40%</u></td><td>Small trees/Shrubs</td></tr> <tr><td>_____</td><td>Grasses/ferns</td></tr> <tr><td>_____</td><td>Moss</td></tr> <tr><td>_____</td><td>Anthropogenic</td></tr> </table> <p><b>Comments:</b> _____</p>	_____	Mixed	<u>60%</u>	Hardwood/Deciduous	_____	Softwood/Coniferous	<u>40%</u>	Small trees/Shrubs	_____	Grasses/ferns	_____	Moss	_____	Anthropogenic
_____	Mixed																												
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_____	Moss																												
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<p><b>Left Bank:</b></p> <p><input type="checkbox"/> Intact  <input checked="" type="checkbox"/> Some Erosion  <input type="checkbox"/> Extensive Erosion</p>	<p><b>Right Bank:</b></p> <p><input checked="" type="checkbox"/> Intact  <input type="checkbox"/> Some Erosion  <input type="checkbox"/> Extensive Erosion</p>																												
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_____	Bedrock																												
_____	Boulder																												
_____	Cobble																												
_____	Gravel																												
_____	Sand																												
<u>100%</u>	Silt/Clay/ Mud																												
_____	Detritus																												

Notes:

# Stream Assessment

**Stream Name:** LMC 10  
**Date:** 22 June 2018 **Time:** 11:16 am  
**Samples Collected by:** Cristian Andrew Shauna  
**GPS Coordinates:** N 45.32100° W 066.03619  
**Weather:** Sunny  
**Photo #:** LMC10(1-4)

<p><b>Stream Cover:</b> <u>100</u> Dense (81-100%)          Record estimated % cover on the appropriate line          _____ Moderate (51-80%)          _____ Sparse (21-50%)          _____ Open (0-20%)</p>	<p><b>Channel:</b> _____ Riffle          _____ <input checked="" type="checkbox"/> Run (slow)          _____ Pool</p>																												
<p><b>Left Bank:</b> Please record estimated % of each cover type</p> <table style="width: 100%; border: none;"> <tr><td style="width: 10%; border: none;"><u>60</u></td><td style="border: none;">Mixed</td></tr> <tr><td style="border: none;">_____</td><td style="border: none;">Hardwood/Deciduous</td></tr> <tr><td style="border: none;">_____</td><td style="border: none;">Softwood/Coniferous</td></tr> <tr><td style="border: none;">_____</td><td style="border: none;">Small trees/Shrubs</td></tr> <tr><td style="border: none;"><u>40</u></td><td style="border: none;">Grasses/ferns</td></tr> <tr><td style="border: none;">_____</td><td style="border: none;">Moss</td></tr> <tr><td style="border: none;">_____</td><td style="border: none;">Anthropogenic</td></tr> </table> <p><b>Comments:</b> <u>W. Willow</u></p>	<u>60</u>	Mixed	_____	Hardwood/Deciduous	_____	Softwood/Coniferous	_____	Small trees/Shrubs	<u>40</u>	Grasses/ferns	_____	Moss	_____	Anthropogenic	<p><b>Right Bank:</b> Please record estimated % of each cover type</p> <table style="width: 100%; border: none;"> <tr><td style="width: 10%; border: none;"><u>50%</u></td><td style="border: none;">Mixed</td></tr> <tr><td style="border: none;">_____</td><td style="border: none;">Hardwood/Deciduous</td></tr> <tr><td style="border: none;">_____</td><td style="border: none;">Softwood/Coniferous</td></tr> <tr><td style="border: none;">_____</td><td style="border: none;">Small trees/Shrubs</td></tr> <tr><td style="border: none;"><u>50%</u></td><td style="border: none;">Grasses/ferns</td></tr> <tr><td style="border: none;">_____</td><td style="border: none;">Moss</td></tr> <tr><td style="border: none;">_____</td><td style="border: none;">Anthropogenic</td></tr> </table> <p><b>Comments:</b> <u>Willows</u></p>	<u>50%</u>	Mixed	_____	Hardwood/Deciduous	_____	Softwood/Coniferous	_____	Small trees/Shrubs	<u>50%</u>	Grasses/ferns	_____	Moss	_____	Anthropogenic
<u>60</u>	Mixed																												
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<p><b>Left Bank:</b></p> <p><input type="checkbox"/> Intact  <input checked="" type="checkbox"/> Some Erosion  <input type="checkbox"/> Extensive Erosion</p>	<p><b>Right Bank:</b></p> <p><input checked="" type="checkbox"/> Intact  <input type="checkbox"/> Some Erosion  <input type="checkbox"/> Extensive Erosion</p>																												
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_____	Bedrock																												
_____	Boulder																												
_____	Cobble																												
_____	Gravel																												
_____	Sand																												
<u>100</u>	Silt/Clay/ Mud																												
_____	Detritus																												

**Notes:** Forest behind right bank (30 meters away)

# Stream Assessment

**Stream Name:** LMC11  
**Date:** June 22, 2018 **Time:** 1:43pm  
**Samples Collected by:** Andrew, Shauna, cristian  
**GPS Coordinates:** 45.32114 W66 03586  
**Weather:** Sun 0% clouds  
**Photo #:** 4 pics (LMC11 (1-4))

<p><b>Stream Cover:</b> _____ Dense (81-100%)          Record estimated % cover on the appropriate line _____ 50 Moderate (51-80%)          _____ 50 Sparse (21-50%)          _____ Open (0-20%)</p>	<p><b>Channel:</b> _____ Riffle          _____ X Run (slow)          _____ Pool</p>																												
<p><b>Left Bank:</b> Please record estimated % of each cover type</p> <table style="width: 100%; border: none;"> <tr><td style="width: 15%; border: none;">_____</td><td style="width: 85%; border: none;">Mixed</td></tr> <tr><td style="border: none;"><u>90%</u></td><td style="border: none;">Hardwood/Deciduous</td></tr> <tr><td style="border: none;">_____</td><td style="border: none;">Softwood/Coniferous</td></tr> <tr><td style="border: none;">_____</td><td style="border: none;">Small trees/Shrubs</td></tr> <tr><td style="border: none;"><u>10%</u></td><td style="border: none;">Grasses/ferns</td></tr> <tr><td style="border: none;">_____</td><td style="border: none;">Moss</td></tr> <tr><td style="border: none;">_____</td><td style="border: none;">Anthropogenic</td></tr> </table> <p><b>Comments:</b> _____</p>	_____	Mixed	<u>90%</u>	Hardwood/Deciduous	_____	Softwood/Coniferous	_____	Small trees/Shrubs	<u>10%</u>	Grasses/ferns	_____	Moss	_____	Anthropogenic	<p><b>Right Bank:</b> Please record estimated % of each cover type</p> <table style="width: 100%; border: none;"> <tr><td style="width: 15%; border: none;">_____</td><td style="width: 85%; border: none;">Mixed</td></tr> <tr><td style="border: none;"><u>40%</u></td><td style="border: none;">Hardwood/Deciduous</td></tr> <tr><td style="border: none;">_____</td><td style="border: none;">Softwood/Coniferous</td></tr> <tr><td style="border: none;"><u>5</u></td><td style="border: none;">Small trees/Shrubs</td></tr> <tr><td style="border: none;"><u>60%</u></td><td style="border: none;">Grasses/ferns</td></tr> <tr><td style="border: none;">_____</td><td style="border: none;">Moss</td></tr> <tr><td style="border: none;">_____</td><td style="border: none;">Anthropogenic</td></tr> </table> <p><b>Comments:</b> _____</p>	_____	Mixed	<u>40%</u>	Hardwood/Deciduous	_____	Softwood/Coniferous	<u>5</u>	Small trees/Shrubs	<u>60%</u>	Grasses/ferns	_____	Moss	_____	Anthropogenic
_____	Mixed																												
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_____	Anthropogenic																												
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<u>60%</u>	Grasses/ferns																												
_____	Moss																												
_____	Anthropogenic																												
<p><b>Left Bank:</b></p> <p><input type="checkbox"/> Intact  <input checked="" type="checkbox"/> Some Erosion  <input type="checkbox"/> Extensive Erosion</p>	<p><b>Right Bank:</b></p> <p><input checked="" type="checkbox"/> Intact  <input type="checkbox"/> Some Erosion  <input type="checkbox"/> Extensive Erosion</p>																												
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_____	Bedrock																												
_____	Boulder																												
_____	Cobble																												
_____	Gravel																												
_____	Sand																												
<u>100</u>	Silt/Clay/ Mud																												
_____	Detritus																												

Notes: Lots of dead wood obstruction from electrofishing

# Stream Assessment

**Stream Name:** LMC12  
**Date:** 22/06/2018 **Time:** 7:00 PM  
**Samples Collected by:** Cristian Andrew Shauna  
**GPS Coordinates:** N 45.32155 W 066.03593  
**Weather:** Sunny  
**Photo #:** 4 pics LMC12 (1-4)

<p><b>Stream Cover:</b> _____ Dense (81-100%)          Record estimated % cover on the appropriate line          _____ Moderate (51-80%)          _____ Sparse (21-50%)  <u>X</u> _____ Open (0-20%)</p>	<p><b>Channel:</b> _____ Riffle  <u>X</u> _____ Run          _____ Pool</p>
<p><b>Left Bank:</b> Please record estimated % of each cover type</p> <p>_____ Mixed          _____ Hardwood/Deciduous          _____ Softwood/Coniferous  <u>80%</u> _____ Small trees/Shrubs  <u>50%</u> _____ Grasses/ferns          _____ Moss          _____ Anthropogenic</p> <p><b>Comments:</b> _____</p>	<p><b>Right Bank:</b> Please record estimated % of each cover type</p> <p>_____ Mixed          _____ Hardwood/Deciduous          _____ Softwood/Coniferous  <u>70%</u> _____ Small trees/Shrubs  <u>30%</u> _____ Grasses/ferns          _____ Moss          _____ Anthropogenic</p> <p><b>Comments:</b> _____</p>
<p><b>Left Bank:</b>  <input checked="" type="checkbox"/> Intact  <input type="checkbox"/> Some Erosion  <input type="checkbox"/> Extensive Erosion</p>	<p><b>Right Bank:</b>  <input checked="" type="checkbox"/> Intact  <input type="checkbox"/> Some Erosion  <input type="checkbox"/> Extensive Erosion</p>
<p><b>Substrate (most common):</b>          Please record estimated % of each substrate type in 5% classes</p> <p>_____ Bedrock          _____ Boulder          _____ Cobble          _____ Gravel          _____ Sand  <u>100%</u> _____ Silt/Clay/ Mud          _____ Detritus</p>	<p>Average Bankfull width: <u>7.5</u> m          Average Wet Width: <u>5.2</u> m          Water Depth: <u>50</u> cm</p>

**Notes:** From last point to this point electrofishing doesn't seem possible but at this site is close enough to do it.  
 Fish are present

# Stream Assessment

**Stream Name:** LMC13  
**Date:** June 22 2018 **Time:** 7:19  
**Samples Collected by:** Shauna - Andrew Cristan  
**GPS Coordinates:** N 45.37183 W 066.03579  
**Weather:** Partly  
**Photo #:** LMC13 (1-6)

