

APPENDIX J

Aquatics

East Credit Subwatershed Study
Phase I – Characterization Report

Prepared for:

Region of Peel
Town of Caledon

Prepared by:

Credit Valley Conservation

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Little East Credit R trib u/s The Grange Siderd

Station:
501130002

STATION INFORMATION:

Electrofishing Date		July 3, 2002	
UTM Northing	4856182	UTM Easting	588122
Start Time:	11:25 AM	Water temperature	15.5
End Time:	12:15 PM	Air temperature	31.5
Total Electrofishing time (seconds)	3000		
Weather conditions:		Flow Conditions:	

FISH SPECIES INFORMATION:

Species	Number of Individuals	Total Biomass (g)	Biomass Density (g/m ²)	Sensitivity *	Station Health Index
brook trout (<i>Salvelinus fontinalis</i>)	47	930.5	6.394	3	19.182
mottled sculpin (<i>Cottus bairdi</i>)	1	6.5	0.045	3	0.134
northern redbelly dace (<i>Phoxinus eos</i>)	1	1	0.007	2	0.014
Total:	3 species	938	6.445		19.329

* *Credit Valley Conservation. 1999. Natural Heritage Project: Habitat Utilization for Fish*

Sensitivity is rated according to the tolerance listing for fish, as shown in the Natural Heritage Project, where sensitive species (S) are given a score of 3 (most sensitive) and tolerant species (T) are given a score of 1 (least sensitive)

STATION DIMENSIONS:

Station Length	66	Average Station Width:	2.20	Area of Station:	145.530
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NOTES:

Little East Credit R trib u/s The Grange Siderd

Station:
501130002

STATION INFORMATION:

Electrofishing Date	July 22, 2003		
UTM Northing	4856182	UTM Easting	588122
Start Time:	9:30 AM	Water temperature	
End Time:	10:25 AM	Air temperature	
Total Electrofishing time (seconds)	2195		
Weather conditions:	Flow Conditions:		

FISH SPECIES INFORMATION:

Species	Number of Individuals	Total Biomass (g)	Biomass Density (g/m ²)	Sensitivity *	Station Health Index
brook trout (<i>Salvelinus fontinalis</i>)	40	433	2.658	3	7.975
mottled sculpin (<i>Cottus bairdi</i>)	5	23	0.141	3	0.424
Total:	2 species	45	2.799		8.398

* *Credit Valley Conservation. 1999. Natural Heritage Project: Habitat Utilization for Fish*

Sensitivity is rated according to the tolerance listing for fish, as shown in the Natural Heritage Project, where sensitive species (S) are given a score of 3 (most sensitive) and tolerant species (T) are given a score of 1 (least sensitive)

STATION DIMENSIONS:

Station Length	66	Average Station Width:	2.47	Area of Station:	162.888
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NOTES:

Little East Credit R trib u/s The Grange Siderd

Station:
501130002

STATION INFORMATION:

Electrofishing Date	July 19, 2004		
UTM Northing	4856182	UTM Easting	588122
Start Time:	10:40 AM	Water temperature	13.6
End Time:	11:20 AM	Air temperature	19.7
Total Electrofishing time (seconds)	1889		
Weather conditions:	Flow Conditions:		

FISH SPECIES INFORMATION:

Species	Number of Individuals	Total Biomass (g)	Biomass Density (g/m ²)	Sensitivity *	Station Health Index
brook trout (<i>Salvelinus fontinalis</i>)	17	228	1.345	3	4.036
mottled sculpin (<i>Cottus bairdi</i>)	32	117.5	0.693	3	2.080
Total:	2 species	49	2.038		6.115

* *Credit Valley Conservation. 1999. Natural Heritage Project: Habitat Utilization for Fish*

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STATION DIMENSIONS:

Station Length	66	Average Station Width:	2.57	Area of Station:	169.488
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NOTES:

Little East Credit R trib u/s The Grange Siderd

Station:
501130002

STATION INFORMATION:

Electrofishing Date		July 25, 2005	
UTM Northing	4856182	UTM Easting	588122
Start Time:	9:15 AM	Water temperature	15.3
End Time:	9:53 AM	Air temperature	24.6
Total Electrofishing time (seconds)	1283		
Weather conditions:		Flow Conditions:	

FISH SPECIES INFORMATION:

Species	Number of Individuals	Total Biomass (g)	Biomass Density (g/m ²)	Sensitivity *	Station Health Index
brook trout (<i>Salvelinus fontinalis</i>)	27	221	1.889	3	5.666
mottled sculpin (<i>Cottus bairdi</i>)	3	17	0.145	3	0.436
Total:	2 species	30	2.034		6.102

* *Credit Valley Conservation. 1999. Natural Heritage Project: Habitat Utilization for Fish*