<p><b>Stream Cover:</b> Record estimated % cover on the appropriate line</p> <p> <input type="checkbox"/> Dense (81-100%)  <input type="checkbox"/> Moderate (51-80%)  <input type="checkbox"/> Sparse (21-50%)  <input checked="" type="checkbox"/> Open (0-20%)         </p>	<p><b>Channel:</b></p> <p> <input type="checkbox"/> Riffle  <input checked="" type="checkbox"/> Run  <input type="checkbox"/> Pool         </p>
<p><b>Left Bank:</b> Please record estimated % of each cover type</p> <p> <input type="checkbox"/> Mixed  <input type="checkbox"/> Hardwood/Deciduous  <input type="checkbox"/> Softwood/Coniferous  <input checked="" type="checkbox"/> 50% Small trees/Shrubs  <input checked="" type="checkbox"/> 30% Grasses/ferns  <input type="checkbox"/> Moss  <input type="checkbox"/> Anthropogenic         </p> <p><b>Comments:</b></p>	<p><b>Right Bank:</b> Please record estimated % of each cover type</p> <p> <input type="checkbox"/> Mixed  <input type="checkbox"/> Hardwood/Deciduous  <input checked="" type="checkbox"/> 10% Softwood/Coniferous  <input checked="" type="checkbox"/> 50% Small trees/Shrubs  <input checked="" type="checkbox"/> 40% Grasses/ferns  <input type="checkbox"/> Moss  <input type="checkbox"/> Anthropogenic         </p> <p><b>Comments:</b></p>
<p><b>Left Bank:</b></p> <p> <input type="checkbox"/> Intact  <input checked="" type="checkbox"/> Some Erosion  <input type="checkbox"/> Extensive Erosion         </p>	<p><b>Right Bank:</b></p> <p> <input type="checkbox"/> Intact  <input checked="" type="checkbox"/> Some Erosion  <input type="checkbox"/> Extensive Erosion         </p>
<p><b>Substrate (most common):</b> Please record estimated % of each substrate type in 5% classes</p> <p> <input type="checkbox"/> Bedrock  <input type="checkbox"/> Boulder  <input type="checkbox"/> Cobble  <input type="checkbox"/> Gravel  <input type="checkbox"/> Sand  <input checked="" type="checkbox"/> 100% Silt/Clay/ Mud  <input type="checkbox"/> Detritus         </p>	<p>Average Bankfull width: <u>8.7</u> m</p> <p>Average Wet Width: <u>5.8</u> m</p> <p>Water Depth: <u>83</u> cm</p>

**Notes:** Now mostly grass trees along the right bank

# Stream Assessment

**Stream Name:** LMC14  
**Date:** June 26 **Time:** 10:11  
**Samples Collected by:** Shauna Cristian Andrew  
**GPS Coordinates:** 45.32223 66.03503  
**Weather:** sun 0% clouds  
**Photo #:** 4 pics

<p><b>Stream Cover:</b> _____ Dense (81-100%)          Record estimated % cover on the appropriate line _____ <u>100%</u> Moderate (51-80%)          _____ Sparse (21-50%)          _____ Open (0-20%)</p>	<p><b>Channel:</b> _____ Riffle          _____ <u>X</u> Run Slow          _____ Pool</p>
<p><b>Left Bank:</b> Please record estimated % of each cover type</p> <p>_____ Mixed          _____ Hardwood/Deciduous          _____ Softwood/Coniferous  <u>100%</u> Small trees/Shrubs          _____ Grasses/ferns          _____ Moss          _____ Anthropogenic</p> <p><b>Comments:</b> <u>Alders</u></p>	<p><b>Right Bank:</b> Bank: Please record estimated % of each cover type</p> <p>_____ Mixed          _____ Hardwood/Deciduous          _____ Softwood/Coniferous  <u>50%</u> Small trees/Shrubs  <u>50%</u> Grasses/ferns          _____ Moss          _____ Anthropogenic</p> <p><b>Comments:</b> <u>tall wetland grasses + Alders</u></p>
<p><b>Left Bank:</b></p> <p><input checked="" type="checkbox"/> Intact  <input type="checkbox"/> Some Erosion  <input type="checkbox"/> Extensive Erosion</p>	<p><b>Right Bank:</b></p> <p><input checked="" type="checkbox"/> Intact  <input type="checkbox"/> Some Erosion  <input type="checkbox"/> Extensive Erosion</p>
<p><b>Substrate (most common):</b>          Please record estimated % of each substrate type in 5% classes</p> <p>_____ Bedrock          _____ Boulder          _____ Cobble          _____ Gravel          _____ Sand  <u>X</u> Silt/Clay/ Mud          _____ Detritus</p>	<p><b>Average Bankfull width:</b> <u>9.6</u> m  <b>Average Wet Width :</b> <u>6.3</u> m  <b>Water Depth:</b> <u>65</u> cm</p>

Notes: small dam 7m downstream causing deeper channel  
 ↳ not 100% active → water flows over

\*up stream point for electrofishing  
 (LMC13 = downstream spot)

# Stream Assessment

**Stream Name:** LMCIS  
**Date:** June 26 **Time:** 10:21  
**Samples Collected by:** Shauna, Andrew, Cristian  
**GPS Coordinates:** 45.32276, -100.03484  
**Weather:** sun 0% clouds  
**Photo #:** \_\_\_\_\_

<p><b>Stream Cover:</b></p> <p>Record estimated % cover on the appropriate line</p> <p>_____ Dense (81-100%)</p> <p><u>50%</u> Moderate (51-80%)</p> <p><u>50%</u> Sparse (21-50%)</p> <p>_____ Open (0-20%)</p>	<p><b>Channel:</b></p> <p>_____ Riffle</p> <p>_____ Run</p> <p><u>X</u> Pool <i>at culvert</i></p>
<p><b>Left Bank:</b> Please record estimated % of each cover type</p> <p>_____ Mixed</p> <p>_____ Hardwood/Deciduous</p> <p>_____ Softwood/Coniferous</p> <p><u>80</u> Small trees/Shrubs</p> <p><u>30</u> Grasses/ferns</p> <p>_____ Moss</p> <p>_____ Anthropogenic</p> <p><b>Comments:</b> <i>Alders</i></p>	<p><b>Right Bank:</b> Please record estimated % of each cover type</p> <p>_____ Mixed</p> <p>_____ Hardwood/Deciduous</p> <p>_____ Softwood/Coniferous</p> <p><u>90</u> Small trees/Shrubs</p> <p><u>10</u> Grasses/ferns</p> <p>_____ Moss</p> <p>_____ Anthropogenic</p> <p><b>Comments:</b> <i>alders</i></p>
<p><b>Left Bank:</b></p> <p><input type="checkbox"/> Intact</p> <p><input type="checkbox"/> Some Erosion</p> <p><input checked="" type="checkbox"/> Extensive Erosion</p>	<p><b>Right Bank:</b></p> <p><input checked="" type="checkbox"/> Intact</p> <p><input type="checkbox"/> Some Erosion</p> <p><input type="checkbox"/> Extensive Erosion</p>
<p><b>Substrate (most common):</b></p> <p>Please record estimated % of each substrate type in 5% classes</p> <p>_____ Bedrock</p> <p>_____ Boulder</p> <p><u>10</u> Cobble</p> <p>_____ Gravel</p> <p><u>90</u> Sand</p> <p>_____ Silt/Clay/ Mud</p> <p>_____ Detritus</p>	<p>Average Bankfull width: <u>8.2</u> m</p> <p>Average Wet Width: <u>6.3</u> m</p> <p>Water Depth: <u>110</u> cm</p>

**Notes:** *Large culvert*

*L> up stream side of culvert = deep pool, no stream cover, cattails*

# Stream Assessment

**Stream Name:** LMC16  
**Date:** June 26 **Time:** 10:40  
**Samples Collected by:** Andrew Cristian Shauca  
**GPS Coordinates:** 45.32326 066.03488  
**Weather:** Sun 0% clouds  
**Photo #:** \_\_\_\_\_

<p><b>Stream Cover:</b> _____ Dense (81-100%)                  Record estimated % cover on the appropriate line                  _____ Moderate (51-80%)                  _____ Sparse (21-50%)  <u>100</u> Open (0-20%)</p>	<p><b>Channel:</b> _____ Riffle                  _____ <input checked="" type="checkbox"/> Run                  _____ Pool</p>																												
<p><b>Left Bank:</b> Please record estimated % of each cover type</p> <table style="width: 100%; border-collapse: collapse;"> <tr><td>_____</td><td>Mixed</td></tr> <tr><td>_____</td><td>Hardwood/Deciduous</td></tr> <tr><td>_____</td><td>Softwood/Coniferous</td></tr> <tr><td><u>30</u></td><td>Small trees/Shrubs</td></tr> <tr><td><u>70</u></td><td>Grasses/ferns</td></tr> <tr><td>_____</td><td>Moss</td></tr> <tr><td>_____</td><td>Anthropogenic</td></tr> </table> <p><b>Comments:</b> _____</p>	_____	Mixed	_____	Hardwood/Deciduous	_____	Softwood/Coniferous	<u>30</u>	Small trees/Shrubs	<u>70</u>	Grasses/ferns	_____	Moss	_____	Anthropogenic	<p><b>Right Bank:</b> Please record estimated % of each cover type</p> <table style="width: 100%; border-collapse: collapse;"> <tr><td>_____</td><td>Mixed</td></tr> <tr><td>_____</td><td>Hardwood/Deciduous</td></tr> <tr><td><u>90</u></td><td>Softwood/Coniferous</td></tr> <tr><td><del>10</del></td><td>Small trees/Shrubs</td></tr> <tr><td><u>10</u></td><td>Grasses/ferns</td></tr> <tr><td>_____</td><td>Moss</td></tr> <tr><td>_____</td><td>Anthropogenic</td></tr> </table> <p><b>Comments:</b> <i>many grasses/cattails in stream</i></p>	_____	Mixed	_____	Hardwood/Deciduous	<u>90</u>	Softwood/Coniferous	<del>10</del>	Small trees/Shrubs	<u>10</u>	Grasses/ferns	_____	Moss	_____	Anthropogenic
_____	Mixed																												
_____	Hardwood/Deciduous																												
_____	Softwood/Coniferous																												
<u>30</u>	Small trees/Shrubs																												
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_____	Moss																												
_____	Anthropogenic																												
_____	Mixed																												
_____	Hardwood/Deciduous																												
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<u>10</u>	Grasses/ferns																												
_____	Moss																												
_____	Anthropogenic																												
<p><b>Left Bank:</b></p> <p><input type="checkbox"/> Intact  <input checked="" type="checkbox"/> Some Erosion  <input type="checkbox"/> Extensive Erosion</p>	<p><b>Right Bank:</b></p> <p><input type="checkbox"/> Intact  <input type="checkbox"/> Some Erosion  <input checked="" type="checkbox"/> Extensive Erosion</p>																												
<p><b>Substrate (most common):</b>                  Please record estimated % of each substrate type in 5% classes</p> <table style="width: 100%; border-collapse: collapse;"> <tr><td>_____</td><td>Bedrock</td></tr> <tr><td>_____</td><td>Boulder</td></tr> <tr><td>_____</td><td>Cobble</td></tr> <tr><td>_____</td><td>Gravel</td></tr> <tr><td>_____</td><td>Sand</td></tr> <tr><td><u>100</u></td><td>Silt/Clay/ Mud</td></tr> <tr><td>_____</td><td>Detritus</td></tr> </table>	_____	Bedrock	_____	Boulder	_____	Cobble	_____	Gravel	_____	Sand	<u>100</u>	Silt/Clay/ Mud	_____	Detritus	<p>Average Bankfull width: <u>17.6</u> m</p> <p>Average Wet Width : <u>15.5</u> m</p> <p>Water Depth: <u>44</u> cm</p>														
_____	Bedrock																												
_____	Boulder																												
_____	Cobble																												
_____	Gravel																												
_____	Sand																												
<u>100</u>	Silt/Clay/ Mud																												
_____	Detritus																												

**Notes:** <sup>50m</sup> upstream of culvert, lots of wetland vegetation  
 tall  
 Small channel from road



# Stream Assessment

Stream Name: LMC17  
 Date: June 26 Time: 10:54  
 Samples Collected by: Andrew Shauna Crisban  
 GPS Coordinates: 45.38375 066.03471  
 Weather: Sun 0% clouds  
 Photo #: \_\_\_\_\_

Stream Cover: _____ Dense (81-100%) Record estimated % cover on the appropriate line _____ Moderate (51-80%) _____ Sparse (21-50%) <u>100</u> Open (0-20%)	Channel: _____ Riffle (small riffle where dam is broken) <u>X</u> Run _____ Pool
Left Bank: Please record estimated % of each cover type _____ Mixed <u>50</u> Hardwood/Deciduous _____ Softwood/Coniferous <u>30</u> Small trees/Shrubs <u>20</u> Grasses/ferns _____ Moss _____ Anthropogenic Comments: <u>Alders + willows</u>	Right Bank: Bank: Please record estimated % of each cover type _____ Mixed <u>50</u> Hardwood/Deciduous _____ Softwood/Coniferous <u>50</u> Small trees/Shrubs _____ Grasses/ferns _____ Moss _____ Anthropogenic Comments: <u>Alders + willows</u>
Left Bank: <input type="checkbox"/> Intact <input type="checkbox"/> Some Erosion <input checked="" type="checkbox"/> Extensive Erosion	Right Bank: <input type="checkbox"/> Intact <input type="checkbox"/> Some Erosion <input checked="" type="checkbox"/> Extensive Erosion
Substrate (most common): Please record estimated % of each substrate type in 5% classes _____ Bedrock _____ Boulder _____ Cobble _____ Gravel _____ Sand <u>100</u> Silt/Clay/ Mud _____ Detritus	Average Bankfull width: <u>14.2</u> m Average Wet Width : <u>10.47</u> m Water Depth: <u>79</u> cm

Notes: <sup>OLD</sup> Beaver dam

# Stream Assessment

**Stream Name:** LMC18 + LMC19?  
**Date:** June 26 2018 **Time:** 11:12 am  
**Samples Collected by:** Andrew + Shonna, Cristian  
**GPS Coordinates:** 45.32405 014023459, 045 31244 026 03432  
**Weather:** SUN 01 Clouds  
**Photo #:** \_\_\_\_\_

<p><b>Stream Cover:</b> _____ Dense (81-100%)                  Record estimated % cover on the appropriate line                  _____ Moderate (51-80%)  <u>100%</u> Sparse (21-50%)                  _____ Open (0-20%)</p>	<p><b>Channel:</b> _____ Riffle                  _____ <u>X</u> Run slow                  _____ Pool</p>
<p><b>Left Bank:</b> Please record estimated % of each cover type</p> <p>                     _____ Mixed                      _____ Hardwood/Deciduous                      _____ Softwood/Coniferous  <u>51</u> Small trees/Shrubs  <u>95%</u> Grasses/ferns                      _____ Moss                      _____ Anthropogenic                 </p> <p><b>Comments:</b> _____</p>	<p><b>Right Bank:</b> Please record estimated % of each cover type</p> <p>                     _____ Mixed  <u>5</u> Hardwood/Deciduous                      _____ Softwood/Coniferous  <u>5</u> Small trees/Shrubs  <u>90</u> Grasses/ferns                      _____ Moss                      _____ Anthropogenic                 </p> <p><b>Comments:</b> _____</p>
<p><b>Left Bank:</b></p> <p> <input type="checkbox"/> Intact  <input type="checkbox"/> Some Erosion  <input checked="" type="checkbox"/> Extensive Erosion                 </p>	<p><b>Right Bank:</b></p> <p> <input type="checkbox"/> Intact  <input checked="" type="checkbox"/> Some Erosion  <input type="checkbox"/> Extensive Erosion                 </p>
<p><b>Substrate (most common):</b></p> <p>Please record estimated % of each substrate type in 5% classes</p> <p>                     _____ Bedrock                      _____ Boulder                      _____ Cobble                      _____ Gravel                      _____ Sand  <u>X</u> Silt/Clay/ Mud                      _____ Detritus                 </p>	<p>Average Bankfull width: <u>8.6</u> m</p> <p>Average Wet Width : <u>5.8</u> m</p> <p>Water Depth: <u>50</u> cm</p>

Notes: LMC18 → downstream } good spot to electro fish  
 LMC19 → upstream } Noticed small fish

# Stream Assessment

**Stream Name:** LMC 20  
**Date:** July 4 2018 **Time:** 9:16am  
**Samples Collected by:** Andrew, Cristian, Shouna  
**GPS Coordinates:** N 45.32522° W 066.03363°  
**Weather:** Sun  
**Photo #:** (4 pics)

<p><b>Stream Cover:</b> _____ Dense (81-100%)          Record estimated % cover on the appropriate line          _____ Moderate (51-80%)          _____ Sparse (21-50%)  <u>100%</u> Open (0-20%)</p>	<p><b>Channel:</b> _____ Riffle          _____ <input checked="" type="checkbox"/> Run          _____ Pool</p>
<p><b>Left Bank:</b> Please record estimated % of each cover type</p> <p>_____ Mixed          _____ Hardwood/Deciduous          _____ Softwood/Coniferous  <u>20%</u> Small trees/Shrubs  <u>80%</u> Grasses/ferns          _____ Moss          _____ Anthropogenic</p> <p><b>Comments:</b></p>	<p><b>Right Bank:</b> Please record estimated % of each cover type</p> <p>_____ Mixed          _____ Hardwood/Deciduous          _____ Softwood/Coniferous  <u>20%</u> Small trees/Shrubs  <u>80%</u> Grasses/ferns          _____ Moss          _____ Anthropogenic</p> <p><b>Comments:</b></p>
<p><b>Left Bank:</b></p> <p><input checked="" type="checkbox"/> Intact  <input checked="" type="checkbox"/> Some Erosion  <input type="checkbox"/> Extensive Erosion</p>	<p><b>Right Bank:</b></p> <p><input checked="" type="checkbox"/> Intact  <input type="checkbox"/> Some Erosion  <input type="checkbox"/> Extensive Erosion</p>
<p><b>Substrate (most common):</b>          Please record estimated % of each substrate type in 5% classes</p> <p>_____ Bedrock          _____ Boulder          _____ Cobble          _____ Gravel          _____ Sand  <u>100%</u> Silt/Clay/ Mud          _____ Detritus</p>	<p>Average Bankfull width: <u>9.9</u> m</p> <p>Average Wet Width : <u>8.09</u> m</p> <p>Water Depth: <u>57</u> cm</p>

**Notes:** Lot of veg. in water  
 Inlet to road  
 4 Pictures

# Stream Assessment

**Stream Name:** LMC21  
**Date:** // July 4 2009 **Time:** 9:23am  
**Samples Collected by:** // Shalina Andrew, Cushman  
**GPS Coordinates:** N. 45.32539° W 066.03347°  
**Weather:** Sun  
**Photo #:** \_\_\_\_\_

<p><b>Stream Cover:</b> _____ Dense (81-100%)                  Record estimated % cover on the appropriate line _____ Moderate (51-80%)                  _____ Sparse (21-50%)  <u>100%</u> Open (0-20%)</p>	<p><b>Channel:</b> _____ Riffle                  _____ <input checked="" type="checkbox"/> Run <u>1 slow</u>                  _____ Pool</p>
<p><b>Left Bank:</b> Please record estimated % of each cover type</p> <p>_____ Mixed                  _____ Hardwood/Deciduous                  _____ Softwood/Coniferous  <u>50%</u> Small trees/Shrubs  <u>50%</u> Grasses/ferns                  _____ Moss                  _____ Anthropogenic</p> <p><b>Comments:</b> _____</p>	<p><b>Right Bank: Bank:</b> Please record estimated % of each cover type</p> <p>_____ Mixed                  _____ Hardwood/Deciduous                  _____ Softwood/Coniferous  <u>40%</u> Small trees/Shrubs  <u>60%</u> Grasses/ferns                  _____ Moss                  _____ Anthropogenic</p> <p><b>Comments:</b> _____</p>
<p><b>Left Bank:</b></p> <p><input type="checkbox"/> Intact  <input type="checkbox"/> Some Erosion  <input checked="" type="checkbox"/> Extensive Erosion</p>	<p><b>Right Bank:</b></p> <p><input checked="" type="checkbox"/> Intact  <input type="checkbox"/> Some Erosion  <input type="checkbox"/> Extensive Erosion</p>
<p><b>Substrate (most common):</b>                  Please record estimated % of each substrate type in 5% classes</p> <p>_____ Bedrock                  _____ Boulder                  _____ Cobble                  _____ Gravel                  _____ Sand  <u>100%</u> Silt/Clay/ Mud                  _____ Detritus</p>	<p>Average Bankfull width: <u>9</u> m                  Average Wet Width : <u>7.6</u> m                  Water Depth: <u>80</u> cm</p>

**Notes:** Not as silky  
4 pictures

# Stream Assessment

**Stream Name:** LMC 22  
**Date:** July 19/18 **Time:** 9:45 am  
**Samples Collected by:** Shauna, Andrew, Connor  
**GPS Coordinates:** N 43.32574° W 066.03240°  
**Weather:** Sun  
**Photo #:** \_\_\_\_\_

<p>Stream Cover: _____ Dense (81-100%)                  Record estimated % cover on the appropriate line                  _____ Moderate (51-80%)  <u>10%</u> Sparse (21-50%)  <u>90%</u> Open (0-20%)</p>	<p>Channel: _____ Riffle                  _____ <input checked="" type="checkbox"/> Run (slow)                  _____ Pool</p>
<p>Left Bank: Please record estimated % of each cover type</p> <p>_____ Mixed                  _____ Hardwood/Deciduous                  _____ Softwood/Coniferous  <u>30%</u> Small trees/Shrubs  <u>70%</u> Grasses/ferns                  _____ Moss                  _____ Anthropogenic</p> <p>Comments: _____</p>	<p>Right Bank: Bank: Please record estimated % of each cover type</p> <p>_____ Mixed                  _____ Hardwood/Deciduous                  _____ Softwood/Coniferous  <u>10%</u> Small trees/Shrubs  <u>90%</u> Grasses/ferns                  _____ Moss                  _____ Anthropogenic</p> <p>Comments: _____</p>
<p>Left Bank:</p> <p><input type="checkbox"/> Intact  <input type="checkbox"/> Some Erosion  <input checked="" type="checkbox"/> Extensive Erosion</p>	<p>Right Bank:</p> <p><input checked="" type="checkbox"/> Intact  <input type="checkbox"/> Some Erosion  <input type="checkbox"/> Extensive Erosion</p>
<p>Substrate (most common):                  Please record estimated % of each substrate type in 5% classes</p> <p>_____ Bedrock                  _____ Boulder                  _____ Cobble                  _____ Gravel                  _____ Sand  <u>100%</u> Silt/Clay/ Mud                  _____ Detritus</p>	<p>Average Bankfull width: <u>9.2</u> m                  Average Wet Width : <u>6.1</u> m                  Water Depth: <u>55</u> cm</p>

Notes: 3 picture

# Stream Assessment

**Stream Name:** LMC23  
**Date:** July 9<sup>th</sup> / 18 **Time:** 9.51 am  
**Samples Collected by:** \_\_\_\_\_  
**GPS Coordinates:** 174° 22'57.3" W 066° 03'20.2"  
**Weather:** Sun  
**Photo #:** \_\_\_\_\_

<p><b>Stream Cover:</b></p> <p>Record estimated % cover on the appropriate line</p> <p> <input type="checkbox"/> Dense (81-100%)  <input type="checkbox"/> Moderate (51-80%)  <input type="checkbox"/> Sparse (21-50%)  <input checked="" type="checkbox"/> <u>100%</u> Open (0-20%)         </p>	<p><b>Channel:</b></p> <p> <input type="checkbox"/> Riffle  <input checked="" type="checkbox"/> Run  <input type="checkbox"/> Pool         </p>
<p><b>Left Bank:</b> Please record estimated % of each cover type</p> <p> <input type="checkbox"/> Mixed  <input type="checkbox"/> Hardwood/Deciduous  <input type="checkbox"/> Softwood/Coniferous  <input checked="" type="checkbox"/> <u>60%</u> Small trees/Shrubs  <input checked="" type="checkbox"/> <u>40%</u> Grasses/ferns  <input type="checkbox"/> Moss  <input type="checkbox"/> Anthropogenic         </p> <p><b>Comments:</b></p>	<p><b>Right Bank:</b> Please record estimated % of each cover type</p> <p> <input type="checkbox"/> Mixed  <input type="checkbox"/> Hardwood/Deciduous  <input type="checkbox"/> Softwood/Coniferous  <input checked="" type="checkbox"/> <u>40%</u> Small trees/Shrubs  <input checked="" type="checkbox"/> <u>60%</u> Grasses/ferns  <input type="checkbox"/> Moss  <input type="checkbox"/> Anthropogenic         </p> <p><b>Comments:</b></p>
<p><b>Left Bank:</b></p> <p> <input type="checkbox"/> Intact  <input checked="" type="checkbox"/> Some Erosion  <input type="checkbox"/> Extensive Erosion         </p>	<p><b>Right Bank:</b></p> <p> <input type="checkbox"/> Intact  <input checked="" type="checkbox"/> Some Erosion  <input type="checkbox"/> Extensive Erosion         </p>
<p><b>Substrate (most common):</b></p> <p>Please record estimated % of each substrate type in 5% classes</p> <p> <input type="checkbox"/> Bedrock  <input type="checkbox"/> Boulder  <input type="checkbox"/> Cobble  <input type="checkbox"/> Gravel  <input type="checkbox"/> Sand  <input checked="" type="checkbox"/> <u>100%</u> Silt/Clay/ Mud  <input type="checkbox"/> Detritus         </p>	<p>Average Bankfull width: <u>9</u> m</p> <p>Average Wet Width: <u>7.3</u> m</p> <p>Water Depth: <u>59</u> cm</p>

Notes: 4 pictures  
Same as Field House WOM site

# Stream Assessment

**Stream Name:** LMC24  
**Date:** July 4, 2018 **Time:** 2:07pm  
**Samples Collected by:** Shauna Andrew Cristian  
**GPS Coordinates:** 45.32609 016.23095  
**Weather:** 100% Sun  
**Photo #:** 53 pics

<p><b>Stream Cover:</b> _____ Dense (81-100%)          Record estimated % cover on the appropriate line          _____ Moderate (51-80%)  <u>100%</u> Sparse (21-50%)          _____ Open (0-20%)</p>	<p><b>Channel:</b> _____ Riffle          _____ Run          _____ Pool</p> <p style="font-size: small; margin-left: 20px;">} old beaver dam pooled up stream running where dam is broken</p>
<p><b>Left Bank:</b> Please record estimated % of each cover type</p> <p>_____ Mixed          _____ Hardwood/Deciduous          _____ Softwood/Coniferous  <u>20</u> Small trees/Shrubs  <u>80</u> Grasses/ferns          _____ Moss          _____ Anthropogenic</p> <p><b>Comments:</b></p>	<p><b>Right Bank:</b> Please record estimated % of each cover type</p> <p>_____ Mixed          _____ Hardwood/Deciduous          _____ Softwood/Coniferous  <u>50</u> Small trees/Shrubs  <u>50</u> Grasses/ferns          _____ Moss          _____ Anthropogenic</p> <p><b>Comments:</b></p>
<p><b>Left Bank:</b>  <input type="checkbox"/> Intact  <input type="checkbox"/> Some Erosion  <input checked="" type="checkbox"/> Extensive Erosion</p>	<p><b>Right Bank:</b>  <input type="checkbox"/> Intact  <input type="checkbox"/> Some Erosion  <input checked="" type="checkbox"/> Extensive Erosion</p>
<p><b>Substrate (most common):</b>          Please record estimated % of each substrate type in 5% classes</p> <p>_____ Bedrock          _____ Boulder          _____ Cobble          _____ Gravel          _____ Sand  <u>100</u> Silt/Clay/ Mud          _____ Detritus</p>	<p style="text-align: center;">(down stream)</p> <p>Average Bankfull width: <u>9.5</u> m          Average Wet Width: <u>6.8</u> m          Water Depth: _____ cm          ↳ too deep</p>

Notes: old beaver dam  
 40ish M m wide pool, not much cover in pool.  
 15m up stream of dam is tributary (LMC 25)  
 fresh human foot prints? recently taken out?  
 dam

# Stream Assessment

**Stream Name:** LMC 075 (tributary)  
**Date:** July 4, 2018 **Time:** 2:23  
**Samples Collected by:** Shayma Andrian Cushman  
**GPS Coordinates:** 45.32613 066.03050  
**Weather:** 100% Sun  
**Photo #:** \_\_\_\_\_

<p><b>Stream Cover:</b> _____ Dense (81-100%)                  Record estimated % cover on the appropriate line                  _____ Moderate (51-80%)                  _____ Sparse (21-50%)  <u>100</u> Open (0-20%)</p>	<p><b>Channel:</b> _____ Riffle                  _____ Run  <u>X</u> Pool <del>2</del></p>
<p><b>Left Bank:</b> Please record estimated % of each cover type</p> <p>                     _____ Mixed                      _____ Hardwood/Deciduous                      _____ Softwood/Coniferous                      _____ Small trees/Shrubs  <u>100</u> Grasses/ferns                      _____ Moss                      _____ Anthropogenic                 </p> <p><b>Comments:</b> _____</p>	<p><b>Right Bank:</b> Please record estimated % of each cover type</p> <p>                     _____ Mixed                      _____ Hardwood/Deciduous                      _____ Softwood/Coniferous                      _____ Small trees/Shrubs                      _____ <u>50%</u> Grasses/ferns <u>50%</u>                      _____ Moss                      _____ Anthropogenic                 </p> <p><b>Comments:</b> _____</p>
<p><b>Left Bank:</b></p> <p> <input type="checkbox"/> Intact  <input type="checkbox"/> Some Erosion  <input checked="" type="checkbox"/> Extensive Erosion                 </p>	<p><b>Right Bank:</b></p> <p> <input type="checkbox"/> Intact  <input type="checkbox"/> Some Erosion  <input checked="" type="checkbox"/> Extensive Erosion                 </p>
<p><b>Substrate (most common):</b></p> <p>Please record estimated % of each substrate type in 5% classes</p> <p>                     _____ Bedrock                      _____ Boulder                      _____ Cobble                      _____ Gravel                      _____ Sand  <u>X</u> Silt/Clay/ Mud                      _____ Detritus                 </p>	<p>Average Bankfull width: _____ m</p> <p>Average Wet Width : _____ m</p> <p>Water Depth: <u>100</u> cm</p> <p style="font-size: small; margin-left: 200px;">                     } too sinky to get to other side                 </p>

**Notes:** Lots of vegt in water.  
Tributary.



# Stream Assessment

**Stream Name:** LMG 26  
**Date:** July 4, 2018 **Time:** 2:38  
**Samples Collected by:** Shawna, Cristian, Andrew  
**GPS Coordinates:** 45.32295 106.02975  
**Weather:** 100% Sun  
**Photo #:** 4 pics

<p>Stream Cover: _____ Dense (81-100%)          Record estimated % cover on the appropriate line          _____ Moderate (51-80%)          _____ Sparse (21-50%)  <u>100</u> Open (0-20%)</p>	<p>Channel: _____ Riffle          _____ Run  <u>X</u> Pool (stagnant)</p>
<p>Left Bank: Please record estimated % of each cover type</p> <p>_____ Mixed          _____ Hardwood/Deciduous          _____ Softwood/Coniferous          _____ Small trees/Shrubs  <u>100</u> Grasses/ferns          _____ Moss          _____ Anthropogenic</p> <p>Comments: _____</p>	<p>Right Bank: Bank: Please record estimated % of each cover type</p> <p>_____ Mixed          _____ Hardwood/Deciduous          _____ Softwood/Coniferous          _____ Small trees/Shrubs  <u>100</u> Grasses/ferns          _____ Moss          _____ Anthropogenic</p> <p>Comments: _____</p>
<p>Left Bank:</p> <p><input type="checkbox"/> Intact  <input type="checkbox"/> Some Erosion  <input checked="" type="checkbox"/> Extensive Erosion</p>	<p>Right Bank:</p> <p><input type="checkbox"/> Intact  <input type="checkbox"/> Some Erosion  <input checked="" type="checkbox"/> Extensive Erosion</p>
<p>Substrate (most common):</p> <p>Please record estimated % of each substrate type in 5% classes</p> <p>_____ Bedrock          _____ Boulder          _____ Cobble          _____ Gravel          _____ Sand  <u>100</u> Silt/Clay/ Mud          _____ Detritus</p>	<p>Average Bankfull width: _____ m</p> <p>Average Wet Width : _____ m</p> <p>Water Depth: _____ cm</p> <p style="font-size: 2em; margin-left: 100px;">2</p> <p style="font-size: 2em; margin-left: 100px;">too</p> <p style="font-size: 2em; margin-left: 100px;">sinky</p>

Notes: Many dragon fly  
Not quite the end of the tributary.

# Stream Assessment

**Stream Name:** LMC 27  
**Date:** July 5 **Time:** 1:51pm  
**Samples Collected by:** Shauna Andrew Cristian  
**GPS Coordinates:** 45.32634 066.03091  
**Weather:** 100% Sun 10% Clouds  
**Photo #:** 4 pics

<p><b>Stream Cover:</b> Record estimated % cover on the appropriate line</p> <p style="margin-left: 40px;"> <input type="checkbox"/> Dense (81-100%)  <input checked="" type="checkbox"/> <u>10%</u> Moderate (51-80%)  <input type="checkbox"/> Sparse (21-50%)  <input checked="" type="checkbox"/> <u>90%</u> Open (0-20%)         </p>	<p><b>Channel:</b></p> <p style="margin-left: 40px;"> <input type="checkbox"/> Riffle  <input checked="" type="checkbox"/> Run <i>(Hardly)</i>  <input type="checkbox"/> Pool         </p>
<p><b>Left Bank:</b> Please record estimated % of each cover type</p> <p style="margin-left: 40px;"> <input type="checkbox"/> Mixed  <input type="checkbox"/> Hardwood/Deciduous  <input type="checkbox"/> Softwood/Coniferous  <input type="checkbox"/> Small trees/Shrubs  <input checked="" type="checkbox"/> <u>100</u> Grasses/ferns  <input type="checkbox"/> Moss  <input type="checkbox"/> Anthropogenic         </p> <p><b>Comments:</b></p>	<p><b>Right Bank:</b> Please record estimated % of each cover type</p> <p style="margin-left: 40px;"> <input type="checkbox"/> Mixed  <input checked="" type="checkbox"/> <u>10</u> Hardwood/Deciduous  <input type="checkbox"/> Softwood/Coniferous  <input type="checkbox"/> Small trees/Shrubs  <input checked="" type="checkbox"/> <u>90</u> Grasses/ferns  <input type="checkbox"/> Moss  <input type="checkbox"/> Anthropogenic         </p> <p><b>Comments:</b> <i>willows = good stream cover</i></p>
<p><b>Left Bank:</b></p> <p> <input type="checkbox"/> Intact  <input type="checkbox"/> Some Erosion  <input checked="" type="checkbox"/> Extensive Erosion         </p>	<p><b>Right Bank:</b></p> <p> <input type="checkbox"/> Intact  <input type="checkbox"/> Some Erosion  <input checked="" type="checkbox"/> Extensive Erosion         </p>
<p><b>Substrate (most common):</b> Please record estimated % of each substrate type in 5% classes</p> <p style="margin-left: 40px;"> <input type="checkbox"/> Bedrock  <input type="checkbox"/> Boulder  <input type="checkbox"/> Cobble  <input type="checkbox"/> Gravel  <input type="checkbox"/> Sand  <input checked="" type="checkbox"/> <u>X</u> Silt/Clay/ Mud  <input type="checkbox"/> Detritus         </p>	<p>Average Bankfull width: <u>11.1</u> m</p> <p>Average Wet Width: <u>8.2</u> m</p> <p>Water Depth: <u>76</u> cm</p>

Notes: *fresh ~~bea~~ Deer prints  
flushed ducks (mallards)  
Water vegetation*

*24°C Water temp*

*LMC 28 + 29 = 50m for electrofishing*

# Stream Assessment

**Stream Name:** LMC30  
**Date:** Jul 5 **Time:** 2:22  
**Samples Collected by:** Shauna Andrew Cashan  
**GPS Coordinates:** 45.32717 96.03132  
**Weather:** 100% sun  
**Photo #:** 4 pics

<p><b>Stream Cover:</b> Record estimated % cover on the appropriate line</p> <p> <input type="checkbox"/> Dense (81-100%)  <input checked="" type="checkbox"/> <u>10</u> Moderate (51-80%)  <input type="checkbox"/> Sparse (21-50%)  <input checked="" type="checkbox"/> <u>90</u> Open (0-20%)         </p>	<p><b>Channel:</b></p> <p> <input type="checkbox"/> Riffle  <input checked="" type="checkbox"/> <u>Run (slowly)</u>  <input type="checkbox"/> Pool         </p>
<p><b>Left Bank:</b> Please record estimated % of each cover type</p> <p> <input type="checkbox"/> Mixed  <input type="checkbox"/> Hardwood/Deciduous  <input type="checkbox"/> Softwood/Coniferous  <input type="checkbox"/> Small trees/Shrubs  <input checked="" type="checkbox"/> <u>100</u> Grasses/ferns  <input type="checkbox"/> Moss  <input type="checkbox"/> Anthropogenic         </p> <p><b>Comments:</b></p>	<p><b>Right Bank:</b> Please record estimated % of each cover type</p> <p> <input type="checkbox"/> Mixed  <input checked="" type="checkbox"/> <u>10</u> Hardwood/Deciduous  <input type="checkbox"/> Softwood/Coniferous  <input type="checkbox"/> Small trees/Shrubs  <input checked="" type="checkbox"/> <u>90</u> Grasses/ferns  <input type="checkbox"/> Moss  <input type="checkbox"/> Anthropogenic         </p> <p><b>Comments:</b> <u>couple large willows at bend creating good cover</u></p>
<p><b>Left Bank:</b></p> <p> <input type="checkbox"/> Intact  <input checked="" type="checkbox"/> Some Erosion  <input checked="" type="checkbox"/> Extensive Erosion         </p>	<p><b>Right Bank:</b></p> <p> <input type="checkbox"/> Intact  <input type="checkbox"/> Some Erosion  <input checked="" type="checkbox"/> Extensive Erosion         </p>
<p><b>Substrate (most common):</b> Please record estimated % of each substrate type in 5% classes</p> <p> <input type="checkbox"/> Bedrock  <input type="checkbox"/> Boulder  <input type="checkbox"/> Cobble  <input type="checkbox"/> Gravel  <input type="checkbox"/> Sand  <input checked="" type="checkbox"/> <u>100</u> Silt/Clay/ Mud  <input type="checkbox"/> Detritus         </p>	<p>Average Bankfull width: <u>8.9</u> m</p> <p>Average Wet Width: <u>8.1</u> m</p> <p>Water Depth: <u>55</u> cm</p>

**Notes:** Bend in stream  
30m from bend = good willow stream cover (2 extra pics)

# Stream Assessment

Stream Name: LMC31  
 Date: July 5 2018 Time: 2:35  
 Samples Collected by: Shanna Andrew Crishan  
 GPS Coordinates: 45.32767 66.03129  
 Weather: sun 1100  
 Photo #: 3

Stream Cover: _____ Dense (81-100%) Record estimated % cover on the appropriate line _____ <u>100</u> Moderate (51-80%) _____ Sparse (21-50%) _____ Open (0-20%)	Channel: _____ Riffle _____ <u>X</u> Run ( <u>Hardly</u> ) _____ Pool
Left Bank: Please record estimated % of each cover type _____ Mixed _____ Hardwood/Deciduous _____ Softwood/Coniferous _____ Small trees/Shrubs _____ <u>100</u> Grasses/ferns _____ Moss _____ Anthropogenic Comments:	Right Bank: Bank: Please record estimated % of each cover type _____ Mixed _____ <u>70</u> Hardwood/Deciduous _____ Softwood/Coniferous _____ Small trees/Shrubs _____ <u>30</u> Grasses/ferns _____ Moss _____ Anthropogenic Comments:
Left Bank: <input type="checkbox"/> Intact <input type="checkbox"/> Some Erosion <input checked="" type="checkbox"/> Extensive Erosion	Right Bank: <input type="checkbox"/> Intact <input checked="" type="checkbox"/> Some Erosion <input type="checkbox"/> Extensive Erosion
Substrate (most common): Please record estimated % of each substrate type in 5% classes _____ Bedrock _____ Boulder _____ Cobble _____ Gravel _____ Sand _____ <u>100</u> Silt/Clay/ Mud _____ Detritus	Average Bankfull width: _____ m Average Wet Width: _____ m (approx 12) Water Depth: <u>(4m)</u> _____ cm ↳ too sinky

Notes: good stream cover created by willows on right side  
 up stream cover = full ~~coverage~~ coverage.  
 many small fish  
 lots of veg. in water.

# Stream Assessment

**Stream Name:** LMC 32  
**Date:** July 5 2018 **Time:** 2:45  
**Samples Collected by:** Andrew Shauna Crisitan  
**GPS Coordinates:** 45.32811 066.03098  
**Weather:** Sun 0% Clouds  
**Photo #:** 3

<p><b>Stream Cover:</b> _____ Dense (81-100%)          Record estimated % cover on the appropriate line          _____ Moderate (51-80%)          _____ Sparse (21-50%)  <u>100</u> Open (0-20%)</p>	<p><b>Channel:</b> _____ Riffle          _____ <input checked="" type="checkbox"/> Run <i>Slowly</i>          _____ Pool</p>
<p><b>Left Bank:</b> Please record estimated % of each cover type</p> <p>_____ Mixed          _____ Hardwood/Deciduous          _____ Softwood/Coniferous          _____ Small trees/Shrubs  <u>100</u> Grasses/ferns          _____ Moss          _____ Anthropogenic</p> <p><b>Comments:</b></p>	<p><b>Right Bank:</b> Please record estimated % of each cover type</p> <p>_____ Mixed  <u>10</u> Hardwood/Deciduous          _____ Softwood/Coniferous  <u>20</u> Small trees/Shrubs  <u>70</u> Grasses/ferns          _____ Moss          _____ Anthropogenic</p> <p><b>Comments:</b></p>
<p><b>Left Bank:</b></p> <p><input type="checkbox"/> Intact  <input type="checkbox"/> Some Erosion  <input checked="" type="checkbox"/> Extensive Erosion</p>	<p><b>Right Bank:</b></p> <p><input type="checkbox"/> Intact  <input type="checkbox"/> Some Erosion  <input checked="" type="checkbox"/> Extensive Erosion</p>
<p><b>Substrate (most common):</b>          Please record estimated % of each substrate type in 5% classes</p> <p>_____ Bedrock          _____ Boulder          _____ Cobble          _____ Gravel          _____ Sand  <input checked="" type="checkbox"/> Silt/Clay/ Mud          _____ Detritus</p>	<p>Average Bankfull width: <u>9.2</u> m          Average Wet Width : <u>6.5</u> m          Water Depth: <u>6.5</u> cm</p>

**Notes:** Lots of eutrophication  
 Small inlet to road  
 LMC 33 = fork in stream (2 pictures)  
 3 (45.32819  
 066.03046)

# Stream Assessment

**Stream Name:** LMC34  
**Date:** July 5 **Time:** 3:05  
**Samples Collected by:** Andrew, Cristian, Shauna  
**GPS Coordinates:** 45.32811 266 02952  
**Weather:** 100% sun  
**Photo #:** 3 pics

<p><b>Stream Cover:</b> _____ Dense (81-100%)          Record estimated % cover on the appropriate line          _____ Moderate (51-80%)          _____ Sparse (21-50%)  <u>100</u> Open (0-20%)</p>	<p><b>Channel:</b> _____ Riffle          _____ <input checked="" type="checkbox"/> Run (slow)          _____ Pool</p>
<p><b>Left Bank:</b> Please record estimated % of each cover type</p> <p>_____ Mixed          _____ Hardwood/Deciduous          _____ Softwood/Coniferous          _____ Small trees/Shrubs  <u>100</u> Grasses/ferns          _____ Moss          _____ Anthropogenic</p> <p><b>Comments:</b></p>	<p><b>Right Bank:</b> Please record estimated % of each cover type</p> <p>_____ Mixed          _____ Hardwood/Deciduous          _____ Softwood/Coniferous          _____ Small trees/Shrubs  <u>100</u> Grasses/ferns          _____ Moss          _____ Anthropogenic</p> <p><b>Comments:</b></p>
<p><b>Left Bank:</b></p> <p><input type="checkbox"/> Intact  <input checked="" type="checkbox"/> Some Erosion  <input checked="" type="checkbox"/> Extensive Erosion</p>	<p><b>Right Bank:</b></p> <p><input type="checkbox"/> Intact  <input checked="" type="checkbox"/> Some Erosion  <input checked="" type="checkbox"/> Extensive Erosion</p>
<p><b>Substrate (most common):</b>          Please record estimated % of each substrate type in 5% classes</p> <p>_____ Bedrock          _____ Boulder          _____ Cobble          _____ Gravel  <u>100</u> <input checked="" type="checkbox"/> Sand          _____ Silt/Clay/ Mud          _____ Detritus</p>	<p>Average Bankfull width: <u>6.9</u> m</p> <p>Average Wet Width : <u>4.5</u> m</p> <p>Water Depth: <u>36</u> cm</p>

Notes: end of tributary

# Stream Assessment

**Stream Name:** UMC #35  
**Date:** July 5 **Time:** 3:18  
**Samples Collected by:** Andrew Shauna Cristian  
**GPS Coordinates:** 45.32891 66.02979  
**Weather:** 100% Sun  
**Photo #:** 3 pics

<p><b>Stream Cover:</b></p> <p>Record estimated % cover on the appropriate line</p> <p> <input type="checkbox"/> Dense (81-100%)  <input checked="" type="checkbox"/> <u>50</u> Moderate (51-80%)  <input checked="" type="checkbox"/> <u>50</u> Sparse (21-50%)  <input type="checkbox"/> Open (0-20%)         </p>	<p><b>Channel:</b></p> <p> <input type="checkbox"/> Riffle  <input checked="" type="checkbox"/> <u>X</u> Run slowly  <input type="checkbox"/> Pool         </p>
<p><b>Left Bank:</b> Please record estimated % of each cover type</p> <p> <input type="checkbox"/> Mixed  <input checked="" type="checkbox"/> <u>100</u> Hardwood/Deciduous (willow)  <input type="checkbox"/> Softwood/Coniferous  <input type="checkbox"/> Small trees/Shrubs  <input type="checkbox"/> Grasses/ferns  <input type="checkbox"/> Moss  <input type="checkbox"/> Anthropogenic         </p> <p><b>Comments:</b></p>	<p><b>Right Bank:</b> Bank: Please record estimated % of each cover type</p> <p> <input type="checkbox"/> Mixed  <input checked="" type="checkbox"/> <u>50</u> Hardwood/Deciduous  <input type="checkbox"/> Softwood/Coniferous  <input type="checkbox"/> Small trees/Shrubs  <input checked="" type="checkbox"/> <u>50</u> Grasses/ferns  <input type="checkbox"/> Moss  <input type="checkbox"/> Anthropogenic         </p> <p><b>Comments:</b></p>
<p><b>Left Bank:</b></p> <p> <input type="checkbox"/> Intact  <input checked="" type="checkbox"/> <u>X</u> Some Erosion  <input type="checkbox"/> Extensive Erosion         </p>	<p><b>Right Bank:</b></p> <p> <input type="checkbox"/> Intact  <input checked="" type="checkbox"/> <u>X</u> Some Erosion  <input type="checkbox"/> Extensive Erosion         </p>
<p><b>Substrate (most common):</b></p> <p>Please record estimated % of each substrate type in 5% classes</p> <p> <input type="checkbox"/> Bedrock  <input type="checkbox"/> Boulder  <input type="checkbox"/> Cobble  <input type="checkbox"/> Gravel  <input type="checkbox"/> Sand  <input checked="" type="checkbox"/> <u>X</u> Silt/Clay/ Mud  <input type="checkbox"/> Detritus         </p>	<p>Average Bankfull width: _____ m <i>(willows = too dense)</i></p> <p>Average Wet Width : <u>8.3</u> m</p> <p>Water Depth: <u>35</u> cm</p>

Notes: end of stream  
 Patch of willows  
 water = low  
 ↳ rain events stream might extend longer

# Stream Assessment

Stream Name: LNCD  
Date: 22 June 2018 Time: 9:35 am  
Samples Collected by: Andrew, Cristian, Shauna  
GPS Coordinates: N45.31847 W066.03774  
Weather: Sun 0% cloud  
Photo #: LNCD (1-5)

<p>Stream Cover: <input type="radio"/> Dense (81-100%) <input type="radio"/> Moderate (51-80%) <input checked="" type="radio"/> Sparse (21-50%) <input checked="" type="radio"/> Open (0-20%)</p> <p>Record estimated % cover on the appropriate line</p>	<p>Channel: <input type="checkbox"/> Riffle <input type="checkbox"/> Run <input checked="" type="checkbox"/> Pool</p>																												
<p>Left Bank: Please record estimated % of each cover type</p> <table><tr><td><u>0</u></td><td>Mixed</td></tr><tr><td><u>50%</u></td><td>Hardwood/Deciduous</td></tr><tr><td><u>0</u></td><td>Softwood/Coniferous</td></tr><tr><td><u>50%</u></td><td>Small trees/Shrubs</td></tr><tr><td><u>0</u></td><td>Grasses/ferns</td></tr><tr><td><u>0</u></td><td>Moss</td></tr><tr><td><u>0</u></td><td>Anthropogenic</td></tr></table> <p>Comments: <u>willows</u></p>	<u>0</u>	Mixed	<u>50%</u>	Hardwood/Deciduous	<u>0</u>	Softwood/Coniferous	<u>50%</u>	Small trees/Shrubs	<u>0</u>	Grasses/ferns	<u>0</u>	Moss	<u>0</u>	Anthropogenic	<p>Right Bank: Please record estimated % of each cover type</p> <table><tr><td><u>0</u></td><td>Mixed</td></tr><tr><td><u>50</u></td><td>Hardwood/Deciduous</td></tr><tr><td><u>0</u></td><td>Softwood/Coniferous</td></tr><tr><td><u>50</u></td><td>Small trees/Shrubs</td></tr><tr><td><u>0</u></td><td>Grasses/ferns</td></tr><tr><td><u>0</u></td><td>Moss</td></tr><tr><td><u>0</u></td><td>Anthropogenic</td></tr></table> <p>Comments: <u>willow cover</u></p>	<u>0</u>	Mixed	<u>50</u>	Hardwood/Deciduous	<u>0</u>	Softwood/Coniferous	<u>50</u>	Small trees/Shrubs	<u>0</u>	Grasses/ferns	<u>0</u>	Moss	<u>0</u>	Anthropogenic
<u>0</u>	Mixed																												
<u>50%</u>	Hardwood/Deciduous																												
<u>0</u>	Softwood/Coniferous																												
<u>50%</u>	Small trees/Shrubs																												
<u>0</u>	Grasses/ferns																												
<u>0</u>	Moss																												
<u>0</u>	Anthropogenic																												
<u>0</u>	Mixed																												
<u>50</u>	Hardwood/Deciduous																												
<u>0</u>	Softwood/Coniferous																												
<u>50</u>	Small trees/Shrubs																												
<u>0</u>	Grasses/ferns																												
<u>0</u>	Moss																												
<u>0</u>	Anthropogenic																												
<p>Left Bank:</p> <p><input checked="" type="checkbox"/> Intact <input type="checkbox"/> Some Erosion <input type="checkbox"/> Extensive Erosion</p>	<p>Right Bank:</p> <p><input checked="" type="checkbox"/> Intact <input type="checkbox"/> Some Erosion <input type="checkbox"/> Extensive Erosion</p>																												
<p>Substrate (most common):</p> <p>Please record estimated % of each substrate type in 5% classes</p> <table><tr><td><u>    </u></td><td>Bedrock</td></tr><tr><td><u>    </u></td><td>Boulder</td></tr><tr><td><u>    </u></td><td>Cobble</td></tr><tr><td><u>    </u></td><td>Gravel</td></tr><tr><td><u>    </u></td><td>Sand</td></tr><tr><td><u>100</u></td><td>Silt/Clay/ Mud</td></tr><tr><td><u>    </u></td><td>Detritus</td></tr></table>	<u>    </u>	Bedrock	<u>    </u>	Boulder	<u>    </u>	Cobble	<u>    </u>	Gravel	<u>    </u>	Sand	<u>100</u>	Silt/Clay/ Mud	<u>    </u>	Detritus	<p>Average Bankfull width: <u>6.2</u> m Average Wet Width : <u>5</u> m Water Depth: <u>64</u> cm</p>														
<u>    </u>	Bedrock																												
<u>    </u>	Boulder																												
<u>    </u>	Cobble																												
<u>    </u>	Gravel																												
<u>    </u>	Sand																												
<u>100</u>	Silt/Clay/ Mud																												
<u>    </u>	Detritus																												

Notes: duck present

2.11



# Stream Assessment

**Stream Name:** LMC 2 (forks) LMC 3 (channel)  
**Date:** 2/21/2015 **Time:** 9:48  
**Samples Collected by:** Rubin, Andrew, Shouler  
**GPS Coordinates:** N 45.41895° W 066.03779° (# fork 5) N 45.40999° (channel)  
**Weather:** Sunny 0% Cloud  
**Photo #:** LMC 2 (1-3) LMC 3 (1-2)

<p><b>Stream Cover:</b> Record estimated % cover on the appropriate line</p> <p style="margin-left: 40px;"> <input type="checkbox"/> Dense (81-100%)  <input checked="" type="checkbox"/> Moderate (51-80%)  <input checked="" type="checkbox"/> Sparse (21-50%)  <input type="checkbox"/> Open (0-20%)         </p>	<p><b>Channel:</b></p> <p style="margin-left: 40px;"> <input type="checkbox"/> Riffle  <input type="checkbox"/> Run  <input checked="" type="checkbox"/> Pool         </p>
<p><b>Left Bank:</b> Please record estimated % of each cover type</p> <p style="margin-left: 40px;"> <input checked="" type="checkbox"/> Mixed  <input checked="" type="checkbox"/> Hardwood/Deciduous  <input type="checkbox"/> Softwood/Coniferous  <input checked="" type="checkbox"/> Small trees/Shrubs  <input type="checkbox"/> Grasses/ferns  <input type="checkbox"/> Moss  <input type="checkbox"/> Anthropogenic         </p> <p><b>Comments:</b> <u>Willows, Alders, shrubs</u></p>	<p><b>Right Bank:</b> Please record estimated % of each cover type</p> <p style="margin-left: 40px;"> <input type="checkbox"/> Mixed  <input checked="" type="checkbox"/> Hardwood/Deciduous  <input type="checkbox"/> Softwood/Coniferous  <input checked="" type="checkbox"/> Small trees/Shrubs  <input type="checkbox"/> Grasses/ferns  <input type="checkbox"/> Moss  <input type="checkbox"/> Anthropogenic         </p> <p><b>Comments:</b></p>
<p><b>Left Bank:</b></p> <p> <input checked="" type="checkbox"/> Intact  <input checked="" type="checkbox"/> Some Erosion  <input type="checkbox"/> Extensive Erosion         </p>	<p><b>Right Bank:</b></p> <p> <input checked="" type="checkbox"/> Intact  <input checked="" type="checkbox"/> Some Erosion  <input type="checkbox"/> Extensive Erosion         </p>
<p><b>Substrate (most common):</b> Please record estimated % of each substrate type in 5% classes</p> <p style="margin-left: 40px;"> <input type="checkbox"/> Bedrock  <input type="checkbox"/> Boulder  <input type="checkbox"/> Cobble  <input type="checkbox"/> Gravel  <input type="checkbox"/> Sand  <input checked="" type="checkbox"/> Silt/Clay/ Mud  <input type="checkbox"/> Detritus         </p>	<p>Average Bankfull width: <u>6.65</u> m</p> <p>Average Wet Width: <u>5.11</u> m</p> <p>Water Depth: <u>102.1</u> cm</p>

**Notes:** small inlet, shallow, hard to follow

# Stream Assessment

**Stream Name:** LMC4  
**Date:** 22 Jun 2018 **Time:** 10:07am  
**Samples Collected by:** Andrew, Cristian, Shauna  
**GPS Coordinates:** 45 21919 W 066 03764  
**Weather:** Sun 0% Clouds  
**Photo #:** LMC4(1-3)

<p><b>Stream Cover:</b> <u>90%</u> Dense (81-100%)          Record estimated % cover on the appropriate line                _____ Moderate (51-80%)                _____ Sparse (21-50%)                _____ Open (0-20%)</p>	<p><b>Channel:</b> _____ Riffle                    <u>X</u> Run (Slowly)                    _____ Pool</p>																												
<p><b>Left Bank:</b> Please record estimated % of each cover type</p> <table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 15%; border-bottom: 1px solid black;">_____</td><td>Mixed</td></tr> <tr><td style="border-bottom: 1px solid black;"><u>90%</u></td><td>Hardwood/Deciduous</td></tr> <tr><td style="border-bottom: 1px solid black;">_____</td><td>Softwood/Coniferous</td></tr> <tr><td style="border-bottom: 1px solid black;"><u>10%</u></td><td>Small trees/Shrubs</td></tr> <tr><td style="border-bottom: 1px solid black;">_____</td><td>Grasses/ferns</td></tr> <tr><td style="border-bottom: 1px solid black;">_____</td><td>Moss</td></tr> <tr><td style="border-bottom: 1px solid black;">_____</td><td>Anthropogenic</td></tr> </table> <p><b>Comments:</b> <u>willow</u></p>	_____	Mixed	<u>90%</u>	Hardwood/Deciduous	_____	Softwood/Coniferous	<u>10%</u>	Small trees/Shrubs	_____	Grasses/ferns	_____	Moss	_____	Anthropogenic	<p><b>Right Bank:</b> Please record estimated % of each cover type</p> <table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 15%; border-bottom: 1px solid black;">_____</td><td>Mixed</td></tr> <tr><td style="border-bottom: 1px solid black;"><u>90%</u></td><td>Hardwood/Deciduous</td></tr> <tr><td style="border-bottom: 1px solid black;">_____</td><td>Softwood/Coniferous</td></tr> <tr><td style="border-bottom: 1px solid black;"><u>9%</u></td><td>Small trees/Shrubs</td></tr> <tr><td style="border-bottom: 1px solid black;">_____</td><td>Grasses/ferns</td></tr> <tr><td style="border-bottom: 1px solid black;"><u>1%</u></td><td>Moss</td></tr> <tr><td style="border-bottom: 1px solid black;">_____</td><td>Anthropogenic</td></tr> </table> <p><b>Comments:</b> <u>willow + alders</u></p>	_____	Mixed	<u>90%</u>	Hardwood/Deciduous	_____	Softwood/Coniferous	<u>9%</u>	Small trees/Shrubs	_____	Grasses/ferns	<u>1%</u>	Moss	_____	Anthropogenic
_____	Mixed																												
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_____	Grasses/ferns																												
<u>1%</u>	Moss																												
_____	Anthropogenic																												
<p><b>Left Bank:</b></p> <p><input checked="" type="checkbox"/> Intact  <input type="checkbox"/> Some Erosion  <input type="checkbox"/> Extensive Erosion</p>	<p><b>Right Bank:</b></p> <p><input type="checkbox"/> Intact  <input checked="" type="checkbox"/> Some Erosion (little)  <input type="checkbox"/> Extensive Erosion</p>																												
<p><b>Substrate (most common):</b>          Please record estimated % of each substrate type in 5% classes</p> <table style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 15%; border-bottom: 1px solid black;">_____</td><td>Bedrock</td></tr> <tr><td style="border-bottom: 1px solid black;">_____</td><td>Boulder</td></tr> <tr><td style="border-bottom: 1px solid black;">_____</td><td>Cobble</td></tr> <tr><td style="border-bottom: 1px solid black;">_____</td><td>Gravel</td></tr> <tr><td style="border-bottom: 1px solid black;">_____</td><td>Sand</td></tr> <tr><td style="border-bottom: 1px solid black;"><u>100%</u></td><td>Silt/Clay/ Mud</td></tr> <tr><td style="border-bottom: 1px solid black;">_____</td><td>Detritus</td></tr> </table>	_____	Bedrock	_____	Boulder	_____	Cobble	_____	Gravel	_____	Sand	<u>100%</u>	Silt/Clay/ Mud	_____	Detritus	<p>Average Bankfull width: <u>7.5</u> m</p> <p>Average Wet Width : <u>5</u> m</p> <p>Water Depth: <u>97.5</u> cm</p>														
_____	Bedrock																												
_____	Boulder																												
_____	Cobble																												
_____	Gravel																												
_____	Sand																												
<u>100%</u>	Silt/Clay/ Mud																												
_____	Detritus																												

**Notes:** good stream cover, very dense with willows

# Stream Assessment

**Stream Name:** LMCS  
**Date:** June 27, 2018 **Time:** 10:20  
**Samples Collected by:** Andrew cristian shawn a  
**GPS Coordinates:** 45.31946' -122.05752'  
**Weather:** Sun 0% clouds  
**Photo #:** LMCS 1-3

<p>Stream Cover: <u>80%</u> Dense (81-100%)  <small>Record estimated % cover on the appropriate line</small>  <u>20%</u> Moderate (51-80%)            _____ Sparse (21-50%)            _____ Open (0-20%)</p>	<p>Channel: _____ Riffle  <u>X</u> _____ Run (slow)            _____ Pool</p>
<p>Left Bank: Please record estimated % of each cover type</p> <p>Mixed _____  <u>30%</u> Hardwood/Deciduous            _____ Softwood/Coniferous  <u>70%</u> Small trees/Shrubs            _____ Grasses/ferns            _____ Moss            _____ Anthropogenic</p> <p>Comments: _____</p>	<p>Right Bank: Bank: Please record estimated % of each cover type</p> <p>Mixed _____  <u>75%</u> Hardwood/Deciduous            _____ Softwood/Coniferous  <u>25%</u> Small trees/Shrubs            _____ Grasses/ferns            _____ Moss            _____ Anthropogenic</p> <p>Comments: _____</p>
<p>Left Bank:</p> <p><input checked="" type="checkbox"/> Intact  <input type="checkbox"/> Some Erosion  <input type="checkbox"/> Extensive Erosion</p>	<p>Right Bank:</p> <p><input type="checkbox"/> Intact  <input checked="" type="checkbox"/> Some Erosion  <input type="checkbox"/> Extensive Erosion</p>
<p>Substrate (most common):  <small>Please record estimated % of each substrate type in 5% classes</small></p> <p>_____ Bedrock            _____ Boulder            _____ Cobble            _____ Gravel            _____ Sand  <u>100%</u> Silt/Clay/ Mud            _____ Detritus</p>	<p>Average Bankfull width: <u>8.37</u> m            Average Wet Width : <u>6.03</u> m            Water Depth: <u>370</u> cm</p>

Notes: Willows growing in stream = good cover  
Lots of dead wood.

# ELECTROFISHING DATA SHEETS









Date: June 26

Location: Tributary off of Ashburn Road, 100m from Laborers' International Union of NA

Crew: Andrew, Rosanne, Ameme, Shouana, Cristian

Gear type (circle one): Electrofisher Fyke Nets Beach Seine

Water temperature: 17.5 °C

Electrofisher Set up: 414 sec 30hz 12% 220Volts

Mortalities: \_\_\_\_\_

Species	Lengths (mm)
9 spine stickle back	25, 55, 50, 45, 43, 26, 18, 46, 50, 55, 45, 50, 23 40, 39, 54, 60, 25, 38, 46, 27, 52, 25
Mummichog	72
3 spine stickle back	60
American Eel	60





#6

Date: June 27

Location: Ashburn Creek under Foster thursten

Crew: Andrew, Cristian Roxanne, Shauna, Graeme

Gear type (circle one): Electrofisher Fyke Nets Beach Seine

Water temperature: 18.1 °C

Electrofisher Set up: 865 sec, 90 Hz, 125% 125V

Mortalities: \_\_\_\_\_

Species	Lengths (mm)
Black Nose dace	60, 70, 80, 75
Brook trout	130, 50, 50, 100,
Pumpkin Red Breasted Sunfish *	85, 80
American Eel	260, 90, 95, 155, 90, 190, 140, 120, 160, 165
Brown Trout	56, 50, 76, 54, 60, 58, 56, 44, 49, 52, 42 43,
Brown Trout * Hybrid?	138

\* check pic.

7

Date: 07/06/2018

Location: Ashburn Creek to Ashburn Road - Foster-Murston

Crew: Anderson, Gistler, Blaine, Malone, Shover

Gear type (circle one): Electrofisher Fyke Nets Beach Seine

Water temperature: 21.2 °C

Electrofisher Set up: 75%, 90Hz, 100 Volts, time 571

Mortalities: 0

Species	Lengths (mm)
Brook Trout	175, 135, 118
4 spine stickleback	40
Red breasted sunfish	84
American eel	360, 140, 650

Date: 07/06/2018

Location: Backwood tributary to Little North creek

Crew: Shawna, Andrew, Rhina, Brown, Justin

Gear type (circle one): Electrofisher Fyke Nets Beach Seine

Water temperature: 12 °C

Electrofisher Set up: 90HZ, 25%, 200 volts, 388ft

Mortalities: 0

Species	Lengths (mm)
Brook Trout	97, 58, 84, 80, 118, 92, 78
	90, 55, 55, 60, 58, 60,
Brown Trout <del>(Brook T.)</del>	45

# total fish

Date: 07/06/2018

Location: Rock wood tributary to little ~~brook~~ brook from CRTB

Crew: Sharon, Blaine, Andrew, Victoria, Michael

Gear type (circle one): Electrofisher Fyke Nets Beach Seine

Water temperature: 10.5 °C

Electrofisher Set up: tine 400 sec, 90 Hz, 25%, 100 volts

Mortalities: 0

Species	Lengths (mm)
Brook Trout	242, 180, 110, 95, 133, 112
	116, 90, 115, 78, 94, 98, 115, 120
	105, 113, 75

Date: July 3, 2018

Location: White Marsh Creek - 50m reach between 45.32183 066.03529 & 45.32223

066.03503

Crew: Greene, Kara, Cristian, Andrew, Roxanne

Gear type (circle one): Electrofisher Fyke Nets Beach Seine

Water temperature: 20.11 °C

Electrofisher Set up: 90 Hz, 25% 150V, 2308 sec

Mortalities: 0

Species	Lengths (mm)
Golden shiner	80, 88, 90
Brook trout	132, 120, 150, 150
4 spine stickleback	35, 42, 38, 41, 38, 45, 42, 40, 39, 43, 37, 36, 40, 30, 35, 46, 43, 20, 26
9 spine stickleback	33, 50
white sucker	162
Banded Killifish	85
American eel	280, 350, 165, 270, 150, 120, 175, 150, 115
White sucker	173, 158, 153
Pumpkinseed sunfish	77, 85, 85, 80, 73, 160, 90, 83, 90, 78
3 spine stickleback	58, 48
9 spine stickleback	40, 48, 40, 46, 42, 45
Golden shiner	98, 70
Golden shiner	75, 70, 60, 82
4 spine stickleback	20, 25, 20, 30, 32, 30, 44, 42, 39, 35, 23
American eel	260, 270, 365

1st pass

2nd pass

39

41

Total 381

Reach #2

first pass

Date: July 9

Location: Pass #1 Asuburn Rd Site 1

Crew: Barley, Shauna, Graeme, Christian, Andrew

Gear type (circle one):  Electrofisher  Fyke Nets  Beach Seine

Water temperature: 19.6 °C

Electrofisher Set up: \_\_\_\_\_

Mortalities: \_\_\_\_\_

43, 36, 30, 36, 25, 40, 40, 35, 45, 40, 23, 34, 35, 35, 35, 35, 34, 35, 46, 52, 38, 40, 50, 42, 35, 40, 30, 30, 43, 40, 40

Species	Lengths (mm)
(88) 9 Spine	30, 45, 42, 33, 36, 40, 40, 36, 30, 40, 40, 35, 55, 40, 46, 20, 40, 36, 45, 40, 36, 45, 35, 35, 30, 45, 36, 40, 45, 46, 40, 34, 29, 45, 25, 20, 20, 22, 33, 17, 40, 20, 38, 25, 15, 18, 38, 40, 35, 45, 43, 40, 31, 42, 49, 48, 38
(20) 3 Spine	18, 55, 42, 20, 16, 22, 21, 25, 20, 22, 19, 24, 20, 20, 38, 18, 52, 28, 18, 20, 35, 48, 35, 30, 40, 35
(19) Mummichog	82, 55, 50, 38, 70, 50, 42, 80, 70, 44, 49, 40, 45, 40, 35, 40, 43, 75, 60
(23) American Eel	360, 215, 710, 45, 45, 280, 320, 240, 180, 160, 60, 60, 280, 130, 130, 260, 80, 225, 160, 185, 280, 75, 270
4 Spine	42, 36, 40, 32, 20, 30, 30, 37, 25, 30, 32, 28, 43, 39, 30, 32, 30, 25, 28, 30, 32, 20, 22, 23, 20, 20
(2) Pearl Dace	66, 60
(1) Banded Killfish	65
(3) <del>Creek Chub</del> Northern Redbelly Dace	55, 66, 58
(3) Golden Shiner	96, 80, 76
(1) Common Shiner	80
(11) Black Nosed Dace	40, 62, 40, 65, 58, 42, 45, 45, 55, 46, 50
(199) 4 Spine	30, 34, 37, 31, 25, 30, 30, 20, 27, 24, 85, 36, 32, 38, 34, 40, 26, 20, 35, 20, 22, 21, 30, 36, 32, 40, 30, 25, 30, 30, 25, 20, 30, 20, 28, 23, 28, 26, 70, 30, 35, 30, 28, 25, 20, 26, 32, 22, 18, 26, 28, 32, 35, 28, 30, 30, 40, 25, 20, 35, 25, 30, 35, 38, 23, 30, 35, 35, 25, 36, 35, 17, 20, 40, 20, 28, 34, 32, 30, 20, 25, 25, 30, 35, 20, 32, 35, 32, 30, 25, 20, 20, 30, 25, 32, 30, 22, 27, 20, 31, 28, 32, 29, 30, 28, 30, 18, 24, 48, 42, 35, 24, 41, 30, 25, 25, 30, 30, 35, 22, 25, 28, 25, 30, 20, 25, 25, 20, 32, 36, 25, 30, 43, 30, 28, 35, 32, 30, 30, 34, 40, 34, 25, 25, 28, 20, 40, 35, 38, 36, 30, 22, 37, 30, 40, 32, 30, 20, 25, 30, 43, 15, 30, 20, 34, 32, 38, 32, 35, 41, 36, 20, 23, 24, 35, 50, 38, 30, 36, 40, 42, 30, 32, 42, 42, 30, 25, 30, 40, 32, 34, 38, 35, 40, 32, 36, 38, 30, 42

See P. 2 on B. Plan

Amer. ~~Coys~~ = 95, 200, 145, 65 (4)

RB Sunfish = 84 (11)

total = 274

Reach #2

2nd pass

Date: July 9, 2018

Location: \_\_\_\_\_

Crew: Bailey, Shoring, Graessle, Christian, Moore

Gear type (circle one): Electrofisher Fyke Nets Beach Seine

Water temperature: 22.0 °C

Electrofisher Set up: 90 Hz 25% 100V T: 4099 sec

Mortalities: 4 spine

Species	Lengths (mm)
(1) Catfish	195
(16) American Eel	270, 300, 200, 130, 145, 380, 250, 275, 340, 300, 330, 320, 140, 200, 250, 230
(4) Common Shiner	42, 46, 58, 46
(25) 3 spine	30, 24, 68, 16, 72, 15, 22, 41, 45, 49, 21, 45, 46, 34, 28, 24, 31, 21, 24, 16, 54, 30, 32, 24, 18
(32) 9 spine	38, 48, 36, 26, 40, 26, 32, 41, 36, 42, 48, 40, 38, 32, 44, 35, 20, 42, 35, 45, 40, 33, 35, 33, 40, 40, 40, 35, 38, 28, 20, 30
(32) 4 spine	30, 31, 26, 30, 39, 41, 32, 20, 25, 38, 27, 28, 27, 42, 34, 30, 34, 39, 31, 40, 23, 42, 23, 39, 32, 40, 35, 25, 29, 22, 30, 25
(8) Black Nose Dace	60, 70, 70, 51, 65, 44, 48, 34
(17) Mummichog	48, 52, 78, 50, 40, 44, 75, 40, 50, 42, 40, 30, 75, 70, 65, 70, 60
(4) Banded Killifish	48, 89, 48, 64
(1) Golden Shiner	80
(34) 4 spine	35, 32, 30, 30, 30, 26, 25, 27, 25, 40, 37, 30, 30, 38, 30, 32, 30, 25, 32, 30, 32, 29, 35, 31, 35, 30, 25, 30, 34, 38, 31, 35, 20, 32
(1) Pearl Dace	46
(1) Goldfish? Pictus Creek Chub	122
(78) 4 spine	30, 30, 35, 40, 32, 30, 26, 38, 45, 40, 38, 28, 82, 30, 30, 20, 44, 25, 32, 40, 25, 40, 84, 30, 32, 40, 35, 39, 41, 42, 30, 28, 24, 32, 32, 28, 31, 34, 31, 35, 30, 20, 25, 15, 41, 31, 40, 21, 20, 25, 27, 41, 32, 20, 30, 34, 30, 32, 34, 36, 32, 32
(20) 9 spine	24, 30, 32, 36, 32, 30, 33, 18, 38, 34, 22, 26, 49, 26, 24, 28, 35, 18, 36, 38, 33, 52, 24, 41, 30, 38, 30, 35, 30, 32, 20, 40, 32, 32, 35, 40

1 leech



Date: July 19, 2018

Location: Little Marsh Creek between 45.328119 066.030886

Crew: Gabeon, Cristian, Andrew, Chauva, Roxanne 45.328020

Gear type (circle one): Electrofisher Fyke Nets Beach Seine 066.031210

Water temperature: 16.5 °C 25mm reach

Electrofisher Set up: \_\_\_\_\_

Mortalities: \_\_\_\_\_

15+  
pass(2)

Species	Lengths (mm)
Blacknose dace	45, 40
4 spine	25, 20, 28, 27, 40, 32, 39, 23, 39, 21, 40, 31, 22, 22, 35, 34, 34, 40, 25, 30, 25, 29, 40, 23, 22, 32, 24, 47, 24, 50, 31
9 spine	50, 28, 44, 42, 51, 45, 47, 42, 43, 22, 38, 40, 46, 25, 40, 40, 35, 40, 45, 32, 26, 38, 30, 53, 48, 38, 35, 48, 45
3 spine	18, 20, 20, 20, 18, 24, 36, 28, 24, 42, 20, 21, 25, 18, 20, 23, 45, 20, 35, 25, 25, 16, 25, 22, 42, 24, 16, 26, 20, 24, 12, 14
(25) American eel	50, 50, 60, 67, 70, 240, 130, 120, 205, 200, 400, 40, 395, 55, 235, 185, 175, 60, 125, 195, 300, 150, 230, 170, 85
4 spine	20, 36, 20, 39, 36, 20, 40, 36, 35, 23, 28, 25, 34, 25, 30, 24, 30, 26, 32, 20, 31, 35, 19, 23, 22, 22, 32, 37, 33, 38, 35, 35, 21
"	25, 41, 22, 33, 36, 36, 33, 28, 37, 20, 23, 32, 40, 35, 30, 34, 27, 32, 37, 21, 35, 32, 23, 41, 20, 34, 32, 45, 30, 20, 20, 25, 28, 25, 40, 35
9 spine	48, 44, 43, 35, 45, 40, 36, 47, 40, 36, 48, 42, 38, 45, 30, 37, 45, 27, 37, 36, 40, 26, 40, 28, 41, 37, 40, 42, 42, 44, 28, 20, 42, 38, 45
(31) Mummichog	70, 48, 55, 70, 73, 80, 75, 65, 80, 60, 78, 70, 47, 75, 56, 45, 52, 50, 45, 50, 60, 40, 40, 32, 60, 40, 48, 50, 75, 80, 70
(16) Killfish	45, 48, 40, 80, 58, 48, 36, 52, 35, 43, 40, 50, 67, 38, 45, 60
(139) 9 spine	24, 20, 48, 40, 37, 20, 44, 46, 30, 38, 30, 37, 49, 41, 30, 30, 44, 27, 28, 24, 40, 35, 27, 45, 32, 30, 35, 25, 20, 30, 45, 25, 19, 20, 27, 15
"	35, 35, 50, 45, 38, 24, 40, 48, 45, 38, 41, 28, 18, 32, 44, 22, 26, 23, 22, 30, 30, 38, 38, 20, 26, 35, 25, 28, 20, 35, 44, 35, 20, 30, 24, 25
(110) 4 spine	43, 32, 28, 20, 20, 20, 28, 27, 30, 18
(1) Common Stinner	40
(46) 3 spine	20, 18, 14, 22, 24, 16, 20, 20, 25, 20, 25, 25, 16, 18

370

reach #3

Date: July 10 2018

Location: Little Marsh Creek

Cr w: Graeme, Cristian, Anthony, Shaun, Rebecca

Gear type (circle one): Electrofisher Fyke Nets Beach Seine

Water temperature: 17.8  C

Electrofisher Set up: 2250 sec, 910 Hz, 25% 100V

Mortalities: \_\_\_\_\_

2nd  
Pass

Species	Lengths (mm)
3 Spine	48, 21, 20, 50, 18, 52, 20, 26, 27, 17, 20, 20
9 Spine	20, 66, 67, 23, 25, 20, 20, 23, 23, 15, 50, 28, 30, 42, 28, 20, 53, 33, 42, 32, 37, 40, 38, 45, 35, 46, 37, 35, 27, 40, 35, 27
4 Spine	20, 35, 36, 24, 22, 38, 39, 23, 39, 35, 33, 27, 23, 35, 40, 38, 38, 44, 25, 37, 24, 38, 38
Killifish	73, 48, 50, 64, 50, 45, 48, 53, 44, 45, 65, 65, 40, 42, 55
American cel	65, 50, 185, 40, 50, 50, 130
Common Shiner	55, 68, 66, 65
Pearl dace	65
Mummichog	50, 58, 85, 48, 78, 58, 53, 52, 82, 54, 70
4 Spine	26, 34, 25, 26, 22, 38, 45, 35, 30, 38, 25, 26, 32, 35, 23, 18, 35, 33, 37, 30, 35
"	35, 25, 26, 25, 24, 28, 43, 28, 31, 25, 25, 24, 33, 28, 20, 23, 34, 28, 34
9 Spine	34, 40, 36, 40, 40, 30, 35, 27, 42, 38, 40, 38, 38, 37, 30, 35, 32, 38, 25, 34
"	36, 38, 35, 30, 43, 30, 25, 38, 37, 42, 35, 32, 24, 40, 28, 34, 35, 33, 50, 35
"	32, 35, 35, 42, 35, 40, 38, 24, 25, 38, 26, 40, 22, 20, 36, 18, 21, 40, 38, 30, 25
4 Spine	35, 44, 35, 22, 22, 23, 30, 22, 16, 32, 24, 28, 36, 25, 25, 30, 26, 45, 38, 35, 25, 35, 20, 35
Bucknose dace	42, 47

(5)  
(7)  
(4)  
(1)  
(11)  
(89)  
(87)  
(2)

230

# ACAP

SAINT JOHN



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139 Prince Edward Street, Suite 323  
Saint John, New Brunswick, Canada

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phone: (506) 652-2227  
email: [office@acapsj.org](mailto:office@acapsj.org)  
web: [www.acapsj.org](http://www.acapsj.org)

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