Sensitivity is rated according to the tolerance listing for fish, as shown in the Natural Heritage Project, where sensitive species (S) are given a score of 3 (most sensitive) and tolerant species (T) are given a score of 1 (least sensitive)

STATION DIMENSIONS:

Station Length	66	Average Station Width:	1.77	Area of Station:	117.018
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NOTES:

Little East Credit R trib u/s The Grange Siderd

Station:
501130002

STATION INFORMATION:

Electrofishing Date		June 12, 2006	
UTM Northing	4856182	UTM Easting	588122
Start Time:	12:45 PM	Water temperature	11.7
End Time:	1:10 PM	Air temperature	18.6
Total Electrofishing time (seconds)	806		
Weather conditions:		Flow Conditions:	

FISH SPECIES INFORMATION:

Species	Number of Individuals	Total Biomass (g)	Biomass Density (g/m ²)	Sensitivity *	Station Health Index
American brook lamprey (Lampetra lamot	2	8	0.045	2	0.091
brook trout (Salvelinus fontinalis)	19	244	1.385	3	4.155
mottled sculpin (Cottus bairdi)	4	23	0.131	3	0.392
Total:	3 species	25	275	1.561	4.638

* *Credit Valley Conservation. 1999. Natural Heritage Project: Habitat Utilization for Fish*

Sensitivity is rated according to the tolerance listing for fish, as shown in the Natural Heritage Project, where sensitive species (S) are given a score of 3 (most sensitive) and tolerant species (T) are given a score of 1 (least sensitive)

STATION DIMENSIONS:

Station Length	66	Average Station Width:	2.67	Area of Station:	176.154
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NOTES:

Lit E Credit R trib u/s The Grange Siderd & Hwy 10

Station:
501130004

STATION INFORMATION:

Electrofishing Date		July 29, 2004	
UTM Northing	4852422	UTM Easting	585147
Start Time:	12:55 PM	Water temperature	17.5
End Time:	1:30 PM	Air temperature	19.5
Total Electrofishing time (seconds)	1957		
Weather conditions:		Flow Conditions:	

FISH SPECIES INFORMATION:

Species	Number of Individuals	Total Biomass (g)	Biomass Density (g/m ²)	Sensitivity *	Station Health Index
blacknose dace (<i>Rhinichthys atratulus</i>)	63	218.5	1.653	1	1.653
brook trout (<i>Salvelinus fontinalis</i>)	1	68.5	0.518	3	1.555
brown trout (<i>Salmo trutta</i>)	2	3.5	0.026	3	0.079
central mudminnow (<i>Umbra limi</i>)	1	0.5	0.004	1	0.004
common shiner (<i>Luxilus cornutus</i>)	5	20.5	0.155	1	0.155
creek chub (<i>Semotilus atromaculatus</i>)	6	91.5	0.692	1	0.692
mottled sculpin (<i>Cottus bairdi</i>)	10	64.5	0.488	3	1.464
pumpkinseed (<i>Lepomis gibbosus</i>)	2	8	0.061	1	0.061
Total:	8 species	90	475.5	3.598	5.664

* *Credit Valley Conservation. 1999. Natural Heritage Project: Habitat Utilization for Fish*

Sensitivity is rated according to the tolerance listing for fish, as shown in the Natural Heritage Project, where sensitive species (S) are given a score of 3 (most sensitive) and tolerant species (T) are given a score of 1 (least sensitive)

STATION DIMENSIONS:

Station Length	40	Average Station Width:	3.30	Area of Station:	132.160
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NOTES:

Lit E Credit R trib u/s The Grange Siderd & Hwy 10

Station:
501130004

STATION INFORMATION:

Electrofishing Date		July 25, 2005	
UTM Northing	4852422	UTM Easting	585147
Start Time:	10:36 AM	Water temperature	19.9
End Time:	11:07 AM	Air temperature	24.6
Total Electrofishing time (seconds)	1382		
Weather conditions:		Flow Conditions:	

FISH SPECIES INFORMATION:

Species	Number of Individuals	Total Biomass (g)	Biomass Density (g/m ²)	Sensitivity *	Station Health Index
blacknose dace (<i>Rhinichthys atratulus</i>)	35	137	0.794	1	0.794
brook trout (<i>Salvelinus fontinalis</i>)	9	86	0.499	3	1.496
brown trout (<i>Salmo trutta</i>)	5	136.5	0.792	3	2.375
common shiner (<i>Luxilus cornutus</i>)	5	18	0.104	1	0.104
creek chub (<i>Semotilus atromaculatus</i>)	6	59	0.342	1	0.342
Johnny darter (<i>Etheostoma nigrum</i>)	1	0.5	0.003	2	0.006
Total:	6 species	61	437	2.534	5.118

* *Credit Valley Conservation. 1999. Natural Heritage Project: Habitat Utilization for Fish*

Sensitivity is rated according to the tolerance listing for fish, as shown in the Natural Heritage Project, where sensitive species (S) are given a score of 3 (most sensitive) and tolerant species (T) are given a score of 1 (least sensitive)

STATION DIMENSIONS:

Station Length	45.5	Average Station Width:	3.79	Area of Station:	172.445
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NOTES:

Lit E Credit R trib u/s The Grange Siderd & Hwy 10

Station:
501130004

STATION INFORMATION:

Electrofishing Date		July 17, 2006	
UTM Northing	4852422	UTM Easting	585147
Start Time:	9:30 AM	Water temperature	20.9
End Time:	10:05 AM	Air temperature	24.8
Total Electrofishing time (seconds)			
Weather conditions:		Flow Conditions:	

FISH SPECIES INFORMATION:

Species	Number of Individuals	Total Biomass (g)	Biomass Density (g/m ²)	Sensitivity *	Station Health Index
blacknose dace (<i>Rhinichthys atratulus</i>)	20	77	0.401	1	0.401
bluntnose minnow (<i>Pimephales notatus</i>)	2	25	0.130	1	0.130
brook stickleback (<i>Culaea inconstans</i>)	1	1	0.005	1	0.005
brook trout (<i>Salvelinus fontinalis</i>)	1	33	0.172	3	0.515
brown trout (<i>Salmo trutta</i>)	4	6	0.031	3	0.094
central mudminnow (<i>Umbra limi</i>)	1	4	0.021	1	0.021
common shiner (<i>Luxilus cornutus</i>)	11	2	0.010	1	0.010
creek chub (<i>Semotilus atromaculatus</i>)	4	78	0.406	1	0.406
Johnny darter (<i>Etheostoma nigrum</i>)	1	1	0.005	2	0.010
mottled sculpin (<i>Cottus bairdi</i>)	6	44	0.229	3	0.687
Total:	10 species	51	271	1.410	2.278

* *Credit Valley Conservation. 1999. Natural Heritage Project: Habitat Utilization for Fish*

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STATION DIMENSIONS:

Station Length	45.5	Average Station Width:	4.23	Area of Station:	192.238
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NOTES:

East Credit River E of Hwy 10 @ Caledon Rail Trail

Station:
501200005

STATION INFORMATION:

Electrofishing Date		July 19, 2002	
UTM Northing	4851816	UTM Easting	586168
Start Time:	11:00 AM	Water temperature	21.5
End Time:	12:10 PM	Air temperature	25
Total Electrofishing time (seconds)	4200		
Weather conditions:		Flow Conditions:	

FISH SPECIES INFORMATION:

Species	Number of Individuals	Total Biomass (g)	Biomass Density (g/m ²)	Sensitivity *	Station Health Index
blacknose dace (<i>Rhinichthys atratulus</i>)	26	59	0.232	1	0.232
bluntnose minnow (<i>Pimephales notatus</i>)	14	35	0.137	1	0.137
brook stickleback (<i>Culaea inconstans</i>)	2	2	0.008	1	0.008
brown trout (<i>Salmo trutta</i>)	1	33	0.130	3	0.389
central mudminnow (<i>Umbra limi</i>)	1	4	0.016	1	0.016
common shiner (<i>Luxilus cornutus</i>)	17	114	0.448	1	0.448
creek chub (<i>Semotilus atromaculatus</i>)	55	438	1.719	1	1.719
fantail darter (<i>Etheostoma flabellare</i>)	5	7	0.027	3	0.082
Johnny darter (<i>Etheostoma nigrum</i>)	32	38	0.149	2	0.298
mottled sculpin (<i>Cottus bairdi</i>)	2	21	0.082	3	0.247
northern hog sucker (<i>Hyphentelium nigric</i>)	2	55	0.216	3	0.648
rainbow darter (<i>Etheostoma caeruleum</i>)	24	40	0.157	3	0.471
white sucker (<i>Catostomus commersoni</i>)	24	166	0.652	1	0.652
Total:	13 species	205	1012	3.973	5.346

* *Credit Valley Conservation. 1999. Natural Heritage Project: Habitat Utilization for Fish*

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STATION DIMENSIONS:

Station Length	42.6	Average Station Width:	5.98	Area of Station:	254.748
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NOTES:

East Credit River E of Hwy 10 @ Caledon Rail Trail

Station:
501200005

STATION INFORMATION:

Electrofishing Date		July 20, 2003	
UTM Northing	4851816	UTM Easting	586168
Start Time:	7:25 AM	Water temperature	
End Time:	8:55 AM	Air temperature	
Total Electrofishing time (seconds)	5308		
Weather conditions:		Flow Conditions:	

FISH SPECIES INFORMATION:

Species	Number of Individuals	Total Biomass (g)	Biomass Density (g/m ²)	Sensitivity *	Station Health Index
blacknose dace (<i>Rhinichthys atratulus</i>)	55	204	0.834	1	0.834
bluntnose minnow (<i>Pimephales notatus</i>)	61	204	0.834	1	0.834
brook stickleback (<i>Culaea inconstans</i>)	6	3	0.012	1	0.012
brown trout (<i>Salmo trutta</i>)	4	337.5	1.380	3	4.141
central mudminnow (<i>Umbra limi</i>)	7	31.5	0.129	1	0.129
common shiner (<i>Luxilus cornutus</i>)	132	608.5	2.489	1	2.489
creek chub (<i>Semotilus atromaculatus</i>)	69	742	3.034	1	3.034
fantail darter (<i>Etheostoma flabellare</i>)	8	15	0.061	3	0.184
fathead minnow (<i>Pimephales promelas</i>)	2	4	0.016	1	0.016
finescale dace (<i>Phoxinus neogaeus</i>)	1	2	0.008	2	0.016
golden shiner (<i>Notemigonus crysoleucas</i>)	1	2	0.008	1	0.008
Johnny darter (<i>Etheostoma nigrum</i>)	25	26	0.106	2	0.213
northern hog sucker (<i>Hyphentelium nigric</i>)	1	69.5	0.284	3	0.853
pumpkinseed (<i>Lepomis gibbosus</i>)	2	11	0.045	1	0.045
rainbow darter (<i>Etheostoma caeruleum</i>)	34	58.5	0.239	3	0.718
river chub (<i>Nocomis micropogon</i>)	1	16.5	0.067	3	0.202
white sucker (<i>Catostomus commersoni</i>)	9	175.5	0.718	1	0.718

Total:	Credit Subwatershed Fish Species	July 2007	418	2510.5	10.267		14.446
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*** Credit Valley Conservation. 1999. Natural Heritage Project: Habitat Utilization for Fish**

Sensitivity is rated according to the tolerance listing for fish, as shown in the Natural Heritage Project, where sensitive species (S) are given a score of 3 (most sensitive) and tolerant species (T) are given a score of 1 (least sensitive)

STATION DIMENSIONS:

Station Length	42.6	Average Station Width:	5.74	Area of Station:	244.524
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NOTES:

East Credit River E of Hwy 10 @ Caledon Rail Trail

Station:
501200005

STATION INFORMATION:

Electrofishing Date		July 21, 2004	
UTM Northing	4851816	UTM Easting	586168
Start Time:	9:45 AM	Water temperature	20.1
End Time:	11:05 AM	Air temperature	26.7
Total Electrofishing time (seconds)	3839		
Weather conditions:		Flow Conditions:	

FISH SPECIES INFORMATION:

Species	Number of Individuals	Total Biomass (g)	Biomass Density (g/m ²)	Sensitivity *	Station Health Index
blacknose dace (<i>Rhinichthys atratulus</i>)	7	15.5	0.074	1	0.074
bluntnose minnow (<i>Pimephales notatus</i>)	16	31.5	0.150	1	0.150
brassy minnow (<i>Hybognathus hankinsoni</i>)	1	1	0.005	1	0.005
brook stickleback (<i>Culaea inconstans</i>)	1	0.5	0.002	1	0.002
brown trout (<i>Salmo trutta</i>)	3	658.5	3.143	3	9.429
common shiner (<i>Luxilus cornutus</i>)	10	32.5	0.155	1	0.155
creek chub (<i>Semotilus atromaculatus</i>)	16	122	0.582	1	0.582
fantail darter (<i>Etheostoma flabellare</i>)	2	4	0.019	3	0.057
golden shiner (<i>Notemigonus crysoleucas</i>)	1	2.5	0.012	1	0.012
Johnny darter (<i>Etheostoma nigrum</i>)	14	19.5	0.093	2	0.186
largemouth bass (<i>Micropterus salmoides</i>)	1	1	0.005	1	0.005
northern pike (<i>Esox lucius</i>)	1	19.5	0.093	2	0.186
rainbow darter (<i>Etheostoma caeruleum</i>)	26	39	0.186	3	0.558
river chub (<i>Nocomis micropogon</i>)	3	34	0.162	3	0.487
white sucker (<i>Catostomus commersoni</i>)	2	54	0.258	1	0.258
Total:	15 species	104	1035	4.940	12.147

* *Credit Valley Conservation. 1999. Natural Heritage Project: Habitat Utilization for Fish*

Sensitivity is rated according to the tolerance listing for fish, as shown in the Natural Heritage Project, where sensitive species (S) are given a score of 3 (most sensitive) and tolerant species (T) are given a score of 1 (least sensitive)

STATION DIMENSIONS:

Station Length	30	Average Station Width:	6.98	Area of Station:	209.520
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NOTES: