APPENDIX 4.1-1.

DETAILED AQUATIC HABITAT ASSESSMENTS FOR WATERBODIES IN THE MINE AREA BY STREAM AND REACH.

555,400
557,200
559,000
560,800
562,600
7,916,100
7,914,300
7,912,500
Tom River
CL Trib-3
CL Trib-2
CLT-2 Falls
2-2
2-1
CL Trib-1
CLT-1 Falls
1-3
1-1
1-2
1-b
4-1
CL Trib-4
4-2
4-3
CL Trib-5
Camp Lake
Camp Lake Outflow
Mary Lake
Sheardown Lake (N.W. Basin)
SDL-12 Falls
Mine Site
0.5 0.25 0 0.5 1 Km
SCALE

LEGEND:

STATUS OF ARCTIC CHAR
- PRESENT
- PROBABLE
- NOT PRESENT
- UNKNOWN

- FISH BARRIER
- FALLS
- REACH BOUNDARIES
- MILNE INLET TOTE ROAD (EXISTING)
- CONSTRUCTION ACCESS ROAD (PROPOSED)
- RAILWAY ALIGNMENT (PROPOSED)

- INFRASTRUCTURE

REV	DDMMM'10	DESCRIPTION	DESIGNED	DRAWN	CHKD	APP'D
-	01/09/2010	ISSUED FOR ---	-	-	-	-

NOTES:

1. BASE MAP: (1:50,000) © HER MAJESTY THE QUEEN IN RIGHTS OF CANADA DEPARTMENT OF NATURAL RESOURCES (2009.) ALL RIGHTS RESERVED.
2. TOPOGRAPHY PROVIDED BY EAGLE MAPPING (2005).
3. PROPOSED RAILWAY ALIGNMENT PROVIDED BY CANRAIL CONSULTANTS INC.
4. MINE SITE INFRASTRUCTURE PROVIDED BY AMEC DRAWING NO.: MINE SITE - CONSTRUCTION PHASE - 01 -MAR 09 2009.dwg
5. CONTOUR INTERVAL IS 50 M AND IS IN METRES.

BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

PRESENCE AND ABSENCE OF ARCTIC CHAR IN CAMP LAKE TRIBUTARIES

North/South Consultants Inc.
Aquatic Environment Specialists

P/A NO. -
REF NO. -
DATE: 01/09/2010
REV -

Path: G:\MARYRIV_GDB\EIS_GDB\EIS_Figures_2010EIS_Figures\MXD\MR_Stream Habitat\

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name: Camp Lake Tributary #1
Site: Reach 1
UTM: 17W 557645 7914878
Dates Surveyed: 6-Aug-07, 4-Sep-07

Site Description/Physical Characteristics

Confinement: Unconfined

Channel Gradient: 1˚

Hydrology

	Spr	Sum	Fall
Bankfull Width (m):	NA	5.54	5.54
Wetted Width (m):	NA	5.54	5.50
Riffle-Crest Depth (m):	NA	0.20	0.12
Pool Depth (m):	NA	0.23	0.24
D (m):	NA	0.03	0.03
D_{95} (m):	NA	0.66	0.66
Point Velocities (m/s)			
Riffle:	NA	0.64	0.70
Pool:	NA	0.05	0.19
Behind a rock:	NA	0.01	0.03

Stream/Riparian Habitat

Channel Morphology: 90% riffle, 10% pool

Substrate Composition: 90% cobble, 5% sand, 5% boulder

Stream Cover: 80% undercut banks, 5% boulders

Aquatic Vegetation: Periphyton

Riparian Vegetation: Grasses, moss, wildflowers

Barriers Present (Y/N): N
Location: NA

Lakes Present (Y/N): Y
Location: DS – Camp L.

L/R Bank Characteristics

	Spr	Sum	Fall
Bank Height (L/R; m):	NA	0.18/0.18	0.25/0.25
Bank Stability:	NA	Mod	Mod
Erosion Potential:	NA	Mod	Mod

Water Quality

	Spr	Sum	Fall
Specific Conductance (µS/cm):	NA	134.0	208.0
TDS (g/l):	NA	0.09	0.14
DO (mg/l)	NA	11.38	11.98
%DO:	NA	101.5	100.3
Water Temp (˚C):	NA	10.4	3.0

Fish Habitat

	Spr	Sum	Fall
Spawning:	ARCH - N NNST - N	ARCH - N NNST - M	ARCH - N NNST - N
Feeding:	ARCH - M NNST - L	ARCH - H NNST - M	ARCH - H NNST - L
Migration:	ARCH - L NNST - L	ARCH - H NNST - M	ARCH - H NNST - M

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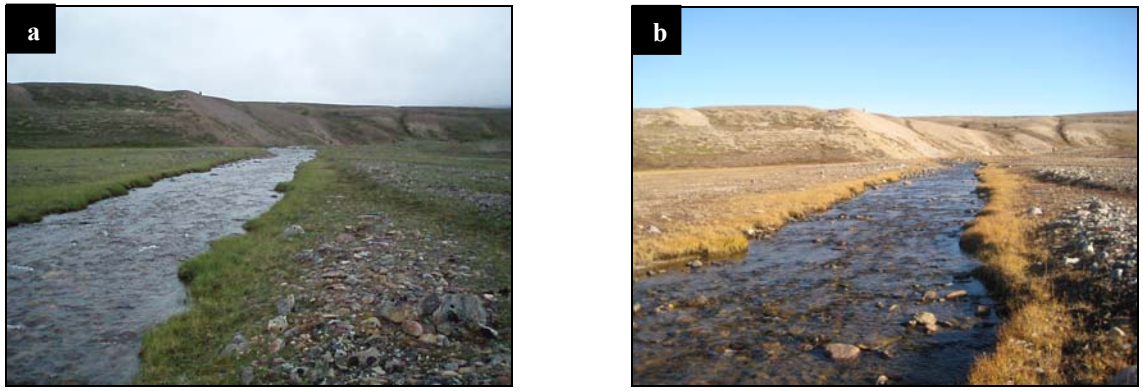

Figure 1.View upstream from habitat assessment in reach 1 of Camp Lake Tributary 1 during summer (a) and fall (b).

Figure 2.View downstream from habitat assessment in reach 1 of Camp Lake Tributary 1 during summer (a) and fall (b).

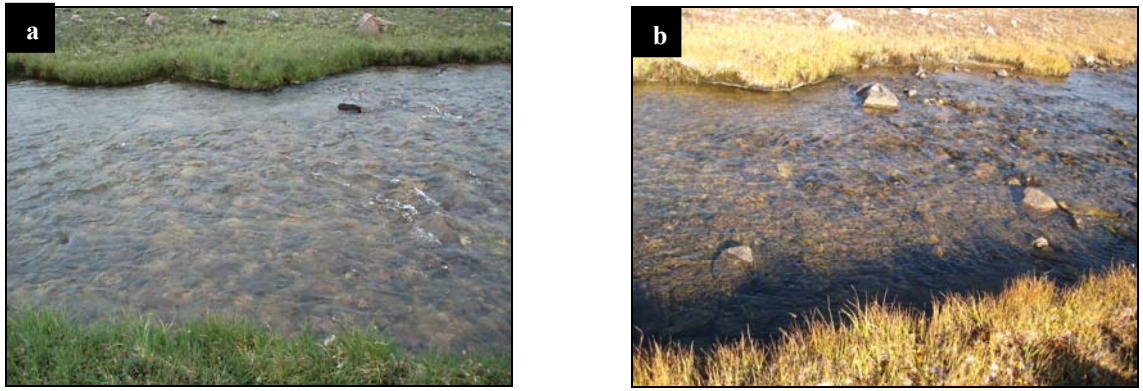

Figure 3.View across the habitat assessment site in reach 1 of Camp Lake Tributary 1 during summer (a) and fall (b).

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name: Camp Lake Tributary #1
Site: Reach 2
UTM: 17W 558487 7914876
Dates Surveyed: 6-Aug-07, 4-Sep-07

Site Description/Physical Characteristics

Confinement: Partial

Channel Gradient: 1˚

Hydrology

	Spr	Sum	Fall
Bankfull Width (m):	NA	3.12	3.12
Wetted Width (m):	NA	3.12	3.00
Riffle-Crest Depth (m):	NA	0.25	0.16
Pool Depth (m):	NA	0.68	0.60
D (m):	NA	0.06	0.06
D_{95} (m):	NA	0.38	0.38
Point Velocities (m/s)			
Riffle:	NA	0.83	0.65
Pool:	NA	0.24	0.06
Behind a rock:	NA	0.02	NM

Stream/Riparian Habitat

Channel Morphology: 85% riffle, 15% pool

Substrate Composition: 90% cobble, 10% boulder

Stream Cover: 100% undercut banks, 10% boulder, 5% deep pool

Aquatic Vegetation: Periphyton

Riparian Vegetation: Moss, grasses, willows

Barriers Present (Y/N): N
Location: NA

Lakes Present (Y/N): Y
Location: DS – Camp L.

L/R Bank Characteristics

	Spr	Sum	Fall
Bank Height (L/R; m):	NA	0.45/0.45	0.40/0.40
Bank Stability:	NA	Mod	Mod
Erosion Potential:	NA	Mod	Mod

Water Quality

	Spr	Sum	Fall
Specific Conductance (µS/cm):	NA	124.0	210.0
TDS (g/l):	NA	0.08	NM
DO (mg/l)	NA	11.90	12.45
%DO:	NA	101.5	100.0
Water Temp (˚C):	NA	8.5	5.0

Fish Habitat

	Spr	Sum	Fall
Spawning:	ARCH - N NNST - N	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	ARCH - M NNST - L	ARCH - H NNST - L	ARCH - H NNST - L
Migration:	ARCH - L NNST - N	ARCH - H NNST - N	ARCH - H NNST - N

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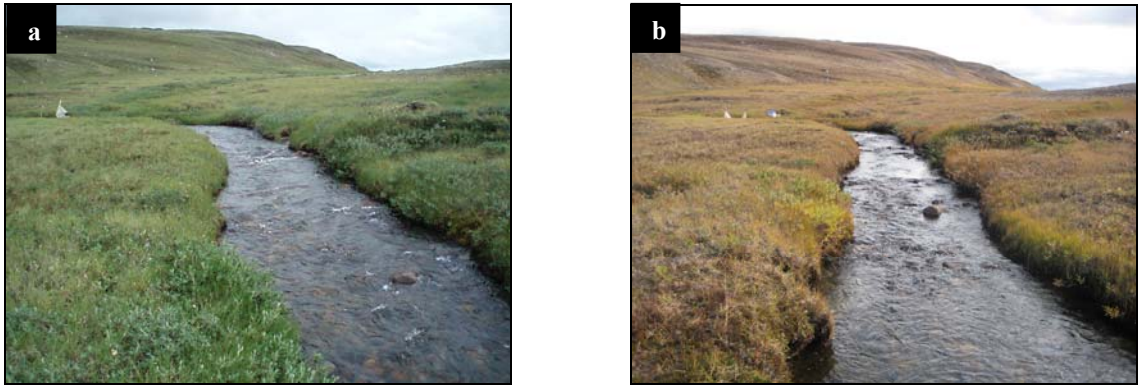

Figure 1.View upstream from habitat assessment in reach 2 of Camp Lake Tributary 1 during summer (a) and fall (b).

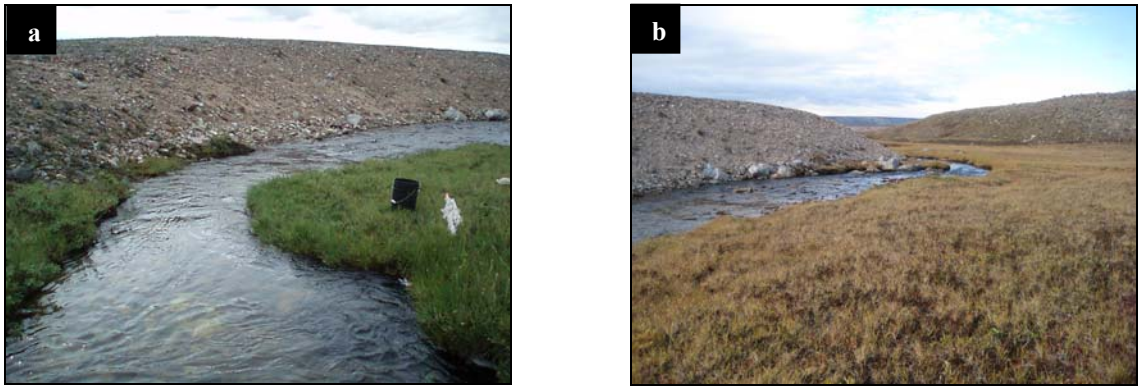

Figure 2.View downstream from habitat assessment in reach 2 of Camp Lake Tributary 1 during summer (a) and fall (b).

Figure 3.View across the habitat assessment site in reach 2 of Camp Lake Tributary 1 during summer (a) and fall (b).

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name: Camp Lake Tributary #1
Site: Reach 3
UTM: 17W 558504 7915022
Dates Surveyed: 6-Aug-07, 4-Sep-07

Site Description/Physical Characteristics

Confinement: Confined

Channel Gradient: 2.5˚

Hydrology

	Spr	Sum	Fall
Bankfull Width (m):	NA	18.83	18.83
Wetted Width (m):	NA	9.13	7.40
Cascade-Crest Depth (m):	NA	0.21	0.18
Pool Depth (m):	NA	0.33	0.16
D (m):	NA	0.06	0.03
D_{95} (m):	NA	0.74	0.74
Point Velocities (m/s)			
Cascade:	NA	1.02	1.26
Pool:	NA	0.02	0.05
Behind a rock:	NA	0.01	NM

Stream/Riparian Habitat

Channel Morphology: 60% cascade, 40% pool

Substrate Composition: 60% cobble, 35% boulder, 5% sand

Stream Cover: 35% boulder, 5% deep pool

Aquatic Vegetation: Periphyton

Riparian Vegetation: Grasses, moss, willow, wildflowers

Barriers Present (Y/N): Y
Location: US ~ 50m

Lakes Present (Y/N): Y
Location: DS – Camp L.

L/R Bank Characteristics

	Spr	Sum	Fall
Bank Height (L/R; m):	NA	UD	UD
Bank Stability:	NA	NM	NM
Erosion Potential:	NA	NM	NM

Water Quality

	Spr	Sum	Fall
Specific Conductance (µS/cm):	NA	118.0	169.0
TDS (g/l):	NA	0.08	NM
DO (mg/l)	NA	11.93	12.58
%DO:	NA	100.9	98.7
Water Temp (˚C):	NA	8.1	4.0

Fish Habitat

	Spr	Sum	Fall
Spawning:	ARCH - N NNST - N	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	ARCH - L NNST - N	ARCH - H NNST - N	ARCH - H NNST - N
Migration:	ARCH - N NNST - N	ARCH - N NNST - N	ARCH - N NNST - N

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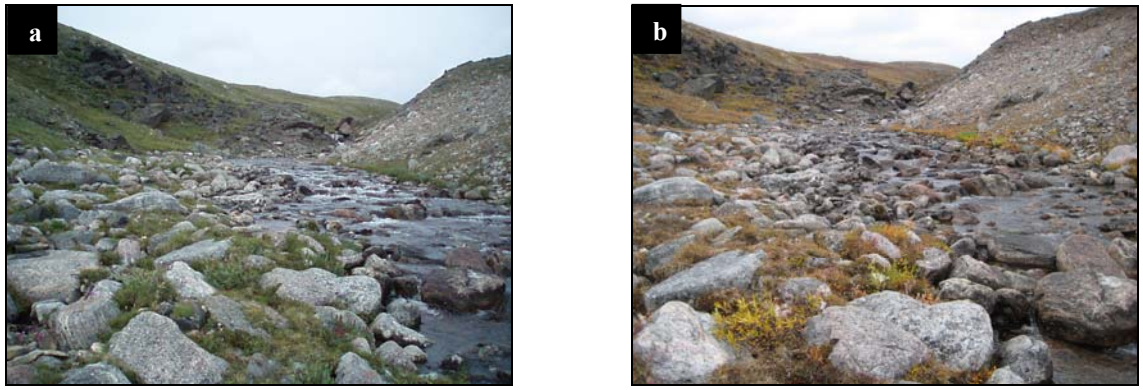

Figure 1.View upstream from habitat assessment in reach 3 of Camp Lake Tributary 1 during summer (a) and fall (b).

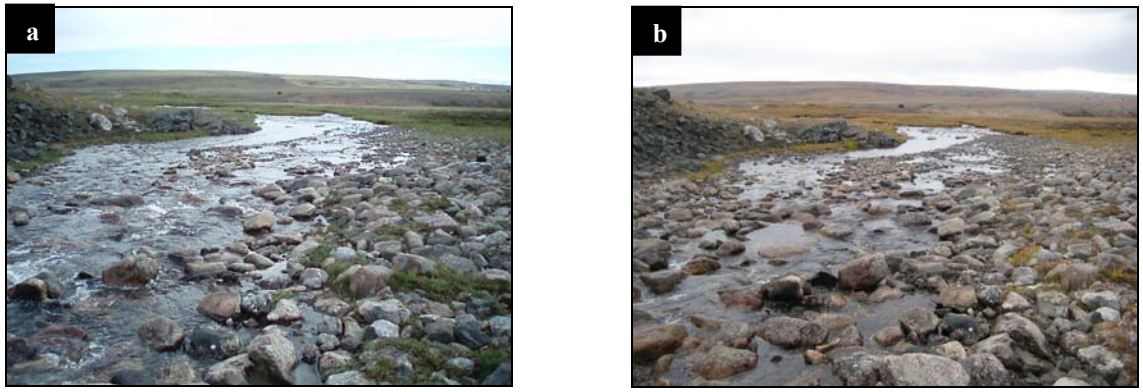

Figure 2.View downstream from habitat assessment in reach 3 of Camp Lake Tributary 1 during summer (a) and fall (b).

Figure 3.View across the habitat assessment site in reach 3 of Camp Lake Tributary 1 during summer (a) and fall (b).

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name: Camp Lake Tributary #2
Site: Reach 1
UTM: 17W 557466 7914969
Dates Surveyed: 4-Aug-07, 2-Sep-07

Site Description/Physical Characteristics

Confinement: Unconfined

Channel Gradient: 2˚

Hydrology

	Spr	Sum	Fall
Bankfull Width (m):	NA	18.28	18.28
Wetted Width (m):	NA	10.10	8.40
Riffle-Crest Depth (m):	NA	0.07	0.12
Pool Depth (m):	NA	0.45	0.32
D (m):	NA	0.01	0.01
D_{95} (m):	NA	0.23	0.23
Point Velocities (m/s)			
Riffle:	NA	0.74	0.27
Pool:	NA	0.08	0.07
Behind rock:	NA	NM	NM

Stream/Riparian Habitat

Channel Morphology: 50% riffle, 50% pool

Substrate Composition: 35% cobble, 35% gravel, 30% sand

Stream Cover: 20% undercut, 10% deep pool

Aquatic Vegetation: Periphyton, submerged RV

Riparian Vegetation: Grasses and moss

Barriers Present (Y/N): N
Location: NA

Lakes Present (Y/N): Y
Location: DS – Camp L.

L/R Bank Characteristics

	Spr	Sum	Fall
Bank Height (L/R; m):	NA	0.30/0.30	0.42/0.42
Bank Stability:	NA	Mod	Mod
Erosion Potential:	NA	Mod	Mod

Water Quality

	Spr	Sum	Fall
Specific Conductance (µS/cm):	NA	173.0	239.0
TDS (g/l):	NA	NM	0.16
DO (mg/l)	NA	11.26	12.33
%DO:	NA	102.1	103.1
Water Temp (˚C):	NA	11.0	5.0

Fish Habitat

	Spr	Sum	Fall
Spawning:	ARCH - N NNST - N	ARCH - N NNST - M	ARCH - N NNST - N
Feeding:	ARCH - M NNST - L	ARCH - H NNST - H	ARCH - H NNST - L
Migration:	ARCH - L NNST - L	ARCH - H NNST - L	ARCH - H NNST - L

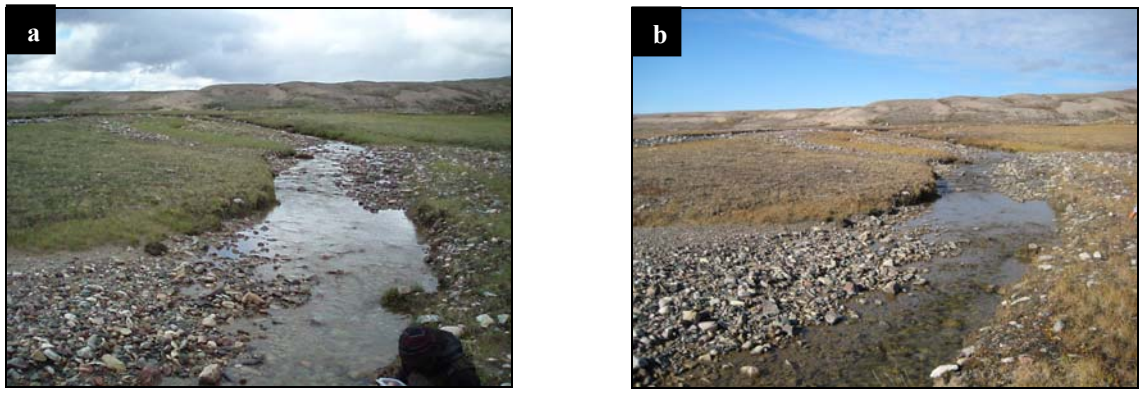

Figure 1.View upstream from habitat assessment in reach 1 (right channel) of Camp Lake Tributary 2 during summer (a) and fall (b).

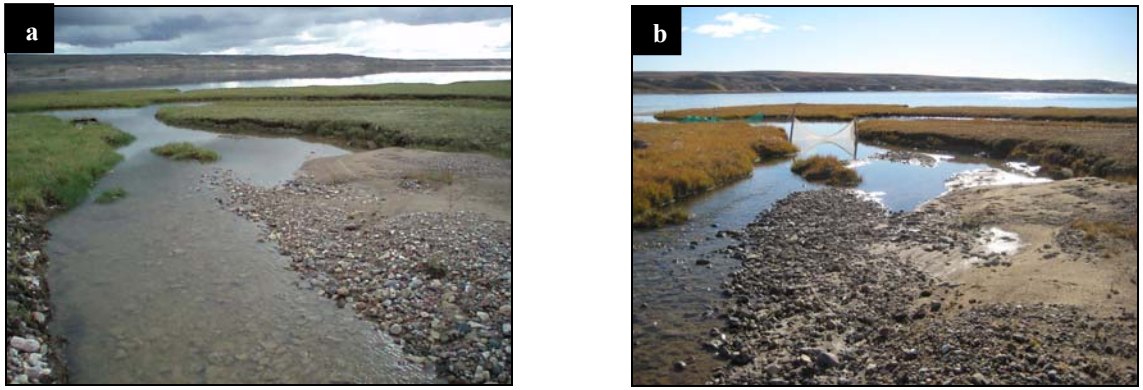

Figure 2.View downstream from habitat assessment in reach 1 (right channel) of Camp Lake Tributary 2 during summer (a) and fall (b).

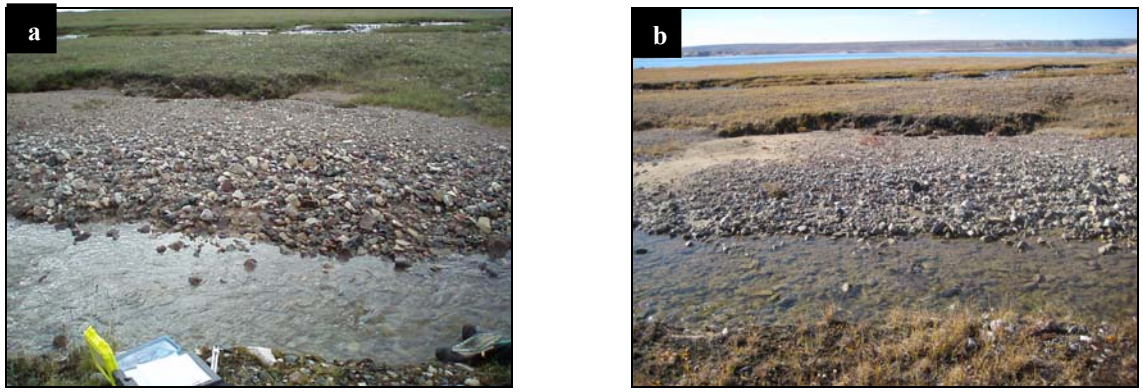

Figure 3.View across the habitat assessment site in reach 1 (right channel) of Camp Lake Tributary 2 during summer (a) and fall (b).

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name: Camp Lake Tributary #2
Site: Reach 2
UTM: 17W 557454 7915246
Dates Surveyed: 4-Aug-07, 2-Sep-07

Site Description/Physical Characteristics

Confinement: Partial

Channel Gradient: 8.5˚

Hydrology

	Spr	Sum	Fall
Bankfull Width (m):	NA	17.37	17.37
Wetted Width (m):	NA	17.37	10.70
Riffle-Crest Depth (m):	NA	0.15	0.10
Pool Depth (m):	NA	0.20	0.10
D (m):	NA	0.03	0.03
D_{95} (m):	NA	0.72	0.72
Point Velocities (m/s)			
Riffle:	NA	0.96	0.71
Pool:	NA	0.34	0.29
Behind rock:	NA	0.01	0.01

Stream/Riparian Habitat

Channel Morphology: 50% pool, 25% riffle, 25% cascade

Substrate Composition: 65% cobble, 20% boulder, 10% gravel, 5% sand

Stream Cover: 20% boulder 5% deep pool

Aquatic Vegetation: Periphyton

Riparian Vegetation: Grasses, willows, wildflowers

Barriers Present (Y/N): Y
Location: US ~ 100m

Lakes Present (Y/N): Y
Location: DS – Camp L.

L/R Bank Characteristics

	Spr	Sum	Fall
Bank Height (L/R; m):	NA	0.40/0.40	NM
Bank Stability:	NA	Mod	Mod
Erosion Potential:	NA	Mod	Mod

Water Quality

	Spr	Sum	Fall
Specific Conductance (µS/cm):	NA	97.5	178.0
TDS (g/l):	NA	NM	NM
DO (mg/l)	NA	10.99	12.40
%DO:	NA	101.1	99.0
Water Temp (˚C):	NA	11.6	8.5

Fish Habitat

	Spr	Sum	Fall
Spawning:	ARCH - N NNST - N	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	ARCH - L NNST - N	ARCH - H NNST - N	ARCH - H NNST - N
Migration:	ARCH - N NNST - N	ARCH - N NNST - N	ARCH - N NNST - N

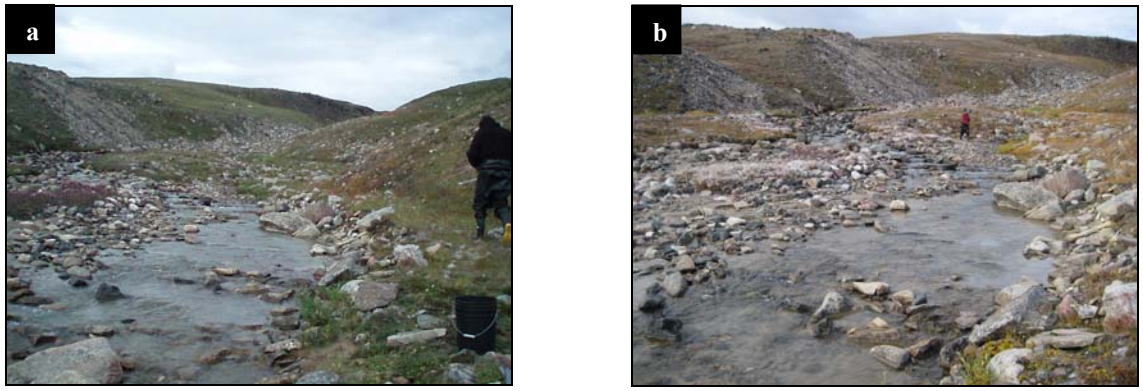

Figure 1.View upstream from habitat assessment in reach 2 of Camp Lake Tributary 2 during summer (a) and fall (b).

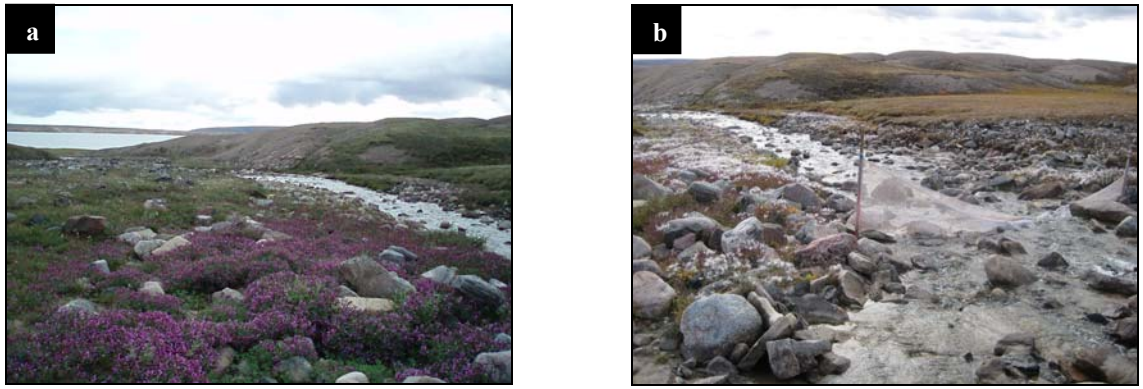

Figure 2.View downstream from habitat assessment in reach 2 of Camp Lake Tributary 2 during summer (a) and fall (b).

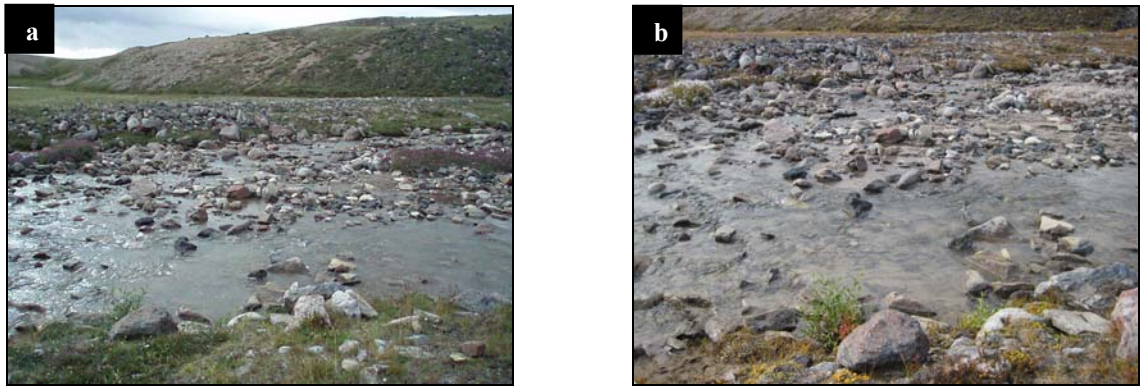

Figure 3.View across the habitat assessment site in reach 2 of Camp Lake Tributary 2 during summer (a) and fall (b).

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name:	Camp Lake Tributary #3	**UTM:**	17W 556342 7914864
Site:	Reach 1	**Dates Surveyed:**	22-Jun-08, 28-Jul-08

Site Description/Physical Characteristics

Confinement: Confined

Channel Gradient: 2˚

Hydrology

	Spr	Sum
Bankfull Width (m):	13.00	17.00
Wetted Width (m):	4.50	7.00
Riffle-Crest Depth (m):	0.1-0.17	0.15
Pool Depth (m):	0.10	0.08
D (m):	0.10-0.50	0.10-0.50
D_{95} (m):	0.80	0.80
Point Velocities (m/s)		
Riffle:	0.83	0.45
Pool:	NM	0.00
Behind a rock:	0.78	0.03

Stream/Riparian Habitat

Channel Morphology: 90% riffle, 10% pool (spring); 70% riffle, 30% pool (summer)

Substrate Composition: 50% cobble, 30% sand, 20% gravel

Stream Cover: 5% 1g cobble

Aquatic Vegetation: None

Riparian Vegetation: Grasses, moss, wildflower

Barriers Present (Y/N): Y
Location: US ~ 1.0 km

Lakes Present (Y/N): Y
Location: DS – Camp L.

L/R Bank Characteristics

	Spr	Sum
Bank Height (L/R; m):	0.18/indef	0.08/undef
Bank Stability:	Low	High
Erosion Potential:	High	Low

Water Quality

	Spr	Sum
Specific Conductance (µS/cm):	90.00	23.8
TDS (g/l):	0.06	0.15
DO (mg/l)	13.63	12.00
%DO:	101.50	NM
Water Temp (˚C):	3.10	7.7

Fish Habitat

	Spr	Sum
Spawning:	ARCH - N NNST - N	ARCH - N NNST - L
Feeding:	ARCH - M NNST - L	ARCH - H NNST - L
Migration:	ARCH - M NNST - L	ARCH - H NNST - L

Baffinland Iron Mines
Mary River Project

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Aquatic Environment Specialists

Mine Site Aquatic Habitat Assessment

Figure 1.View upstream from habitat assessment in reach 1 of Camp Lake Tributary 3 during spring (a) and summer (b) 2008.

Figure 2.View downstream from habitat assessment in reach 1 of Camp Lake Tributary 3 during spring (a) and summer (b) 2008.

Figure 3.View across the habitat assessment site in reach 1 of Camp Lake Tributary 3 during spring (a) and summer (b) 2008.

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name: Camp Lake Tributary #3
Site: Reach 2
UTM: 17W 556105 7915146
Dates Surveyed: 22-Jun-08, 28-Jul-08

Site Description/Physical Characteristics

Confinement: Partial - confined

Channel Gradient: 3˚

Hydrology

	Spr	Sum
Bankfull Width (m):	9.30	9.00
Wetted Width (m):	9.30	9.00
Riffle-Crest Depth (m):	0.06	0.10
Pool Depth (m):	0.10	0.05
D (m):	0.60	0.60
D_{95} (m):	1.50	1.50
Point Velocities (m/s)		
Riffle:	0.43	0.36
Pool:	0.09	0.00
Behind a rock:	NM	0.02
Chute:	1.97	NM

Stream/Riparian Habitat

Channel Morphology: 95% riffle, 5% pool

Substrate Composition: 70% cobble, 15% gravel, 15% sand

Stream Cover: 10% 1g cobble

Aquatic Vegetation: Periphyton

Riparian Vegetation: Grasses, moss, wildflower, willow

Barriers Present (Y/N): Y
Location: US ~ 600m

Lakes Present (Y/N): Y
Location: DS – Camp L.

L/R Bank Characteristics

	Spr	Sum
Bank Height (L/R; m):	0.28/Undef	0.15/Und
Bank Stability:	Low-High	Low-High
Erosion Potential:	Low-Mod	Low-Mod

Water Quality

	Spr	Sum
Specific Conductance (µS/cm):	83.00	23.60
TDS (g/l):	0.05	0.15
DO (mg/l)	13.91	11.93
%DO:	102.60	NM
Water Temp (˚C):	2.30	7.60

Fish Habitat

	Spr	Sum
Spawning:	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	ARCH - M NNST - L	ARCH - H NNST - L
Migration:	ARCH - M NNST - L	ARCH - H NNST - L

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Mine Site Aquatic Habitat Assessment

Figure 1.View upstream from habitat assessment in reach 2 of Camp Lake Tributary 3 during spring (a) and summer (b) 2008.

Figure 2.View downstream from habitat assessment in reach 2 of Camp Lake Tributary 3 during spring (a) and summer (b) 2008.

Figure 3. View across from habitat assessment in reach 2 of Camp Lake Tributary 3 during spring (a) and summer (b) 2008.

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name: Camp Lake Tributary #4
Site: Reach 1
UTM: 17W 557731 7914380
Dates Surveyed: 21-Jun-08, 24-Jul-08

Site Description/Physical Characteristics

Confinement: Unconfined

Channel Gradient: 1˚

Hydrology

	Spr	Sum
Bankfull Width (m):	1.90	1.90
Wetted Width (m):	1.40	1.15
Riffle-Crest Depth (m):	0.05	0.17
Pool Depth (m):	0.02	0.07
D (m):	0.01-0.05	0.01-0.05
D_{95} (m):	0.19	0.19
Point Velocities (m/s)		
Riffle:	0.64	0.50
Pool:	0.07	0.22
Behind a rock:	NM	NM

Stream/Riparian Habitat

Channel Morphology: 70% riffle, 20% pool, 10% cascade (spring); 90% riffle, 10% pool (summer)

Substrate Composition: 70% cobble, 25% sand, 5% gravel

Stream Cover: 20% lg cobble, 5% UC

Aquatic Vegetation: None

Riparian Vegetation: Grasses, moss, wildflowers

Barriers Present (Y/N): N
Location: NA

Lakes Present (Y/N): Y
Location: DS – Camp L.

L/R Bank Characteristics

	Spr	Sum
Bank Height (L/R; m):	0.34/0.34	0.15/0.15
Bank Stability:	Mod-High	Mod-High
Erosion Potential:	Low-Mod	Low-Mod

Water Quality

	Spr	Sum
Specific Conductance (µS/cm):	100.00	20.00
TDS (g/l):	0.10	0.13
DO (mg/l)	12.14	12.55
%DO:	98.40	NM
Water Temp (˚C):	6.30	7.00

Fish Habitat

	Spr	Sum
Spawning:	ARCH - N NNST - N	ARCH - N NNST - M
Feeding:	ARCH - H NNST - H	ARCH - H NNST - M
Migration:	ARCH - M NNST - L	ARCH - M NNST - L

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Mine Site Aquatic Habitat Assessment

Figure 1.View upstream from habitat assessment in Reach 1 of Camp Lake Tributary 4 during spring (a) and summer (b) 2008.

Figure 2.View downstream from habitat assessment in Reach 1 of Camp Lake Tributary 4 during spring (a) and summer (b) 2008.

Figure 3.View across the habitat assessment site in Reach 1 of Camp Lake Tributary 4 during spring (a) and summer (b) 2008.

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name:	Camp Lake Tributary #4	**UTM:**	17W 557953 7914316
Site:	Reach 2	**Dates Surveyed:**	21-Jun-08, 24-Jul-08

Site Description/Physical Characteristics

Confinement: Unconfined

Channel Gradient: 2.5˚

Hydrology

	Spr	Sum
Bankfull Width (m):	10.00	10.00
Wetted Width (m):	1.95	3.40
Riffle-Crest Depth (m):	0.07	0.11
Pool Depth (m):	<0.05	0.07
D (m):	0.01-0.05	0.01-0.05
D_{95} (m):	0.19	0.19
Point Velocities (m/s)		
Riffle:	0.37	0.50
Pool:	0.00	0.00
Behind a rock:	NA	NA

Stream/Riparian Habitat

Channel Morphology: 95% riffle, 5% pool

Substrate Composition: 65% sand, 20% gravel, 15% cobble

Stream Cover: 5% lg cobble

Aquatic Vegetation: None

Riparian Vegetation: Grasses, moss, wildflowers

Barriers Present (Y/N): N
Location: NA

Lakes Present (Y/N): Y
Location: DS – Camp L.

L/R Bank Characteristics

	Spr	Sum
Bank Height (L/R; m):	None	None
Bank Stability:	Low	Low
Erosion Potential:	High	High

Water Quality

	Spr	Sum
Specific Conductance (µS/cm):	15.30	19.00
TDS (g/l):	0.10	0.13
DO (mg/l)	12.80	12.72
%DO:	103.00	NM
Water Temp (˚C):	6.00	7.0

Fish Habitat

	Spr	Sum
Spawning:	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	ARCH - M NNST - N	ARCH - M NNST - N
Migration:	ARCH - L NNST - N	ARCH - L NNST - N

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Mine Site Aquatic Habitat Assessment

Figure 1.View upstream from habitat assessment in Reach 2 of Camp Lake Tributary 4 during spring (a) and summer (b) 2008.

Figure 2.View downstream from habitat assessment in Reach 2 of Camp Lake Tributary 4 during spring (a) and summer (b) 2008.

Figure 3. View across from habitat assessment in Reach 2 of Camp Lake Tributary 4 during spring (a) and summer (b) 2008.

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name: Camp Lake Tributary #4
Site: Upstream Pond
UTM: 17W 558600 7914023
Dates Surveyed: 21-Jun-08, 24-Jul-08

Site Description/Physical Characteristics

Confinement: Unconfined

Channel Gradient: 1˚

Hydrology

	Spr	Sum
Bankfull Width (m):	NM	NM
Wetted Width (m):	110 x 100	110 x 100
Riffle-Crest Depth (m):	NA	NA
Pool Depth (m):	0.50	0.50
D (m):	NA	NA
D_{95} (m):	NA	NA
Point Velocities (m/s)		
Riffle:	NA	NA
Pool:	NA	NA
Behind a rock:	NA	NA

Stream/Riparian Habitat

Channel Morphology: 100% pool

Substrate Composition: 100% sm cobble

Stream Cover: None

Aquatic Vegetation: Periphyton,

Riparian Vegetation: Grasses and willows

Barriers Present (Y/N): N
Location: NA

Lakes Present (Y/N): Y
Location: DS – Camp L.

L/R Bank Characteristics

	Spr	Sum
Bank Height (L/R; m):	NM	NM
Bank Stability:	Mod	Mod
Erosion Potential:	Mod	Mod

Water Quality

	Spr	Sum
Specific Conductance (µS/cm):	97.00	NM
TDS (g/l):	0.10	NM
DO (mg/l)	12.17	NM
%DO:	101.3	NM
Water Temp (˚C):	7.00	NM

Fish Habitat

	Spr	Sum
Spawning:	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	ARCH - N NNST - N	ARCH - L NNST - N
Migration:	ARCH - N NNST - N	ARCH - L NNST - N

Mine Site Aquatic Habitat Assessment

Figure 1.View northeast from habitat assessment in upstream pond of Camp Lake Tributary 4 during spring (a) and summer (b) 2008.

Figure 2.View ESE from habitat assessment in upstream pond of Camp Lake Tributary 4 during spring (a) and summer (b) 2008.

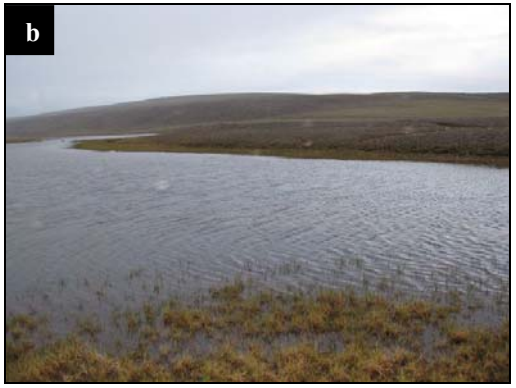

Figure 3. View SE from habitat assessment in upstream pond of Camp Lake Tributary 4 during spring (a) and summer (b) 2008.

559,200
560,200
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563,200
564,200
7,913,700
7,912,700
7,911,700
Mine Site
SDL Trib 14
SDL Trib 15
1-1
1-2
1-2a
1-3
1-4
SDL Trib 1
1-b
Sheardown Lake (N.W. Basin)
12-1
SDL-12 Falls
12-2
SDL Trib 12
SDL Trib 13
SDL Trib 2
SDL Trib 3
SDL Trib 4
SDL Trib 5
SDL Trib 6
SDL Trib 7
SDL Trib 8
SDL Trib 11
SDL Trib 10
Sheardown Lake (S.E. Basin)
9-1
SDL Trib 9
CO-10
Mary River
EO-01
EO-01a
Mary River Falls
N
250 125 0 250 500 Metres
SCALE

LEGEND:

STATUS OF ARCTIC CHAR
- PRESENT
- PROBABLE
- NOT PRESENT
- UNKNOWN

- FISH BARRIER
- FALLS
- REACH BOUNDARIES
- MILNE INLET TOTE ROAD (EXISTING)
- CONSTRUCTION ACCESS ROAD (PROPOSED)
- RAILWAY ALIGNMENT (PROPOSED)
- INFRASTRUCTURE

REV	DDMMM'10	ISSUED FOR ---	-	-	-	-
-	01/09/2010	DESCRIPTION	DESIGNED	DRAWN	CHK'D	APP'D

NOTES:

1. BASE MAP: (1:50,000) © HER MAJESTY THE QUEEN IN RIGHTS OF CANADA DEPARTMENT OF NATURAL RESOURCES (2009.) ALL RIGHTS RESERVED.
2. TOPOGRAPHY PROVIDED BY EAGLE MAPPING (2005).
3. PROPOSED RAILWAY CONSTRUCTION ACCESS ROAD ALIGNMENT PROVIDED BY CANRAIL CONSULTANTS INC. DRAWING NO.: RAILWAY ALIGNMENT AND CONSTRUCTION ACCESS RD - MARY RIVER STEENSBY 2010 -12AUG2010.dwg
4. MINE SITE INFRASTRUCTURE PROVIDED BY AMEC DRAWING NO.: MINE SITE - CONSTRUCTION PHASE - 01 -MAR 09 2009.dwg
5. CONTOUR INTERVAL IS 50 M AND IS IN METRES.

BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

PRESENCE AND ABSENCE OF ARCTIC CHAR IN SHEARDOWN LAKE BASIN TRIBUTARIES

North/South Consultants Inc.
Aquatic Environment Specialists

P/A NO.	REF NO.
-	-
DATE: 01/09/2010	REV -

Path: G:\MARYRIV_GDB\EIS_GDB\EIS_Figures_2010EIS_Figures\MXD\MR_Stream Habitat\

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name:	Sheardown Lake Tributary #1	**UTM:**	17W 560305 7913483
Site:	Reach 1	**Dates Surveyed:**	25-Jun-07, 30-Jul-07, 1-Sep-07

Site Description/Physical Characteristics

Confinement: Partial

Channel Gradient: 2˚

Hydrology

	Spr	Sum	Fall
Bankfull Width (m):	8.43	8.43	8.43
Wetted Width (m):	6.60	6.60	5.10
Riffle-Crest Depth (m):	0.24	0.10	0.20
Pool Depth (m):	NA	0.10	0.10
D (m):	0.02	0.02	0.02
D_{95} (m):	0.74	0.74	0.74
Point Velocities (m/s)			
Riffle:	0.33	0.23	0.46
Pool:	NA	NA	NA
Behind a rock:	< 0.01	NM	0.07

Stream/Riparian Habitat

Channel Morphology: 100% riffle

Substrate Composition: 80% cobble, 15% boulder, 5% gravel

Stream Cover: 15% boulders

Aquatic Vegetation: Periphyton

Riparian Vegetation: Grasses and moss

Barriers Present (Y/N): N
Location: NA

Lakes Present (Y/N): Y
Location: DS – Sheardown L.

L/R Bank Characteristics

	Spr	Sum	Fall
Bank Height (L/R; m):	0.30/0.30	0.25/0.25	0.25/0.25
Bank Stability:	High	High	High
Erosion Potential:	Low	Low	Low

Water Quality

	Spr	Sum	Fall
Specific Conductance (µS/cm):	93.7	164.6	188
TDS (g/l):	0.06	0.11	NM
DO (mg/l)	13.53	11.10	12.40
%DO:	109.3	99.7	101.0
Water Temp (˚C):	5.0	10.5	6.0

Fish Habitat

	Spr	Sum	Fall
Spawning:	ARCH - N NNST - N	ARCH - N NNST - L	ARCH - N NNST - N
Feeding:	ARCH - L NNST - L	ARCH - H NNST - L	ARCH - H NNST - L
Migration:	ARCH - M NNST - M	ARCH - H NNST - H	ARCH - H NNST - H

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Mine Site Aquatic Habitat Assessment

Figure 1.View upstream from habitat assessment in reach 1 of Sheardown Lake Tributary 1 during spring (a), summer (b), and fall (c).

Figure 2.View downstream from habitat assessment in reach 1 of Sheardown Lake Tributary 1 during spring (a), summer (b), and fall (c).

Figure 3.View across the habitat assessment site in reach 1 of Sheardown Lake Tributary 1 during spring (a), summer (b), and fall (c).

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name: Sheardown Lake Tributary #1
Site: Reach 2
UTM: 17W 560383 7913550
Dates Surveyed: 26-Jun-07, 29-Jul-07, 31-Aug-07

Site Description/Physical Characteristics

Confinement: Partial

Channel Gradient: 1˚

Hydrology

	Spr	Sum	Fall
Bankfull Width (m):	11.88	11.88	11.88
Wetted Width (m):	3.36	0.94	1.20
Riffle-Crest Depth (m):	0.20	0.20	0.20
Pool Depth (m):	0.40	0.31	0.36
D (m):	0.02	0.02	0.02
D_{95} (m):	0.44	0.44	0.44
Point Velocities (m/s)			
Riffle:	0.85	0.36	0.38
Pool:	0.34	0.16	0.16
Behind a rock:	0.06	NM	NM

Stream/Riparian Habitat

Channel Morphology: 65% riffle, 35% pool

Substrate Composition: 40% sand, 20% gravel, 20% cobble, 20% boulder

Stream Cover: 20% boulder, 10% undercut banks, 10% deep pools

Aquatic Vegetation: Periphyton, submerged RV

Riparian Vegetation: Grasses and willows

Barriers Present (Y/N): N
Location: NA

Lakes Present (Y/N): Y
Location: DS – Sheardown L.

L/R Bank Characteristics

	Spr	Sum	Fall
Bank Height (L/R; m):	0.10/0.10	0.05/0.05	0.05/0.05
Bank Stability:	Mod	Mod	Mod
Erosion Potential:	Mod	Mod	Mod

Water Quality

	Spr	Sum	Fall
Specific Conductance (µS/cm):	90.0	163.0	187.0
TDS (g/l):	0.58	0.11	NM
DO (mg/l)	13.62	10.82	12.35
%DO:	105.8	101.5	100.3
Water Temp (˚C):	4.5	9.9	7.0

Fish Habitat

	Spr	Sum	Fall
Spawning:	ARCH - N NNST - N	ARCH - N NNST - H	ARCH - N NNST - N
Feeding:	ARCH - M NNST - M	ARCH - H NNST - H	ARCH - H NNST - M
Migration:	ARCH - M NNST - M	ARCH - H NNST - M	ARCH - H NNST - M

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Mine Site Aquatic Habitat Assessment

Figure 1.View upstream from habitat assessment in reach 2 of Sheardown Lake Tributary 1 during spring (a), summer (b), and fall (c).

Figure 2.View downstream from habitat assessment in reach 2 of Sheardown Lake Tributary 1 during spring (a), summer (b), and fall (c).

Figure 3.View across the habitat assessment site in reach 2 of Sheardown Lake Tributary 1 during spring (a), summer (b), and fall (c).

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name:	Sheardown Lake Tributary #1	**UTM:**	17W 560891 7913500
Site:	Reach 3	**Dates Surveyed:**	26-Jun-07, 29-Jul-07, 31-Aug-07

Site Description/Physical Characteristics

Confinement: Unconfined

Channel Gradient: 1˚

Hydrology

	Spr	Sum	Fall
Bankfull Width (m):	35.65	35.65	35.65
Wetted Width (m):	35.65	25.32	29.25
Riffle-Crest Depth (m):	NA	NA	NA
Pool Depth (m):	0.49	0.37	0.56
D (m):	< 0.01	< 0.01	< 0.01
D_{95} (m):	0.93	0.93	0.93
Point Velocities (m/s)			
Riffle:	NA	NA	NA
Pool:	< 0.01	< 0.01	0.01
Behind a rock:	NA	NA	NA

Stream/Riparian Habitat

Channel Morphology: 100% pool

Substrate Composition: 90% silt, 5% sand, 5% boulder

Stream Cover: 5% boulder

Aquatic Vegetation: Periphyton, submerged RV

Riparian Vegetation: Grasses and moss

Barriers Present (Y/N): N
Location: NA

Lakes Present (Y/N): Y
Location: DS – Sheardown L.

L/R Bank Characteristics

	Spr	Sum	Fall
Bank Height (L/R; m):	0.10/0.10	0.20/0.20	0.10/0.10
Bank Stability:	Low	Low	Low
Erosion Potential:	High	High	High

Water Quality

	Spr	Sum	Fall
Specific Conductance (µS/cm):	87.4	156.0	201.0
TDS (g/l):	0.06	0.10	NM
DO (mg/l)	12.50	11.67	12.93
%DO:	108.6	113.7	105.5
Water Temp (˚C):	8.0	9.9	8.0

Fish Habitat

	Spr	Sum	Fall
Spawning:	ARCH - N NNST - N	ARCH - N NNST - H	ARCH - N NNST - N
Feeding:	ARCH - L NNST - L	ARCH - H NNST - M	ARCH - H NNST - L
Migration:	ARCH - L NNST - L	ARCH - H NNST - L	ARCH - H NNST - L

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Mine Site Aquatic Habitat Assessment

Figure 1.View upstream from habitat assessment in reach 3 of Sheardown Lake Tributary 1 during spring (a), summer (b), and fall (c).

Figure 2.View downstream from habitat assessment in reach 3 of Sheardown Lake Tributary 1 during spring (a), summer (b), and fall (c).

Figure 3.View across the habitat assessment site in reach 3 of Sheardown Lake Tributary 1 during spring (a), summer (b), and fall (c).

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name: Sheardown Lake Tributary #1
Site: Reach 4
UTM: 17W 561653 7913452
Dates Surveyed: 26-Jun-07, 29-Jul-07

Site Description/Physical Characteristics

Confinement: Partial

Channel Gradient: 1˚

Hydrology

	Spr	Sum	Fall
Bankfull Width (m):	9.14	9.14	NA
Wetted Width (m):	4.26	4.55	NA
Riffle-Crest Depth (m):	0.09	0.08	NA
Pool Depth (m):	0.25	0.08	NA
D (m):	0.02	< 0.01	NA
D_{95} (m):	1.12	1.12	NA
Point Velocities (m/s)			
Riffle:	0.25	NM	NA
Pool:	0.09	NM	NA
Behind a rock:	0.08	NA	NA

Stream/Riparian Habitat

Channel Morphology: 50% pool (spr), 50% riffle (spr) Under boulders (sum)

Substrate Composition: 50% boulder, 30% cobble, 10% gravel, 10% silt

Stream Cover: 50% boulder

Aquatic Vegetation: Periphyton

Riparian Vegetation: Grasses and moss

Barriers Present (Y/N): Y
Location: US ~ 25m

Lakes Present (Y/N): Y
Location: DS – Sheardown L.

L/R Bank Characteristics

	Spr	Sum	Fall
Bank Height (L/R; m):	0.17/0.17	0.40/0.40	NA
Bank Stability:	Low	Low	NA
Erosion Potential:	High	High	NA

Water Quality

	Spr	Sum	Fall
Specific Conductance (µS/cm):	57.5	113.0	NA
TDS (g/l):	0.36	0.07	NA
DO (mg/l)	14.26	12.02	NA
%DO:	110.6	96.0	NA
Water Temp (˚C):	4.5	5.0	NA

Fish Habitat

	Spr	Sum	Fall
Spawning:	ARCH - N NNST - N	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	ARCH - L NNST - N	ARCH - L NNST - N	ARCH - N NNST - N
Migration:	ARCH - N NNST - N	ARCH - N NNST - N	ARCH - N NNST - N

Baffinland Iron Mines
Mary River Project

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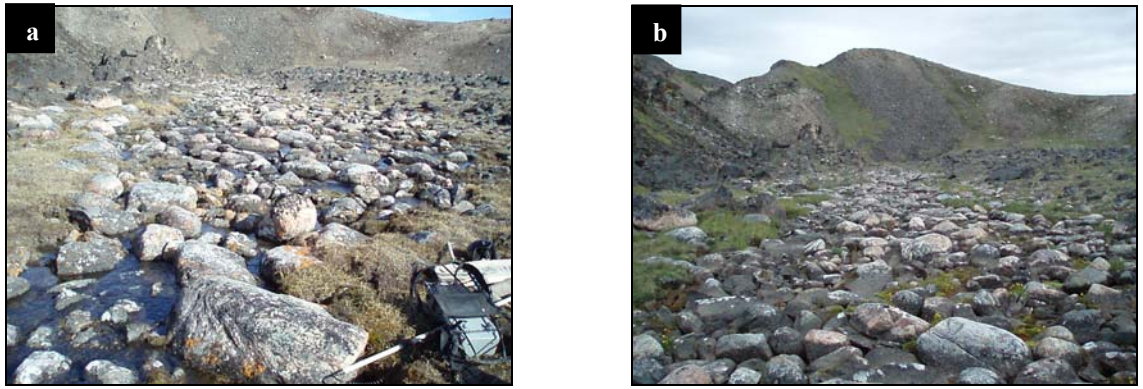

Figure 1.View upstream from habitat assessment in reach 4 of Sheardown Lake Tributary 1 during spring (a) and summer (b).

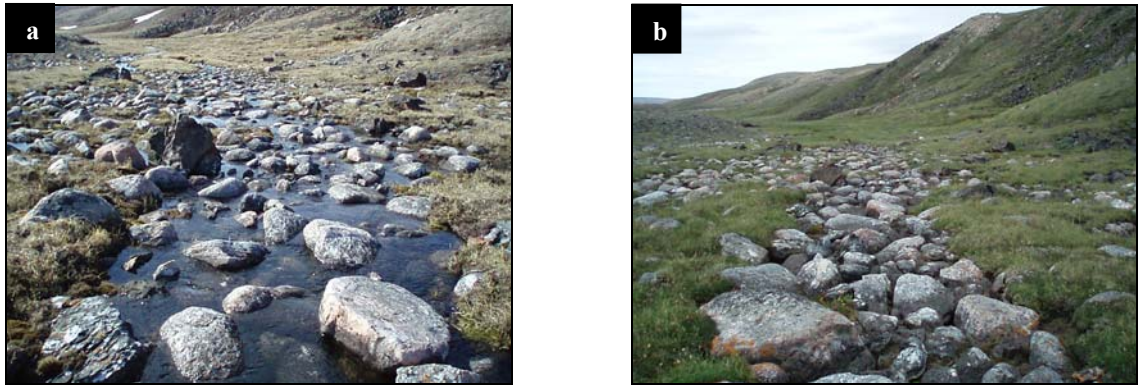

Figure 2.View downstream from habitat assessment in reach 4 of Sheardown Lake Tributary 1 during spring (a) and summer (b).

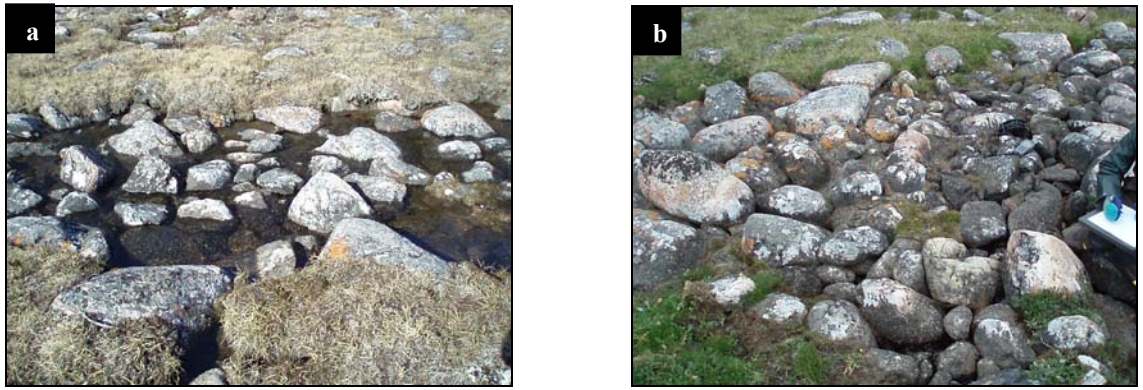

Figure 3.View across the habitat assessment site in reach 4 of Sheardown Lake Tributary 1 during spring (a) and summer (b).

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name: Sheardown Lake Tributary #1
Site: Reach 4b
UTM: 17W 561568 7913498
Dates Surveyed: 29-Jul-07, 31-Aug-07

Site Description/Physical Characteristics

Confinement: Partial

Channel Gradient: 1˚

Hydrology

	Spr	Sum	Fall
Bankfull Width (m):	NA	1.10	1.10
Wetted Width (m):	NA	0.50	0.60
Riffle-Crest Depth (m):	NA	0.07	0.08
Pool Depth (m):	NA	0.26	0.23
D (m):	NA	0.02	0.02
D_{95} (m):	NA	1.12	1.12
Point Velocities (m/s)			
Riffle:	NA	0.55	0.25
Pool:	NA	0.06	0.15
Behind a rock:	NA	< 0.01	NM

Stream/Riparian Habitat

Channel Morphology: 60% riffle, 40% pool

Substrate Composition: 70% cobble, 20% boulder, 10% gravel

Stream Cover: 20% boulder, 80% undercut banks

Aquatic Vegetation: Periphyton, submerged RV

Riparian Vegetation: Grasses, mosses, wildflowers, willows

Barriers Present (Y/N): Y
Location: US ~ 75m

Lakes Present (Y/N): Y
Location: DS – Sheardown L.

L/R Bank Characteristics

	Spr	Sum	Fall
Bank Height (L/R; m):	NA	0.12/0.12	0.16/0.08
Bank Stability:	NA	Low	Low
Erosion Potential:	NA	High	High

Water Quality

	Spr	Sum	Fall
Specific Conductance (µS/cm):	NA	113.0	150.0
TDS (g/l):	NA	0.07	NM
DO (mg/l)	NA	12.02	12.60
%DO:	NA	96.0	97.0
Water Temp (˚C):	NA	5.3	5.0

Fish Habitat

	Spr	Sum	Fall
Spawning:	ARCH - N NNST - N	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	ARCH - L NNST - N	ARCH - M NNST - N	ARCH - L NNST - N
Migration:	ARCH - N NNST - N	ARCH - N NNST - N	ARCH - N NNST - N

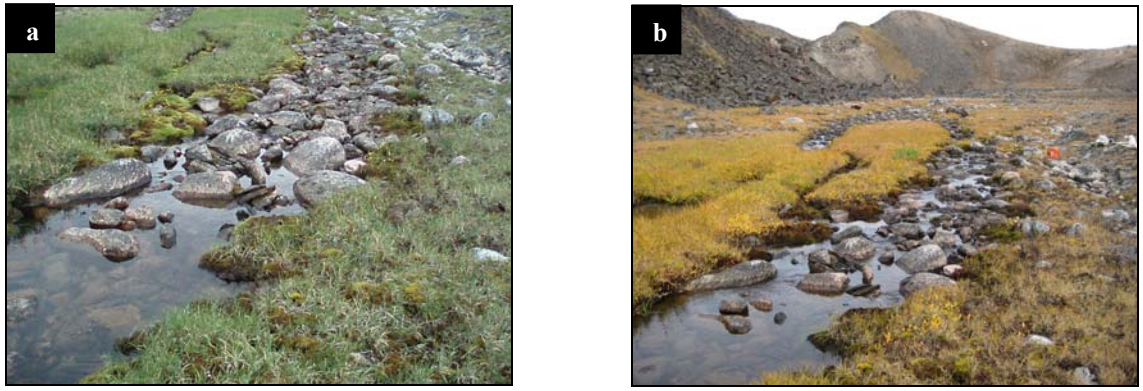

Figure 1.View upstream from habitat assessment in reach 4b of Sheardown Lake Tributary 1 during summer (a) and fall (b).

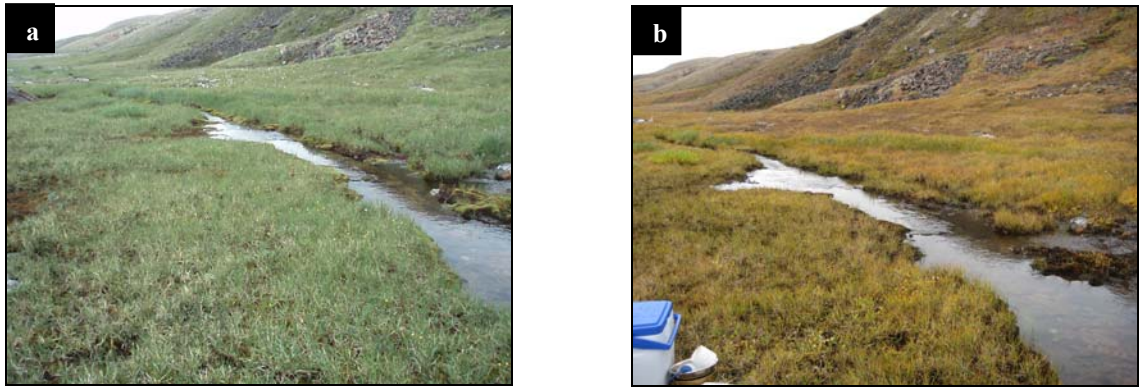

Figure 2.View downstream from habitat assessment in reach 4b of Sheardown Lake Tributary 1 during summer (a) and fall (b).

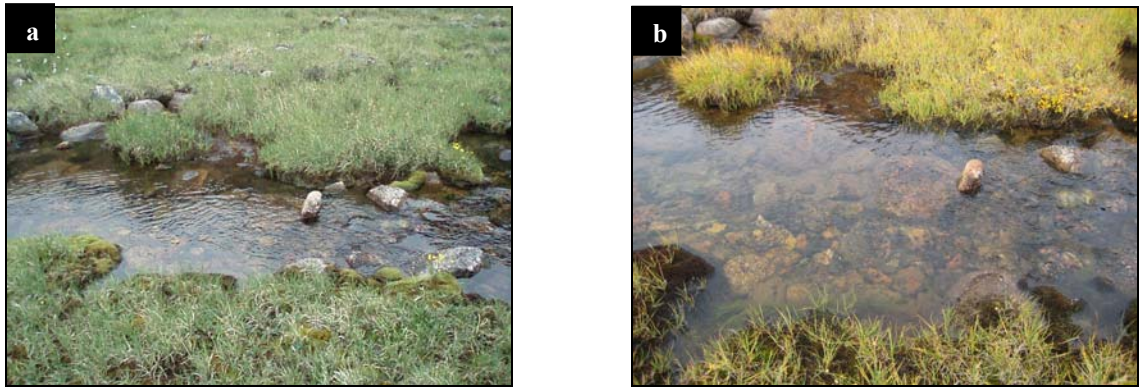

Figure 3.View across the habitat assessment site in reach 4b of Sheardown Lake Tributary 1 during summer (a) and fall (b).

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name:	Sheardown Lake Tributary #7	**UTM:**	17W 560643 7912229
Site:	Reach 1	**Dates Surveyed:**	19-Jun-08, 28-Jul-08

Site Description/Physical Characteristics

Confinement: Unconfined

Channel Gradient: 1˚

Hydrology

	Spr	Sum
Bankfull Width (m):	0.53	1.40
Wetted Width (m):	0.53	1.40
Riffle-Crest Depth (m):	0.05	0.13
Pool Depth (m):	0.07	0.06
D (m):	0.01	0.01
D_{95} (m):	0.38	0.38
Point Velocities (m/s)		
Riffle:	1.16	0.33
Pool:	0.29	0.00
Behind a rock:	NA	NA

Stream/Riparian Habitat

Channel Morphology: 50% riffle, 50% pool (spring); 80% riffle, 20% pool (summer)

Substrate Composition: 60% sand, 25% FT, 10% gravel, 5% cobble

Stream Cover: FT

Aquatic Vegetation: Periphyton, reeds

Riparian Vegetation: Grasses, moss, willow

Barriers Present (Y/N): Y
Location: ~ 100 m US

Lakes Present (Y/N): Y
Location: DS – Sheardown L.

L/R Bank Characteristics

	Spr	Sum
Bank Height (L/R; m):	0.02/0.05	Undef
Bank Stability:	Mod	Mod
Erosion Potential:	Mod	Mod

Water Quality

	Spr	Sum
Specific Conductance (µS/cm):	83.00	27.60
TDS (g/l):	0.05	0.18
DO (mg/l)	11.61	11.53
%DO:	98.30	NM
Water Temp (˚C):	8.10	8.00

Fish Habitat

	Spr	Sum
Spawning:	ARCH - N NNST - N	ARCH - N NNST - H
Feeding:	ARCH - H NNST - H	ARCH - H NNST - H
Migration:	ARCH - M NNST - L	ARCH - M NNST - L

Baffinland Iron Mines
Mary River Project

North/South Consultants Inc.
Aquatic Environment Specialists

Mine Site Aquatic Habitat Assessment

Figure 1.View upstream from habitat assessment in reach 1 of Sheardown Lake Tributary #7 during spring (a) and summer (b) 2008.

Figure 2.View downstream from habitat assessment in reach 1 of Sheardown Lake Tributary #7 during spring (a) and summer (b) 2008.

Figure 3.View across the habitat assessment site in reach 1 of Sheardown Lake Tributary #7 during spring (a) and summer (b) 2008.

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name:	Sheardown Lake Tributary #7	**UTM:**	17W 560555 7912224
Site:	Reach 2	**Dates Surveyed:**	19-Jun-08, 28-Jul-08

Site Description/Physical Characteristics

Confinement: Partial

Channel Gradient: 3.5˚

Hydrology

	Spr	Sum
Bankfull Width (m):	2.30	1.60
Wetted Width (m):	1.05	0.90
Riffle-Crest Depth (m):	0.25	0.10
Pool Depth (m):	0.20	0.02
D (m):	0.01-0.05	0.01-0.05
D_{95} (m):	0.80	0.80
Point Velocities (m/s)		
Riffle:	0.65	0.26
Pool:	0.14	0.00
Behind a rock:	NM	0.00

Stream/Riparian Habitat

Channel Morphology: 50% cascade, 50% pool

Substrate Composition: 40% cobble, 25% gravel, 20% FT, 15% sand

Stream Cover: 1% 1g cobble

Aquatic Vegetation: Periphyton

Riparian Vegetation: Grasses, moss, wildflower, willow

Barriers Present (Y/N): Y
Location: ~ 10 m US

Lakes Present (Y/N): Y
Location: DS – Sheardown L.

L/R Bank Characteristics

	Spr	Sum
Bank Height (L/R; m):	0.05/0.20	0.12/0.12
Bank Stability:	Low-Mod	Low-Mod
Erosion Potential:	Mod-High	Mod-High

Water Quality

	Spr	Sum
Specific Conductance (µS/cm):	80.00	29.30
TDS (g/l):	0.05	0.18
DO (mg/l)	11.88	12.20
%DO:	99.90	NM
Water Temp (˚C):	7.80	6.70

Fish Habitat

	Spr	Sum
Spawning:	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	ARCH - M NNST - N	ARCH - M NNST - N
Migration:	ARCH - N NNST - N	ARCH - N NNST - N

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Mary River Project

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Mine Site Aquatic Habitat Assessment

Figure 1.View upstream from habitat assessment in reach 2 of Sheardown Lake Tributary #7 during spring (a) and summer (b) 2008.

Figure 2.View downstream from habitat assessment in reach 2 of Sheardown Lake Tributary #7 during spring (a) and summer (b) 2008.

Figure 3.View across the habitat assessment site in reach 2 of Sheardown Lake Tributary #7 during spring (a) and summer (b) 2008.

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name: Sheardown Lake Tributary #9
Site: Reach 1
UTM: 17W 561739 7911810
Dates Surveyed: 28-Jun-07, 31-Jul-07

Site Description/Physical Characteristics

Confinement: Partial

Channel Gradient: 4˚

Hydrology

	Spr	Sum	Fall
Bankfull Width (m):	1.14	1.14	NA
Wetted Width (m):	1.14	DRY	NA
Riffle-Crest Depth (m):	0.08	NA	NA
Pool Depth (m):	0.29	NA	NA
D (m):	0.02	NA	NA
D_{95} (m):	0.14	NA	NA
Point Velocities (m/s)			
Riffle:	0.35	NA	NA
Pool:	0.23	NA	NA
Behind a rock:	NA	NA	NA

Stream/Riparian Habitat

Channel Morphology: 80% cascade, 20% pool

Substrate Composition: 60% cobble, 20% gravel, 20% sand

Stream Cover: 5% undercut banks

Aquatic Vegetation: Periphyton

Riparian Vegetation: Grasses and willow

Barriers Present (Y/N): Y
Location: Cascades are barriers for small juveniles

Lakes Present (Y/N): Y
Location: DS – Sheardown L.

L/R Bank Characteristics

	Spr	Sum	Fall
Bank Height (L/R; m):	0.13/0.13	DRY	NA
Bank Stability:	Mod	NA	NA
Erosion Potential:	Mod	NA	NA

Water Quality

	Spr	Sum	Fall
Specific Conductance (µS/cm):	113.8	NA	NA
TDS (g/l):	0.07	NA	NA
DO (mg/l)	14.14	NA	NA
%DO:	105.9	NA	NA
Water Temp (˚C):	3.0	NA	NA

Fish Habitat

	Spr	Sum	Fall
Spawning:	ARCH - N NNST - N	DRY	NA
Feeding:	ARCH - M NNST - N	DRY	NA
Migration:	ARCH - L NNST - N	DRY	NA

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Mine Site Aquatic Habitat Assessment

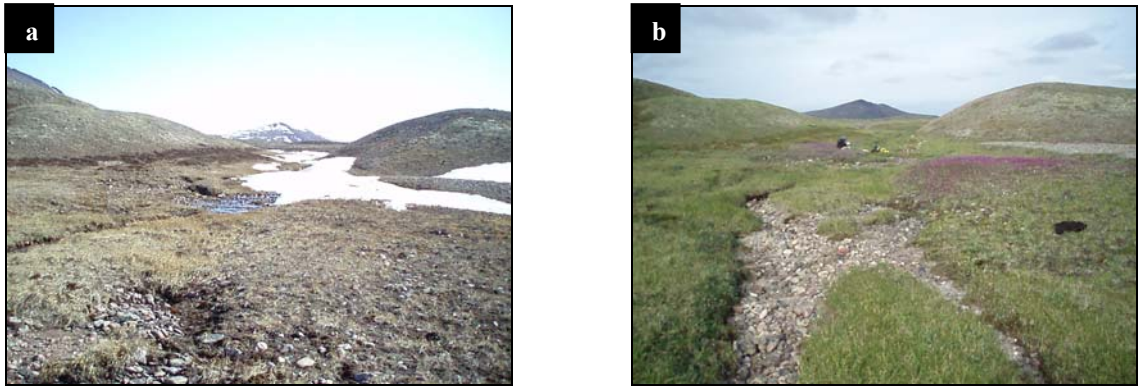

Figure 1.View upstream from habitat assessment in reach 1 of Sheardown Lake Tributary 9 during spring (a) and summer (b).

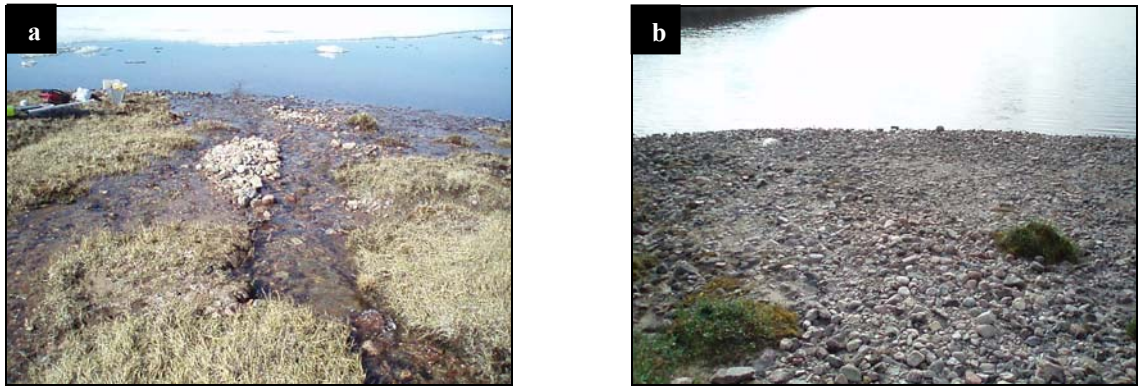

Figure 2.View downstream from habitat assessment in reach 1 of Sheardown Lake Tributary 9 during spring (a) and summer (b).

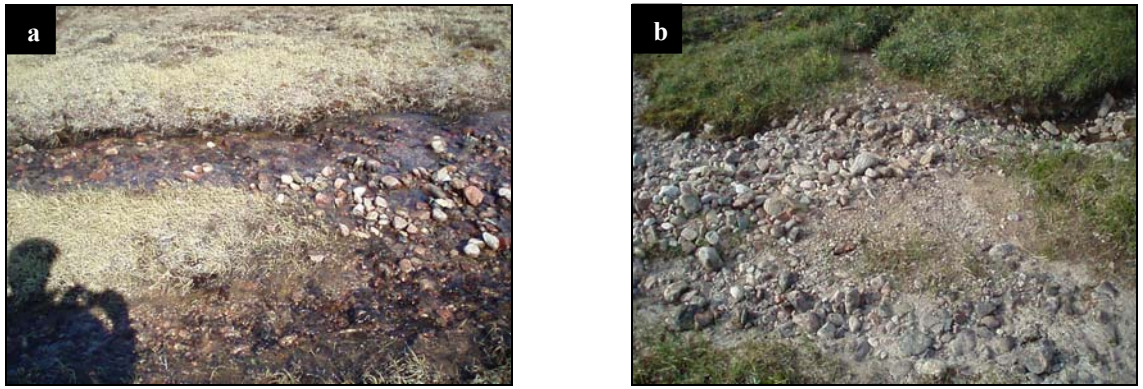

Figure 3.View across the habitat assessment site in reach 1 of Sheardown Lake Tributary 9 during spring (a) and summer (b).

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name: Sheardown Lake Tributary #9
Site: Reach 1b
UTM: 17W 561770 7911810
Dates Surveyed: 31-Jul-07, 1-Sep-07

Site Description/Physical Characteristics

Confinement: Partial

Channel Gradient: 4˚

Hydrology

	Spr	Sum	Fall
Bankfull Width (m):	NA	1.10	1.10
Wetted Width (m):	NA	0.38	0.75
Riffle-Crest Depth (m):	NA	0.03	0.08
Pool Depth (m):	NA	0.05	0.08
D (m):	NA	0.02	0.02
D_{95} (m):	NA	0.14	0.14
Point Velocities (m/s)			
Riffle:	NA	0.03	0.13
Pool:	NA	NM	NM
Behind a rock:	NA	NA	NA

Stream/Riparian Habitat

Channel Morphology: 75% pool, 20% riffle, 5% cascade

Substrate Composition: 60% cobble, 20% gravel, 20% sand

Stream Cover: 5% undercut banks

Aquatic Vegetation: Periphyton

Riparian Vegetation: Grasses and willow

Barriers Present (Y/N): Y
Location: Cascades represent barriers to smaller juveniles

Lakes Present (Y/N): Y
Location: DS – Sheardown L.

L/R Bank Characteristics

	Spr	Sum	Fall
Bank Height (L/R; m):	NA	0.18/0.18	0.05/0.05
Bank Stability:	NA	Mod	Mod
Erosion Potential:	NA	Mod	Mod

Water Quality

	Spr	Sum	Fall
Specific Conductance (µS/cm):	NA	167.0	164.0
TDS (g/l):	NA	0.11	0.11
DO (mg/l)	NA	10.73	12.04
%DO:	NA	91.0	97.6
Water Temp (˚C):	NA	8.0	8.0

Fish Habitat

	Spr	Sum	Fall
Spawning:	NA	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	NA	ARCH - M NNST - L	ARCH - M NNST - L
Migration:	NA	ARCH - L NNST - N	ARCH - L NNST - N

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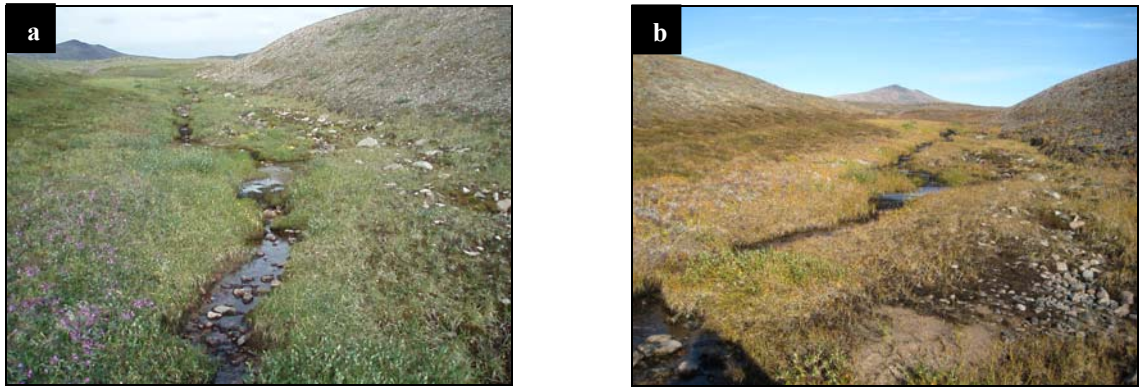

Figure 1.View upstream from habitat assessment in reach 1b of Sheardown Lake Tributary 9 during summer (a) and fall (c).

Figure 2.View downstream from habitat assessment in reach 1b of Sheardown Lake Tributary 9 during summer (a) and fall (c).

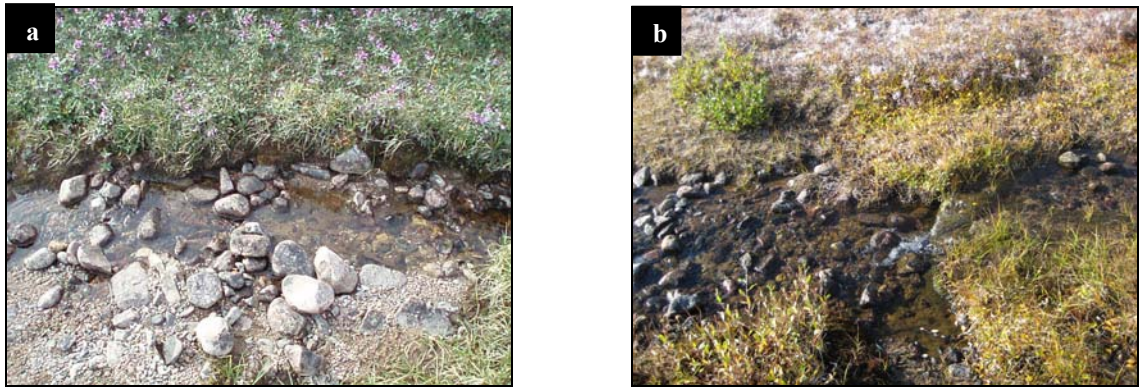

Figure 3.View across the habitat assessment site in reach 1b of Sheardown Lake Tributary 9 during summer (a) and fall (c).

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name:	Sheardown Lake Tributary #12	**UTM:**	17W 560959 7912997
Site:	Reach 1	**Dates Surveyed:**	25-Jun-07, 28-Jul-07, 1-Sep-07

Site Description/Physical Characteristics

Confinement: Partial

Channel Gradient: 9˚

Hydrology

	Spr	Sum	Fall
Bankfull Width (m):	25.00	25.00	25.00
Wetted Width (m):	25.00	3.80	5.00
Riffle-Crest Depth (m):	0.18	0.01	0.05
Pool Depth (m):	0.32	0.36	0.34
D (m):	0.01	< 0.01	0.01
D_{95} (m):	0.86	0.86	0.86
Point Velocities (m/s)			
Riffle:	1.25	0.08	0.13
Pool:	0.05	0.01	0.01
Behind a rock:	0.06	< 0.01	NM

Stream/Riparian Habitat

Channel Morphology: 60% cascade (spr), 40% pool (spr) 95% pool (sum, fall), 5% riffle (sum, fall)

Substrate Composition: 45% cobble, 45% boulder, 10% gravel

Stream Cover: 45% boulders

Aquatic Vegetation: Periphyton

Riparian Vegetation: Moss, grasses, willow

Barriers Present (Y/N): Y
Location: US ~ 200m

Lakes Present (Y/N): Y
Location: DS – Sheardown L.

L/R Bank Characteristics

	Spr	Sum	Fall
Bank Height (L/R; m):	0.45/0.45	0.18/0.18	0.25/0.25
Bank Stability:	High	High	High
Erosion Potential:	Low	Low	Low

Water Quality

	Spr	Sum	Fall
Specific Conductance (µS/cm):	48.2	196.0	228.0
TDS (g/l):	0.03	0.13	0.15
DO (mg/l)	14.77	11.09	12.36
%DO:	106.7	95.9	97.5
Water Temp (˚C):	1.0	7.8	5.5

Fish Habitat

	Spr	Sum	Fall
Spawning:	ARCH - N NNST - N	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	ARCH - N NNST - N	ARCH - L NNST - N	ARCH - L NNST - N
Migration:	ARCH - N NNST - N	ARCH - N NNST - N	ARCH - N NNST - N

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Mine Site Aquatic Habitat Assessment

Figure 1.View upstream from habitat assessment in reach 1 of Sheardown Lake Tributary 12 during spring (a), summer (b), and fall (c).

Figure 2.View downstream from habitat assessment in reach 1 of Sheardown Lake Tributary 12 during spring (a), summer (b), and fall (c).

Figure 3.View across the habitat assessment site in reach 1 of Sheardown Lake Tributary 12 during spring (a), summer (b), and fall (c).

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name: Sheardown Lake Tributary #12
Site: Reach 2
UTM: 17W 561102 7912835
Dates Surveyed: 25-Jun-07, 28-Jul-07, 1-Sep-07

Site Description/Physical Characteristics

Confinement: Partial

Channel Gradient: 1˚

Hydrology

	Spr	Sum	Fall
Bankfull Width (m):	18.28	18.28	18.28
Wetted Width (m):	18.28	0.90	1.75
Riffle-Crest Depth (m):	0.20	0.03	0.10
Pool Depth (m):	0.74	0.31	0.22
D (m):	NM	< 0.01	< 0.01
D_{95} (m):	0.50	0.50	0.50
Point Velocities (m/s)			
Riffle:	0.68	0.08	0.16
Pool:	0.02	< 0.01	0.06
Behind a rock:	NM	NM	NM

Stream/Riparian Habitat

Channel Morphology: 70% pool (spr), 30% riffle (spr) 95% pool (sum, fall), 5% riffle (sum, fall)

Substrate Composition: 90% silt, 5% cobble, 5% boulder

Stream Cover: 15% deep pool, 10% undercut banks, 5% boulder

Aquatic Vegetation: Periphyton, submerged RV

Riparian Vegetation: Grasses and willow

Barriers Present (Y/N): Y
Location: DS ~ 50m

Lakes Present (Y/N): Y
Location: DS – Sheardown L.

L/R Bank Characteristics

	Spr	Sum	Fall
Bank Height (L/R; m):	0.12/0.12	0.13/0.13	0.18/0.18
Bank Stability:	Mod	Mod	Mod
Erosion Potential:	Mod	Mod	Mod

Water Quality

	Spr	Sum	Fall
Specific Conductance (µS/cm):	51.7	197.0	185.0
TDS (g/l):	0.03	0.13	NM
DO (mg/l)	13.77	10.80	12.13
%DO:	98.0	101.4	100.1
Water Temp (˚C):	2.0	9.5	9.0

Fish Habitat

	Spr	Sum	Fall
Spawning:	ARCH - N NNST - N	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	ARCH - N NNST - N	ARCH - N NNST - N	ARCH - N NNST - N
Migration:	ARCH - N NNST - N	ARCH - N NNST - N	ARCH - N NNST - N

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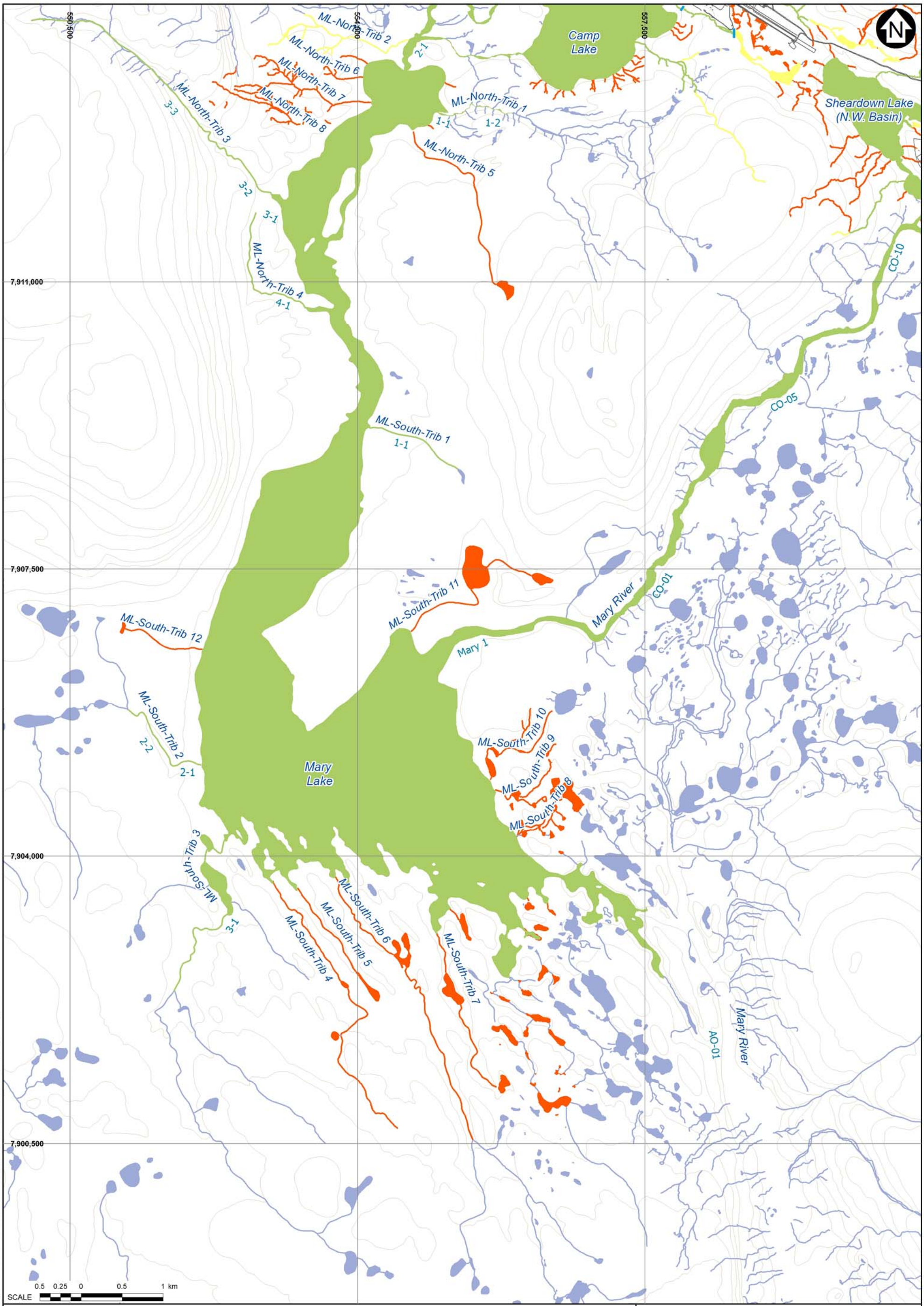
Mine Site Aquatic Habitat Assessment

Figure 1.View upstream from habitat assessment in reach 2 of Sheardown Lake Tributary 12 during spring (a), summer (b), and fall (c).

Figure 2.View downstream from habitat assessment in reach 2 of Sheardown Lake Tributary 12 during spring (a), summer (b), and fall (c).

Figure 3.View across the habitat assessment site in reach 2 of Sheardown Lake Tributary 12 during spring (a), summer (b), and fall (c).



LEGEND:

STATUS OF ARCTIC CHAR

- PRESENT
- PROBABLE
- NOT PRESENT
- UNKNOWN

- REACH BOUNDARIES
- MILNE INLET TOTE ROAD (EXISTING)
- INFRASTRUCTURE (PROPOSED FOR CONSTRUCTION AND OPERATIONS PERIOD)

NOTES:

1. BASE MAP: © HER MAJESTY THE QUEEN IN RIGHTS OF CANADA DEPARTMENT OF NATURAL RESOURCES (2009.) ALL RIGHTS RESERVED.
2. TOPOGRAPHY PROVIDED BY EAGLE MAPPING (2005).
3. CONTOUR INTERVAL IS 50 M AND IS IN METRES.

REV	DDMMM'10	ISSUED FOR	-	-	-	-
REV	01/09/2010	DESCRIPTION	DESIGNED	DRAWN	CHK'D	APP'D

BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

PRESENCE AND ABSENCE OF ARCTIC CHAR IN MARY LAKE TRIBUTARIES

North/South Consultants Inc.
Aquatic Environment Specialists

P/A NO.	REF NO.
-	-

DATE: 27/09/2010 | REV 1

Path: \\terastation\GIS\Projects\Other\Mary River Freshwater\2010\Gemtd_Data\Report_Maps\20100830_Overview_Steensby2Milne_cp.mxd

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name:	Mary Lake – North Tributary #1	**UTM:**	17W 554983 7913060
Site:	Reach 1	**Dates Surveyed:**	17-Jun-08, 26-Jul-08

Site Description/Physical Characteristics

Confinement: Unconfined

Channel Gradient: <1˚

Hydrology

	Spr	Sum
Bankfull Width (m):	14.00	14.00
Wetted Width (m):	14.00	14.00
Flat/Pool Depth (m):	0.18	0.38
Flat Depth 2 (m):	0.06	NA
D (m):	0.01	0.01
D_{95} (m):	0.10C	0.10C
Point Velocities (m/s)		
Flat/Pool:	0.08	0.00
Flat2:	0.28	NA
Behind a rock:	NA	NA

Stream/Riparian Habitat

Channel Morphology: 40% flat, 40% riffle, 20% pool (spring), 100% pool (summer)

Substrate Composition: 90% sand, 10% gravel

Stream Cover: None

Aquatic Vegetation: None

Riparian Vegetation: Grasses, moss, flowers

Barriers Present (Y/N): N
Location: NA

Lakes Present (Y/N): Y
Location: DS – Mary L.

L/R Bank Characteristics

	Spr	Sum
Bank Height (L/R; m):	0.23/0.23	None
Bank Stability:	Low-Mod	Low-Mod
Erosion Potential:	Mod-High	Mod-High

Water Quality

	Spr	Sum
Specific Conductance (µS/cm):	52.00	4.00
TDS (g/l):	0.03	0.02
DO (mg/l)	13.67	12.00
%DO:	100.00	NM
Water Temp (˚C):	2.50	6.00

Fish Habitat

	Spr	Sum
Spawning:	ARCH - N NNST - N	ARCH - N NNST - L
Feeding:	ARCH - N NNST - L	ARCH - L NNST - L
Migration:	ARCH - L NNST - N	ARCH - H NNST - L

Baffinland Iron Mines
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Figure 1.View upstream from habitat assessment in reach 1 of Mary Lake – North Tributary #1 during spring (a) and summer (b) 2008.

Figure 2.View downstream from habitat assessment in reach 1 of Mary Lake – North Tributary #1 during spring (a) and summer (b) 2008.

Figure 3.View across the habitat assessment site in reach 1 of Mary Lake – North Tributary #1 during spring (a) and summer (b) 2008.

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name: Mary Lake – North Tributary #1
Site: Reach 2
UTM: 17W 555336 7913098
Dates Surveyed: 17-Jun-08, 26-Jul-08

Site Description/Physical Characteristics

Confinement: Partial

Channel Gradient: 1˚

Hydrology

	Spr	Sum
Bankfull Width (m):	9.50	9.50
Wetted Width (m):	4.50	4.20
Riffle-Crest Depth (m):	0.22	0.16
Pool Depth (m):	0.30	0.32
D (m):	0.05C	0.05C
D_{95} (m):	2.42C	2.42C
Point Velocities (m/s)		
Riffle:	0.98	0.78
Pool:	0.00	0.02
Behind a rock:	0.03	0.17

Stream/Riparian Habitat

Channel Morphology: 50% riffle, 50% pool

Substrate Composition: 35% cobble, 35% sand, 20% boulder, 10% gravel

Stream Cover: 20% boulder, 15% lg cobble, 10% UC banks

Aquatic Vegetation: Periphyton

Riparian Vegetation: Grass, moss, willows

Barriers Present (Y/N): N
Location: NA

Lakes Present (Y/N): Y
Location: DS – Mary L.

L/R Bank Characteristics

	Spr	Sum
Bank Height (L/R; m):	0.20/0.17	0.30/0.26
Bank Stability:	Low	Low
Erosion Potential:	High	High

Water Quality

	Spr	Sum
Specific Conductance (µS/cm):	53.00	17.40
TDS (g/l):	0.03	0.11
DO (mg/l)	13.72	11.87
%DO:	100.00	NM
Water Temp (˚C):	2.30	5.90

Fish Habitat

	Spr	Sum
Spawning:	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	ARCH - L NNST - N	ARCH - H NNST - L
Migration:	ARCH - N NNST - N	ARCH - L NNST - N

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Mine Site Aquatic Habitat Assessment

Figure 1.View upstream from habitat assessment in reach 2 of Mary Lake – North Tributary #1 during spring (a) and summer (b) 2008.

Figure 2.View downstream from habitat assessment in reach 2 of Mary Lake – North Tributary #1 during spring (a) and summer (b) 2008.

Figure 3.View across the habitat assessment site in reach 2 of Mary Lake – North Tributary #1 during spring (a) and summer (b) 2008.

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name: Mary Lake – North Tributary #2
Site: Reach 1
UTM: 17W 554208 7913853
Dates Surveyed: 17-Jun-08, 26-Jul-08

Site Description/Physical Characteristics

Confinement: Partial

Channel Gradient: <1˚

Hydrology

	Spr	Sum
Bankfull Width (m):	19.90	19.90
Wetted Width (m):	12.00	12.00
Flat/Riffle Depth (m):	0.02	0.08
Pool Depth (m):	NA	NA
D (m):	0.01	0.01
D_{95} (m):	NA	NA
Point Velocities (m/s)		
Flat/Riffle:	0.10	0.22
Pool:	NA	NA
Behind a rock:	NA	NA

Stream/Riparian Habitat

Channel Morphology: 100% flat/riffle

Substrate Composition: 100% sand

Stream Cover: None

Aquatic Vegetation: None

Riparian Vegetation: Grasses, moss, willow

Barriers Present (Y/N): N
Location: NA

Lakes Present (Y/N): Y
Location: DS – Mary L.

L/R Bank Characteristics

	Spr	Sum
Bank Height (L/R; m):	0.15/0.15	0.15/0.15
Bank Stability:	Low	Low
Erosion Potential:	High	High

Water Quality

	Spr	Sum
Specific Conductance (µS/cm):	24.00	Too Shallow
TDS (g/l):	0.02	-
DO (mg/l)	14.25	-
%DO:	101.30	-
Water Temp (˚C):	1.50	4.50

Fish Habitat

	Spr	Sum
Spawning:	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	ARCH - N NNST - L	ARCH - N NNST - N
Migration:	ARCH - N NNST - N	ARCH - N NNST - N

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Figure 1.View upstream from habitat assessment in reach 1 of Mary Lake – North Tributary #2 during spring (a) and summer (b) 2008.

Figure 2.View downstream from habitat assessment in reach 1 of Mary Lake – North Tributary #2 during spring (a) and summer (b) 2008.

Figure 3.View across the habitat assessment site in reach 1 of Mary Lake – North Tributary #2 during spring (a) and summer (b) 2008.

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name:	Mary Lake – North Tributary #3	**UTM:**	17W 553084 7911975
Site:	Reach 1	**Dates Surveyed:**	17-Jun-08, 26-Jul-08

Site Description/Physical Characteristics

Confinement: Unconfined

Channel Gradient: <1˚

Hydrology

	Spr	Sum
Bankfull Width (m):	79.55	79.55
Wetted Width (m):	34.75	38.00
Riffle-Crest Depth (m):	0.06	NA
Pool Depth (m):	0.30	0.50
D (m):	0.01	0.01
D_{95} (m):	0.01	0.01
Point Velocities (m/s)		
Riffle:	0.18	NA
Pool:	NM	0.00
Behind a rock:	NA	NA

Stream/Riparian Habitat

Channel Morphology: 70% pool, 15% riffle, 15% run (spring); 100% pool (summer)

Substrate Composition: 50% sand, 50% gravel

Stream Cover: None

Aquatic Vegetation: None

Riparian Vegetation: Grasses and moss

Barriers Present (Y/N): N
Location: NA

Lakes Present (Y/N): Y
Location: DS – Mary L.

L/R Bank Characteristics

	Spr	Sum
Bank Height (L/R; m):	0.00/0.40	Flooded
Bank Stability:	Low	Low
Erosion Potential:	High	High

Water Quality

	Spr	Sum
Specific Conductance (µS/cm):	16.00	6.20
TDS (g/l):	0.01	0.04
DO (mg/l)	14.11	11.49
%DO:	102.30	NM
Water Temp (˚C):	1.90	7.40

Fish Habitat

	Spr	Sum
Spawning:	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	ARCH - N NNST - L	ARCH - N NNST - L
Migration:	ARCH - L NNST - L	ARCH - H NNST - L

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Figure 1.View upstream from habitat assessment in reach 1 of Mary Lake – North Tributary #3 during spring (a) and summer (b) 2008.

Figure 2.View downstream from habitat assessment in reach 1 of Mary Lake – North Tributary #3 during spring (a) and summer (b) 2008.

Figure 3.View across the habitat assessment site in reach 1 of Mary Lake – North Tributary #3 during spring (a) and summer (b) 2008.

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name:	Mary Lake – North Tributary #3	**UTM:**	17W 553047 7912054
Site:	Reach 2	**Dates Surveyed:**	18-Jun-08, 26-Jul-08

Site Description/Physical Characteristics

Confinement: Unconfined

Channel Gradient: 1˚

Hydrology

	Spr	Sum
Bankfull Width (m):	16.50	14.50
Wetted Width (m):	13.67	14.50
Riffle-Crest Depth (m):	0.21	NA
Run Depth (m):	0.74	NA
D (m):	NM	NM
D_{95} (m):	NM	<0.01
Point Velocities (m/s)		
Riffle:	0.21	NA
Run:	0.56	NA
Pool:	NA	0.01

Stream/Riparian Habitat

Channel Morphology: 50% riffle, 50% run

Substrate Composition: 50% cobble, 30% gravel, 20% sand

Stream Cover: 5% lg cobble

Aquatic Vegetation: Periphyton

Riparian Vegetation: Grasses, moss, willows

Barriers Present (Y/N): N
Location: NA

Lakes Present (Y/N): Y
Location: DS – Mary L.

L/R Bank Characteristics

	Spr	Sum
Bank Height (L/R; m):	0.32/0.10	Flooded
Bank Stability:	Low	Low
Erosion Potential:	High	High

Water Quality

	Spr	Sum
Specific Conductance (µS/cm):	13.00	6.60
TDS (g/l):	0.01	0.04
DO (mg/l)	14.35	11.95
%DO:	102.10	NM
Water Temp (˚C):	1.30	6.10

Fish Habitat

	Spr	Sum
Spawning:	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	ARCH - L NNST – L	ARCH - M NNST – L
Migration:	ARCH - L NNST - N	ARCH - H NNST - N

Baffinland Iron Mines
Mary River Project

North/South Consultants Inc.
Aquatic Environment Specialists

Figure 1.View upstream from habitat assessment in reach 2 of Mary Lake – North Tributary #3 during spring (a) and summer (b) 2008.

Figure 2.View downstream from habitat assessment in reach 2 of Mary Lake – North Tributary #3 during spring (a) and summer (b) 2008.

Figure 3.View across the habitat assessment site in reach 2 of Mary Lake – North Tributary #3 during spring (a) and summer (b) 2008.

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name: Mary Lake – North Tributary #3
Site: Reach 3
UTM: 17W 552603 7912448
Dates Surveyed: 18-Jun-08, 26-Jul-08

Site Description/Physical Characteristics

Confinement: Confined

Channel Gradient: 1.5˚

Hydrology

	Spr	Sum
Bankfull Width (m):	17.40	17.40
Wetted Width (m):	15.30	14.80
Riffle-Crest Depth (m):	0.22	0.16
Pool Depth (m):	0.26	0.12
D (m):	0.05C	0.05C
D_{95} (m):	2.60C	2.60C
Point Velocities (m/s)		
Riffle:	0.87	0.71
Pool:	0.40	0.04
Behind a rock:	0.09	NM

Stream/Riparian Habitat

Channel Morphology: 50% riffle, 45% cascade, 5% pool

Substrate Composition: 60% cobble, 10% boulder, 10% gravel, 10% sand

Stream Cover: 10% boulder, 20% lg cobble

Aquatic Vegetation: Periphyton

Riparian Vegetation: Grasses, moss, willows

Barriers Present (Y/N): N
Location: NA

Lakes Present (Y/N): Y
Location: DS – Mary L.

L/R Bank Characteristics

	Spr	Sum
Bank Height (L/R; m):	0.10/0.10	0.25/0.25
Bank Stability:	High	High
Erosion Potential:	Low	Low

Water Quality

	Spr	Sum
Specific Conductance (µS/cm):	12.00	6.00
TDS (g/l):	0.01	0.04
DO (mg/l)	14.47	11.97
%DO:	102.30	NM
Water Temp (˚C):	1.00	6.00

Fish Habitat

	Spr	Sum
Spawning:	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	ARCH - L NNST - N	ARCH - H NNST - N
Migration:	ARCH - N NNST - N	ARCH - M NNST - N

Baffinland Iron Mines
Mary River Project

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Figure 1.View upstream from habitat assessment in reach 3 of Mary Lake – North Tributary #3 during spring (a) and summer (b) 2008.

Figure 2.View downstream from habitat assessment in reach 3 of Mary Lake – North Tributary #3 during spring (a) and summer (b) 2008.

Figure 3.View across the habitat assessment site in reach 3 of Mary Lake – North Tributary #3 during spring (a) and summer (b) 2008.

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name:	Mary Lake – North Tributary #4	**UTM:**	17W 553487 7910691
Site:	Reach 1	**Dates Surveyed:**	18-Jun-08, 26-Jul-08

Site Description/Physical Characteristics

Confinement: Unconfined

Channel Gradient: <1˚

Hydrology

	Spr	Sum
Bankfull Width (m):	4.80	4.80
Wetted Width (m):	3.00	4.80
Run Depth (m):	0.91	NA
Pool Depth (m):	NA	1.30
D (m):	0.01-0.05	<0.01
D_{95} (m):	NA	NA
Point Velocities (m/s)		
Run:	0.48	NA
Pool:	NA	0.00
Behind a rock:	NA	NA

Stream/Riparian Habitat

Channel Morphology: 100% run (spring); 100% pool (summer)

Substrate Composition: 80% sand, 20% slumping banks

Stream Cover: FT banks

Aquatic Vegetation: Macrophytes

Riparian Vegetation: Grasses, moss, willows

Barriers Present (Y/N): N
Location: NA

Lakes Present (Y/N): Y
Location: DS - Mary L.

L/R Bank Characteristics

	Spr	Sum
Bank Height (L/R; m):	0.40/0.40	Flooded
Bank Stability:	Low	Low
Erosion Potential:	High	High

Water Quality

	Spr	Sum
Specific Conductance (µS/cm):	17.00	5.70
TDS (g/l):	0.01	0.04
DO (mg/l)	13.30	11.60
%DO:	96.40	NM
Water Temp (˚C):	2.10	7.00

Fish Habitat

	Spr	Sum
Spawning:	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	ARCH - N NNST - L	ARCH - L NNST - L
Migration:	ARCH - L NNST - L	ARCH - L NNST - L

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Mary River Project

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Figure 1.View upstream from habitat assessment in reach 1 of Mary Lake – North Tributary #4 during spring (a) and summer (b) 2008.

Figure 2.View downstream from habitat assessment in reach 1 of Mary Lake – North Tributary #4 during spring (a) and summer (b) 2008.

Figure 3.View across the habitat assessment site in reach 1 of Mary Lake – North Tributary #4 during spring (a) and summer (b) 2008.

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name:	Mary Lake – South Tributary #1	**UTM:**	17W 554176 7909228
Site:	Reach 1	**Dates Surveyed:**	17-Jun-08, 26-Jul-08

Site Description/Physical Characteristics

Confinement: Unconfined - Partial

Channel Gradient: >1˚

Hydrology

	Spr	Sum
Bankfull Width (m):	15.20	15.20
Wetted Width (m):	7.50	15.20
Flat Depth (m):	0.10	NA
Pool Depth (m):	0.23	0.80
D (m):	0.01	0.01
D_{95} (m):	0.01	0.01
Point Velocities (m/s)		
Flat:	0.05	NA
Pool:	0.01	0.00
Behind a rock:	NA	NA

Stream/Riparian Habitat

Channel Morphology: 50% flat, 50% pool (spring) 100% pool (summer)

Substrate Composition: 95% sand, 5% FT

Stream Cover: 20% UC banks

Aquatic Vegetation: None

Riparian Vegetation: Grasses and moss

Barriers Present (Y/N): N
Location: NA

Lakes Present (Y/N): Y
Location: DS – Mary L.

L/R Bank Characteristics

	Spr	Sum
Bank Height (L/R; m):	0.30/0.30	None
Bank Stability:	Mod	Mod
Erosion Potential:	Mod	Mod

Water Quality

	Spr	Sum
Specific Conductance (µS/cm):	19.00	4.00
TDS (g/l):	0.01	0.03
DO (mg/l)	12.61	11.47
%DO:	96.40	NM
Water Temp (˚C):	4.30	9.20

Fish Habitat

	Spr	Sum
Spawning:	ARCH - N NNST - N	ARCH - N NNST - M
Feeding:	ARCH - N NNST - H	ARCH - N NNST - H
Migration:	ARCH - N NNST - N	ARCH - N NNST - N

Baffinland Iron Mines
Mary River Project

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Mine Site Aquatic Habitat Assessment

Figure 1.View upstream from habitat assessment in reach 1 of Mary Lake – South Tributary #1 during spring (a) and summer (b) 2008.

Figure 2.View downstream from habitat assessment in reach 1 of Mary Lake – South Tributary #1 during spring (a) and summer (b) 2008.

Figure 3.View across the habitat assessment site in reach 1 of Mary Lake – South Tributary #1 during spring (a) and summer (b) 2008.

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name:	Mary Lake – South Tributary #2	**UTM:**	17W 552058 7905109
Site:	Reach 1	**Dates Surveyed:**	18-Jun-08, 25-Jul-08

Site Description/Physical Characteristics

Confinement: Partial

Channel Gradient: 2.5˚

Hydrology

	Spr	Sum
Bankfull Width (m):	14.25	14.25
Wetted Width (m):	9.15	9.40
Riffle-Crest Depth (m):	0.10	0.28
Pool Depth (m):	0.36	0.25
D (m):	0.16C	0.16C
D_{95} (m):	1.60C	1.60C
Point Velocities (m/s)		
Riffle:	1.80	0.81
Pool:	0.17	0.00
Behind a rock:	NA	NA

Stream/Riparian Habitat

Channel Morphology: 70% cascade, 20% pool, 10% riffle (summer); 50% riffle, 50% pool (summer)

Substrate Composition: 60% cobble, 30% boulder, 10% gravel

Stream Cover: 30% boulder, 30% lg cobble, 30% UC banks

Aquatic Vegetation: Periphyton

Riparian Vegetation: Grasses and moss

Barriers Present (Y/N): N
Location: NA

Lakes Present (Y/N): Y
Location: DS – Mary L.

L/R Bank Characteristics

	Spr	Sum
Bank Height (L/R; m):	0.15/0.15	0.16/0.15
Bank Stability:	Low	Low
Erosion Potential:	High	High

Water Quality

	Spr	Sum
Specific Conductance (µS/cm):	23.00	4.10
TDS (g/l):	0.02	0.03
DO (mg/l)	13.96	11.17
%DO:	101.10	NM
Water Temp (˚C):	1.90	9.80

Fish Habitat

	Spr	Sum
Spawning:	ARCH - N NNST - N	ARCH - N NNST - H
Feeding:	ARCH - M NNST - H	ARCH - H NNST - H
Migration:	ARCH - L NNST - M	ARCH - L NNST - L

Baffinland Iron Mines
Mary River Project

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Figure 1.View upstream from habitat assessment in reach 1 of Mary Lake – South Tributary #2 during spring (a) and summer (b) 2008.

Figure 2.View downstream from habitat assessment in reach 1 of Mary Lake – South Tributary #2 during spring (a) and summer (b) 2008.

Figure 3.View across the habitat assessment site in reach 1 of Mary Lake – South Tributary #2 during spring (a) and summer (b) 2008.

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name: Mary Lake – South Tributary #2
Site: Reach 2
UTM: 17W 551620 7905310
Dates Surveyed: 18-Jun-08, 26-Jul-08

Site Description/Physical Characteristics

Confinement: Unconfined

Channel Gradient: <1˚

Hydrology

	Spr	Sum
Bankfull Width (m):	6.60	6.60
Wetted Width (m):	3.80	2.00
Riffle/Run Depth (m):	0.35	0.50
Pool Depth (m):	>1.00	>1.50
D (m):	NM	NM
D_{95} (m):	NM	NM
Point Velocities (m/s)		
Riffle/Run:	0.43	0.33
Pool:	0.32	0.00
Behind a rock:	NA	NA

Stream/Riparian Habitat

Channel Morphology: 50% riffle, 50% pool (spring); 50% pool, 25% riffle, 25% run (summer)

Substrate Composition: 60% gravel, 30% cobble, 5% boulder, 5% sand

Stream Cover: 20% FT

Aquatic Vegetation: None

Riparian Vegetation: Grasses and moss

Barriers Present (Y/N): N
Location: NA

Lakes Present (Y/N): Y
Location: DS – Mary L., US deep ponds

L/R Bank Characteristics

	Spr	Sum
Bank Height (L/R; m):	None	None
Bank Stability:	Low	Low
Erosion Potential:	High	High

Water Quality

	Spr	Sum
Specific Conductance (µS/cm):	22.00	4.50
TDS (g/l):	0.01	0.03
DO (mg/l)	13.25	11.17
%DO:	95.60	NM
Water Temp (˚C):	1.50	8.00

Fish Habitat

	Spr	Sum
Spawning:	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	ARCH - L NNST - L	ARCH - L NNST - N
Migration:	ARCH - L NNST - L	ARCH - N NNST - N

Baffinland Iron Mines
Mary River Project

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Mine Site Aquatic Habitat Assessment

Figure 1.View upstream from habitat assessment in reach 2 of Mary Lake – South Tributary #2 during spring (a) and summer (b) 2008.

Figure 2.View downstream from habitat assessment in reach 2 of Mary Lake – South Tributary #2 during spring (a) and summer (b) 2008.

Figure 3.View across the habitat assessment site in reach 2 of Mary Lake – South Tributary #2 during spring (a) and summer (b) 2008.

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name:	Mary Lake – South Tributary #3	**UTM:**	17W 552404 7904215
Site:	Reach 1	**Dates Surveyed:**	18-Jun-08, 26-Jul-08

Site Description/Physical Characteristics

Confinement: Partial

Channel Gradient: 1˚

Hydrology

	Spr	Sum
Bankfull Width (m):	28.00	28.00
Wetted Width (m):	18.20	28.00
Riffle-Crest Depth (m):	0.30	0.14
Pool Depth (m):	0.26	0.30
D (m):	0.01-0.05	0.01-0.05
D_{95} (m):	1.00	1.00
Point Velocities (m/s)		
Riffle:	1.04	0.41
Pool:	0.02	0.00
Behind a rock:	NA	NA

Stream/Riparian Habitat

Channel Morphology: 80% riffle, 20% pool (spring); 80% pool, 20% riffle (summer)

Substrate Composition: 90% cobble, 10% boulder,

Stream Cover: 45% lg cobble, 10% boulders

Aquatic Vegetation: Periphyton

Riparian Vegetation: Grasses and moss

Barriers Present (Y/N): N
Location: NA

Lakes Present (Y/N): Y
Location: DS – Mary L.

L/R Bank Characteristics

	Spr	Sum
Bank Height (L/R; m):	None	None
Bank Stability:	NA	NA
Erosion Potential:	NA	NA

Water Quality

	Spr	Sum
Specific Conductance (µS/cm):	18.00	3.90
TDS (g/l):	0.01	0.02
DO (mg/l)	14.43	12.06
%DO:	104.30	NM
Water Temp (˚C):	1.60	8.90

Fish Habitat

	Spr	Sum
Spawning:	ARCH - N NNST - N	ARCH - N NNST - L
Feeding:	ARCH - L NNST - N	ARCH - M NNST - H
Migration:	ARCH - L NNST - N	ARCH - L NNST - N

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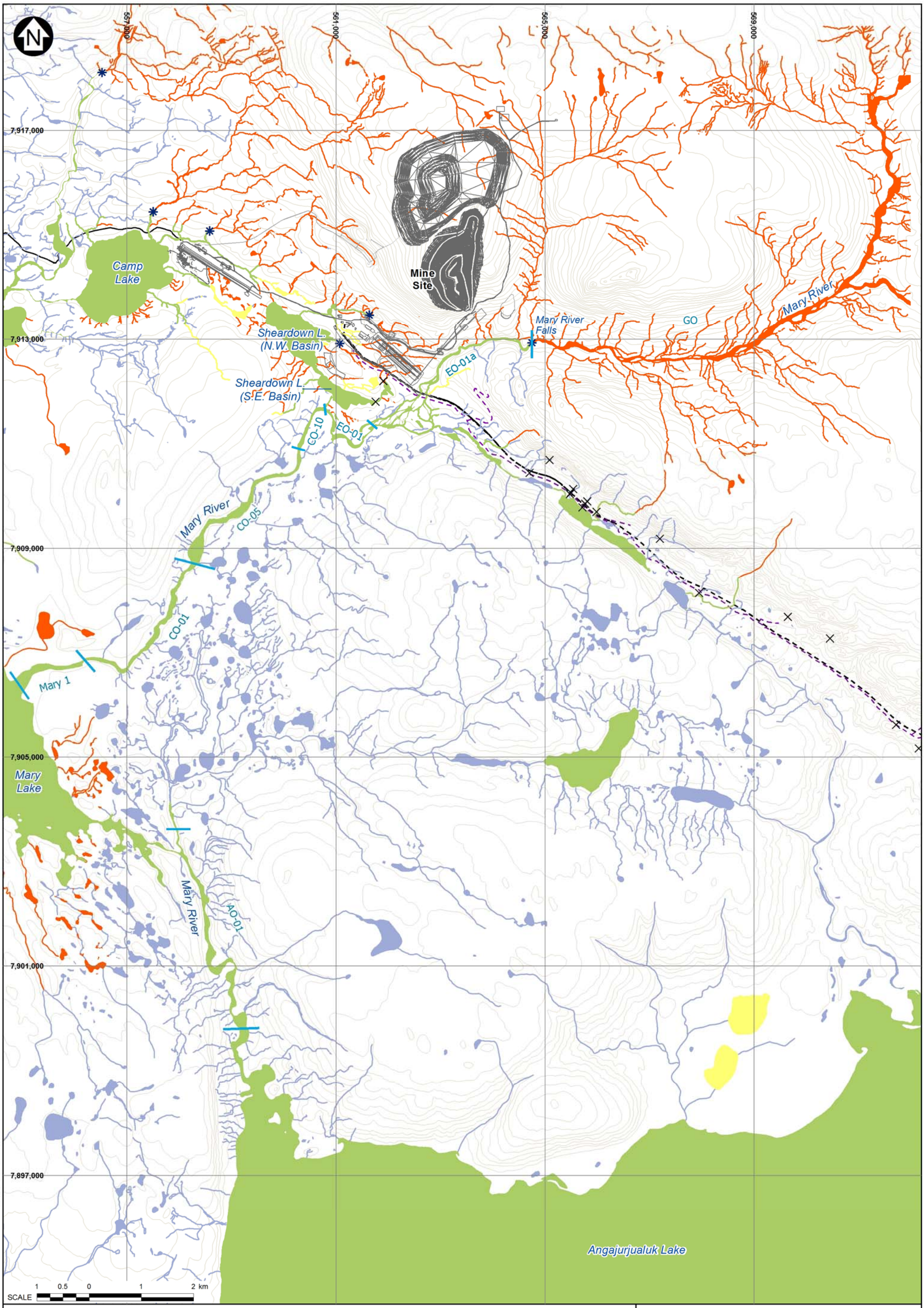
Figure 1.View upstream from habitat assessment in reach 1 of Mary Lake – South Tributary #3 during spring (a) and summer (b) 2008.

Figure 2.View downstream from habitat assessment in reach 1 of Mary Lake – South Tributary #3 during spring (a) and summer (b) 2008.

Figure 3.View across the habitat assessment site in reach 1 of Mary Lake – South Tributary #3 during spring (a) and summer (b) 2008.



LEGEND:

STATUS OF ARCTIC CHAR

- PRESENT
- PROBABLE
- NOT PRESENT
- UNKNOWN

- FISH BARRIER
- FALLS
- REACH BOUNDARIES
- MILNE INLET TOTE ROAD (EXISTING)
- RAILWAY ALIGNMENT (PROPOSED)
- CONSTRUCTION ACCESS ROAD (PROPOSED)
- INFRASTRUCTURE

REV	DDMMM'10	ISSUED FOR	-	-	-	-
REV	01/09/2010	DESCRIPTION	DESIGNED	DRAWN	CHK'D	APP'D

NOTES:

1. BASE MAP: (1:50,000) © HER MAJESTY THE QUEEN IN RIGHTS OF CANADA DEPARTMENT OF NATURAL RESOURCES (2009.) ALL RIGHTS RESERVED.
2. TOPOGRAPHY PROVIDED BY EAGLE MAPPING (2005).
3. PROPOSED RAILWAY ALIGNMENT PROVIDED BY CANRAIL CONSULTANTS INC.
4. PROPOSED RAILWAY CONSTRUCTION ACCESS ROAD ALIGNMENT PROVIDED BY CANRAIL CONSULTANTS INC. DRAWING NO.: RAILWAY ALIGNMENT AND CONSTRUCTION ACCESS RD - MARY RIVER STEENSBY 2010 -12AUG2010.dwg
5. MINE SITE INFRASTRUCTURE PROVIDED BY AMEC DRAWING NO.: MINE SITE - CONSTRUCTION PHASE - 01 -MAR 09 2009.dwg
6. CONTOUR INTERVAL IS 50 M AND IS IN METRES.

BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

PRESENCE AND ABSENCE OF ARCTIC CHAR IN MARY RIVER AND ITS TRIBUTARIES

North/South Consultants Inc.
Aquatic Environment Specialists

P/A NO. -
REF NO. -
DATE: 27/09/2010
REV 1

Path: \\terastation\GIS\MARYRIV_GDB\EIS_GDB\EIS_Figures_2010EIS_Figures\MXD\MR_Stream Habitat

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name: Mary River
Site: A0-01
UTM: 17W 559039 7900058
Dates Surveyed: 5-Sep-07

Site Description/Physical Characteristics

Confinement: Partial

Channel Gradient: 2˚

Hydrology

	Spr	Sum	Fall
Bankfull Width (m):	NA	NA	63.10
Wetted Width (m):	NA	NA	40.23
Riffle-Crest Depth (m):	NA	NA	0.34
Pool Depth (m):	NA	NA	0.34
D (m):	NA	NA	0.08
D_{95} (m):	NA	NA	1.05
Point Velocities (m/s)			
Riffle:	NA	NA	0.51
Pool:	NA	NA	0.07
Run:	NA	NA	NA

Stream/Riparian Habitat

Channel Morphology: 40% riffle, 40% rapids, 20% pool

Substrate Composition: 65% cobble, 15% silt/sand, 10% boulder, 10% gravel

Stream Cover: 10% boulders

Aquatic Vegetation: Periphyton

Riparian Vegetation: Grasses, moss, willow

Barriers Present (Y/N): N
Location: NA

Lakes Present (Y/N): Y
Location: US – Mary L.
DS - Angajurjualuk L.

L/R Bank Characteristics

	Spr	Sum	Fall
Bank Height (L/R; m):	NA	NA	UD
Bank Stability:	NA	NA	Mod
Erosion Potential:	NA	NA	Mod

Water Quality

	Spr	Sum	Fall
Specific Conductance (µS/cm):	NA	NA	82.0
TDS (g/l):	NA	NA	0.05
DO (mg/l)	NA	NA	12.72
%DO:	NA	NA	100.4
Water Temp (˚C):	NA	NA	7.0

Fish Habitat

	Spr	Sum	Fall
Spawning:	ARCH - N NNST - N	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	ARCH - L NNST - N	ARCH - H NNST - L	ARCH - H NNST - L
Migration:	ARCH - L NNST - N	ARCH - H NNST - L	ARCH - H NNST - L

Baffinland Iron Mines
Mary River Project

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Mine Site Aquatic Habitat Assessment

Figure 1.View upstream from habitat assessment at Site A0-01 in Mary River during fall.

Figure 2.View downstream from habitat assessment at Site A0-01 in Mary River during fall.

Figure 3.View across the habitat assessment site at Site A0-01 in Mary River during fall.

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name: Mary River
Site: Reach 1
UTM: 17W 555214 7906700
Dates Surveyed: 26-Jun-07, 2-Aug-07, 3-Sep-07

Site Description/Physical Characteristics

Confinement: Unconfined

Channel Gradient: 1˚

Hydrology

	Spr	Sum	Fall
Bankfull Width (m):	143.50	143.50	143.50
Wetted Width (m):	114.25	49.36	50.27
Riffle-Crest Depth (m):	NA	NA	NA
Run/Flat Depth (m):	0.32	0.30	0.30
D (m):	< 0.01	< 0.01	< 0.01
D_{95} (m):	NA	NA	NA
Point Velocities (m/s)			
Riffle:	NA	NA	NA
Pool:	NA	NA	NA
Run/Flat:	0.55	0.63	0.75

Stream/Riparian Habitat

Channel Morphology: 100% run/flat

Substrate Composition: 100% sand

Stream Cover: None

Aquatic Vegetation: None

Riparian Vegetation: Grasses

Barriers Present (Y/N): N
Location: NA

Lakes Present (Y/N): Y
Location: DS – Mary L.

L/R Bank Characteristics

	Spr	Sum	Fall
Bank Height (L/R; m):	NM	1.50/1.50	1.50/1.50
Bank Stability:	Low	Low	Low
Erosion Potential:	High	High	High

Water Quality

	Spr	Sum	Fall
Specific Conductance (µS/cm):	97.8	116.2	NM
TDS (g/l):	0.06	NM	NM
DO (mg/l)	13.63	11.44	NM
%DO:	107.9	101.7	NM
Water Temp (˚C):	5.3	10.1	5.5

Fish Habitat

	Spr	Sum	Fall
Spawning:	ARCH - N NNST - N	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	ARCH - N NNST - N	ARCH - N NNST - N	ARCH - N NNST - N
Migration:	ARCH - M NNST - L	ARCH - H NNST - M	ARCH - H NNST - M

Baffinland Iron Mines
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Mine Site Aquatic Habitat Assessment

Figure 1.View upstream from habitat assessment at Reach 1 in Mary River during spring (a), summer (b), and fall (c).

Figure 2.View downstream from habitat assessment at Reach 1 in Mary River during spring (a), summer (b), and fall (c).

Figure 3.View across the habitat assessment site at Reach 1 in Mary River during spring (a), summer (b), and fall (c).

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name: Mary River
Site: C0-01
UTM: 17W 556501 7906923
Dates Surveyed: 27-Jun-07, 2-Aug-07, 3-Sep-07

Site Description/Physical Characteristics

Confinement: Partial

Channel Gradient: 2˚

Hydrology

	Spr	Sum	Fall
Bankfull Width (m):	68.55	68.55	68.55
Wetted Width (m):	68.55	62.15	63.07
Riffle-Crest Depth (m):	0.24	0.08	0.08
Pool Depth (m):	0.16	0.20	0.17
D (m):	0.05	0.02	0.02
D_{95} (m):	1.84	1.84	1.84
Point Velocities (m/s)			
Riffle/Rapids:	1.38	0.54	0.48
Pool:	0.27	0.14	0.33
Run:	NM	NA	NA

Stream/Riparian Habitat

Channel Morphology: 60% rapids (spr), 35% run (spr), 5% pool (spr) 80% riffle (sum, fall), 20% pool (sum, fall)

Substrate Composition: 45% boulder, 45% cobble, 5% gravel, 5% sand

Stream Cover: 45% boulder

Aquatic Vegetation: Periphyton

Riparian Vegetation: Grasses, moss, willow

Barriers Present (Y/N): N
Location: NA

Lakes Present (Y/N): Y
Location: DS – Mary L.

L/R Bank Characteristics

	Spr	Sum	Fall
Bank Height (m):	0.00/0.00	0.50/0.50	NM
Bank Stability:	Mod	Mod	Mod
Erosion Potential:	Mod	Mod	Mod

Water Quality

	Spr	Sum	Fall
Specific Conductance (µS/cm):	65.5	110.7	196.0
TDS (g/l):	0.04	NM	0.13
DO (mg/l)	13.75	11.40	14.16
%DO:	103.8	99.5	103.1
Water Temp (˚C):	3.0	9.3	6.5

Fish Habitat

	Spr	Sum	Fall
Spawning:	ARCH - N NNST - N	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	ARCH - L NNST - L	ARCH - H NNST - L	ARCH - M NNST - L
Migration:	ARCH - M NNST - N	ARCH - M NNST - L	ARCH - M NNST - N

Baffinland Iron Mines
Mary River Project

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Mine Site Aquatic Habitat Assessment

Figure 1.View upstream from habitat assessment at Site C0-01 in Mary River during spring (a), summer (b), and fall (c).

Figure 2.View downstream from habitat assessment at Site C0-01 in Mary River during spring (a), summer (b), and fall (c).

Figure 3.View across the habitat assessment site at Site C0-01 in Mary River during spring (a), summer (b), and fall (c).

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name: Mary River
Site: C0-05
UTM: 17W 558378 7909254
Dates Surveyed: 27-Jun-07, 2-Aug-07, 3-Sep-07

Site Description/Physical Characteristics

Confinement: Unconfined

Channel Gradient: 1˚

Hydrology

	Spr	Sum	Fall
Bankfull Width (m):	91.40	91.40	91.40
Wetted Width (m):	91.40	84.09	85.00
Riffle-Crest Depth (m):	NM	NM	0.05
Run Depth (m):	> 1.00	~ 1.00	~ 1.00
D (m):	< 0.01	< 0.01	< 0.01
D_{95} (m):	0.86	0.86	0.86
Point Velocities (m/s)			
Riffle:	NM	NM	0.15
Pool:	NM	NM	NM
Run:	0.22	0.06	NM

Stream/Riparian Habitat

Channel Morphology: 90% run/flat, 10% riffle

Substrate Composition: 40% boulder, 40% cobble, 10% sand, 10% silt

Stream Cover: 40% boulder

Aquatic Vegetation: Periphyton

Riparian Vegetation: Grasses, moss, willow

Barriers Present (Y/N): N
Location: NA

Lakes Present (Y/N): Y
Location: DS – Mary L.
US – Sheardown L.

L/R Bank Characteristics

	Spr	Sum	Fall
Bank Height (L/R; m):	0.00/0.00	0.30/0.30	0.15/0.15
Bank Stability:	Mod	Mod	Mod
Erosion Potential:	Mod	Mod	Mod

Water Quality

	Spr	Sum	Fall
Specific Conductance (µS/cm):	54.9	115.8	201.0
TDS (g/l):	0.04	NM	0.13
DO (mg/l)	14.66	11.62	13.92
%DO:	107.0	100.7	102.3
Water Temp (˚C):	2.2	9.0	7.0

Fish Habitat

	Spr	Sum	Fall
Spawning:	ARCH - N NNST - N	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	ARCH - L NNST - L	ARCH - H NNST - L	ARCH - M NNST - L
Migration:	ARCH - M NNST - N	ARCH - M NNST - L	ARCH - M NNST - N

Baffinland Iron Mines
Mary River Project

North/South Consultants Inc.
Aquatic Environment Specialists

Mine Site Aquatic Habitat Assessment

Figure 1.View upstream from habitat assessment at Site C0-05 in Mary River during spring (a), summer (b), and fall (c).

Figure 2.View downstream from habitat assessment at Site C0-05 in Mary River during spring (a), summer (b), and fall (c).

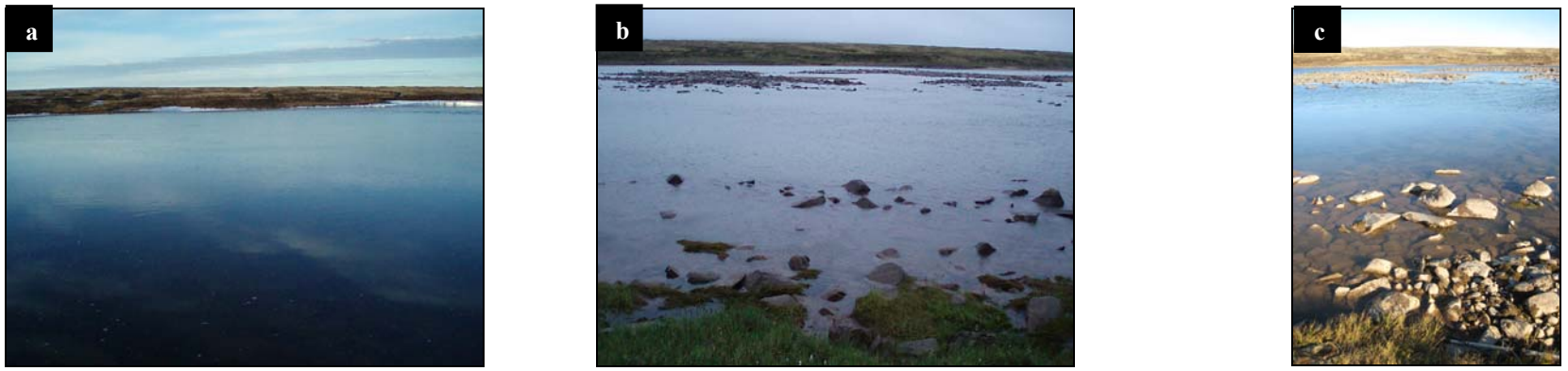

Figure 3.View across the habitat assessment site at Site C0-05 in Mary River during spring (a), summer (b), and fall (c).

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name: Mary River
Site: C0-10
UTM: 17W 560690 7911705
Dates Surveyed: 27-Jun-07, 2-Aug-07, 3-Sep-07

Site Description/Physical Characteristics

Confinement: Partial

Channel Gradient: 1˚

Hydrology

	Spr	Sum	Fall
Bankfull Width (m):	74.95	74.95	74.95
Wetted Width (m):	74.95	66.72	62.15
Riffle-Crest Depth (m):	0.27	0.10	0.14
Pool Depth (m):	NA	0.52	0.32
D (m):	0.05	0.01	0.01
D_{95} (m):	0.46	0.46	0.46
Point Velocities (m/s)			
Riffle:	1.72	0.87	0.56
Pool:	NA	0.19	NM
Run:	NA	NA	NA

Stream/Riparian Habitat

Channel Morphology: 100% riffle (spr)
90% riffle (sum, fall),
10% pool (sum, fall)

Substrate Composition: 80% cobble,
10% boulder,
5% gravel,
5% sand

Stream Cover: 10% boulder

Aquatic Vegetation: Periphyton,
submerged RV

Riparian Vegetation: Grasses, moss,
willow

Barriers Present (Y/N): N
Location: NA

Lakes Present (Y/N): Y
Location: DS – Mary L.
US – Sheardown L.

L/R Bank Characteristics

	Spr	Sum	Fall
Bank Height (L/R; m):	0.20/0.20	0.25/0.25	0.35/0.35
Bank Stability:	Low	Low	Low
Erosion Potential:	High	High	High

Water Quality

	Spr	Sum	Fall
Specific Conductance (µS/cm):	49.0	125.1	196.0
TDS (g/l):	0.03	NM	0.13
DO (mg/l)	15.03	11.76	13.42
%DO:	108.8	100.9	104.9
Water Temp (˚C):	1.5	8.6	6.0

Fish Habitat

	Spr	Sum	Fall
Spawning:	ARCH - N NNST - N	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	ARCH - L NNST - N	ARCH - H NNST - N	ARCH - M NNST - N
Migration:	ARCH - M NNST - N	ARCH - M NNST - L	ARCH - M NNST - N

Baffinland Iron Mines
Mary River Project

North/South Consultants Inc.
Aquatic Environment Specialists

Mine Site Aquatic Habitat Assessment

Figure 1.View upstream from habitat assessment at Site C0-10 in Mary River during spring (a), summer (b), and fall (c).

Figure 2.View downstream from habitat assessment at Site C0-10 in Mary River during spring (a), summer (b), and fall (c).

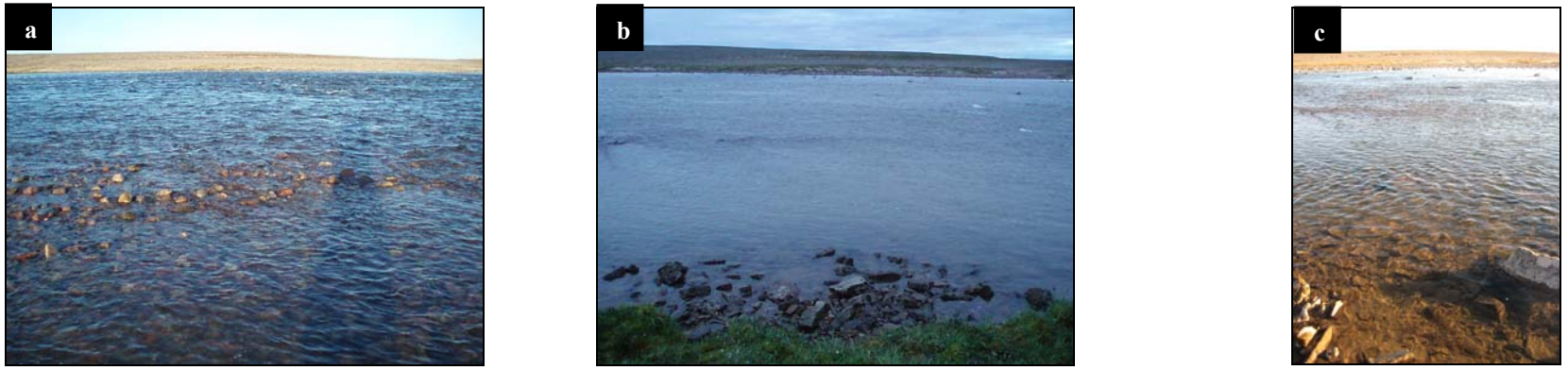

Figure 3.View across the habitat assessment site at Site C0-10 in Mary River during spring (a), summer (b), and fall (c).

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name: Mary River
Site: E0-01
UTM: 17W 562475 7911771
Dates Surveyed: 19-Jun-08, 27-Jul-08

Site Description/Physical Characteristics

Confinement: Partial

Channel Gradient: 1.5˚

Hydrology

	Spr	Sum
Bankfull Width (m):	78.64	78.64
Wetted Width (m):	18.29	14.00
Run/Rapid Depth (m):	0.90	0.65
Riffle/Pool Depth (m):	0.25	0.25
D (m):	0.10-0.50	0.02
D_{95} (m):	1.90	0.74
Point Velocities (m/s)		
Riffle/Rapid:	1.16	0.49
Run:	0.49	NM
Pool:	NM	0.03

Stream/Riparian Habitat

Channel Morphology: 50% rapid, 50% run

Substrate Composition: 65% cobble, 20% boulder, 10% gravel, 5% sand

Stream Cover: 20% boulder

Aquatic Vegetation: Periphyton

Riparian Vegetation: Grasses and moss

Barriers Present (Y/N): Y
Location: US falls

Lakes Present (Y/N): Y
Location: DS – Mary & Sheardown Lakes

L/R Bank Characteristics

	Spr	Sum
Bank Height (L/R; m):	1.40/Undef	1.30/Unde
Bank Stability:	Mod	Mod
Erosion Potential:	Mod	Mod

Water Quality

	Spr	Sum
Specific Conductance (µS/cm):	40.00	13.80
TDS (g/l):	0.03	0.09
DO (mg/l)	14.63	11.24
%DO:	103.30	NM
Water Temp (˚C):	1.00	10.20

Fish Habitat

	Spr	Sum
Spawning:	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	ARCH - L NNST - N	ARCH - H NNST - L
Migration:	ARCH - N NNST - N	ARCH - M NNST - N

Baffinland Iron Mines
Mary River Project

North/South Consultants Inc.
Aquatic Environment Specialists

Mine Site Aquatic Habitat Assessment

Figure 1.View upstream from habitat assessment in reach E0-01 of Mary River during spring (a) and summer (b) 2008.

Figure 2.View downstream from habitat assessment in reach E0-01 of Mary River during spring (a) and summer (b) 2008.

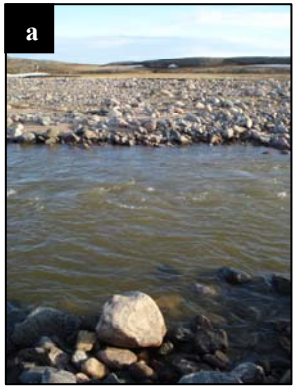

Figure 3.View across the habitat assessment site in reach E0-01 of Mary River during spring (a) and summer (b) 2008.

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name:	Mary River	**UTM:**	17W 564463 7912977
Site:	Reach E0-01a	**Dates Surveyed:**	19-Jun-08, 27-Jul-08

Site Description/Physical Characteristics

Confinement: Confined

Channel Gradient: 5˚

Hydrology

	Spr	Sum
Bankfull Width (m):	37.00	37.00
Wetted Width (m):	28.00	37.00
Riffle/Rapid Depth (m):	0.35	0.25
Pool Depth (m):	0.40	0.28
D (m):	0.10-0.50	0.10-0.50
D_{95} (m):	2.60	2.60
Point Velocities (m/s)		
Riffle/Rapid:	0.74	0.79
Pool:	0.04	0.04
Run:	1.47	1.55

Stream/Riparian Habitat

Channel Morphology: 50% pool, 40% cascade/rapid, 10% run

Substrate Composition: 60% cobble, 40% boulder,

Stream Cover: 50% lg cobble 40% boulder

Aquatic Vegetation: Periphyton

Riparian Vegetation: Grasses and moss

Barriers Present (Y/N): Y
Location: Falls US

Lakes Present (Y/N): Y
Location: DS – Mary & Sheardown Lakes

L/R Bank Characteristics

	Spr	Sum
Bank Height (L/R; m):	Undef	Undef
Bank Stability:	NA	NA
Erosion Potential:	NA	NA

Water Quality

	Spr	Sum
Specific Conductance (µS/cm):	30.00	11.60
TDS (g/l):	0.02	0.08
DO (mg/l)	15.11	11.30
%DO:	106.30	NM
Water Temp (˚C):	0.50	10.50

Fish Habitat

	Spr	Sum
Spawning:	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	ARCH - N NNST - N	ARCH - L NNST - N
Migration:	ARCH - N NNST - N	ARCH - N NNST - N

Baffinland Iron Mines
Mary River Project

North/South Consultants Inc.
Aquatic Environment Specialists

Mine Site Aquatic Habitat Assessment

Figure 1.View upstream from habitat assessment in reach E0-01a of Mary River during spring (a) and summer (b) 2008.

Figure 2.View downstream from habitat assessment in reach E0-01a of Mary River during spring (a) and summer (b) 2008.

Figure 3.View across the habitat assessment site in reach E0-01a of Mary River during spring (a) and summer (b) 2008.

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name: Mary River
Site: G0-09
UTM: 17W 571574 7916312
Dates Surveyed: 27-Jun-07, 3-Aug-07, 5-Sep-07

Site Description/Physical Characteristics

Confinement: Partial

Channel Gradient: 2˚

Hydrology

	Spr	Sum	Fall
Bankfull Width (m):	46.61	46.61	46.61
Wetted Width (m):	46.61	45.70	39.30
Riffle-Crest Depth (m):	0.46	0.52	0.14
Pool Depth (m):	NA	0.13	0.18
D (m):	0.02	0.02	0.01
D_{95} (m):	0.66	0.66	0.66
Point Velocities (m/s)			
Riffle:	1.03	0.89	0.75
Pool:	NA	0.06	0.05
Run:	NM	NM	NM

Stream/Riparian Habitat

Channel Morphology: 95% riffle (spr), 5% run (spr) 50% riffle (sum, fall), 45% run (sum, fall), 5% pool (sum, fall)

Substrate Composition: 55% cobble, 25% boulder, 15% sand, 5% gravel

Stream Cover: 25% boulder

Aquatic Vegetation: Periphyton

Riparian Vegetation: Grasses and moss

Barriers Present (Y/N): Y
Location: DS - Mary Falls

Lakes Present (Y/N): Y
Location: DS - Several km

L/R Bank Characteristics

	Spr	Sum	Fall
Bank Height (m):	0.25/0.25	0.30/0.30	NM
Bank Stability:	Mod	Mod	Mod
Erosion Potential:	Mod	Mod	Mod

Water Quality

	Spr	Sum	Fall
Specific Conductance (µS/cm):	24.4	84.9	160.0
TDS (g/l):	0.02	NM	0.10
DO (mg/l)	15.00	12.90	13.37
%DO:	105.5	103.9	97.4
Water Temp (˚C):	0.5	6.1	2.0

Fish Habitat

	Spr	Sum	Fall
Spawning:	ARCH - N NNST - N	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	ARCH - N NNST - N	ARCH - N NNST - N	ARCH - N NNST - N
Migration:	ARCH - N NNST - N	ARCH - N NNST - N	ARCH - N NNST - N

Baffinland Iron Mines
Mary River Project

North/South Consultants Inc.
Aquatic Environment Specialists

Mine Site Aquatic Habitat Assessment

Figure 1.View upstream from habitat assessment at Site G0-09 in Mary River during spring (a), summer (b), and fall (c).

Figure 2.View downstream from habitat assessment at Site G0-09 in Mary River during spring (a), summer (b), and fall (c).

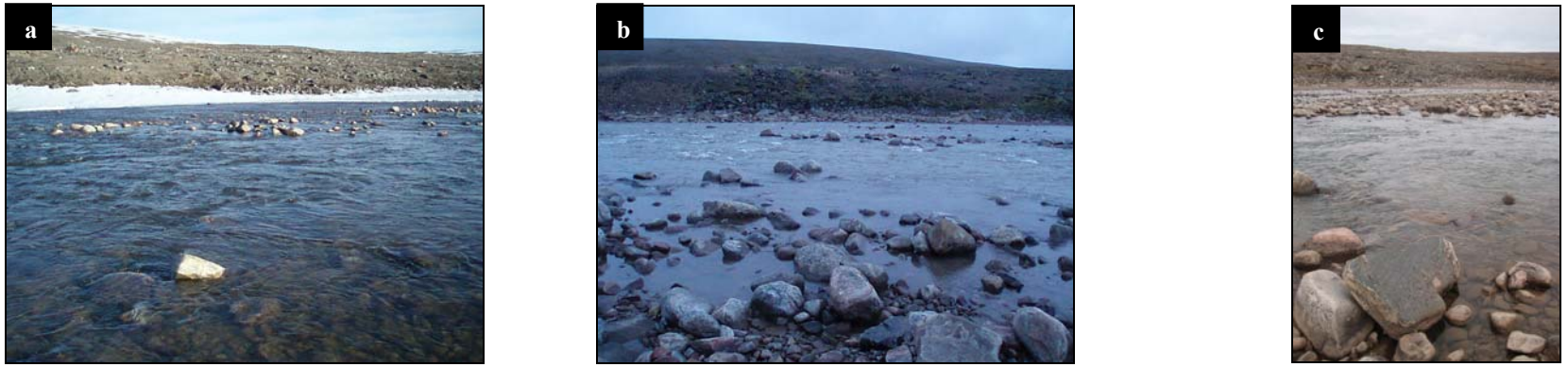

Figure 3.View across the habitat assessment site at Site G0-09 in Mary River during spring (a), summer (b), and fall (c).

Mine Site Aquatic Habitat Assessment

Figure 1: View upstream of E3-01.

Figure 2: View across E3-01 from right bank.

Figure 3: View downstream of E3-01.

Baffinland Iron Mines
Mary River Project

North/South Consultants Inc.
Aquatic Environment Specialists

Location

Crossing ID: E3-01
UTM: 17W 563829 / 7913062

Date/Time Surveyed: 24-Aug-07 / 11:50

Site Description/Physical Characteristics

Floodplain Width (m): 6.40

Channel Pattern: sinuous

Channel Confinement: C

Channel Gradient: 7˚

Hydrology

Bankfull Width (m): 6.40

Wetted Width (m): 4.57

Depth Profile (25%, 50%, 75%; m): N/M

Max Depth (m): 0.30

Flow Regime: per

Bank Characteristics

Bank Height (L/R; m): UD / UD

Bank Shape (L/R): S / S

Bank Stability: low

Stream/Riparian Habitat

Channel Morphology: 50% Ca, 50% Po

Substrate Composition: 30% Sa, 10% Gr, 58% Co, 2% Bo

Stream Cover: 2% Bo

Barriers Present (Y/N): Y
Description/Location: cascades ~ 50m DS

Lakes Present (Y/N): Y
Description/Location: several km DS (Mary L.)

Biotic Characteristics

Fisheries

Electrofishing Conducted (Y/N): Y
Effort: 600s
Settings: 200V 30Hz

Fish Observed (Y/N): N
Species/Totals: N/A
Length Range: N/A

Potential Fish Utilization

Arctic char (ARCH)
Spawning: N **Rearing:** N
Overwintering: N **Migration:** N

Ninespine stickleback (NNST)
Spawning: N **Rearing:** N
Overwintering: N **Migration:** N

Habitat Assessment Summary & Potential Habitat Compensation Notes

Two sets of cascades near the confluence of E0-03 with the Mary River prevent fish from accessing this site.

The conductivity in E3-01 was very high. Electrofishing at the confluence revealed that fish were not present in the Mary River within at least 20 m downstream of the outflow from E3-01.

E3-01 is not fish habitat. However, impacts to E3-01 affect important fish habitat in the Mary River downstream of the confluence and requires further study and possible compensation.

Fish Habitat Quality

No Fish Habitat

Mine Site Aquatic Habitat Assessment

Figure 1: View upstream of E4-01.

Figure 2: View across E4-01 from right bank.

Figure 3: View downstream of E4-01.

Baffinland Iron Mines
Mary River Project

North/South Consultants Inc.
Aquatic Environment Specialists

Location

Crossing ID: E4-01
UTM: 17W 563927 / 7913090

Date/Time Surveyed: 26-Aug-07 / 10:47

Site Description/Physical Characteristics

Floodplain Width (m): N/M

Channel Pattern: sinuous

Channel Confinement: PC

Channel Gradient: 10˚

Hydrology

Bankfull Width (m): 1.00

Wetted Width (m): 0.80

Depth Profile (25%, 50%, 75%; m): N/M

Max Depth (m): 0.20

Flow Regime: int - per

Bank Characteristics

Bank Height (L/R; m): 0.15 / 0.15

Bank Shape (L/R): UC / UC

Bank Stability: moderate

Stream/Riparian Habitat

Channel Morphology: 50% Ca, 50% Po

Substrate Composition: 10% Sa, 85% Co, 5% Bo

Stream Cover: 5% Bo

Barriers Present (Y/N): Y
Description/Location: cascade at assessed site

Lakes Present (Y/N): Y
Description/Location: several km DS (Mary L.)

Biotic Characteristics

Fisheries

Electrofishing Conducted (Y/N): Y
Effort: 300s
Settings: 400V 30Hz

Fish Observed (Y/N): N
Species/Totals: N/A
Length Range: N/A

Potential Fish Utilization

Arctic char (ARCH)
Spawning: N **Rearing:** N
Overwintering: N **Migration:** N

Ninespine stickleback (NNST)
Spawning: N **Rearing:** N
Overwintering: N **Migration:** N

Habitat Assessment Summary & Potential Habitat Compensation Notes

Cascades near E4-01's confluence with the Mary River prevent fish from accessing the stream.

Electrofishing was conducted in the Mary River near the confluence with E4-01, and 5-10 large, juvenile ARCH were captured.

Conductivity in E4-01 is marginally higher than other streams on the exploration property, and could provide moderate fish habitat if it were accessible. The reach of the Mary River that directly receives water from E4-01 is excellent fish habitat.

Fish Habitat Quality

No Fish Habitat

555,000
557,000
559,000
7,921,000
7,919,000
7,917,000
7,915,000
IO-04
Tom River Falls
IO-01a
Tom River
CLT-2 Falls
CLT-1 Falls
IO-01
Camp Lake
Mary Lake
0.5 0.25 0 0.5 1 km
SCALE

LEGEND:

STATUS OF ARCTIC CHAR

- PRESENT
- PROBABLE
- NOT PRESENT
- UNKNOWN

- FISH BARRIER
- FALLS
- REACH BOUNDARIES
- MILNE INLET TOTE ROAD (EXISTING)
- INFRASTRUCTURE (PROPOSED FOR CONSTRUCTION AND OPERATIONS PERIOD)

REV	DDMMM'10	ISSUED FOR	-	-	-	-
-	01/09/2010	DESCRIPTION	DESIGNED	DRAWN	CHK'D	APP'D

NOTES:

1. BASE MAP: © HER MAJESTY THE QUEEN IN RIGHTS OF CANADA DEPARTMENT OF NATURAL RESOURCES (2009.) ALL RIGHTS RESERVED.
2. TOPOGRAPHY PROVIDED BY EAGLE MAPPING (2005).
3. MINE SITE INFRASTRUCTURE PROVIDED BY AMEC DRAWING NO.: MINE SITE - CONSTRUCTION PHASE - 01 -MAR 09 2009.dwg
4. CONTOUR INTERVAL IS 50 M AND IS IN METRES.

BAFFINLAND IRON MINES CORPORATION

MARY RIVER PROJECT

PRESENCE AND ABSENCE OF ARCTIC CHAR IN TOM RIVER AND ITS TRIBUTARIES

North/South Consultants Inc.
Aquatic Environment Specialists

P/A NO.	REF NO.
-	-
DATE: 27/09/2010	REV 1

Path: \\erastation\GIS\Projects\Other\Mary River Freshwater\2010\Gemtd_Data\Report_Maps\20100830_Overview_Steensby2Milne_cp.mxd

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name: Tom River
Site: I0-01
UTM: 17W 555324 7914317
Dates Surveyed: 28-Jun-07, 1-Aug-07, 5-Sep-07

Site Description/Physical Characteristics

Confinement: Unconfined

Channel Gradient: 1˚

Hydrology

	Spr	Sum	Fall
Bankfull Width (m):	92.31	92.31	92.31
Wetted Width (m):	92.31	54.40	64.89
Riffle-Crest Depth (m):	0.27	0.05	0.10
Flat/Run Depth (m):	> 1.00	0.53	0.60
D (m):	0.02	0.01	< 0.01
D_{95} (m):	0.11	0.11	0.11
Point Velocities (m/s)			
Riffle:	0.21	0.61	0.46
Pool:	NA	NA	NA
Flat/Run:	0.90	0.06	0.01

Stream/Riparian Habitat

Channel Morphology: 90% run (spr), 10% riffle (spr), 85% riffle (sum, fall), 15% run (sum, fall)

Substrate Composition: 80% sand, 15% gravel, 5% cobble

Stream Cover: 50% undercut banks

Aquatic Vegetation: Periphyton, submerged RV

Riparian Vegetation: Grasses, willow, wildflowers

Barriers Present (Y/N): N
Location: NA

Lakes Present (Y/N): Y
Location: DS – Mary L.

L/R Bank Characteristics

	Spr	Sum	Fall
Bank Height (L/R; m):	NM	1.15/1.15	1.10/1.10
Bank Stability:	Low	Low	Low
Erosion Potential:	High	High	High

Water Quality

	Spr	Sum	Fall
Specific Conductance (µS/cm):	42.4	124.0	205.0
TDS (g/l):	0.03	0.08	0.13
DO (mg/l)	13.54	10.74	13.04
%DO:	109.7	98.4	105.3
Water Temp (˚C):	6.0	11.4	4.0

Fish Habitat

	Spr	Sum	Fall
Spawning:	ARCH - N NNST - N	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	ARCH - L NNST - N	ARCH - H NNST - L	ARCH - H NNST - L
Migration:	ARCH - L NNST - N	ARCH - H NNST - N	ARCH - H NNST - N

Mine Site Aquatic Habitat Assessment

Figure 1.View upstream from the habitat assessment site in Reach I0-01 in Tom River during spring (a), summer (b), and fall (c).

Figure 2.View downstream from the habitat assessment site in Reach I0-01 in Tom River during spring (a), summer (b), and fall (c).

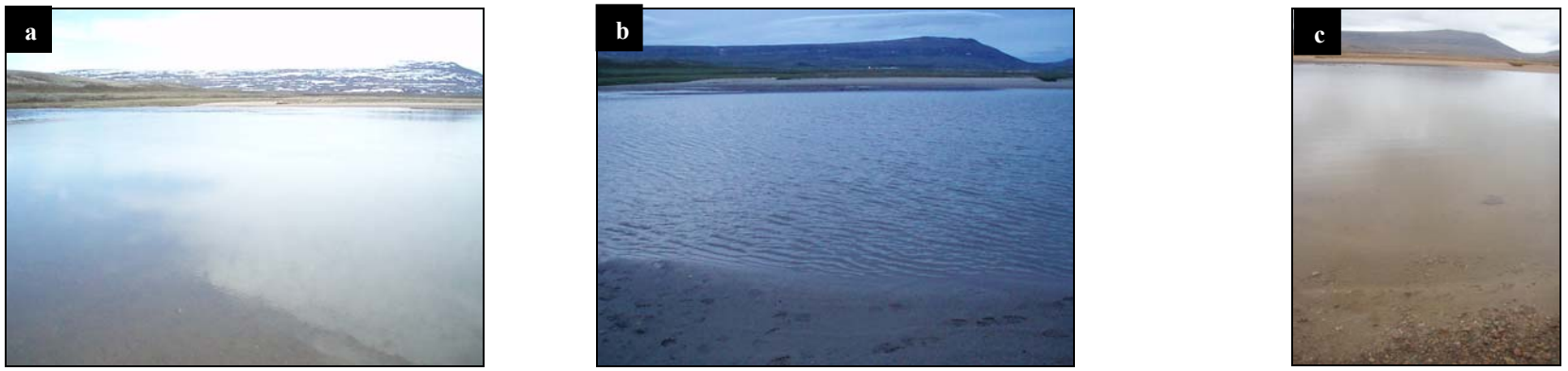

Figure 3.View across the habitat assessment site in Reach I0-01 in Tom River during spring (a), summer (b), and fall (c).

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name: Tom River
Site: I0-01a
UTM: 17W 555721 7915025
Dates Surveyed: 18-Jun-08, 28-Jul-08

Site Description/Physical Characteristics

Confinement: Partial - Confined

Channel Gradient: 1˚

Hydrology

	Spr	Sum
Bankfull Width (m):	118.87	118.87
Wetted Width (m):	70.41	70.00
Riffle-Crest Depth (m):	0.22	0.07
Pool Depth (m):	0.17	0.05
D (m):	0.05-0.10	0.05-0.10
D_{95} (m):	1.45C	1.45C
Point Velocities (m/s)		
Riffle:	0.45	0.52
Pool:	0.01	0.00
Behind a rock:	NM	0.02

Stream/Riparian Habitat

Channel Morphology: 80% riffle, 20% pool

Substrate Composition: 70% cobble, 15% gravel, 14% sand, 1% boulder

Stream Cover: 15% lg cobble, 1% boulder

Aquatic Vegetation: Periphyton

Riparian Vegetation: Grass, moss, willow, wildflower

Barriers Present (Y/N): Y
Location: Falls US

Lakes Present (Y/N): Y
Location: DS – Mary L.

L/R Bank Characteristics

	Spr	Sum
Bank Height (L/R; m):	Undef.	Undef.
Bank Stability:	Mod-High	Mod-High
Erosion Potential:	Low-Mod	Low-Mod

Water Quality

	Spr	Sum
Specific Conductance (µS/cm):	50.00	14.80
TDS (g/l):	0.04	0.10
DO (mg/l)	14.90	11.06
%DO:	103.90	NM
Water Temp (˚C):	0.70	10.00

Fish Habitat

	Spr	Sum
Spawning:	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	ARCH - M NNST - N	ARCH - H NNST - L
Migration:	ARCH - N NNST - N	ARCH - M NNST - N

Baffinland Iron Mines
Mary River Project

North/South Consultants Inc.
Aquatic Environment Specialists

Mine Site Aquatic Habitat Assessment

Figure 1.View upstream from the habitat assessment in Reach I0-01a in Tom River during spring (a) and summer (b) 2008.

Figure 2.View downstream from the habitat assessment in Reach I0-01a in Tom River during spring (a) and summer (b) 2008.

Figure 3.View across the habitat assessment in Reach I0-01a in Tom River during spring (a) and summer (b) 2008.

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name: Tom River
Site: I0-04
UTM: 17W 557157 7919013
Dates Surveyed: 28-Jun-07, 31-Jul-07, 5-Sep-07

Site Description/Physical Characteristics

Confinement: Partial

Channel Gradient: 2˚

Hydrology

	Spr	Sum	Fall
Bankfull Width (m):	72.21	72.21	72.21
Wetted Width (m):	72.21	28.21	28.33
Rapid/Riffle-Crest Depth (m):	0.28	0.25	0.54
Pool Depth (m):	NA	0.31	0.30
D (m):	0.03	0.02	0.02
D_{95} (m):	0.76	0.76	0.76
Point Velocities (m/s)			
Rapid/Riffle:	0.99	0.98	0.97
Pool:	NA	0.19	0.04
Flat/Run:	NA	NA	NA

Stream/Riparian Habitat

Channel Morphology: 100% rapids (spr)
90% riffle (sum, fall),
10% pool (sum, fall)

Substrate Composition: 45% cobble,
45% boulder,
5% sand,
5% gravel

Stream Cover: 45% boulder

Aquatic Vegetation: None

Riparian Vegetation: Grasses and moss

Barriers Present (Y/N): Y
Location: DS – Tom Falls

Lakes Present (Y/N): Y
Location: DS – Mary

L/R Bank Characteristics

	Spr	Sum	Fall
Bank Height (L/R; m):	0.15/0.15	0.65/0.65	NM
Bank Stability:	Mod	Mod	Mod
Erosion Potential:	Mod	Mod	Mod

Water Quality

	Spr	Sum	Fall
Specific Conductance (µS/cm):	33.9	123.0	212.0
TDS (g/l):	0.02	0.08	0.14
DO (mg/l)	13.72	10.47	13.78
%DO:	104.6	96.3	99.4
Water Temp (˚C):	3.5	11.6	3.0

Fish Habitat

	Spr	Sum	Fall
Spawning:	ARCH - N NNST - N	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	ARCH - N NNST - N	ARCH - N NNST - N	ARCH - N NNST - N
Migration:	ARCH - N NNST - N	ARCH - N NNST - N	ARCH - N NNST - N

Baffinland Iron Mines
Mary River Project

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Mine Site Aquatic Habitat Assessment

Figure 1.View upstream from the habitat assessment in Reach I0-04 in Tom River during spring (a) and summer (b) and aerial view during fall (c).

Figure 2.View upstream from the habitat assessment in Reach I0-04 in Tom River during spring (a) and summer (b) and aerial view during fall (c).

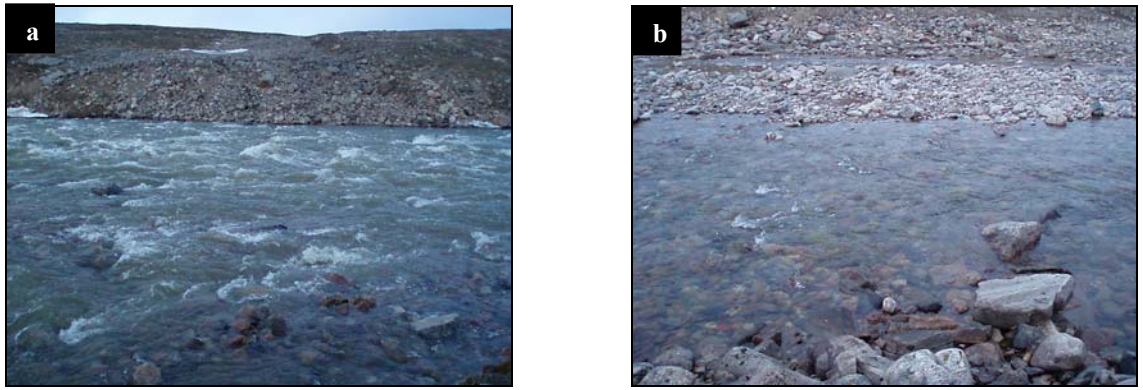

Figure 3.View across the habitat assessment in Reach I0-04 in Tom River during spring (a) and summer (b).

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name:	Candidate Reference Stream #2	**UTM:**	17W 597385 7913174
Site:	Reach 1	**Dates Surveyed:**	19-Jun-08, 29-Jul-08

Site Description/Physical Characteristics

Confinement: Unconfined

Channel Gradient: 2˚

Hydrology

	Spr	Sum
Bankfull Width (m):	100.58	107.00
Wetted Width (m):	50.29	89.00
Riffle-Crest Depth (m):	0.22	0.20
Pool Depth (m):	0.24	0.15
D (m):	0.01-0.03	0.01-0.03
D_{95} (m):	2.85	2.85
Point Velocities (m/s)		
Riffle:	1.18	0.42
Pool:	0.35	0.00
Behind a rock:	NM	0.08

Stream/Riparian Habitat

Channel Morphology: 40% rapids, 45% run, 15% pool (spring); 70% run, 30% pool (summer)

Substrate Composition: 60% cobble, 20% boulder, 20% sand

Stream Cover: 40% lg cobble, 30% boulder

Aquatic Vegetation: Periphyton

Riparian Vegetation: Grasses and moss

Barriers Present (Y/N): Unknown
Location: NA

Lakes Present (Y/N): DS
Location: ~ 38.2 km

L/R Bank Characteristics

	Spr	Sum
Bank Height (L/R; m):	Undef	Undef
Bank Stability:	NM	NM
Erosion Potential:	NM	NM

Water Quality

	Spr	Sum
Specific Conductance (µS/cm):	18.00	4.60
TDS (g/l):	0.01	0.03
DO (mg/l)	13.90	11.07
%DO:	98.70	NM
Water Temp (˚C):	1.40	9.10

Fish Habitat

	Spr	Sum
Spawning:	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	ARCH - M NNST - N	ARCH - H NNST - N
Migration:	ARCH - L NNST - N	ARCH - L NNST - N

Baffinland Iron Mines
Mary River Project

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Aquatic Environment Specialists

Figure 1.View upstream from habitat assessment in reach 1 of Candidate Reference Stream #2 during spring (a) and summer (b) 2008.

Figure 2.View downstream from habitat assessment in reach 1 of Candidate Reference Stream #2 during spring (a) and summer (b) 2008.

Figure 3.View across the habitat assessment site in reach 1 of Candidate Reference Stream #2 during spring (a) and summer (b) 2008.

Mine Site Aquatic Habitat Assessment

Location

Watercourse Name:	Candidate Reference Stream #3	**UTM:**	17W 528685 7915446
Site:	Reach 1	**Dates Surveyed:**	20-Jun-08, 29-Jul-08

Site Description/Physical Characteristics

Confinement: Partial

Channel Gradient: < 0.05˚

Hydrology

	Spr	Sum
Bankfull Width (m):	164.59	149.00
Wetted Width (m):	160.93	140.00
Run Depth (m):	0.72	0.85
Pool Depth (m):	NA	0.05
D (m):	< 0.01	< 0.01
D_{95} (m):	< 0.01	< 0.01
Point Velocities (m/s)		
Run:	0.44	0.69
Pool:	NA	0.00
Behind a rock:	NA	NA

Stream/Riparian Habitat

Channel Morphology: 100% run

Substrate Composition: 100% sand

Stream Cover: None

Aquatic Vegetation: None

Riparian Vegetation: Grass, moss, wildflower, willow

Barriers Present (Y/N): Unknown
Location: NA

Lakes Present (Y/N): DS
Location: ~13.3 km

L/R Bank Characteristics

	Spr	Sum
Bank Height (L/R; m):	0.75/none	Undef
Bank Stability:	Mod-High	Mod-High
Erosion Potential:	Low-High	Low-High

Water Quality

	Spr	Sum
Specific Conductance (µS/cm):	115.00	19.80
TDS (g/l):	0.08	0.13
DO (mg/l)	13.50	11.54
%DO:	101.80	NM
Water Temp (˚C):	3.50	8.30

Fish Habitat

	Spr	Sum
Spawning:	ARCH - N NNST - N	ARCH - N NNST - N
Feeding:	ARCH - N NNST - N	ARCH - L NNST - N
Migration:	ARCH - M NNST - N	ARCH - M NNST - N

Mine Site Aquatic Habitat Assessment

Figure 1.View upstream from habitat assessment in reach 1 of Candidate Reference Stream #3 during spring (a) and summer (b) 2008.

Figure 2.View downstream from habitat assessment in reach 1 of Candidate Reference Stream #3 during spring (a) and summer (b) 2008.

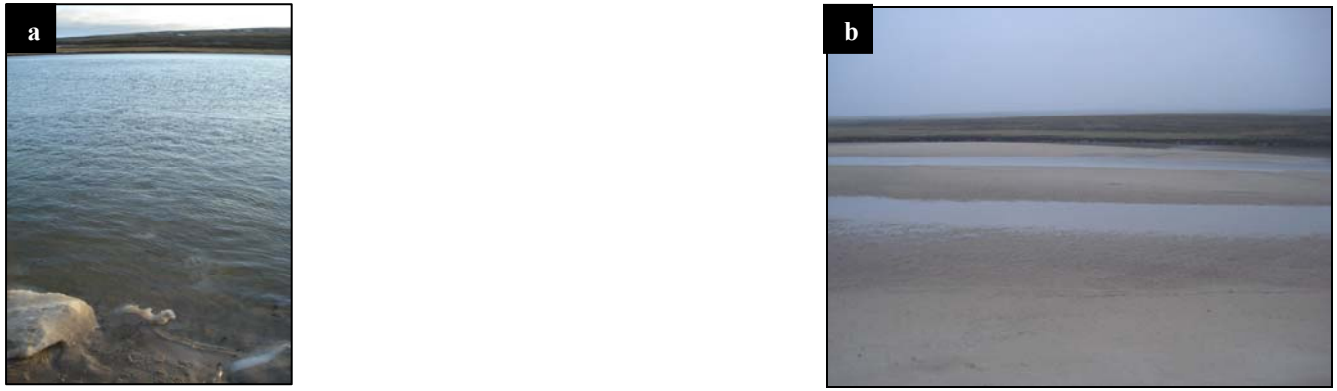

Figure 3.View across the habitat assessment site in reach 1 of Candidate Reference Stream #3 during spring (a) and summer (b) 2008.

APPENDIX 4.3-1.
DETAILED ZOOPLANKTON DATA FROM MINE AREA LAKES, 2007-2008.

Page

Table A4.3-1.1. Crustacean zooplankton (individuals/m^3) collected in vertical net tows from Camp, Sheardown, and Mary lakes during the 2007 and 2008 study years. Individual abundances may not add up to totals due to rounding.

Waterbody	Camp Lake								
Site ID	JLO-01			JLO-02			JLO-09		
Sampling Date	10-Aug-07	30-Jul-08	17-Sep-07	10-Aug-07	30-Jul-08	17-Sep-07	10-Aug-07	30-Jul-08	17-Sep-07
Cladocera (water fleas)									
Alona guttata	0	0	0	0	0	0	0	0	0
Bosmina longirostris	4	23	13	4	178	78	14	64	69
Chydorus sphaericus	0	0	0	0	0	0	0	0	0
Daphnia longiremis	4	7,962	24	5	4,786	20	5	3,056	17
Holopedium gibberum	0	0	0	0	0	0	0	0	1
Total Cladocera	**7**	**7,986**	**37**	**9**	**4,964**	**97**	**20**	**3,119**	**87**
Copepoda (copepods)									
Calanoida									
Diaptomus minutus	951	2,840	172	198	1,423	681	421	2,165	102
Limnocalanus macrurus	0	0	0	0	0	0	0	0	0
Calanoida copepodite	989	1,537	2,656	198	5,368	3,600	421	1,401	2,050
Total Calanoida	**1,940**	**4,377**	**2,828**	**397**	**6,791**	**4,281**	**841**	**3,565**	**2,152**
Cyclopoida									
Cyclops scutifer	3,783	2,142	2,345	2,041	2,652	4,962	1,647	1,082	1,332
Cyclopoida nauplii	1,145	4,843	1,690	822	8,213	7,687	736	7,512	1,988
Total Cyclopoida	**4,928**	**6,985**	**4,036**	**2,863**	**10,865**	**12,649**	**2,383**	**8,594**	**3,321**
Harpacticoida	0	0	0	0	0	0	0	0	0
Total Copepoda	**6,868**	**11,362**	**6,864**	**3,259**	**17,656**	**16,930**	**3,224**	**12,159**	**5,473**
OVERALL TOTAL	**6,875**	**19,347**	**6,901**	**3,268**	**22,619**	**17,027**	**3,244**	**15,279**	**5,561**

Table A4.3-1.1. - Continued -

Waterbody	Camp Lake							Camp Lake						
Site ID	Summer (n=6)							Fall (n=3)						
Sampling Date	Mean	Median	% [1]	SD	SE	Min	Max	Mean	Median	% [1]	SD	SE	Min	Max
Cladocera (water fleas)														
Alona guttata	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0
Bosmina longirostris	48	19	0	68	28	4	178	53	69	0.5	35	20	13	78
Chydorus sphaericus	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0
Daphnia longiremis	2,636	1,531	22	3,284	1,341	4	7,962	20	20	0.2	4	2	17	24
Holopedium gibberum	0	0	0	0	0	0	0	0	0	0.0	1	0	0	1
Total Cladocera	**2,684**	**1,570**	**23**	**3,314**	**1,353**	**7**	**7,986**	**74**	**87**	**0.7**	**32**	**19**	**37**	**97**
Copepoda (copepods)														
Calanoida														
Diaptomus minutus	1,333	1,187	11	1,023	418	198	2,840	319	172	3	316	182	102	681
Limnocalanus macrurus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Calanoida copepodite	1,652	1,195	14	1,895	774	198	5,368	2,769	2,656	28	781	451	2,050	3,600
Total Calanoida	**2,985**	**2,753**	**25**	**2,414**	**986**	**397**	**6,791**	**3,087**	**2,828**	**31**	**1,088**	**628**	**2,152**	**4,281**
Cyclopoida														
Cyclops scutifer	2,225	2,091	19	926	378	1,082	3,783	2,880	2,345	29	1,873	1,081	1,332	4,962
Cyclopoida nauplii	3,878	2,994	33	3,453	1,410	736	8,213	3,788	1,988	39	3,379	1,951	1,690	7,687
Total Cyclopoida	**6,103**	**5,956**	**52**	**3,328**	**1,359**	**2,383**	**10,865**	**6,668**	**4,036**	**68**	**5,191**	**2,997**	**3,321**	**12,649**
Harpacticoida	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Copepoda	**9,088**	**9,115**	**77**	**5,680**	**2,319**	**3,224**	**17,656**	**9,756**	**6,864**	**99**	**6,252**	**3,609**	**5,473**	**16,930**
OVERALL TOTAL	**11,772**	**11,077**	**100**	**8,442**	**3,447**	**3,244**	**22,619**	**9,829**	**6,901**	**100**	**6,269**	**3,620**	**5,561**	**17,027**

1 percent abundance of the overall total.

Table A4.3-1.1. - Continued -

Waterbody	Camp Lake							Sheardown Lake Northwest							
Site ID	Overall (n=9)							DLO-01-1				DLO-01-2			
Sampling Date	Mean	Median	% [1]	SD	SE	Min	Max	7-Aug-07	31-Jul-08	17-Sep-07	2-Sep-08	7-Aug-07	31-Jul-08	17-Sep-07	2-Sep-08
Cladocera (water fleas)															
Alona guttata	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0
Bosmina longirostris	50	23	0	56	19	4	178	293	66	902	2,017	125	249	868	355
Chydorus sphaericus	0	0	0	0	0	0	0	0	19	0	0	0	0	0	17
Daphnia longiremis	1,764	20	16	2,908	969	4	7,962	93	1,289	2,212	8,703	25	2,558	835	1,929
Holopedium gibberum	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Total Cladocera	**1,814**	**87**	**16**	**2,927**	**976**	**7**	**7,986**	**386**	**1,374**	**3,114**	**10,720**	**157**	**2,807**	**1,703**	**2,300**
Copepoda (copepods)															
Calanoida															
Diaptomus minutus	995	681	9	968	323	102	2,840	486	6,064	3,259	4,589	890	9,902	1,458	2,007
Limnocalanus macrurus	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Calanoida copepodite	2,024	1,537	18	1,646	549	198	5,368	36	2,918	6,432	79	13	1,729	49	222
Total Calanoida	**3,019**	**2,828**	**27**	**1,985**	**662**	**397**	**6,791**	**523**	**8,983**	**9,691**	**4,668**	**903**	**11,631**	**1,507**	**2,228**
Cyclopoida															
Cyclops scutifer	2,443	2,142	22	1,233	411	1,082	4,962	2,416	1,933	4,686	514	50	4,359	4,865	577
Cyclopoida nauplii	3,848	1,988	35	3,211	1,070	736	8,213	415	8,338	116	4,391	3,147	7,414	13,890	3,126
Total Cyclopoida	**6,291**	**4,928**	**57**	**3,707**	**1,236**	**2,383**	**12,649**	**2,831**	**10,271**	**4,802**	**4,905**	**3,197**	**11,773**	**18,754**	**3,703**
Harpacticoida	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Copepoda	**9,311**	**6,868**	**84**	**5,481**	**1,827**	**3,224**	**17,656**	**3,353**	**19,254**	**14,493**	**9,573**	**4,099**	**23,404**	**20,261**	**5,931**
OVERALL TOTAL	**11,125**	**6,901**	**100**	**7,437**	**2,479**	**3,244**	**22,619**	**3,739**	**20,628**	**17,607**	**20,293**	**4,256**	**26,211**	**21,965**	**8,232**

1 percent abundance of the overall total.

Table A4.3-1.1. - Continued -

Waterbody	Sheardown Lake Northwest											
Site ID	DLO-01-4				DLO-01-5				DLO-01-7			
Sampling Date	7-Aug-07	31-Jul-08	17-Sep-07	2-Sep-08	7-Aug-07	31-Jul-08	17-Sep-07	2-Sep-08	7-Aug-07	31-Jul-08	17-Sep-07	2-Sep-08
Cladocera (water fleas)												
Alona guttata	0	0	0	0	0	0	0	0	0	12	0	2
Bosmina longirostris	99	102	326	123	29	19	821	976	60	137	984	246
Chydorus sphaericus	0	13	0	0	0	9	0	0	0	0	0	4
Daphnia longiremis	49	255	396	963	87	2,876	3,182	4,659	91	548	307	1,061
Holopedium gibberum	0	0	0	0	0	0	0	0	0	0	0	0
Total Cladocera	**148**	**369**	**722**	**1,086**	**116**	**2,903**	**4,004**	**5,635**	**151**	**697**	**1,291**	**1,312**
Copepoda (copepods)												
Calanoida												
Diaptomus minutus	2,272	458	10,430	864	304	7,019	3,927	2,525	1,871	5,588	1,030	2,114
Limnocalanus macrurus	0	0	0	0	0	0	0	0	0	0	0	0
Calanoida copepodite	99	204	1,490	99	14	1,061	282	331	60	370	61	246
Total Calanoida	**2,371**	**662**	**11,920**	**963**	**319**	**8,080**	**4,209**	**2,856**	**1,932**	**5,957**	**1,092**	**2,360**
Cyclopoida												
Cyclops scutifer	1,926	917	14,994	123	1,854	3,287	11,010	384	9,356	2,616	3,444	386
Cyclopoida nauplii	1,136	4,533	20,674	1,580	348	3,116	34,084	1,476	3,622	7,532	3,136	2,824
Total Cyclopoida	**3,062**	**5,449**	**35,668**	**1,704**	**2,202**	**6,403**	**45,094**	**1,860**	**12,978**	**10,148**	**6,580**	**3,210**
Harpacticoida	0	0	0	0	0	0	0	0	0	0	0	0
Total Copepoda	**5,432**	**6,112**	**47,589**	**2,667**	**2,521**	**14,483**	**49,303**	**4,716**	**14,909**	**16,106**	**7,672**	**5,571**
OVERALL TOTAL	**5,581**	**6,481**	**48,310**	**3,753**	**2,637**	**17,386**	**53,307**	**10,351**	**15,060**	**16,802**	**8,964**	**6,883**

Table A4.3-1.1. - Continued -

Waterbody	Sheardown Lake Northwest							Sheardown Lake Northwest						
Site ID	Summer (n=10)							Fall (n=10)						
Sampling Date	Mean	Median	% [1]	SD	SE	Min	Max	Mean	Median	% [1]	SD	SE	Min	Max
Cladocera (water fleas)														
Alona guttata	2	0	0	4	1	0	12	0	0	0	1	0	0	2
Bosmina longirostris	118	100	1	90	28	19	293	762	845	4	551	174	123	2,017
Chydorus sphaericus	4	0	0	7	2	0	19	2	0	0	5	2	0	17
Daphnia longiremis	787	174	7	1,089	344	25	2,876	2,425	1,495	12	2,590	819	307	8,703
Holopedium gibberum	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Cladocera	**911**	**378**	**8**	**1,093**	**346**	**116**	**2,903**	**3,189**	**2,002**	**16**	**3,055**	**966**	**722**	**10,720**
Copepoda (copepods)														
Calanoida														
Diaptomus minutus	3,485	2,071	29	3,396	1,074	304	9,902	3,220	2,320	16	2,809	888	864	10,430
Limnocalanus macrurus	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Calanoida copepodite	650	151	5	977	309	13	2,918	929	234	5	1,980	626	49	6,432
Total Calanoida	**4,136**	**2,151**	**35**	**4,172**	**1,319**	**319**	**11,631**	**4,149**	**2,608**	**21**	**3,748**	**1,185**	**963**	**11,920**
Cyclopoida														
Cyclops scutifer	2,871	2,174	24	2,567	812	50	9,356	4,098	2,010	21	5,126	1,621	123	14,994
Cyclopoida nauplii	3,960	3,384	33	2,968	939	348	8,338	8,530	3,131	43	11,086	3,506	116	34,084
Total Cyclopoida	**6,831**	**5,926**	**58**	**4,109**	**1,299**	**2,202**	**12,978**	**12,628**	**4,853**	**63**	**15,576**	**4,926**	**1,704**	**45,094**
Harpacticoida	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Copepoda	**10,967**	**10,297**	**92**	**7,515**	**2,377**	**2,521**	**23,404**	**16,778**	**8,622**	**84**	**17,471**	**5,525**	**2,667**	**49,303**
OVERALL TOTAL	**11,878**	**10,770**	**100**	**8,335**	**2,636**	**2,637**	**26,211**	**19,966**	**13,979**	**100**	**17,352**	**5,487**	**3,753**	**53,307**

1 percent abundance of the overall total.

Table A4.3-1.1. - Continued -

Waterbody	Sheardown Lake Northwest							Sheardown Lake Southeast							
Site ID	Overall (n=20)							DLO-02-1				DLO-02-3			
Sampling Date	Mean	Median	% [1]	SD	SE	Min	Max	7-Aug-07	31-Jul-08	13-Sep-07	2-Sep-08	7-Aug-07	31-Jul-08	13-Sep-07	2-Sep-08
Cladocera (water fleas)															
Alona guttata	1	0	0	3	1	0	12	0	0	0	0	0	0	11	0
Bosmina longirostris	440	247	3	507	113	19	2,017	380	2,101	276	135	238	3,126	1,539	1,793
Chydorus sphaericus	3	0	0	6	1	0	19	0	48	0	0	0	42	0	0
Daphnia longiremis	1,606	899	10	2,109	471	25	8,703	1,182	3,883	867	1,183	1,047	11,665	2,241	7,605
Holopedium gibberum	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Cladocera	**2,050**	**1,302**	**13**	**2,520**	**564**	**116**	**10,720**	**1,562**	**6,032**	**1,143**	**1,318**	**1,285**	**14,832**	**3,791**	**9,398**
Copepoda (copepods)															
Calanoida															
Diaptomus minutus	3,353	2,193	21	3,036	679	304	10,430	122	5,157	138	1,134	738	4,130	1,098	978
Limnocalanus macrurus	0	0	0	0	0	0	1	0	0	0	0	0	0	0	14
Calanoida copepodite	790	213	5	1,526	341	13	6,432	14	637	3	142	95	1,060	68	435
Total Calanoida	**4,143**	**2,365**	**26**	**3,860**	**863**	**319**	**11,920**	**136**	**5,793**	**141**	**1,275**	**833**	**5,191**	**1,166**	**1,426**
Cyclopoida															
Cyclops scutifer	3,485	2,174	22	3,995	893	50	14,994	3,042	2,165	933	170	2,688	5,191	3,056	598
Cyclopoida nauplii	6,245	3,142	39	8,239	1,842	116	34,084	2,553	4,520	4,285	2,012	3,426	5,860	7,153	5,432
Total Cyclopoida	**9,730**	**5,177**	**61**	**11,479**	**2,567**	**1,704**	**45,094**	**5,595**	**6,685**	**5,218**	**2,182**	**6,115**	**11,051**	**10,209**	**6,030**
Harpacticoida	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Copepoda	**13,872**	**8,622**	**87**	**13,425**	**3,002**	**2,521**	**49,303**	**5,731**	**12,478**	**5,359**	**3,458**	**6,947**	**16,242**	**11,374**	**7,456**
OVERALL TOTAL	**15,922**	**12,706**	**100**	**13,883**	**3,104**	**2,637**	**53,307**	**7,293**	**18,510**	**6,503**	**4,776**	**8,232**	**31,074**	**15,166**	**16,854**

1 percent abundance of the overall total.

Table A4.3-1.1. - Continued -

Waterbody	Sheardown Lake Southeast				Sheardown Lake Southeast						
Site ID	DLO-02-4				Summer (n=6)						
Sampling Date	7-Aug-07	31-Jul-08	13-Sep-07	2-Sep-08	Mean	Median	% [1]	SD	SE	Min	Max
Cladocera (water fleas)											
Alona guttata	0	2	0	5	0	0	0	1	0	0	2
Bosmina longirostris	87	504	1,245	190	1,073	442	8	1,244	508	87	3,126
Chydorus sphaericus	0	5	0	0	16	2	0	23	9	0	48
Daphnia longiremis	87	698	5,138	1,295	3,094	1,114	24	4,398	1,795	87	11,665
Holopedium gibberum	0	0	0	0	0	0	0	0	0	0	0
Total Cladocera	**174**	**1,210**	**6,383**	**1,489**	**4,182**	**1,423**	**32**	**5,604**	**2,288**	**174**	**14,832**
Copepoda (copepods)											
Calanoida											
Diaptomus minutus	956	854	453	498	1,993	905	15	2,099	857	122	5,157
Limnocalanus macrurus	0	0	0	0	0	0	0	0	0	0	0
Calanoida copepodite	43	155	45	181	334	125	3	423	173	14	1,060
Total Calanoida	**1,000**	**1,009**	**498**	**679**	**2,327**	**1,004**	**18**	**2,480**	**1,012**	**136**	**5,793**
Cyclopoida											
Cyclops scutifer	2,043	2,716	2,580	471	2,974	2,702	23	1,148	469	2,043	5,191
Cyclopoida nauplii	87	5,413	5,704	2,363	3,643	3,973	28	2,131	870	87	5,860
Total Cyclopoida	**2,130**	**8,129**	**8,285**	**2,834**	**6,617**	**6,400**	**50**	**2,946**	**1,203**	**2,130**	**11,051**
Harpacticoida	0	0	0	0	0	0	0	0	0	0	0
Total Copepoda	**3,129**	**9,138**	**8,783**	**3,513**	**8,944**	**8,043**	**68**	**4,773**	**1,949**	**3,129**	**16,242**
OVERALL TOTAL	**3,303**	**10,348**	**15,166**	**5,002**	**13,127**	**9,290**	**100**	**10,132**	**4,136**	**3,303**	**31,074**

1 percent abundance of the overall total.

Table A4.3-1.1. - Continued -

Waterbody	Sheardown Lake Southeast							Sheardown Lake Southeast						
Site ID	Fall (n=6)							Overall (n=12)						
Sampling Date	Mean	Median	% [1]	SD	SE	Min	Max	Mean	Median	% [1]	SD	SE	Min	Max
Cladocera (water fleas)														
Alona guttata	3	0	0	5	2	0	11	2	0	0	3	1	0	11
Bosmina longirostris	863	760	8	748	305	135	1,793	968	442	8	985	284	87	3,126
Chydorus sphaericus	0	0	0	0	0	0	0	8	0	0	17	5	0	48
Daphnia longiremis	3,055	1,768	29	2,724	1,112	867	7,605	3,074	1,239	26	3,488	1,007	87	11,665
Holopedium gibberum	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Cladocera	**3,921**	**2,640**	**37**	**3,361**	**1,372**	**1,143**	**9,398**	**4,052**	**1,526**	**34**	**4,408**	**1,272**	**174**	**14,832**
Copepoda (copepods)														
Calanoida														
Diaptomus minutus	716	738	7	410	167	138	1,134	1,355	905	11	1,588	459	122	5,157
Limnocalanus macrurus	2	0	0	6	2	0	14	1	0	0	4	1	0	14
Calanoida copepodite	146	105	1	156	64	3	435	240	118	2	320	92	3	1,060
Total Calanoida	**864**	**922**	**8**	**503**	**205**	**141**	**1,426**	**1,596**	**1,004**	**13**	**1,869**	**540**	**136**	**5,793**
Cyclopoida														
Cyclops scutifer	1,301	765	12	1,210	494	170	3,056	2,138	2,372	18	1,424	411	170	5,191
Cyclopoida nauplii	4,492	4,859	42	2,008	820	2,012	7,153	4,067	4,402	34	2,023	584	87	7,153
Total Cyclopoida	**5,793**	**5,624**	**55**	**3,095**	**1,263**	**2,182**	**10,209**	**6,205**	**6,072**	**52**	**2,912**	**841**	**2,130**	**11,051**
Harpacticoida	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Copepoda	**6,657**	**6,408**	**63**	**3,137**	**1,281**	**3,458**	**11,374**	**7,801**	**7,202**	**66**	**4,032**	**1,164**	**3,129**	**16,242**
OVERALL TOTAL	**10,578**	**10,834**	**100**	**5,707**	**2,330**	**4,776**	**16,854**	**11,852**	**9,290**	**100**	**7,952**	**2,296**	**3,303**	**31,074**

1 percent abundance of the overall total.

Table A4.3-1.1. - Continued -

Waterbody	Mary Lake								
Site ID	BLO-01			BLO-03			BLO-04		
Sampling Date	9-Aug-07	06-Aug-08	19-Sep-07	14-Aug-07	05-Aug-08	19-Sep-07	14-Aug-07	05-Aug-08	18-Sep-07
Cladocera (water fleas)									
Alona guttata	0	6	0	1	0	0	0	0	0
Bosmina longirostris	4	19	58	509	36	2,196	649	293	803
Chydorus sphaericus	0	2	0	0	0	0	0	0	0
Daphnia longiremis	50	356	306	543	44	1,063	30	317	1,156
Holopedium gibberum	0	15	15	306	21	0	257	253	96
Total Cladocera	**54**	**398**	**378**	**1,359**	**101**	**3,259**	**936**	**863**	**2,055**
Copepoda (copepods)									
Calanoida									
Diaptomus minutus	70	123	160	543	177	647	347	225	899
Limnocalanus macrurus	2	0	0	0	0	0	0	0	0
Calanoida copepodite	109	461	160	2,513	838	46	815	867	482
Total Calanoida	**180**	**584**	**320**	**3,056**	**1,015**	**694**	**1,162**	**1,092**	**1,381**
Cyclopoida									
Cyclops scutifer	380	323	582	2,105	352	925	1,147	867	996
Cyclopoida nauplii	590	1,049	247	1,290	740	3,375	679	1,012	1,156
Total Cyclopoida	**970**	**1,372**	**829**	**3,395**	**1,092**	**4,300**	**1,826**	**1,879**	**2,152**
Harpacticoida	0	0	0	1	0	0	0	0	0
Total Copepoda	**1,151**	**1,956**	**1,150**	**6,452**	**2,107**	**4,993**	**2,988**	**2,970**	**3,532**
OVERALL TOTAL	**1,205**	**2,354**	**1,528**	**7,811**	**2,208**	**8,253**	**3,923**	**3,834**	**5,588**

Table A4.3-1.1. - Continued -

Waterbody	Mary Lake					Mary Lake						
Site ID	BLO-05			BLO-06		Summer (n=9)						
Sampling Date	14-Aug-07	05-Aug-08	18-Sep-07	14-Aug-07	18-Sep-07	Mean	Median	% [1]	SD	SE	Min	Max
Cladocera (water fleas)												
Alona guttata	0	1	0	0	0	1	0	0	2	1	0	6
Bosmina longirostris	42	31	3,725	7	19	177	36	7	247	82	4	649
Chydorus sphaericus	0	0	0	0	0	0	0	0	1	0	0	2
Daphnia longiremis	47	120	3,506	24	51	170	50	6	188	63	24	543
Holopedium gibberum	104	264	27	17	0	137	104	5	130	43	0	306
Total Cladocera	**193**	**417**	**7,259**	**48**	**69**	**485**	**398**	**18**	**465**	**155**	**48**	**1,359**
Copepoda (copepods)												
Calanoida												
Diaptomus minutus	75	24	1,205	37	537	180	123	7	171	57	24	543
Limnocalanus macrurus	0	0	0	0	0	0	0	0	1	0	0	2
Calanoida copepodite	71	76	1,096	72	148	647	461	24	783	261	71	2,513
Total Calanoida	**146**	**100**	**2,301**	**108**	**685**	**827**	**584**	**30**	**947**	**316**	**100**	**3,056**
Cyclopoida												
Cyclops scutifer	492	74	3,506	477	426	691	477	25	618	206	74	2,105
Cyclopoida nauplii	735	159	767	126	352	709	735	26	388	129	126	1,290
Total Cyclopoida	**1,227**	**233**	**4,273**	**602**	**778**	**1,400**	**1,227**	**52**	**915**	**305**	**233**	**3,395**
Harpacticoida	4	0	0	0	0	1	0	0	1	0	0	4
Total Copepoda	**1,377**	**333**	**6,574**	**711**	**1,463**	**2,227**	**1,956**	**82**	**1,832**	**611**	**333**	**6,452**
OVERALL TOTAL	**1,570**	**750**	**13,832**	**759**	**1,533**	**2,713**	**2,208**	**100**	**2,246**	**749**	**750**	**7,811**

1 percent abundance of the overall total.

Table A4.3-1.1. - Continued -

Waterbody	Mary Lake							Mary Lake						
Site ID	Fall (n=5)							Overall (n=14)						
Sampling Date	Mean	Median	% [1]	SD	SE	Min	Max	Mean	Median	% [1]	SD	SE	Min	Max
Cladocera (water fleas)														
Alona guttata	0	0	0	0	0	0	0	1	0	0	2	0	0	6
Bosmina longirostris	1,360	803	22	1,589	711	19	3,725	599	50	15	1,077	288	4	3,725
Chydorus sphaericus	0	0	0	0	0	0	0	0	0	0	1	0	0	2
Daphnia longiremis	1,216	1,063	20	1,365	611	51	3,506	544	213	14	931	249	24	3,506
Holopedium gibberum	28	15	0	40	18	0	96	98	24	2	118	31	0	306
Total Cladocera	**2,604**	**2,055**	**42**	**2,906**	**1,299**	**69**	**7,259**	**1,242**	**408**	**32**	**1,960**	**524**	**48**	**7,259**
Copepoda (copepods)														
Calanoida														
Diaptomus minutus	690	647	11	392	175	160	1,205	362	201	9	360	96	24	1,205
Limnocalanus macrurus	0	0	0	0	0	0	0	0	0	0	1	0	0	2
Calanoida copepodite	386	160	6	429	192	46	1,096	554	311	14	671	179	46	2,513
Total Calanoida	**1,076**	**694**	**18**	**785**	**351**	**320**	**2,301**	**916**	**689**	**23**	**870**	**232**	**100**	**3,056**
Cyclopoida														
Cyclops scutifer	1,287	925	21	1,263	565	426	3,506	904	537	23	902	241	74	3,506
Cyclopoida nauplii	1,179	767	19	1,279	572	247	3,375	877	738	22	807	216	126	3,375
Total Cyclopoida	**2,466**	**2,152**	**40**	**1,750**	**783**	**778**	**4,300**	**1,781**	**1,299**	**45**	**1,319**	**352**	**233**	**4,300**
Harpacticoida	0	0	0	0	0	0	0	0	0	0	1	0	0	4
Total Copepoda	**3,542**	**3,532**	**58**	**2,310**	**1,033**	**1,150**	**6,574**	**2,697**	**2,032**	**68**	**2,033**	**543**	**333**	**6,574**
OVERALL TOTAL	**6,147**	**5,588**	**100**	**5,159**	**2,307**	**1,528**	**13,832**	**3,939**	**2,281**	**100**	**3,769**	**1,007**	**750**	**13,832**

1 percent abundance of the overall total.

APPENDIX 4.3-2.

NORTH/SOUTH CONSULTANTS INC. INVERTEBRATE SAMPLE PROCESSING, IDENTIFICATION, AND DATA QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) PROCEDURES.

Sample Processing

Sorting aquatic samples involves removing aquatic invertebrates from the organic and inorganic material within each sample.

For sample sorting:

- All sorting was conducted with a 3x magnified lamp;
- All sorted samples were checked by a second laboratory technician;
- Any additional invertebrates collected during the quality assurance/quality control (QA/QC) process were combined with the original sample, but counted separately; and
- Sorting efficiency had to be ≥ 95%. The QA/QC technician checked on a tray-by-tray basis so that the sample was handled as few times as possible; the QA/QC technician sorted any remaining invertebrates from the tray and recorded the number of missed invertebrates per tray.

Verification of Taxonomic Identification

Samples were identified to the appropriate taxonomic level by a taxonomic specialist.

Data Processing

Data from laboratory data sheets were entered into a Microsoft® Excel data template. The data template specified project name, study area, site location, site label, sampling date, sampling method, sieve mesh size in field/laboratory, number of splits, taxonomic list, life stage and enumeration list. A second and a third technician verified all entered data and formulae to original field book and laboratory bench sheets. A final verification was conducted by a senior biologist specializing in lower trophic level ecology.

APPENDIX 4.3-3.
DETAILED INVERTEBRATE DRIFT DATA COLLECTED FROM MINE AREA STREAMS, 2007-2008.

Page

Appendix 4.3-3. Densities (individuals/100m^3) and summary statistics for invertebrates collected in drift traps deployed in the tributaries to Camp, Sheardown, and Mary lakes during the 2007 and 2008 study years.

Waterbody	**Camp Lake Tributary 1**									**Camp Lake Tributary 2**								
Season	**Summer 2007**				**Fall 2007**				**Overall**	**Summer 2007**				**Fall 2007**				**Overall**
Site ID	**CLT-1**			**Summer 2007**	**CLT-1**			**Fall 2007**	**2007 Site**	**CLT-2**			**Summer 2007**	**CLT-2**			**Fall 2007**	**2007 Site**
Sampling Period	**evening**	**night**	**morning**	**Mean**	**morning**	**evening**	**night**	**Mean**	**Mean**	**evening**	**night**	**morning**	**Mean**	**morning**	**evening**	**night**	**Mean**	**Mean**
Water Velocity (meters/second)	**0.23**	**0.24**	**0.17**		**0.49**	**0.49** *	**0.49** *			**0.37**	**0.27**	**0.31**		**0.37**	**0.37** [1]	**0.37** [1]		
NEMATODES																		
P. Nemata	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.70	5.90	0.00	0.00	0.00	0.00	2.95
ANNELIDS																		
P. Annelida																		
WORMS																		
Cl. Oligochaeta	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ARTHROPODS																		
P. Arthropoda																		
SPRINGTAILS																		
Collembola	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MITES																		
O. Acari	0.00	0.00	0.00	0.00	8.96	0.00	0.00	2.99	1.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CRUSTACEA																		
Cl. Ostracoda	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O. Amphipoda	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hyalellidae																		
Hyalella	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pontoporeiidae																		
Diporeia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
INSECTS																		
Cl. Insecta																		
BEETLES																		
O. Coleoptera																		
unidentified adult	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRUE BUGS																		
O. Hemiptera																		
Pleidae adult	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ANTS, WASPS, BEES																		
O. Hymenoptera	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hymenoptera adult	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.85	2.95	0.00	0.00	0.00	0.00	1.47
MAYFLIES																		
O. Ephemeroptera																		
Ephemerellidae																		
Eurylophella	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
STONEFLIES																		
O. Plecoptera																		
Nemouridae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.13	0.00	0.00	3.04	1.52
CADDISFLIES																		
O. Trichoptera																		
Limnephilidae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRUE FLIES																		
O. Diptera																		

Appendix 4.3-3. - Continued -

Waterbody	Camp Lake Tributary 1									Camp Lake Tributary 2								
Season	Summer 2007				Fall 2007				Overall	Summer 2007				Fall 2007				Overall
Site ID	CLT-1			Summer 2007	CLT-1			Fall 2007	2007 Site	CLT-2			Summer 2007	CLT-2			Fall 2007	2007 Site
Sampling Period	evening	night	morning	Mean	morning	evening	night	Mean	Mean	evening	night	morning	Mean	morning	evening	night	Mean	Mean
Water Velocity (meters/second)	0.23	0.24	0.17		0.49	0.49 *	0.49 *			0.37	0.27	0.31		0.37	0.37 [1]	0.37 [1]		
unidentified adult	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MIDGES																		
Chironomidae																		
unidentified pupa	8.50	8.85	0.00	5.78	0.00	0.00	0.00	0.00	2.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
unidentified adult	0.00	17.70	98.05	38.58	0.00	0.00	0.00	0.00	19.29	26.69	0.00	8.85	11.85	0.00	0.00	0.00	0.00	5.92
Chironominae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Orthocladiinae	42.52	26.55	88.25	52.44	17.92	98.54	8.96	41.81	47.12	17.80	0.00	17.70	11.83	118.64	36.50	63.88	73.01	42.42
Tanypodinae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MOSQUITOES																		
Culicidae	0.00	0.00	9.81	3.27	0.00	0.00	0.00	0.00	1.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BLACK FLIES																		
Simuliidae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CRANE FLIES																		
Tipulidae	0.00	0.00	0.00	0.00	8.96	8.96	17.92	11.94	5.97	0.00	0.00	0.00	0.00	0.00	0.00	9.13	3.04	1.52
Total Drifting Invertebrates	**51.02**	**53.10**	**196.11**	**100.08**	**35.83**	**107.50**	**26.87**	**56.74**	**78.41**	**44.49**	**0.00**	**53.10**	**32.53**	**127.76**	**36.50**	**73.01**	**79.09**	**55.81**
Taxonomic Richness (Family-level) [2, 3]	**1**	**1**	**2**	**2**	**3**	**2**	**2**	**3**	**4**	**1**	**0**	**3**	**3**	**2**	**1**	**2**	**3**	**5**

* water velocity not re-measured.
1 percent abundance of the overall total.
2 number of taxa reported at Family level; if group identified to higher level, then it was assumed that only one Family was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to family-level, not the average number of taxa.

Appendix 4.3-3. - Continued -

Waterbody	Camp Lake Tributaries Combined																			
Season	Overall Summer (n=6)							Overall Fall (n=6)							Overall Waterbody (n=12)						
Summary Statistic	Mean	Median	% [1]	SD	SE	Min	Max	Mean	Median	% [1]	SD	SE	Min	Max	Mean	Median	% [1]	SD	SE	Min	Max
NEMATODES																					
P. Nemata	2.95	0.00	4.45	7.23	2.95	0.00	17.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.47	0.00	2.20	5.11	1.47	0.00	17.70
ANNELIDS																					
P. Annelida																					
WORMS																					
Cl. Oligochaeta	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ARTHROPODS																					
P. Arthropoda																					
SPRINGTAILS																					
Collembola	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MITES																					
O. Acari	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.49	0.00	2.20	3.66	1.49	0.00	8.96	0.75	0.00	1.11	2.59	0.75	0.00	8.96
CRUSTACEA																					
Cl. Ostracoda	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O. Amphipoda	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hyalellidae																					
Hyalella	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pontoporeiidae																					
Diporeia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
INSECTS																					
Cl. Insecta																					
BEETLES																					
O. Coleoptera																					
unidentified adult	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRUE BUGS																					
O. Hemiptera																					
Pleidae adult	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ANTS, WASPS, BEES																					
O. Hymenoptera	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hymenoptera adult	1.47	0.00	2.22	3.61	1.47	0.00	8.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	1.10	2.55	0.74	0.00	8.85
MAYFLIES																					
O. Ephemeroptera																					
Ephemerellidae																					
Eurylophella	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
STONEFLIES																					
O. Plecoptera																					
Nemouridae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.52	0.00	2.24	3.73	1.52	0.00	9.13	0.76	0.00	1.13	2.63	0.76	0.00	9.13
CADDISFLIES																					
O. Trichoptera																					
Limnephilidae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRUE FLIES																					
O. Diptera																					

Appendix 4.3-3. - Continued -

Waterbody	Camp Lake Tributaries Combined																			
Season	Overall Summer (n=6)							Overall Fall (n=6)							Overall Waterbody (n=12)					
Summary Statistic	Mean	Median	% [1]	SD	SE	Min	Max	Mean	Median	% [1]	SD	SE	Min	Max	Mean	Median	% [1]	SD	SE	Min	Max
unidentified adult	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MIDGES																					
Chironomidae																					
unidentified pupa	2.89	0.00	4.36	4.48	1.83	0.00	8.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.45	0.00	2.15	3.38	0.98	0.00	8.85
unidentified adult	25.22	13.27	38.03	37.16	15.17	0.00	98.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.61	0.00	18.79	28.30	8.17	0.00	98.05
Chironominae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Orthocladiinae	32.14	22.17	48.47	30.77	12.56	0.00	88.25	57.41	50.19	84.53	44.33	18.10	8.96	118.64	44.77	31.53	66.71	38.70	11.17	0.00	118.64
Tanypodinae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MOSQUITOES																					
Culicidae	1.63	0.00	2.46	4.00	1.63	0.00	9.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82	0.00	1.22	2.83	0.82	0.00	9.81
BLACK FLIES																					
Simuliidae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CRANE FLIES																					
Tipulidae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.49	8.96	11.03	6.75	2.76	0.00	17.92	3.75	0.00	5.58	6.00	1.73	0.00	17.92
Total Drifting Invertebrates	**66.30**	**52.06**	**100.00**	**66.79**	**27.27**	**0.00**	**196.11**	**67.91**	**54.76**	**100.00**	**42.13**	**17.20**	**26.87**	**127.76**	**67.11**	**52.06**	**100.00**	**53.25**	**15.37**	**0.00**	**196.11**
Taxonomic Richness (Family-level) [2, 3]	-	-	-	-	-	-	**4**	-	-	-	-	-	-	**4**	-	-	-	-	-	-	**7**

1 percent abundance of the overall total.
2 number of taxa reported at Family level; if group identified to higher level, then it was assumed that only one Family was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to family-level, not the average number of taxa.

Appendix 4.3-3. - Continued -

Waterbody	Sheardown Lake Tributary 1																									
Season	Spring 2007				Spring 2008				Summer 2007				Summer 2008				Fall 2007				Fall 2008				Overall	Overall
Site ID	SDLT-1			Spring 2007	SDLT-1			Spring 2008	SDLT-1			Summer 2007	SDLT-1			Summer 2008	SDLT-1			Fall 2007	SDLT-1			Fall 2008	2007 Site	2008 Site
Sampling Period	morning	evening	night	Mean	morning	evening	night	Mean	morning	evening	night	Mean	morning	evening	night	Mean	morning	evening	night	Mean	morning	evening	night	Mean	Mean	Mean
Water Velocity (meters/second)	0.29	0.32	0.32		0.60	1.07	0.60		0.63	0.61	0.60		0.85	0.85	0.85		0.46	0.46 [1]	0.46 [1]		0.35	0.86	-			
NEMATODES																										
P. Nemata	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00
ANNELIDS																										
P. Annelida																										
WORMS																										
Cl. Oligochaeta	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.07	2.07	1.38	0.00	0.00	0.00	0.00	1.93	0.00	-	0.96	0.00	0.76
Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.73	-	1.87	0.00	0.47
ARTHROPODS																										
P. Arthropoda																										
SPRINGTAILS																										
Collembola	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.07	0.69	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.26
MITES																										
O. Acari	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00
CRUSTACEA																										
Cl. Ostracoda	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00
O. Amphipoda	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.07	0.69	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.26
Hyalellidae																										
Hyalella	0.00	0.00	0.00	0.00	0.00	0.00	2.06	0.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.26
Pontoporeiidae																										
Diporeia	0.00	0.00	0.00	0.00	0.00	0.00	2.06	0.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.26
INSECTS																										
Cl. Insecta																										
BEETLES																										
O. Coleoptera																										
unidentified adult	0.00	0.00	0.00	0.00	0.00	1.92	0.00	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.24
TRUE BUGS																										
O. Hemiptera																										
Pleidae adult	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00
ANTS, WASPS, BEES																										
O. Hymenoptera	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.07	0.00	0.69	0.00	0.00	0.00	0.00	1.93	0.00	-	0.96	0.00	0.50
Hymenoptera adult	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00
MAYFLIES																										
O. Ephemeroptera																										
Ephemerellidae																										
Eurylophella	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00
STONEFLIES																										
O. Plecoptera																										
Nemouridae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00
CADDISFLIES																										
O. Trichoptera																										
Limnephilidae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00
TRUE FLIES																										
O. Diptera																										

Appendix 4.3-3. - Continued -

Waterbody	Sheardown Lake Tributary 1																								
Season	**Spring 2007**				**Spring 2008**				**Summer 2007**				**Summer 2008**				**Fall 2007**				**Fall 2008**				**Overall**	**Overall**
Site ID	**SDLT-1**			**Spring 2007**	**SDLT-1**			**Spring 2008**	**SDLT-1**			**Summer 2007**	**SDLT-1**			**Summer 2008**	**SDLT-1**			**Fall 2007**	**SDLT-1**			**Fall 2008**	**2007 Site**	**2008 Site**
Sampling Period	**morning**	**evening**	**night**	**Mean**	**morning**	**evening**	**night**	**Mean**	**morning**	**evening**	**night**	**Mean**	**morning**	**evening**	**night**	**Mean**	**morning**	**evening**	**night**	**Mean**	**morning**	**evening**	**night**	**Mean**	**Mean**	**Mean**
Water Velocity (meters/second)	**0.29**	**0.32**	**0.32**		**0.60**	**1.07**	**0.60**		**0.63**	**0.61**	**0.60**		**0.85**	**0.85**	**0.85**		**0.46**	**0.46** [1]	**0.46** [1]		**0.35**	**0.86**	-			
unidentified adult	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.95	2.98	0.00	0.00	-	0.00	0.99	0.00
MIDGES																										
Chironomidae																										
unidentified pupa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.09	26.62	0.00	11.90	0.00	2.07	2.07	1.38	8.95	0.00	0.00	2.98	0.00	1.87	-	0.93	4.96	0.75
unidentified adult	0.00	0.00	0.00	0.00	0.00	1.92	0.00	0.64	0.00	35.49	0.00	11.83	0.00	6.22	2.07	2.77	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	3.94	1.28
Chironominae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.87	-	0.93	0.00	0.23
Orthocladiinae	43.66	26.08	35.78	35.18	6.17	0.00	4.12	3.43	9.09	0.00	0.00	3.03	0.00	4.15	4.15	2.77	0.00	17.89	0.00	5.96	11.56	0.00	-	5.78	14.72	3.77
Tanypodinae	0.00	8.69	0.00	2.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.97	0.00
MOSQUITOES																										
Culicidae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00
BLACK FLIES																										
Simuliidae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00
CRANE FLIES																										
Tipulidae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00
Total Drifting Invertebrates	**43.66**	**34.78**	**35.78**	**38.07**	**6.17**	**3.85**	**8.23**	**6.08**	**18.18**	**62.10**	**0.00**	**26.76**	**0.00**	**16.60**	**14.52**	**10.37**	**8.95**	**17.89**	**8.95**	**11.93**	**15.42**	**7.46**	-	**11.44**	**25.59**	**9.03**
Taxonomic Richness (Family-level) [2, 3]	**1**	**1**	**1**	**1**	**0**	**2**	**3**	**4**	**1**	**1**	**0**	**1**	**0**	**3**	**4**	**5**	**1**	**1**	**1**	**2**	**3**	**2**	-	**4**	**2**	**9**

1 percent abundance of the overall total.
2 number of taxa reported at Family level; if group identified to higher level, then it was assumed that only one Family was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to family-level, not the average number of taxa.

Appendix 4.3-3. - Continued -

Waterbody	Sheardown Lake Tributary 9					Sheardown Lake Tributary 12												Overall Spring (n=12)						
Season	Spring 2007				Overall	Spring 2007				Summer 2007				Fall 2007				Overall							
Site ID	SDLT-9			Spring 2007	2007 Site	SDLT-12			Spring 2007	SDLT-12			Summer 2007	SDLT-12			Fall 2007	2007 Site	Mean	Median	% Abundance	SD	SE	Min	Max
Sampling Period	morning	evening	night	Mean	Mean	morning	evening	night	Mean	morning	evening	night	Mean	morning	evening	night	Mean	Mean							
Water Velocity (meters/second)	0.18	0.18	0.29			0.05	0.32	0.20		0.05	0.05	0.05		0.13	0.13 [1]	0.13 [1]									
NEMATODES																									
P. Nemata	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.90	0.00	2.97	0.00	0.00	0.00	0.00	0.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ANNELIDS																									
P. Annelida																									
WORMS																									
Cl. Oligochaeta	17.84	0.00	0.00	5.95	5.95	0.00	0.00	8.90	2.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.23	0.00	1.20	5.54	1.60	0.00	17.84
Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ARTHROPODS																									
P. Arthropoda																									
SPRINGTAILS																									
Collembola	0.00	8.92	0.00	2.97	2.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.40	2.58	0.74	0.00	8.92
MITES																									
O. Acari	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CRUSTACEA																									
Cl. Ostracoda	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.44	0.00	2.81	0.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O. Amphipoda	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hyalellidae																									
Hyalella	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.09	0.59	0.17	0.00	2.06
Pontoporeiidae																									
Diporeia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.09	0.59	0.17	0.00	2.06
INSECTS																									
Cl. Insecta																									
BEETLES																									
O. Coleoptera																									
unidentified adult	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.09	0.56	0.16	0.00	1.92
TRUE BUGS																									
O. Hemiptera																									
Pleidae adult	8.92	0.00	0.00	2.97	2.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.40	2.58	0.74	0.00	8.92
ANTS, WASPS, BEES																									
O. Hymenoptera	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hymenoptera adult	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MAYFLIES																									
O. Ephemeroptera																									
Ephemerellidae																									
Eurylophella	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
STONEFLIES																									
O. Plecoptera																									
Nemouridae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CADDISFLIES																									
O. Trichoptera																									
Limnephilidae	8.92	0.00	0.00	2.97	2.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.40	2.58	0.74	0.00	8.92
TRUE FLIES																									

Appendix 4.3-3. - Continued -

Waterbody	Sheardown Lake Tributary 9					Sheardown Lake Tributary 12												Overall Spring (n=12)						
Season	Spring 2007				Overall	Spring 2007				Summer 2007				Fall 2007				Overall						
Site ID	SDLT-9			Spring 2007	2007 Site	SDLT-12			Spring 2007	SDLT-12			Summer 2007	SDLT-12			Fall 2007	2007 Site	Mean	Median	% Abundance	SD	SE	Min	Max
Sampling Period	morning	evening	night	Mean	Mean	morning	evening	night	Mean	morning	evening	night	Mean	morning	evening	night	Mean	Mean							
Water Velocity (meters/second)	0.18	0.18	0.29			0.05	0.32	0.20		0.05	0.05	0.05		0.13	0.13 [1]	0.13 [1]									
O. Diptera																									
unidentified adult	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MIDGES																									
Chironomidae																									
unidentified pupa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
unidentified adult	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.09	0.56	0.16	0.00	1.92
Chironominae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Orthocladiinae	562.08	401.49	34.93	332.83	332.83	444.39	214.71	373.71	344.27	8.90	8.90	0.00	5.93	59.09	25.32	0.00	28.14	126.11	178.93	39.72	96.45	209.18	60.39	0.00	562.08
Tanypodinae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.72	0.00	0.39	2.51	0.72	0.00	8.69
MOSQUITOES																									
Culicidae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BLACK FLIES																									
Simuliidae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.90	0.00	0.00	2.97	0.00	0.00	0.00	0.00	0.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CRANE FLIES																									
Tipulidae	8.92	0.00	0.00	2.97	2.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.40	2.58	0.74	0.00	8.92
Total Drifting Invertebrates	**606.69**	**410.41**	**34.93**	**350.68**	**350.68**	**444.39**	**214.71**	**382.60**	**347.23**	**17.80**	**17.80**	**0.00**	**11.86**	**59.09**	**33.77**	**0.00**	**30.95**	**130.02**	**185.52**	**39.72**	**100.00**	**217.26**	**62.72**	**3.85**	**606.69**
Taxonomic Richness (Family-level) [2, 3]	**5**	**2**	**1**	**6**	**6**	**1**	**1**	**2**	**2**	**2**	**2**	**0**	**3**	**1**	**2**	**0**	**2**	**4**	-	-	-	-	-	-	**9**

1 percent abundance of the overall total.
2 number of taxa reported at Family level; if group identified to higher level, then it was assumed that only one Family was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to family-level, not the average number of taxa.

Appendix 4.3-3. - Continued -

Waterbody	Sheardown Lake Tributaries Combined																			
Season	Overall Summer (n=9)							Overall Fall (n=8)						Overall Waterbody (n=29)						
Summary Statistic	Mean	Median	% [1]	SD	SE	Min	Max	Mean	Median	% [1]	SD	SE	Min	Max	Mean	Median	% [1]	SD	SE	Min	Max
NEMATODES																					
P. Nemata	0.99	0.00	6.05	2.97	0.99	0.00	8.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.00	0.35	1.65	0.31	0.00	8.90
ANNELIDS																					
P. Annelida																					
WORMS																					
Cl. Oligochaeta	0.46	0.00	2.82	0.91	0.30	0.00	2.07	0.24	0.00	1.27	0.68	0.24	0.00	1.93	1.13	0.00	1.30	3.65	0.68	0.00	17.84
Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.00	2.46	1.32	0.47	0.00	3.73	0.13	0.00	0.15	0.69	0.13	0.00	3.73
ARTHROPODS																					
P. Arthropoda																					
SPRINGTAILS																					
Collembola	0.23	0.00	1.41	0.69	0.23	0.00	2.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.00	0.44	1.69	0.31	0.00	8.92
MITES																					
O. Acari	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CRUSTACEA																					
Cl. Ostracoda	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.06	0.00	5.57	2.98	1.06	0.00	8.44	0.29	0.00	0.33	1.57	0.29	0.00	8.44
O. Amphipoda	0.23	0.00	1.41	0.69	0.23	0.00	2.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.08	0.39	0.07	0.00	2.07
Hyalellidae																					
Hyalella	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.08	0.38	0.07	0.00	2.06
Pontoporeiidae																					
Diporeia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.08	0.38	0.07	0.00	2.06
INSECTS																					
Cl. Insecta																					
BEETLES																					
O. Coleoptera																					
unidentified adult	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.08	0.36	0.07	0.00	1.92
TRUE BUGS																					
O. Hemiptera																					
Pleidae adult	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.00	0.35	1.66	0.31	0.00	8.92
ANTS, WASPS, BEES																					
O. Hymenoptera	0.23	0.00	1.41	0.69	0.23	0.00	2.07	0.24	0.00	1.27	0.68	0.24	0.00	1.93	0.14	0.00	0.16	0.52	0.10	0.00	2.07
Hymenoptera adult	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MAYFLIES																					
O. Ephemeroptera																					
Ephemerellidae																					
Eurylophella	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
STONEFLIES																					
O. Plecoptera																					
Nemouridae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CADDISFLIES																					
O. Trichoptera																					
Limnephilidae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.00	0.35	1.66	0.31	0.00	8.92
TRUE FLIES																					
O. Diptera																					
unidentified adult	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	5.90	3.16	1.12	0.00	8.95	0.31	0.00	0.35	1.66	0.31	0.00	8.95

Appendix 4.3-3. - Continued -

Waterbody	Sheardown Lake Tributaries Combined																			
Season	Overall Summer (n=9)							Overall Fall (n=8)							Overall Waterbody (n=29)					
Summary Statistic	Mean	Median	% [1]	SD	SE	Min	Max	Mean	Median	% [1]	SD	SE	Min	Max	Mean	Median	% [1]	SD	SE	Min	Max
MIDGES																					
Chironomidae																					
unidentified pupa	4.43	0.00	27.11	8.83	2.94	0.00	26.62	1.35	0.00	7.14	3.14	1.11	0.00	8.95	1.75	0.00	2.01	5.33	0.99	0.00	26.62
unidentified adult	4.87	0.00	29.79	11.67	3.89	0.00	35.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.58	0.00	1.81	6.64	1.23	0.00	35.49
Chironominae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.00	1.23	0.66	0.23	0.00	1.87	0.06	0.00	0.07	0.35	0.06	0.00	1.87
Orthocladiinae	3.91	4.15	23.94	4.15	1.38	0.00	9.09	14.23	5.78	75.15	20.58	7.28	0.00	59.09	79.18	8.90	90.95	156.82	29.12	0.00	562.08
Tanypodinae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.34	1.61	0.30	0.00	8.69
MOSQUITOES																					
Culicidae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BLACK FLIES																					
Simuliidae	0.99	0.00	6.05	2.97	0.99	0.00	8.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.00	0.35	1.65	0.31	0.00	8.90
CRANE FLIES																					
Tipulidae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.00	0.35	1.66	0.31	0.00	8.92
Total Drifting Invertebrates	**16.33**	**16.60**	**100.00**	**19.06**	**6.35**	**0.00**	**62.10**	**18.94**	**12.18**	**100.00**	**19.03**	**6.73**	**0.00**	**59.09**	**87.06**	**17.80**	**100.00**	**160.70**	**29.84**	**0.00**	**606.69**
Taxonomic Richness (Family-level) [2, 3]	-	-	-	-	-	-	**7**	-	-	-	-	-	-	**6**	-	-	-	-	-	-	**16**

1 percent abundance of the overall total.
2 number of taxa reported at Family level; if group identified to higher level, then it was assumed that only one Family was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to family-level, not the average number of taxa.

Appendix 4.3-3. - Continued -

Waterbody	Mary Lake South Tributary 2								
Season	Spring 2008				Summer 2008				Overall
Site ID	MLST-2			Spring 2008	MLST-2			Summer 2008	2008 Site
Sampling Period	morning	evening	night	Mean	morning	afternoon	evening	Mean	Mean
Water Velocity (meters/second)	0.58	0.58	0.58		0.5	0.5	0.5		
NEMATODES									
P. Nemata	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ANNELIDS									
P. Annelida									
WORMS									
Cl. Oligochaeta	0.00	0.00	0.00	0.00	1.90	0.00	0.00	0.63	0.32
Other	0.00	0.00	0.00	0.00	0.00	1.90	11.40	4.43	2.22
ARTHROPODS									
P. Arthropoda									
SPRINGTAILS									
Collembola	0.00	0.00	0.00	0.00	0.00	1.90	0.00	0.63	0.32
MITES									
O. Acari	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CRUSTACEA									
Cl. Ostracoda	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O. Amphipoda	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hyalellidae									
Hyalella	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pontoporeiidae									
Diporeia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
INSECTS									
Cl. Insecta									
BEETLES									
O. Coleoptera									
unidentified adult	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRUE BUGS									
O. Hemiptera									
Pleidae adult	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ANTS, WASPS, BEES									
O. Hymenoptera	0.00	0.00	1.94	0.65	1.90	5.70	0.00	2.53	1.59
Hymenoptera adult	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MAYFLIES									
O. Ephemeroptera									
Ephemerellidae									
Eurylophella	0.00	0.00	1.94	0.65	0.00	0.00	0.00	0.00	0.32
STONEFLIES									
O. Plecoptera									
Nemouridae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CADDISFLIES									
O. Trichoptera									
Limnephilidae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRUE FLIES									
O. Diptera									
unidentified adult	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Appendix 4.3-3. - Continued -

Waterbody	**Mary Lake South Tributary 2**								
Season	**Spring 2008**				**Summer 2008**				**Overall**
Site ID	**MLST-2**			**Spring 2008**	**MLST-2**			**Summer 2008**	**2008 Site**
Sampling Period	**morning**	**evening**	**night**	**Mean**	**morning**	**afternoon**	**evening**	**Mean**	**Mean**
Water Velocity (meters/second)	**0.58**	**0.58**	**0.58**		**0.5**	**0.5**	**0.5**		
MIDGES									
Chironomidae									
unidentified pupa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
unidentified adult	0.00	0.00	0.00	0.00	0.00	0.00	1.90	0.63	0.32
Chironominae	0.00	0.00	5.81	1.94	0.00	0.00	1.90	0.63	1.28
Orthocladiinae	0.00	1.94	7.74	3.23	0.00	1.90	9.50	3.80	3.51
Tanypodinae	0.00	1.94	0.00	0.65	0.00	0.00	0.00	0.00	0.32
MOSQUITOES									
Culicidae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BLACK FLIES									
Simuliidae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CRANE FLIES									
Tipulidae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Drifting Invertebrates	**0.00**	**3.87**	**17.42**	**7.10**	**3.80**	**11.40**	**24.69**	**13.30**	**10.20**
Taxonomic Richness (Family-level) [2, 3]	**0**	**1**	**3**	**3**	**2**	**4**	**2**	**5**	**6**

1 percent abundance of the overall total.
2 number of taxa reported at Family level; if group identified to higher level, then it was assumed that only one Family was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to family-level, not the average number of taxa.

Appendix 4.3-3. - Continued -

Waterbody	Mary Lake South Tributary 2																			
Season	Overall Spring (n=3)							Overall Summer (n=3)							Overall Waterbody (n=6)						
Summary Statistic	Mean	Median	% [1]	SD	SE	Min	Max	Mean	Median	% [1]	SD	SE	Min	Max	Mean	Median	% [1]	SD	SE	Min	Max
NEMATODES																					
P. Nemata	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ANNELIDS																					
P. Annelida																					
WORMS																					
Cl. Oligochaeta	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.00	4.76	1.10	0.63	0.00	1.90	0.32	0.00	3.10	0.78	0.32	0.00	1.90
Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.43	1.90	33.33	6.11	3.53	0.00	11.40	2.22	0.00	21.73	4.56	1.86	0.00	11.40
ARTHROPODS																					
P. Arthropoda																					
SPRINGTAILS																					
Collembola	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.00	4.76	1.10	0.63	0.00	1.90	0.32	0.00	3.10	0.78	0.32	0.00	1.90
MITES																					
O. Acari	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CRUSTACEA																					
Cl. Ostracoda	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
O. Amphipoda	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hyalellidae																					
Hyalella	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pontoporeiidae																					
Diporeia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
INSECTS																					
Cl. Insecta																					
BEETLES																					
O. Coleoptera																					
unidentified adult	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRUE BUGS																					
O. Hemiptera																					
Pleidae adult	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ANTS, WASPS, BEES																					
O. Hymenoptera	0.65	0.00	9.09	1.12	0.65	0.00	1.94	2.53	1.90	19.05	2.90	1.68	0.00	5.70	1.59	0.95	15.58	2.22	0.91	0.00	5.70
Hymenoptera adult	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MAYFLIES																					
O. Ephemeroptera																					
Ephemerellidae																					
Eurylophella	0.65	0.00	9.09	1.12	0.65	0.00	1.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	3.16	0.79	0.32	0.00	1.94
STONEFLIES																					
O. Plecoptera																					
Nemouridae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CADDISFLIES																					
O. Trichoptera																					
Limnephilidae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRUE FLIES																					
O. Diptera																					
unidentified adult	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Appendix 4.3-3. - Continued -

Waterbody	Mary Lake South Tributary 2																			
Season	Overall Spring (n=3)							Overall Summer (n=3)							Overall Waterbody (n=6)						
Summary Statistic	Mean	Median	% [1]	SD	SE	Min	Max	Mean	Median	% [1]	SD	SE	Min	Max	Mean	Median	% [1]	SD	SE	Min	Max
MIDGES																					
Chironomidae																					
unidentified pupa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
unidentified adult	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.00	4.76	1.10	0.63	0.00	1.90	0.32	0.00	3.10	0.78	0.32	0.00	1.90
Chironominae	1.94	0.00	27.27	3.35	1.94	0.00	5.81	0.63	0.00	4.76	1.10	0.63	0.00	1.90	1.28	0.00	12.59	2.34	0.96	0.00	5.81
Orthocladiinae	3.23	1.94	45.45	4.03	2.33	0.00	7.74	3.80	1.90	28.57	5.03	2.90	0.00	9.50	3.51	1.92	34.45	4.09	1.67	0.00	9.50
Tanypodinae	0.65	0.00	9.09	1.12	0.65	0.00	1.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	3.16	0.79	0.32	0.00	1.94
MOSQUITOES																					
Culicidae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BLACK FLIES																					
Simuliidae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CRANE FLIES																					
Tipulidae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Drifting Invertebrates	**7.10**	**3.87**	**100.00**	**9.14**	**5.28**	**0.00**	**17.42**	**13.30**	**11.40**	**100.00**	**10.58**	**6.11**	**3.80**	**24.69**	**10.20**	**7.63**	**100.00**	**9.47**	**3.87**	**0.00**	**24.69**
Taxonomic Richness (Family-level) [2, 3]	**-**	**-**	**-**	**-**	**-**	**-**	**3**	**-**	**-**	**-**	**-**	**-**	**-**	**5**	**-**	**-**	**-**	**-**	**-**	**-**	**6**

1 percent abundance of the overall total.
2 number of taxa reported at Family level; if group identified to higher level, then it was assumed that only one Family was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to family-level, not the average number of taxa.

APPENDIX 4.3-4.
ZEAS QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) RESULTS: BENTHIC INVERTEBRATES

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Table A4.3-4.1. Calculation of subsampling error for benthic macroinvertebrate samples from Sheardown Lake, Baffin Island (2008). Note: min = minimum absolute % error and max = maximum absolute % error.

Station	Whole Organisms	Number of Organisms in Fraction 1	Number of Organisms in Fraction 2	Number of Organisms in Fraction 3	Number of Organisms in Fraction 4	Actual Density[1]	Precision		Accuracy	
							% range		min	max
DD-HAB9-STN1	0	277	286	--	--	563	3.1	--	1.6	--
SDL-HAB4-STN4	0	219	248	--	--	467	11.7	--	6.2	--

[1] whole large organisms excluded in calculations.

Table A4.3-4.2. Percent recovery of benthic macroinvertebrates from samples collected from Sheardown Lake, Baffin Island (2008).

Station	Number of Organisms Recovered (initial sort)	Number of Organisms in Re-sort	Percent Recovery
DD-HAB4-STN1	408	420	97.1%
DLO-01-6-B1	292	309	94.5%
SDLT1-REACH2A-B1	195	209	93.3%
		Average % Recovery	95.0%

Table A4.3-4.3. Sample fractions sorted from Sheardown Lake, Baffin Island (2008). Note: pupae were not counted toward total number of taxa unless they were the sole representative of their taxa group and immatures were not counted toward total number of taxa unless they were the sole representative of their taxa group.

Station	Fraction Sorted (500 um)	Station	Fraction Sorted (500 um)	Station	Fraction Sorted (500 um)
DD-HAB4-STN1	Whole	DLO-01-4-B2	1/8	SDL-HAB4-STN5	1/4
DD-HAB4-STN2	Whole	DLO-01-5-B1	Whole	SDLT1-REACH1-B1	Whole
DD-HAB4-STN3	Whole	DLO-01-6-B1	1/4	SDLT1-REACH1-B2	Whole
DD-HAB9-STN1	Whole[1]	DLO-01-6-B2	Whole	SDLT1-REACH1-B3	Whole
DD-HAB9-STN2	1/2	DLO-01-7-B1	1/2	SDLT1-REACH2A-B1	Whole
DD-HAB9-STN3	Whole	DLO-01-7-B2	1/8	SDLT1-REACH2A-B2	1/2
DLO-01-2-B1	Whole	SDL-HAB4-STN1	Whole	SDLT1-REACH2A-B3	Whole
DLO-01-2-B2	Whole	SDL-HAB4-STN2	1/8	SDLT1-REACH4-B1	1/2
DLO-01-3-B1	Whole	SDL-HAB4-STN3	1/2	SDLT1-REACH4-B2	1/4
DLO-01-4-B1	1/8	SDL-HAB4-STN4	Whole[1]	SDLT1-REACH4-B3	1/4

[1] two halves sorted for subsampling error calculations.

APPENDIX 4.3-5.
DETAILED BENTHIC INVERTEBRATE DATA COLLECTED FROM MINE AREA LAKES, RIVERS, AND STREAMS, 2005-2008.

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Table A4.3-5.1. Raw and summary statistic data for benthic invertebrates collected in Camp, Mary and Sheardown lakes, Mary and Tom rivers, and tributaries to Camp and Sheardown lakes during the 2005 to 2008 study years.

Waterbody	Camp Lake (2007)			Camp Lake (2007) Habitat 4 Total (n = 3)							
Site ID	JLO-10										
Habitat Type	4										
Replicate Station	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
ROUNDWORMS											
P. Nemata	0	35	0	35	12	0	80	20	12	0	35
ANNELIDS											
P. Annelida											
WORMS	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	0	0	0	0	0	0	0	0	0	0	0
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS											
P. Arthropoda											
MITES	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0
O. Acari	0	0	0	0	0	0	0	0	0	0	0
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	0	0	0	0	0	0	0	0	0	0	0
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0
INSECTS											
Cl. Insecta											
BEETLES	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	0	0	0	0	0	0	0	0	0	0	0
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	0	0	0	0	0	0	0	0	0	0	0
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	0	0	0	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	0	0	0	0	0	0	0	0	0	0
Stempellinella	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Camp Lake (2007)			Camp Lake (2007) Habitat 4 Total (n = 3)							
Site ID	JLO-10										
Habitat Type	4										
Replicate Station	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0
Diamesa	0	0	0	0	0	0	0	0	0	0	0
Protanypus	0	0	0	0	0	0	0	0	0	0	0
Pseudodiamesa	0	0	0	0	0	0	0	0	0	0	0
Pseudokiefferiella	0	0	0	0	0	0	0	0	0	0	0
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0	0	0	0
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	0	0	0	0	0	0	0	0	0	0	0
Cricotopus/Orthocladius	0	0	0	0	0	0	0	0	0	0	0
Diplocladius	0	0	0	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0	0	0	0
Heterotrissocladius	0	9	0	9	3	0	20	5	3	0	9
Hydrobaenus	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	0	0	0	0	0	0	0	0
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	0	0	0	0	0	0	0	0	0	0	0
Paracladius	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	0	0	0	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0	0	0
Pseudosmittia	0	0	0	0	0	0	0	0	0	0	0
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	0	0	0	0	0	0	0	0	0	0	0
Tvetenia	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	0	0	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0
Procladius	0	0	0	0	0	0	0	0	0	0	0
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0	0	0	0
Tipula	0	0	0	0	0	0	0	0	0	0	0
Total Benthic Invertebrates	0	43	0	43	14	0	100	25	14	0	43
Taxonomic Richness (Genus-level) [2]	0	2	0	2 [3]	--	--	--	--	--	0	2

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Camp Lake (2007)			Camp Lake (2007)			Camp Lake (2007)		
Site ID	JLO-01			JLO-02			JLO-07		
Habitat Type	14			14			14		
Replicate Station	B1	B2	B3	B1	B2	B3	B1	B2	B3
ROUNDWORMS									
P. Nemata	26	157	157	70	0	0	9	52	43
ANNELIDS									
P. Annelida									
WORMS	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	0	0	0	0	0	0	0	0	0
F. Lumbriculidae	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0
ARTHROPODS									
P. Arthropoda									
MITES	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0
O. Acari	17	26	26	70	0	0	17	9	0
HARPACTICOIDS	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	9	35	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	0	0	0	0	0	0	0	0	0
SPRINGTAILS	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	9	0	0
INSECTS									
Cl. Insecta									
BEETLES	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0
chironomid pupae	0	0	0	35	0	0	0	0	0
S.F. Chironominae	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0
Micropsectra	148	652	591	2504	1809	974	652	1061	565
Paracladopelma	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	0	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0	0
Sergentia	0	0	0	1426	1113	278	9	0	0
Stempellinella	0	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	278	70	209	0	0	0
Tanytarsus	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Camp Lake (2007)			Camp Lake (2007)			Camp Lake (2007)		
Site ID	**JLO-01**			**JLO-02**			**JLO-07**		
Habitat Type	**14**			**14**			**14**		
Replicate Station	**B1**	**B2**	**B3**	**B1**	**B2**	**B3**	**B1**	**B2**	**B3**
S.F. Diamesinae	0	0	0	0	0	0	0	0	0
Diamesa	0	0	0	0	0	0	0	0	0
Protanypus	0	0	0	104	0	0	0	9	35
Pseudodiamesa	43	26	70	139	70	209	0	43	9
Pseudokiefferiella	0	0	0	0	0	0	0	0	0
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0
Abiskomyia	9	0	35	278	139	209	0	9	9
?Acricotopus	0	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	0	0	0	0	0	0
Corynoneura	0	0	0	0	0	0	0	0	0
Cricotopus	0	0	0	0	0	0	0	0	0
Cricotopus/Orthocladius	0	0	0	209	70	139	0	0	0
Diplocladius	0	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0	0
Heterotrissocladius	487	852	939	1009	1043	1113	2165	2070	1165
Hydrobaenus	0	0	0	0	0	0	0	0	0
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0
Limnophyes	0	9	0	0	0	0	0	0	0
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	26	9	0
Metriocnemus	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	0	0	0	0	0	0	0	0	0
Paracladius	0	0	0	70	0	0	0	26	17
Parakiefferiella	0	0	9	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0
Pseudosmittia	0	0	0	0	0	0	0	0	0
Rheocricotopus	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0
Tokunagaia	0	0	0	0	0	0	0	0	0
Tvetenia	0	0	0	0	0	0	0	0	0
Zalutschia	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	9	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	70	70	0	0	0
Procladius	0	0	0	0	0	0	9	9	0
Thienemannimyia complex	0	0	0	0	70	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0	0
Tipula	0	0	0	0	0	0	0	0	0
Total Benthic Invertebrates	730	1722	1843	6226	4452	3200	2896	3296	1843
Taxonomic Richness (Genus-level) [2]	6	6	9	12	9	8	8	10	7

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Camp Lake (2007)			Camp Lake (2007) Habitat 14 Total (n = 12)							
Site ID	JLO-09										
Habitat Type	14										
Replicate Station	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
ROUNDWORMS											
P. Nemata	43	70	174	800	67	48	3	62	18	0	174
ANNELIDS											
P. Annelida											
WORMS	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	0	0	0	0	0	0	0	0	0	0	0
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS											
P. Arthropoda											
MITES	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0
O. Acari	104	17	43	330	28	17	1	31	9	0	104
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	9	0	0	52	4	0	0	10	3	0	35
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	9	0	0	9	1	0	0	3	1	0	9
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	9	1	0	0	3	1	0	9
INSECTS											
Cl. Insecta											
BEETLES	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0
Apatania	9	0	9	17	1	0	0	3	1	0	9
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	0	0	0	35	3	0	0	10	3	0	35
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	870	513	574	10913	909	652	34	645	186	148	2504
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	0	0	0	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	0	0	2826	236	0	9	494	143	0	1426
Stempellinella	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	557	46	0	2	95	28	0	278
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Camp Lake (2007)			Camp Lake (2007) Habitat 14 Total (n = 12)							
Site ID	JLO-09										
Habitat Type	14										
Replicate Station	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0
Diamesa	0	0	0	0	0	0	0	0	0	0	0
Protanypus	35	35	17	235	20	4	1	31	9	0	104
Pseudodiamesa	26	0	43	678	57	43	2	61	18	0	209
Pseudokiefferiella	0	0	0	0	0	0	0	0	0	0	0
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	9	35	730	61	9	2	95	27	0	278
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	0	0	0	0	0	0	0	0	0	0	0
Cricotopus/Orthocladius	0	0	0	417	35	0	1	70	20	0	209
Diplocladius	0	0	0	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0	0	0	0
Heterotrissocladius	878	974	878	13574	1131	991	43	491	142	487	2165
Hydrobaenus	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	9	1	0	0	3	1	0	9
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	9	0	26	70	6	0	0	10	3	0	26
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	0	0	0	0	0	0	0	0	0	0	0
Paracladius	9	0	70	191	16	0	1	26	8	0	70
Parakiefferiella	9	0	26	43	4	0	0	8	2	0	26
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0	0	0
Pseudosmittia	0	0	0	0	0	0	0	0	0	0	0
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	0	0	0	0	0	0	0	0	0	0	0
Tvetenia	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	9	0	9	17	1	0	0	3	1	0	9
indeterminate A	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	26	35	3	0	0	8	2	0	26
indeterminate	0	0	0	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	139	12	0	0	27	8	0	70
Procladius	0	0	9	26	2	0	0	4	1	0	9
Thienemannimyia complex	0	0	0	70	6	0	0	20	6	0	70
indeterminate	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0	0	0	0
Tipula	0	0	0	0	0	0	0	0	0	0	0
Total Benthic Invertebrates	2017	1617	1939	31783	2649	1978	100	1497	432	730	6226
Taxonomic Richness (Genus-level) [2]	13	6	14	23	--	--	--	--	--	6	14

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody / Site ID / Habitat Type / Replicate Station	Camp Lake Overall (n = 15)							
	Sum	**Mean**	**Median**	**% [1]**	**SD**	**SE**	**Min**	**Max**
ROUNDWORMS								
P. Nemata	835	56	43	3	60	16	0	174
ANNELIDS								
P. Annelida								
WORMS	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0
F. Enchytraeidae	0	0	0	0	0	0	0	0
F. Lumbriculidae	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0
ARTHROPODS								
P. Arthropoda								
MITES	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0
O. Acari	330	22	17	1	30	8	0	104
HARPACTICOIDS	0	0	0	0	0	0	0	0
O. Harpacticoida	52	3	0	0.2	9	2	0	35
SEED SHRIMPS	0	0	0	0	0	0	0	0
Cl. Ostracoda	9	1	0	0.0	2	1	0	9
SPRINGTAILS	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0
O. Collembola	9	1	0	0.0	2	1	0	9
INSECTS								
Cl. Insecta								
BEETLES	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0
Apatania	17	1	0	0.1	3	1	0	9
F. Limnephilidae	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0
chironomid pupae	35	2	0	0	9	2	0	35
S.F. Chironominae	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0
Micropsectra	10913	728	591	34	685	177	0	2504
Paracladopelma	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0
Sergentia	2826	188	0	9	449	116	0	1426
Stempellinella	0	0	0	0	0	0	0	0
Stictochironomus	557	37	0	2	87	22	0	278
Tanytarsus	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody / Site ID / Habitat Type / Replicate Station	Camp Lake Overall (n = 15)							
	Sum	**Mean**	**Median**	**% [1]**	**SD**	**SE**	**Min**	**Max**
S.F. Diamesinae	0	0	0	0	0	0	0	0
Diamesa	0	0	0	0	0	0	0	0
Protanypus	235	16	0	1	28	7	0	104
Pseudodiamesa	678	45	26	2	59	15	0	209
Pseudokiefferiella	0	0	0	0	0	0	0	0
S.F. Orthocladiinae	0	0	0	0	0	0	0	0
Abiskomyia	730	49	9	2	88	23	0	278
?Acricotopus	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	0	0	0	0	0
Corynoneura	0	0	0	0	0	0	0	0
Cricotopus	0	0	0	0	0	0	0	0
Cricotopus/Orthocladius	417	28	0	1	63	16	0	209
Diplocladius	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0
Heterotrissocladius	13583	906	939	43	639	165	0	2165
Hydrobaenus	0	0	0	0	0	0	0	0
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0
Limnophyes	9	1	0	0	2	1	0	9
?Limnophyes sp. A	0	0	0	0	0	0	0	0
Mesocricotopus	70	5	0	0	9	2	0	26
Metriocnemus	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	0	0	0	0	0	0	0	0
Paracladius	191	13	0	1	24	6	0	70
Parakiefferiella	43	3	0	0	7	2	0	26
Paralimnophyes	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0
Pseudosmittia	0	0	0	0	0	0	0	0
Rheocricotopus	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0
Tokunagaia	0	0	0	0	0	0	0	0
Tvetenia	0	0	0	0	0	0	0	0
Zalutschia	17	1	0	0	3	1	0	9
indeterminate A	0	0	0	0	0	0	0	0
indeterminate B	35	2	0	0	7	2	0	26
indeterminate	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0
Arctopelopia	139	9	0	0	24	6	0	70
Procladius	26	2	0	0	4	1	0	9
Thienemannimyia complex	70	5	0	0	18	5	0	70
indeterminate	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0
Tipula	0	0	0	0	0	0	0	0
Total Benthic Invertebrates	31826	2122	1843	100	1717	443	0	6226
Taxonomic Richness (Genus-level) [2]	23	--	--	--	--	--	0	14

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Mary Lake (2007)			Mary Lake (2007)			Mary Lake (2007)		
Site ID	BLO-01			BLO-05			BLO-06		
Habitat Type	9			9			9		
Replicate Station	B1	B2	B3	B1	B2	B3	B1	B2	B3
ROUNDWORMS									
P. Nemata	43	130	0	43	0	0	217	130	261
ANNELIDS									
P. Annelida									
WORMS	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	0	0	0	0	0	0	0	0	0
F. Lumbriculidae	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	43	174	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0
ARTHROPODS									
P. Arthropoda									
MITES	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0
O. Acari	87	0	130	0	0	0	43	0	43
HARPACTICOIDS	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	43	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	0	0	0	0	348	43	0	0	0
SPRINGTAILS	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0
INSECTS									
Cl. Insecta									
BEETLES	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0
chironomid pupae	0	0	0	0	0	0	0	0	0
S.F. Chironominae	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	43	0	0	0	0	0
Micropsectra	913	1348	1522	6435	3304	1870	43	43	87
Paracladopelma	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	43	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0	0
Sergentia	0	43	261	1913	2870	3130	0	0	0
Stempellinella	0	0	0	0	0	0	0	0	0
Stictochironomus	435	261	609	130	348	478	0	0	0
Tanytarsus	0	0	0	87	87	174	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Mary Lake (2007)			Mary Lake (2007)			Mary Lake (2007)		
Site ID	BLO-01			BLO-05			BLO-06		
Habitat Type	9			9			9		
Replicate Station	B1	B2	B3	B1	B2	B3	B1	B2	B3
S.F. Diamesinae	0	0	0	0	0	0	0	0	0
Diamesa	0	0	0	0	0	0	0	0	0
Protanypus	0	0	43	43	0	43	43	87	87
Pseudodiamesa	0	0	0	0	0	0	43	0	0
Pseudokiefferiella	0	0	0	0	0	0	0	0	0
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	87	87	0	0	0
?Acricotopus	0	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	0	0	0	0	0	0
Corynoneura	0	0	0	0	0	0	0	0	0
Cricotopus	43	0	0	0	0	0	0	0	0
Cricotopus/Orthocladius	0	0	0	0	0	0	0	0	0
Diplocladius	0	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0	0
Heterotrissocladius	435	1000	609	87	0	0	391	478	391
Hydrobaenus	0	43	0	0	0	0	0	0	0
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	0	0	0	0	0	0
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	0	0	0	0	0	0	0	0	0
Paracladius	87	174	130	0	0	0	435	43	130
Parakiefferiella	0	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0
Pseudosmittia	0	0	0	0	0	0	0	0	0
Rheocricotopus	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0
Tokunagaia	0	0	0	0	0	0	0	0	0
Tvetenia	0	0	0	0	0	0	0	0	0
Zalutschia	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0
Procladius	913	957	783	0	87	0	0	0	0
Thienemannimyia complex	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0	0
Tipula	0	0	0	0	0	0	0	0	0
Total Benthic Invertebrates	2957	3957	4087	8870	7304	5870	1217	783	1000
Taxonomic Richness (Genus-level) [2]	8	8	8	10	8	8	7	5	6

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody / Site ID / Habitat Type / Replicate Station	Mary Lake (2007) Habitat 9 Total (n = 9)							
	Sum	**Mean**	**Median**	**% [1]**	**SD**	**SE**	**Min**	**Max**
ROUNDWORMS								
P. Nemata	826	92	43	2	98	33	0	261
ANNELIDS								
P. Annelida								
WORMS	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0
F. Enchytraeidae	0	0	0	0	0	0	0	0
F. Lumbriculidae	0	0	0	0	0	0	0	0
indeterminate	217	24	0	1	58	19	0	174
Lumbriculus	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0
ARTHROPODS								
P. Arthropoda								
MITES	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0
O. Acari	304	34	0	1	48	16	0	130
HARPACTICOIDS	0	0	0	0	0	0	0	0
O. Harpacticoida	43	5	0	0	14	5	0	43
SEED SHRIMPS	0	0	0	0	0	0	0	0
Cl. Ostracoda	391	43	0	1	115	38	0	348
SPRINGTAILS	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0
INSECTS								
Cl. Insecta								
BEETLES	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0
chironomid pupae	0	0	0	0	0	0	0	0
S.F. Chironominae	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0
Lipiniella	43	5	0	0	14	5	0	43
Micropsectra	15565	1729	1348	43	2058	686	43	6435
Paracladopelma	0	0	0	0	0	0	0	0
Paratanytarsus	43	5	0	0	14	5	0	43
Rheotanytarsus	0	0	0	0	0	0	0	0
Sergentia	8217	913	43	23	1335	445	0	3130
Stempellinella	0	0	0	0	0	0	0	0
Stictochironomus	2261	251	261	6	231	77	0	609
Tanytarsus	348	39	0	1	63	21	0	174
Tanytarsini indeterminate	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody / Site ID / Habitat Type / Replicate Station	Mary Lake (2007) Habitat 9 Total (n = 9)							
	Sum	**Mean**	**Median**	**% [1]**	**SD**	**SE**	**Min**	**Max**
S.F. Diamesinae	0	0	0	0	0	0	0	0
Diamesa	0	0	0	0	0	0	0	0
Protanypus	348	39	43	1	34	11	0	87
Pseudodiamesa	43	5	0	0	14	5	0	43
Pseudokiefferiella	0	0	0	0	0	0	0	0
S.F. Orthocladiinae	0	0	0	0	0	0	0	0
Abiskomyia	174	19	0	0	38	13	0	87
?Acricotopus	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	0	0	0	0	0
Corynoneura	0	0	0	0	0	0	0	0
Cricotopus	43	5	0	0	14	5	0	43
Cricotopus/Orthocladius	0	0	0	0	0	0	0	0
Diplocladius	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0
Heterotrissocladius	3391	377	391	9	321	107	0	1000
Hydrobaenus	43	5	0	0	14	5	0	43
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	0	0	0	0	0
?Limnophyes sp. A	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	0	0	0	0	0	0	0	0
Paracladius	1000	111	87	3	138	46	0	435
Parakiefferiella	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0
Pseudosmittia	0	0	0	0	0	0	0	0
Rheocricotopus	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0
Tokunagaia	0	0	0	0	0	0	0	0
Tvetenia	0	0	0	0	0	0	0	0
Zalutschia	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0
Procladius	2739	304	0	8	438	146	0	957
Thienemannimyia complex	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0
Tipula	0	0	0	0	0	0	0	0
Total Benthic Invertebrates	36043	4005	3957	100	2879	960	783	8870
Taxonomic Richness (Genus-level) [2]	19 [3]	--	--	--	--	--	5	10

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Mary Lake (2006)			Mary Lake (2006)			Mary Lake (2006) Habitat 14 Total (n = 6)							
Site ID	BLO-01			BLO-05										
Habitat Type	14			14										
Replicate Station	B1	B2	B3	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
ROUNDWORMS														
P. Nemata	0	9	0	304	122	157	591	99	65	2	121	50	0	304
ANNELIDS														
P. Annelida														
WORMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	0	0	0	70	0	0	70	12	0	0	28	12	0	70
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	9	0	0	0	9	1	0	0	4	1	0	9
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS														
P. Arthropoda														
MITES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Acari	0	17	17	0	17	87	139	23	17	1	32	13	0	87
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	17	17	3	0	0	7	3	0	17
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	0	0	52	296	139	243	730	122	96	3	126	52	0	296
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	35	0	0	0	0	17	52	9	0	0	15	6	0	35
INSECTS														
Cl. Insecta														
BEETLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	0	0	0	87	17	0	104	17	0	0	35	14	0	87
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chironomus	2157	226	1426	330	226	365	4730	788	348	19	812	332	226	2157
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	35	0	35	6	0	0	14	6	0	35
Micropsectra	504	1913	409	4696	1548	3009	12078	2013	1730	48	1629	665	409	4696
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sergentia	70	35	122	696	557	470	1948	325	296	8	284	116	35	696
Stempellinella	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	270	1322	339	243	139	226	2539	423	257	10	445	182	139	1322
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Mary Lake (2006)			Mary Lake (2006)			Mary Lake (2006) Habitat 14 Total (n = 6)							
Site ID	BLO-01			BLO-05										
Habitat Type	14			14										
Replicate Station	B1	B2	B3	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diamesa	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Protanypus	0	17	0	35	17	35	104	17	17	0	16	6	0	35
Pseudodiamesa	0	0	9	52	17	17	96	16	13	0	19	8	0	52
Pseudokiefferiella	0	0	0	0	17	35	52	9	0	0	15	6	0	35
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	226	104	78	104	70	17	600	100	91	2	70	28	17	226
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	17	0	0	17	3	0	0	7	3	0	17
Corynoneura	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cricotopus/Orthocladius	0	0	0	0	0	17	17	3	0	0	7	3	0	17
Diplocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heterotrissocladius	104	35	61	35	0	0	235	39	35	1	40	16	0	104
Hydrobaenus	0	35	17	0	35	35	122	20	26	0	17	7	0	35
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paracladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pseudosmittia	0	0	0	17	0	0	17	3	0	0	7	3	0	17
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	0	0	0	0	17	17	35	6	0	0	9	4	0	17
Tvetenia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Procladius	87	296	130	0	0	35	548	91	61	2	112	46	0	296
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ormosia	0	0	0	17	0	0	17	3	0	0	7	3	0	17
Tipula	0	0	0	17	17	17	52	9	9	0	10	4	0	17
Total Benthic Invertebrates	3452	4009	2670	7017	2991	4817	24957	4159	3730	100	1594	651	2670	7017
Taxonomic Richness (Genus-level) [2]	8	11	12	15	15	18	25	--	--	--	--	--	8	18

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Mary Lake (2007)			Mary Lake (2007)		Mary Lake (2007) Habitat 14 Total (n = 5)							
Site ID	BLO-03			BLO-04									
Habitat Type	14			14									
Replicate Station	B1	B2	B3	B1	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
ROUNDWORMS													
P. Nemata	0	43	0	0	0	43	9	0	1	19	9	0	43
ANNELIDS													
P. Annelida													
WORMS	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS													
P. Arthropoda													
MITES	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Acari	0	0	0	0	0	0	0	0	0	0	0	0	0
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	0	0	0	0	0	0	0	0	0	0	0	0	0
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0	0	0
INSECTS													
Cl. Insecta													
BEETLES	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	0	0	0	0	0	0	0	0	0	0	0	0	0
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	217	174	217	0	0	609	122	174	14	113	50	0	217
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	0	43	0	0	43	9	0	1	19	9	0	43
Stempellinella	0	0	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	0	0	0	0	0	0	0	0	0	0
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued –

Waterbody	Mary Lake (2007)			Mary Lake (2007)		Mary Lake (2007) Habitat 14 Total (n = 5)							
Site ID	BLO-03			BLO-04									
Habitat Type	14			14									
Replicate Station	B1	B2	B3	B1	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0	0	0
Diamesa	0	0	0	0	0	0	0	0	0	0	0	0	0
Protanypus	130	43	0	43	0	217	43	43	5	53	24	0	130
Pseudodiamesa	0	0	43	0	0	43	9	0	1	19	9	0	43
Pseudokiefferiella	0	0	0	0	0	0	0	0	0	0	0	0	0
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0	0	0	0	0	0
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	0	0	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0
Cricotopus/Orthocladius	0	0	0	0	0	0	0	0	0	0	0	0	0
Diplocladius	0	0	0	0	0	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0	0	0	0	0	0
Heterotrissocladius	391	913	609	696	609	3217	643	609	73	188	84	391	913
Hydrobaenus	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	0	0	0	0	0	0	0	0	0	0
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	0	0	0	0	0	0	0	0	0	0	0	0	0
Paracladius	0	0	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	0	0	0	0	0	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0	0	0	0	0
Pseudosmittia	0	0	0	0	0	0	0	0	0	0	0	0	0
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	0	0	0	0	0	0	0	0	0	0	0	0	0
Tvetenia	0	0	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	43	43	0	0	0	87	17	0	2	24	11	0	43
indeterminate A	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0	0	0
Procladius	43	43	43	0	0	130	26	43	3	24	11	0	43
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0	0	0	0	0	0
Tipula	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Benthic Invertebrates	826	1261	957	739	609	4391	878	826	100	249	111	609	1261
Taxonomic Richness (Genus-level) [2]	5	6	5	2	1	8	--	--	--	--	--	1	6

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody / Site ID / Habitat Type / Replicate Station	Mary Lake (2006 + 2007) Habitat 14 Total (n = 11)								Mary Lake Overall (n = 20)							
	Sum	Mean	Median	% [1]	SD	SE	Min	Max	Sum	Mean	Median	% [1]	SD	SE	Min	Max
ROUNDWORMS																
P. Nemata	635	58	0	2	99	30	0	304	1461	73	26	2	97	22	0	304
ANNELIDS																
P. Annelida																
WORMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	70	6	0	0	21	6	0	70	70	3	0	0.1	16	3	0	70
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	9	1	0	0	3	1	0	9	226	11	0	0.3	40	9	0	174
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS																
P. Arthropoda																
MITES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Acari	139	13	0	0	26	8	0	87	443	22	0	1	38	8	0	130
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	17	2	0	0	5	2	0	17	61	3	0	0.1	10	2	0	43
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	730	66	0	2	110	33	0	296	1122	56	0	2	110	25	0	348
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	52	5	0	0	11	3	0	35	52	3	0	0.1	9	2	0	35
INSECTS																
Cl. Insecta																
BEETLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	104	9	0	0	26	8	0	87	104	5	0	0.2	20	4	0	87
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chironomus	4730	430	226	16	707	213	0	2157	4730	237	0	7	558	125	0	2157
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	35	3	0	0	10	3	0	35	78	4	0	0	12	3	0	43
Micropsectra	12687	1153	409	43	1519	458	0	4696	28252	1413	709	43	1756	393	0	6435
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	0	0	0	0	0	43	2	0	0	10	2	0	43
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sergentia	1991	181	43	7	260	78	0	696	10209	510	43	16	962	215	0	3130
Stempellinella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	2539	231	139	9	384	116	0	1322	4800	240	183	7	317	71	0	1322
Tanytarsus	0	0	0	0	0	0	0	0	348	17	0	1	45	10	0	174
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody / Site ID / Habitat Type / Replicate Station	Mary Lake (2006 + 2007) Habitat 14 Total (n = 11)								Mary Lake Overall (n = 20)							
	Sum	Mean	Median	% [1]	SD	SE	Min	Max	Sum	Mean	Median	% [1]	SD	SE	Min	Max
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diamesa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Protanypus	322	29	17	1	38	11	0	130	670	33	35	1	36	8	0	130
Pseudodiamesa	139	13	0	0	19	6	0	52	183	9	0	0	17	4	0	52
Pseudokiefferiella	52	5	0	0	11	3	0	35	52	3	0	0	9	2	0	35
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	600	55	17	2	72	22	0	226	774	39	0	1	60	14	0	226
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	17	2	0	0	5	2	0	17	17	1	0	0	4	1	0	17
Corynoneura	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	0	0	0	0	0	0	0	0	43	2	0	0	10	2	0	43
Cricotopus/Orthocladius	17	2	0	0	5	2	0	17	17	1	0	0	4	1	0	17
Diplocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heterotrissocladius	3452	314	104	12	338	102	0	913	6843	342	391	10	324	72	0	1000
Hydrobaenus	122	11	0	0	16	5	0	35	165	8	0	0	15	3	0	43
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paracladius	0	0	0	0	0	0	0	0	1000	50	0	2	106	24	0	435
Parakiefferiella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pseudosmittia	17	2	0	0	5	2	0	17	17	1	0	0	4	1	0	17
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	35	3	0	0	7	2	0	17	35	2	0	0	5	1	0	17
Tvetenia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	87	8	0	0	18	5	0	43	87	4	0	0	13	3	0	43
indeterminate A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Procladius	678	62	43	2	88	26	0	296	3417	171	39	5	317	71	0	957
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ormosia	17	2	0	0	5	2	0	17	17	1	0	0.0	4	1	0	17
Tipula	52	5	0	0	8	2	0	17	52	3	0	0.1	6	1	0	17
Total Benthic Invertebrates	29348	2668	2670	100	2057	620	609	7017	65391	3270	2974	100	2487	556	609	8870
Taxonomic Richness (Genus-level) [2]	26	--	--	--	--	--	1	18	30	--	--	--	--	--	1	18

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Sheardown Lake NW (2008)					Sheardown Lake NW (2008)			Sheardown Lake NW (2008) Habitat 4 Total (n = 8)							
Site ID	SDL-HAB 4					DD-Hab 4										
Habitat Type	4					4										
Replicate Station	STN 1	STN 2	STN 3	STN 4	STN 5	Stn 1	Stn 2	Stn 3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
ROUNDWORMS																
P. Nemata	83	7	50	57	21	13	1	10	242	30	17	4	29	10	1	83
ANNELIDS																
P. Annelida																
WORMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	1	0	0	0	0	0	0	7	8	1	0	0	3	1	0	7
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	7	0	3	10	9	4	4	37	5	4	1	4	1	0	10
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS																
P. Arthropoda																
MITES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Acari	16	28	26	20	7	1	16	46	160	20	18	2	14	5	1	46
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	2	355	54	115	205	149	32	9	920	115	84	14	120	43	2	355
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INSECTS																
Cl. Insecta																
BEETLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	1	1	1	4	1	0	0	1	0	0	1
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Micropsectra	0	56	0	0	149	7	14	54	280	35	11	4	52	18	0	149
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	174	20	16	334	4	0	14	562	70	15	8	121	43	0	334
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	7	3	2	7	4	3	13	39	5	4	1	4	1	0	13
Stempellinella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	1	1071	728	56	823	312	59	1	3052	381	186	46	430	152	1	1071
Tanytarsus	6	243	50	7	92	0	0	0	399	50	7	6	85	30	0	243
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Sheardown Lake NW (2008)					Sheardown Lake NW (2008)			Sheardown Lake NW (2008) Habitat 4 Total (n = 8)							
Site ID	SDL-HAB 4					DD-Hab 4										
Habitat Type	4					4										
Replicate Station	STN 1	STN 2	STN 3	STN 4	STN 5	Stn 1	Stn 2	Stn 3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diamesa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Protanypus	2	7	3	3	0	0	1	0	17	2	2	0	2	1	0	7
Pseudodiamesa	0	0	3	0	0	0	0	0	3	0	0	0	1	0	0	3
Pseudokiefferiella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	47	77	160	91	29	28	6	4	441	55	38	7	53	19	4	160
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	0	0	0	0	7	0	0	0	7	1	0	0	2	1	0	7
Cricotopus/Orthocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diplocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heterotrissocladius	0	28	7	17	36	10	1	0	99	12	9	1	13	5	0	36
Hydrobaenus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	0	0	0	0	0	1	0	1	3	0	0	0	1	0	0	1
Paracladius	0	7	13	3	0	0	1	3	27	3	2	0	5	2	0	13
Parakiefferiella	6	0	0	0	0	1	1	0	9	1	0	0	2	1	0	6
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	7	0	7	2	0	0	0	0	16	2	0	0	3	1	0	7
Pseudosmittia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tvetenia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	0	7	3	3	7	0	0	0	20	3	1	0	3	1	0	7
indeterminate A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	1	0	1	0	0	0	1	0	0	1
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	1	49	7	12	78	48	6	3	203	25	10	3	29	10	1	78
Procladius	0	7	0	1	21	0	0	0	29	4	0	0	7	3	0	21
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dicranota	6	0	3	0	0	19	12	13	53	7	5	1	7	3	0	19
Ormosia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tipula	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Benthic Invertebrates	178	2129	1139	406	1826	609	162	186	6635	829	507	100	783	277	162	2129
Taxonomic Richness (Genus-level) [2]	13	16	16	16	15	15	16	15	26 [3]	--	--	--	--	--	13	16

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Sheardown Lake NW (2007)			Sheardown Lake NW (2007)			Sheardown Lake NW (2007)			Sheardown Lake NW (2007)		
Site ID	DLO-01-3			DLO-01-4			DLO-01-7			DLO-01-6		
Habitat Type	9			9			9			9		
Replicate Station	B1	B2	B3	B1	B2	B3	B1	B2	B3	B1	B2	B3
ROUNDWORMS												
P. Nemata	0	0	0	139	0	70	35	122	87	87	113	70
ANNELIDS												
P. Annelida												
WORMS	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	0	0	0	0	0	0	0	0	0	0	0	0
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	35	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS												
P. Arthropoda												
MITES	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0	0
O. Acari	0	0	0	35	0	0	278	70	261	261	191	165
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	139	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	139	1670	2296	2470	2783	2157	0	35	70	122	0	0
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0	0
INSECTS												
Cl. Insecta												
BEETLES	0	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	35	0	0	0	35	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	0	0	0	0	0	70	0	0	0	0	0	0
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	209	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	1113	2087	974	1948	765	974	70	452	0	104	0	9
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	557	417	209	626	209	17	209	17	35	9	9
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0	0
Sergentia	139	139	765	0	209	0	0	0	0	0	0	0
Stempellinella	0	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	1948	0	1183	1635	1809	3130	2400	1565	1061	139	35	504
Tanytarsus	696	557	1252	1009	417	209	17	0	17	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Sheardown Lake NW (2007)			Sheardown Lake NW (2007)			Sheardown Lake NW (2007)			Sheardown Lake NW (2007)		
Site ID	**DLO-01-3**			**DLO-01-4**			**DLO-01-7**			**DLO-01-6**		
Habitat Type		**9**			**9**			**9**			**9**	
Replicate Station	**B1**	**B2**	**B3**	**B1**	**B2**	**B3**	**B1**	**B2**	**B3**	**B1**	**B2**	**B3**
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0	0
Diamesa	0	0	0	0	0	0	0	0	0	0	0	0
Protanypus	70	0	0	35	0	70	104	70	104	52	52	43
Pseudodiamesa	0	0	0	0	0	0	35	0	17	17	0	0
Pseudokiefferiella	0	0	0	0	0	0	0	0	0	35	0	0
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	70	0	139	452	70	70	157	1183	104	296	52	0
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	0	139	0	0	0	0	0	0	0	0	0	0
Cricotopus	70	0	0	0	0	0	0	0	0	0	0	0
Cricotopus/Orthocladius	0	0	70	0	0	0	0	0	0	0	0	0
Diplocladius	0	0	0	0	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0	0	0	0	0
Heterotrissocladius	1739	0	1113	452	1252	2226	1061	1670	887	1704	1435	757
Hydrobaenus	0	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	0	0	0	0	0	0	0	0	0
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	9	0
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	0	0	0	0	0	0	0	0	0	0	0	0
Paracladius	0	0	0	70	0	0	52	104	313	487	252	357
Parakiefferiella	0	0	0	0	70	0	104	0	17	0	9	0
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0	0	0	0
Pseudosmittia	0	0	0	0	0	0	0	0	0	0	0	0
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	0	0	0	0	0	0	0	0	0	0	0	0
Tvetenia	0	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	0	0	0	417	0	0	104	417	70	35	70	87
indeterminate A	0	0	70	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	487	139	348	209	417	904	0	35	0	17	0	0
Procladius	209	0	70	1357	70	0	470	348	157	104	78	26
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0	0	0	0	0
Tipula	0	0	0	0	0	0	0	0	0	0	0	0
Total Benthic Invertebrates	6678	5426	8904	10470	8487	10087	4904	6348	3183	3496	2304	2026
Taxonomic Richness (Genus-level) [2]	11	8	13	15	11	10	14	15	14	15	12	10

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody / Site ID / Habitat Type / Replicate Station	Sheardown Lake NW (2007) Habitat 9 Total (n = 12)								Sheardown Lake NW (2008) DLO-01-Hab 9 9							Sheardown Lake NW (2008) DD-Hab 9 9		
	Sum	Mean	Median	% [1]	SD	SE	Min	Max	3-B1	4-B1	4-B2	6-B1	6-B2	7-B1	7-B2	Stn 1	Stn 2	Stn 3
ROUNDWORMS																		
P. Nemata	722	60	70	1	52	15	0	139	2	0	14	45	3	2	7	13	12	1
ANNELIDS																		
P. Annelida																		
WORMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	35	3	0	0	10	3	0	35	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0	0	10	0	7	0	0	1
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS																		
P. Arthropoda																		
MITES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Acari	1261	105	52	2	117	34	0	278	38	0	0	45	20	19	7	7	14	1
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	139	12	0	0	40	12	0	139	0	7	7	0	0	0	0	0	6	1
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	11739	978	130	16	1172	338	0	2783	15	320	390	70	43	24	21	75	67	41
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INSECTS																		
Cl. Insecta																		
BEETLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apatania	70	6	0	0	14	4	0	35	0	0	7	3	2	0	0	6	3	1
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	70	6	0	0	20	6	0	70	0	0	0	0	0	0	0	0	0	0
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chironomus	209	17	0	0	60	17	0	209	0	0	21	0	0	3	146	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	8496	708	609	12	743	215	0	2087	0	132	104	24	0	17	28	43	43	83
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	2313	193	122	3	226	65	0	626	2	313	445	59	0	20	83	91	35	80
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sergentia	1252	104	0	2	221	64	0	765	1	7	77	14	9	0	63	6	0	6
Stempellinella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	15409	1284	1374	21	989	286	0	3130	52	327	355	525	257	121	111	430	316	397
Tanytarsus	4174	348	113	6	442	127	0	1252	9	63	118	66	0	34	181	14	43	51
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Sheardown Lake NW (2007) Habitat 9 Total (n = 12)								Sheardown Lake NW (2008)							Sheardown Lake NW (2008)		
Site ID									DLO-01-Hab 9							DD-Hab 9		
Habitat Type									9							9		
Replicate Station	Sum	Mean	Median	% [1]	SD	SE	Min	Max	3-B1	4-B1	4-B2	6-B1	6-B2	7-B1	7-B2	Stn 1	Stn 2	Stn 3
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diamesa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Protanypus	600	50	52	1	37	11	0	104	4	0	0	3	0	5	0	6	6	0
Pseudodiamesa	70	6	0	0	11	3	0	35	3	0	0	0	0	9	14	0	0	0
Pseudokiefferiella	35	3	0	0	10	3	0	35	0	0	0	0	0	0	0	0	0	0
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	2591	216	87	4	331	95	0	1183	2	7	7	14	25	3	42	17	6	14
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	139	12	0	0	40	12	0	139	0	0	0	0	0	0	0	0	0	0
Cricotopus	70	6	0	0	20	6	0	70	0	7	0	0	0	0	0	0	0	0
Cricotopus/Orthocladius	70	6	0	0	20	6	0	70	0	0	0	0	0	0	0	0	0	0
Diplocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heterotrissocladius	14296	1191	1183	20	618	178	0	2226	21	0	7	42	9	3	28	46	61	74
Hydrobaenus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	9	1	0	0	3	1	0	9	0	0	0	7	0	0	0	3	0	0
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paracladius	1635	136	61	2	171	49	0	487	27	7	0	83	0	37	0	0	0	0
Parakiefferiella	200	17	0	0	34	10	0	104	0	0	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0
Pseudosmittia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tvetenia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	1200	100	52	2	153	44	0	417	1	0	0	7	0	3	0	0	0	0
indeterminate A	70	6	0	0	20	6	0	70	1	0	0	3	0	0	0	0	0	3
indeterminate B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	2557	213	87	4	281	81	0	904	0	132	125	45	9	11	35	49	78	59
Procladius	2887	241	91	4	379	109	0	1357	73	0	0	10	0	25	7	3	6	9
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	1	0	0
Ormosia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tipula	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Benthic Invertebrates	72313	6026	5887	100	2970	858	2026	10470	250	1322	1677	1075	397	334	779	816	696	823
Taxonomic Richness (Genus-level) [2]	27	--	--	--	--	--	8	15	15	11	13	20	11	16	15	16	14	16

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued –

Waterbody / Site ID / Habitat Type / Replicate Station	Sheardown Lake NW (2008) Habitat 9 Total (n = 10)								Sheardown Lake NW (2007 + 2008) Habitat 9 Total (n = 22)							
	Sum	Mean	Median	% [1]	SD	SE	Min	Max	Sum	Mean	Median	% [1]	SD	SE	Min	Max
ROUNDWORMS																
P. Nemata	99	10	5	1	13	4	0	45	821	37	12	1	46	10	0	139
ANNELIDS																
P. Annelida																
WORMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	3	0	0	0	1	0	0	3	3	0	0	0	1	0	0	3
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	35	2	0	0	7	2	0	35
Lumbriculus	19	2	0	0	4	1	0	10	19	1	0	0	3	1	0	10
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS																
P. Arthropoda																
MITES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Acari	153	15	11	2	16	5	0	45	1414	64	17	2	97	21	0	278
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	21	2	0	0	3	1	0	7	160	7	0	0	30	6	0	139
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	1065	107	55	13	134	42	15	390	12804	582	70	16	961	205	0	2783
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INSECTS																
Cl. Insecta																
BEETLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apatania	22	2	2	0	3	1	0	7	92	4	0	0	10	2	0	35
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	0	0	0	0	0	0	0	0	70	3	0	0	15	3	0	70
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chironomus	170	17	0	2	46	14	0	146	378	17	0	0	53	11	0	209
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	475	47	36	6	45	14	0	132	8970	408	76	11	635	135	0	2087
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	1128	113	69	14	147	47	0	445	3441	156	69	4	194	41	0	626
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sergentia	181	18	6	2	28	9	0	77	1433	65	3	2	167	36	0	765
Stempellinella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	2892	289	321	35	153	48	52	525	18301	832	414	23	883	188	0	3130
Tanytarsus	579	58	47	7	55	17	0	181	4753	216	47	6	354	75	0	1252
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued –

Waterbody / Site ID / Habitat Type / Replicate Station	Sheardown Lake NW (2008) Habitat 9 Total (n = 10)								Sheardown Lake NW (2007 + 2008) Habitat 9 Total (n = 22)							
	Sum	Mean	Median	% [1]	SD	SE	Min	Max	Sum	Mean	Median	% [1]	SD	SE	Min	Max
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diamesa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Protanypus	25	2	2	0	3	1	0	6	625	28	6	1	36	8	0	104
Pseudodiamesa	25	3	0	0	5	2	0	14	95	4	0	0	9	2	0	35
Pseudokiefferiella	0	0	0	0	0	0	0	0	35	2	0	0	7	2	0	35
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	137	14	10	2	12	4	2	42	2728	124	33	3	261	56	0	1183
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	0	0	0	0	0	0	0	0	139	6	0	0	30	6	0	139
Cricotopus	7	1	0	0	2	1	0	7	77	3	0	0	15	3	0	70
Cricotopus/Orthocladius	0	0	0	0	0	0	0	0	70	3	0	0	15	3	0	70
Diplocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heterotrissocladius	290	29	24	4	26	8	0	74	14586	663	263	18	742	158	0	2226
Hydrobaenus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	10	1	0	0	2	1	0	7	19	1	0	0	2	1	0	9
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paracladius	154	15	0	2	27	9	0	83	1789	81	3	2	139	30	0	487
Parakiefferiella	0	0	0	0	0	0	0	0	200	9	0	0	26	6	0	104
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	3	0	0	0	1	0	0	3	3	0	0	0	1	0	0	3
Pseudosmittia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tvetenia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	10	1	0	0	2	1	0	7	1210	55	0	2	122	26	0	417
indeterminate A	7	1	0	0	1	0	0	3	77	3	0	0	15	3	0	70
indeterminate B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	544	54	47	7	46	15	0	132	3101	141	47	4	221	47	0	904
Procladius	133	13	6	2	22	7	0	73	3020	137	26	4	298	64	0	1357
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dicranota	10	1	0	0	3	1	0	9	10	0	0	0	2	0	0	9
Ormosia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tipula	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Benthic Invertebrates	8167	817	798	100	448	142	250	1677	80480	3658	2165	100	3429	731	250	10470
Taxonomic Richness (Genus-level) [2]	26	--	--	--	--	--	11	20	31	--	--	--	--	--	8	20

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Sheardown Lake NW (2007)			Sheardown Lake NW (2007)			Sheardown Lake NW (2007) Habitat 14 Total (n = 6)							
Site ID	DLO-01-2			DLO-01-5										
Habitat Type	14			14										
Replicate Station	B1	B2	B3	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
ROUNDWORMS														
P. Nemata	35	0	0	9	9	9	61	10	9	1	13	5	0	35
ANNELIDS														
P. Annelida														
WORMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS														
P. Arthropoda														
MITES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Acari	26	104	61	35	61	26	313	52	48	3	30	12	26	104
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	0	26	9	0	0	17	52	9	4	1	11	4	0	26
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INSECTS														
Cl. Insecta														
BEETLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stempellinella	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	9	0	0	17	0	104	130	22	4	1	41	17	0	104
Tanytarsus	0	0	9	0	0	0	9	1	0	0	4	1	0	9
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Sheardown Lake NW (2007)			Sheardown Lake NW (2007)			Sheardown Lake NW (2007) Habitat 14 Total (n = 6)							
Site ID	DLO-01-2			DLO-01-5										
Habitat Type	14			14										
Replicate Station	B1	B2	B3	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diamesa	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Protanypus	17	17	0	26	0	26	87	14	17	1	12	5	0	26
Pseudodiamesa	0	26	26	0	0	0	52	9	0	1	13	5	0	26
Pseudokiefferiella	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	9	0	0	0	0	9	1	0	0	4	1	0	9
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cricotopus/Orthocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diplocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heterotrissocladius	1339	1217	1000	1513	1643	965	7678	1280	1278	81	273	111	965	1643
Hydrobaenus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paracladius	0	17	9	9	0	17	52	9	9	1	8	3	0	17
Parakiefferiella	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pseudosmittia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tvetenia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	0	9	9	9	0	9	35	6	9	0	4	2	0	9
indeterminate A	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Procladius	226	304	270	52	70	52	974	162	148	10	117	48	52	304
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	9	0	0	9	1	0	0	4	1	0	9
Ormosia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tipula	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Benthic Invertebrates	1652	1730	1391	1678	1783	1226	9461	1577	1665	100	219	89	1226	1783
Taxonomic Richness (Genus-level) [2]	6	9	8	9	4	9	13	--	--	--	--	--	4	9

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Sheardown Lake NW (2008)			Sheardown Lake (2008) Habitat 14 (n = 3)							
Site ID	DLO-01										
Habitat Type	14										
Replicate Station	2-B1	2-B2	5-B1	Sum	Mean	Median	% [1]	SD	SE	Min	Max
ROUNDWORMS											
P. Nemata	3	2	0	5	2	2	1	2	1	0	3
ANNELIDS											
P. Annelida											
WORMS	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	0	0	0	0	0	0	0	0	0	0	0
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS											
P. Arthropoda											
MITES	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0
O. Acari	6	17	4	27	9	6	6	7	4	4	27
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	0	0	0	0	0	0	0	0	0	0	0
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0
INSECTS											
Cl. Insecta											
BEETLES	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	0	0	0	0	0	0	0	0	0	0	0
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	0	0	0	0	0	0	0	0	0	0	0
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	0	0	0	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	0	0	0	0	0	0	0	0	0	0
Stempellinella	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	0	0	5	5	2	0	1	3	2	0	5
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Sheardown Lake NW (2008)			Sheardown Lake (2008) Habitat 14 (n = 3)							
Site ID	DLO-01										
Habitat Type	14										
Replicate Station	2-B1	2-B2	5-B1	Sum	Mean	Median	% [1]	SD	SE	Min	Max
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0
Diamesa	0	0	0	0	0	0	0	0	0	0	0
Protanypus	2	3	2	7	2	2	2	1	1	2	7
Pseudodiamesa	1	1	0	2	1	1	0	1	0	0	2
Pseudokiefferiella	0	0	0	0	0	0	0	0	0	0	0
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	6	1	1	8	3	1	2	3	2	1	8
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	0	0	0	0	0	0	0	0	0	0	0
Cricotopus/Orthocladius	0	0	0	0	0	0	0	0	0	0	0
Diplocladius	0	0	0	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0	0	0	0
Heterotrissocladius	113	103	81	297	99	103	66	16	9	81	297
Hydrobaenus	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	0	0	0	0	0	0	0	0
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	14	10	0	23	8	10	5	7	4	0	23
Paracladius	0	0	1	1	0	0	0	1	0	0	1
Parakiefferiella	0	0	0	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0	0	0
Pseudosmittia	0	0	0	0	0	0	0	0	0	0	0
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	0	0	0	0	0	0	0	0	0	0	0
Tvetenia	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	0	0	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0
Procladius	42	23	8	72	24	23	16	17	10	8	72
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0	0	0	0
Tipula	0	0	0	0	0	0	0	0	0	0	0
Total Benthic Invertebrates	186	158	102	446	149	158	100	43	25	102	446
Taxonomic Richness (Genus-level) [2]	8	8	7	10	--	--	--	--	--	7	8

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued –

Waterbody / Site ID / Habitat Type / Replicate Station	Sheardown Lake NW (2007 + 2008) Habitat 14 Total (n = 9)								Sheardown Lake NW Overall (n = 39)							
	Sum	Mean	Median	% [1]	SD	SE	Min	Max	Sum	Mean	Median	% [1]	SD	SE	Min	Max
ROUNDWORMS																
P. Nemata	66	7	3	1	11	4	0	35	1129	29	9	1	39	6	0	139
ANNELIDS																
P. Annelida																
WORMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	0	0	0	0	0	0	0	0	12	0	0	0.0	1	0	0	7
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	35	1	0	0.0	6	1	0	35
Lumbriculus	0	0	0	0	0	0	0	0	56	1	0	0.1	3	0	0	10
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS																
P. Arthropoda																
MITES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Acari	340	38	26	3	32	11	4	104	1914	49	20	2	76	12	0	278
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	160	4	0	0.2	22	4	0	139
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	52	6	0	1	10	3	0	26	13777	353	41	14	764	122	0	2783
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INSECTS																
Cl. Insecta																
BEETLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	96	2	0	0.1	8	1	0	35
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	0	0	0	0	0	0	0	0	70	2	0	0	11	2	0	70
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	378	10	0	0	40	6	0	209
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Micropsectra	0	0	0	0	0	0	0	0	9250	237	17	10	512	82	0	2087
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	0	0	0	0	0	4004	103	17	4	167	27	0	626
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	0	0	0	0	0	0	0	1473	38	0	2	128	20	0	765
Stempellinella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	136	15	0	1	34	11	0	104	21488	551	257	22	765	122	0	3130
Tanytarsus	9	1	0	0	3	1	0	9	5161	132	9	5	283	45	0	1252
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody / Site ID / Habitat Type / Replicate Station	Sheardown Lake NW (2007 + 2008) Habitat 14 Total (n = 9)								Sheardown Lake NW Overall (n = 39)							
	Sum	Mean	Median	% [1]	SD	SE	Min	Max	Sum	Mean	Median	% [1]	SD	SE	Min	Max
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diamesa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Protanypus	94	10	3	1	11	4	0	26	736	19	3	1	30	5	0	104
Pseudodiamesa	54	6	0	1	11	4	0	26	152	4	0	0	9	1	0	35
Pseudokiefferiella	0	0	0	0	0	0	0	0	35	1	0	0	6	1	0	35
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	17	2	0	0	3	1	0	9	3186	82	14	3	202	32	0	1183
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	0	0	0	0	0	0	0	0	139	4	0	0	22	4	0	139
Cricotopus	0	0	0	0	0	0	0	0	83	2	0	0	11	2	0	70
Cricotopus/Orthocladius	0	0	0	0	0	0	0	0	70	2	0	0	11	2	0	70
Diplocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heterotrissocladius	7975	886	1000	80	629	210	81	1643	22660	581	81	23	694	111	0	2226
Hydrobaenus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	19	0	0	0	2	0	0	9
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	23	3	0	0	5	2	0	14	26	1	0	0	3	0	0	14
Paracladius	53	6	1	1	7	2	0	17	1869	48	1	2	111	18	0	487
Parakiefferiella	0	0	0	0	0	0	0	0	209	5	0	0	20	3	0	104
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	19	0	0	0	2	0	0	7
Pseudosmittia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tvetenia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	35	4	0	0	5	2	0	9	1265	32	0	1	94	15	0	417
indeterminate A	0	0	0	0	0	0	0	0	77	2	0	0	11	2	0	70
indeterminate B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	3304	85	11	3	177	28	0	904
Procladius	1046	116	52	11	116	39	8	304	4095	105	23	4	234	37	0	1357
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dicranota	9	1	0	0	3	1	0	9	72	2	0	0.1	4	1	0	19
Ormosia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tipula	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Benthic Invertebrates	9907	1101	1391	100	735	245	102	1783	97022	2488	1391	100	2924	468	102	10470
Taxonomic Richness (Genus-level) [2]	14	--	--	--	--	--	4	9	34	--	--	--	--	--	4	20

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Sheardown Lake SE (2007)			Sheardown Lake SE (2007) Habitat 4 Total (n = 3)							
Site ID	DLO-02-3										
Habitat Type	4										
Replicate Station	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
ROUNDWORMS											
P. Nemata	183	104	26	313	104	104	2	78	45	26	183
ANNELIDS											
P. Annelida											
WORMS	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	26	17	0	43	14	17	0	13	8	0	26
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS											
P. Arthropoda											
MITES	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0
O. Acari	565	26	139	730	243	139	6	284	164	26	565
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	9	9	3	0	0	5	3	0	9
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	61	9	17	87	29	17	1	28	16	9	61
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0
INSECTS											
Cl. Insecta											
BEETLES	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	148	148	49	0	1	85	49	0	148
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	0	0	0	0	0	0	0	0	0	0	0
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	17	9	35	61	20	17	0	13	8	9	35
Micropsectra	26	61	1913	2000	667	61	16	1080	623	26	1913
Paracladopelma	0	9	0	9	3	0	0	5	3	0	9
Paratanytarsus	0	0	200	200	67	0	2	115	67	0	200
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	17	0	17	6	0	0	10	6	0	17
Stempellinella	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	0	0	6000	6000	2000	0	47	3464	2000	0	6000
Tanytarsus	9	0	130	139	46	9	1	73	42	0	130
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Sheardown Lake SE (2007)			Sheardown Lake SE (2007) Habitat 4 Total (n = 3)							
Site ID	DLO-02-3										
Habitat Type	4										
Replicate Station	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0
Diamesa	0	0	0	0	0	0	0	0	0	0	0
Protanypus	0	9	0	9	3	0	0	5	3	0	9
Pseudodiamesa	0	0	0	0	0	0	0	0	0	0	0
Pseudokiefferiella	0	0	0	0	0	0	0	0	0	0	0
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	17	0	565	583	194	17	5	321	186	0	565
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	0	0	0	0	0	0	0	0	0	0	0
Cricotopus/Orthocladius	0	0	0	0	0	0	0	0	0	0	0
Diplocladius	0	0	0	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0	0	0	0
Heterotrissocladius	0	9	1435	1443	481	9	11	826	477	0	1435
Hydrobaenus	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	0	0	0	0	0	0	0	0
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	0	0	0	0	0	0	0	0	0	0	0
Paracladius	0	9	0	9	3	0	0	5	3	0	9
Parakiefferiella	17	78	17	113	38	17	1	35	20	17	78
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0	0	0
Pseudosmittia	0	0	0	0	0	0	0	0	0	0	0
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	0	0	0	0	0	0	0	0	0	0	0
Tvetenia	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	26	26	17	70	23	26	1	5	3	17	26
indeterminate A	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	9	0	383	391	130	9	3	218	126	0	383
Procladius	9	17	261	287	96	17	2	143	83	9	261
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0
Dicranota	52	35	52	139	46	52	1	10	6	35	52
Ormosia	0	0	0	0	0	0	0	0	0	0	0
Tipula	9	0	0	9	3	0	0	5	3	0	9
Total Benthic Invertebrates	1026	435	11348	12809	4270	1026	100	6137	3543	435	11348
Taxonomic Richness (Genus-level) [2]	14	15	17	23	--	--	--	--	--	14	17

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Sheardown Lake SE (2007)			Sheardown Lake SE (2007) Habitat 10 Total (n = 3)							
Site ID	DLO-02-4										
Habitat Type	10										
Replicate Station	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
ROUNDWORMS											
P. Nemata	0	0	0	0	0	0	0	0	0	0	0
ANNELIDS											
P. Annelida											
WORMS	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	0	0	0	0	0	0	0	0	0	0	0
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	139	139	46	0	0	80	46	0	139
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS											
P. Arthropoda											
MITES	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0
O. Acari	0	313	0	313	104	0	1	181	104	0	313
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	139	139	46	0	0	80	46	0	139
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	1739	3026	9322	14087	4696	3026	25	4058	2343	1739	9322
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0
INSECTS											
Cl. Insecta											
BEETLES	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0
Apatania	209	174	278	661	220	209	1	53	31	174	278
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	0	0	0	0	0	0	0	0	0	0	0
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0
Chironomus	417	0	835	1252	417	417	2	417	241	0	835
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	278	835	10017	11130	3710	835	20	5469	3158	278	10017
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	626	35	1948	2609	870	626	5	979	566	35	1948
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0
Sergentia	139	0	557	696	232	139	1	290	167	0	557
Stempellinella	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	9739	2783	1252	13774	4591	2783	25	4523	2612	1252	9739
Tanytarsus	626	0	3617	4243	1414	626	8	1933	1116	0	3617
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Sheardown Lake SE (2007)			Sheardown Lake SE (2007) Habitat 10 Total (n = 3)							
Site ID	DLO-02-4										
Habitat Type	10										
Replicate Station	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0
Diamesa	0	0	0	0	0	0	0	0	0	0	0
Protanypus	0	0	0	0	0	0	0	0	0	0	0
Pseudodiamesa	0	0	0	0	0	0	0	0	0	0	0
Pseudokiefferiella	0	0	0	0	0	0	0	0	0	0	0
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	487	139	626	209	139	1	251	145	0	487
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	70	0	278	348	116	70	1	145	84	0	278
Cricotopus/Orthocladius	70	0	0	70	23	0	0	40	23	0	70
Diplocladius	0	0	0	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0	0	0	0
Heterotrissocladius	348	243	278	870	290	278	2	53	31	243	348
Hydrobaenus	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	0	0	0	0	0	0	0	0
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	0	0	0	0	0	0	0	0	0	0	0
Paracladius	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	0	0	0	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0	0	0
Pseudosmittia	0	0	0	0	0	0	0	0	0	0	0
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	0	0	0	0	0	0	0	0	0	0	0
Tvetenia	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	0	104	0	104	35	0	0	60	35	0	104
indeterminate A	0	35	0	35	12	0	0	20	12	0	35
indeterminate B	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	904	35	2226	3165	1055	904	6	1103	637	35	2226
Procladius	70	1217	139	1426	475	139	3	644	372	70	1217
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0	0	0	0
Tipula	0	0	0	0	0	0	0	0	0	0	0
Total Benthic Invertebrates	15235	9287	31165	55687	18562	15235	100	11312	6531	9287	31165
Taxonomic Richness (Genus-level) [2]	13	12	15	19	--	--	--	--	--	12	15

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Sheardown Lake SE (2007)			Sheardown Lake SE (2007)			Sheardown Lake SE (2007) Habitat 14 Total (n = 6)							
Site ID	DLO-02-1			DLO-02-2										
Habitat Type	14			14										
Replicate Station	B1	B2	B3	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
ROUNDWORMS														
P. Nemata	0	0	0	9	0	0	9	1	0	0	4	1	0	9
ANNELIDS														
P. Annelida														
WORMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS														
P. Arthropoda														
MITES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Acari	157	183	122	35	0	35	530	88	78	2	75	31	0	183
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	365	9	0	9	0	70	452	75	9	1	144	59	0	365
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INSECTS														
Cl. Insecta														
BEETLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chironomus	2557	2035	2383	3243	2817	2539	15574	2596	2548	51	408	167	2035	3243
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	226	0	0	0	0	696	922	154	0	3	281	115	0	696
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	9	0	0	0	0	9	1	0	0	4	1	0	9
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sergentia	35	0	0	0	0	0	35	6	0	0	14	6	0	35
Stempellinella	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	17	9	87	1191	0	2261	3565	594	52	12	940	384	0	2261
Tanytarsus	1757	948	487	35	174	0	3400	567	330	11	682	278	0	1757
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Sheardown Lake SE (2007)			Sheardown Lake SE (2007)			Sheardown Lake SE (2007) Habitat 14 Total (n = 6)							
Site ID	DLO-02-1			DLO-02-2										
Habitat Type	14			14										
Replicate Station	B1	B2	B3	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diamesa	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Protanypus	17	52	52	35	0	0	157	26	26	1	24	10	0	52
Pseudodiamesa	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pseudokiefferiella	0	0	17	0	0	0	17	3	0	0	7	3	0	17
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	52	17	17	0	0	70	157	26	17	1	29	12	0	70
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cricotopus/Orthocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diplocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heterotrissocladius	539	243	835	61	278	104	2061	343	261	7	294	120	61	835
Hydrobaenus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paracladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pseudosmittia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tvetenia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	17	9	35	0	0	0	61	10	4	0	14	6	0	35
indeterminate A	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Procladius	991	504	278	417	278	835	3304	551	461	11	298	122	278	991
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tipula	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Benthic Invertebrates	6730	4017	4313	5035	3548	6609	30252	5042	4674	100	1350	551	3548	6730
Taxonomic Richness (Genus-level) [2]	12	11	10	9	4	8	15	--	--	--	--	--	4	12

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued –

Waterbody / Site ID / Habitat Type / Replicate Station	Sheardown Lake SE Overall (n = 12)							
	Sum	**Mean**	**Median**	**% [1]**	**SD**	**SE**	**Min**	**Max**
ROUNDWORMS								
P. Nemata	322	27	0	0.3	57	17	0	183
ANNELIDS								
P. Annelida								
WORMS	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0
F. Enchytraeidae	43	4	0	0.0	9	3	0	26
F. Lumbriculidae	0	0	0	0	0	0	0	0
indeterminate	139	12	0	0.1	40	12	0	139
Lumbriculus	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0
ARTHROPODS								
P. Arthropoda								
MITES	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0
O. Acari	1574	131	78	2	167	48	0	565
HARPACTICOIDS	0	0	0	0	0	0	0	0
O. Harpacticoida	148	12	0	0.1	40	12	0	139
SEED SHRIMPS	0	0	0	0	0	0	0	0
Cl. Ostracoda	14626	1219	39	15	2720	785	0	9322
SPRINGTAILS	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0
INSECTS								
Cl. Insecta								
BEETLES	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0
Apatania	809	67	0	1	104	30	0	278
F. Limnephilidae	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0
chironomid pupae	0	0	0	0	0	0	0	0
S.F. Chironominae	0	0	0	0	0	0	0	0
Chironomus	16826	1402	1435	17	1298	375	0	3243
Cryptochironomous	0	0	0	0	0	0	0	0
Lipiniella	61	5	0	0	11	3	0	35
Micropsectra	14052	1171	143	14	2842	821	0	10017
Paracladopelma	9	1	0	0	3	1	0	9
Paratanytarsus	2817	235	0	3	569	164	0	1948
Rheotanytarsus	0	0	0	0	0	0	0	0
Sergentia	748	62	0	1	161	46	0	557
Stempellinella	0	0	0	0	0	0	0	0
Stictochironomus	23339	1945	639	24	3035	876	0	9739
Tanytarsus	7783	649	152	8	1074	310	0	3617
Tanytarsini indeterminate	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody / Site ID / Habitat Type / Replicate Station	Sheardown Lake SE Overall (n = 12)							
	Sum	**Mean**	**Median**	**% [1]**	**SD**	**SE**	**Min**	**Max**
S.F. Diamesinae	0	0	0	0	0	0	0	0
Diamesa	0	0	0	0	0	0	0	0
Protanypus	165	14	0	0	21	6	0	52
Pseudodiamesa	0	0	0	0	0	0	0	0
Pseudokiefferiella	17	1	0	0	5	1	0	17
S.F. Orthocladiinae	0	0	0	0	0	0	0	0
Abiskomyia	1365	114	17	1	198	57	0	565
?Acricotopus	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	0	0	0	0	0
Corynoneura	0	0	0	0	0	0	0	0
Cricotopus	348	29	0	0	81	23	0	278
Cricotopus/Orthocladius	70	6	0	0	20	6	0	70
Diplocladius	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0
Heterotrissocladius	4374	364	261	4	411	119	0	1435
Hydrobaenus	0	0	0	0	0	0	0	0
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	0	0	0	0	0
?Limnophyes sp. A	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	0	0	0	0	0	0	0	0
Paracladius	9	1	0	0	3	1	0	9
Parakiefferiella	113	9	0	0	23	7	0	78
Paralimnophyes	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0
Pseudosmittia	0	0	0	0	0	0	0	0
Rheocricotopus	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0
Tokunagaia	0	0	0	0	0	0	0	0
Tvetenia	0	0	0	0	0	0	0	0
Zalutschia	235	20	13	0	29	9	0	104
indeterminate A	35	3	0	0	10	3	0	35
indeterminate B	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0
Arctopelopia	3557	296	0	4	665	192	0	2226
Procladius	5017	418	278	5	398	115	9	1217
Thienemannimyia complex	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0
Dicranota	139	12	0	0.1	21	6	0	52
Ormosia	0	0	0	0	0	0	0	0
Tipula	9	1	0	0.0	3	1	0	9
Total Benthic Invertebrates	98748	8229	5822	100	8359	2413	435	31165
Taxonomic Richness (Genus-level) [2]	29	--	--	--	--	--	4	17

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Tom River (2006)			Tom River (2006) Habitat IO-01 Total (n = 3)							
Site ID	IO-01 (2006)										
Reach	IO-01										
Replicate Station	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
ROUNDWORMS											
P. Nemata	2	2	2	6	2	2	2	0	0	2	2
ANNELIDS											
P. Annelida											
WORMS	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	0	4	0	4	1	0	1	2	1	0	4
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS											
P. Arthropoda											
MITES	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0
O. Acari	2	6	0	8	3	2	2	3	2	0	6
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	0	0	0	0	0	0	0	0	0	0	0
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0
INSECTS											
Cl. Insecta											
BEETLES	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	8	21	49	78	26	21	22	21	12	8	49
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	0	0	0	0	0	0	0	0	0	0	0
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	0	0	0	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	0	0	0	0	0	0	0	0	0	0
Stempellinella	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Tom River (2006)			Tom River (2006) Habitat IO-01 Total (n = 3)							
Site ID	IO-01 (2006)										
Reach	IO-01			Sum	Mean	Median	% [1]	SD	SE	Min	Max
Replicate Station	B1	B2	B3								
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0
Diamesa	6	35	6	47	16	6	14	17	10	6	35
Protanypus	0	0	0	0	0	0	0	0	0	0	0
Pseudodiamesa	0	0	0	0	0	0	0	0	0	0	0
Pseudokiefferiella	4	0	0	4	1	0	1	2	1	0	4
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0	0	0	0
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	0	0	0	0	0	0	0	0	0	0	0
Cricotopus/Orthocladius	4	0	0	4	1	0	1	2	1	0	4
Diplocladius	0	0	6	6	2	0	2	4	2	0	6
?Eukiefferiella	6	12	0	19	6	6	5	6	4	0	12
Heterotrissocladius	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus	37	0	0	37	12	0	11	21	12	0	37
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	0	0	0	0	0	0	0	0
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	0	0	0	0	0	0	0	0	0	0	0
Paracladius	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	0	0	0	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0	0	0
Pseudosmittia	0	0	0	0	0	0	0	0	0	0	0
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	0	74	23	97	32	23	28	38	22	0	74
Tvetenia	0	0	21	21	7	0	6	12	7	0	21
Zalutschia	0	0	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0
indeterminate	4	0	0	4	1	0	1	2	1	0	4
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0
Procladius	0	0	0	0	0	0	0	0	0	0	0
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	0	2	0	2	1	0	1	1	1	0	2
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	2	0	2	1	0	1	1	1	0	2
Ormosia	0	0	0	0	0	0	0	0	0	0	0
Tipula	2	8	0	10	3	2	3	4	2	0	8
Total Benthic Invertebrates	76	167	107	351	117	107	100	46	27	76	167
Taxonomic Richness (Genus-level) [2]	9	9	5	15 [3]	--	--	--	--	--	5	9

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued –

Waterbody	Tom River (2007)			Tom River (2007) Habitat IO-01 Total (n = 3)								Tom River (2006 + 2007) Habitat IO-01 Total (n = 6)							
Site ID	IO-01 (2007)																		
Reach	IO-01																		
Replicate Station	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max	Sum	Mean	Median	% [1]	SD	SE	Min	Max
ROUNDWORMS																			
P. Nemata	0	4	0	4	1	0	0	2	1	0	4	10	2	2	0	2	1	0	4
ANNELIDS																			
P. Annelida																			
WORMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	2	12	2	16	5	2	1	6	3	2	12	21	3	2	1	5	2	0	12
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS																			
P. Arthropoda																			
MITES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Acari	0	0	0	0	0	0	0	0	0	0	0	8	1	0	0	2	1	0	6
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INSECTS																			
Cl. Insecta																			
BEETLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	2	4	0	6	2	2	0	2	1	0	4	85	14	6	3	19	8	0	49
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	4	1827	91	1922	641	91	68	1028	594	4	1827	1922	320	2	60	739	302	0	1827
Paracladopelma	0	41	0	41	14	0	1	24	14	0	41	41	7	0	1	17	7	0	41
Paratanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stempellinella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	0	12	0	12	4	0	0	7	4	0	12	12	2	0	0	5	2	0	12
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Tom River (2007)			Tom River (2007) Habitat IO-01 Total (n = 3)								Tom River (2006 + 2007) Habitat IO-01 Total (n = 6)							
Site ID	IO-01 (2007)																		
Reach	IO-01																		
Replicate Station	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max	Sum	Mean	Median	% [1]	SD	SE	Min	Max
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diamesa	2	0	0	2	1	0	0	1	1	0	2	49	8	4	2	13	5	0	35
Protanypus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pseudodiamesa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pseudokiefferiella	0	0	0	0	0	0	0	0	0	0	0	4	1	0	0	2	1	0	4
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Acricotopus	0	0	2	2	1	0	0	1	1	0	2	2	0	0	0	1	0	0	2
Chaetocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	6	0	0	6	2	0	0	4	2	0	6	6	1	0	0	3	1	0	6
Cricotopus	23	4	6	33	11	6	1	10	6	4	23	33	5	2	1	9	4	0	23
Cricotopus/Orthocladius	0	239	4	243	81	4	9	137	79	0	239	247	41	2	8	97	40	0	239
Diplocladius	0	0	0	0	0	0	0	0	0	0	0	6	1	0	0	3	1	0	6
?Eukiefferiella	16	0	0	16	5	0	1	10	5	0	16	35	6	3	1	7	3	0	16
Heterotrissocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus	8	330	0	338	113	8	12	188	109	0	330	375	63	4	12	132	54	0	330
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Limnophyes sp. A	2	4	0	6	2	2	0	2	1	0	4	6	1	0	0	2	1	0	4
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	4	2	6	2	2	0	2	1	0	4	6	1	0	0	2	1	0	4
Orthocladius (Euorthocladius)	64	4	0	68	23	4	2	36	21	0	64	68	11	0	2	26	11	0	64
Paracladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pseudosmittia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	49	12	2	64	21	12	2	25	14	2	49	161	27	18	5	29	12	0	74
Tvetenia	0	0	0	0	0	0	0	0	0	0	0	21	3	0	1	8	3	0	21
Zalutschia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	4	1	0	0	2	1	0	4
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	16	2	19	6	2	1	9	5	0	16	19	3	0	1	7	3	0	16
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Procladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	2
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	16	2	19	6	2	1	9	5	0	16	21	3	1	1	6	3	0	16
Ormosia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tipula	10	0	0	10	3	0	0	6	3	0	10	21	3	1	1	5	2	0	10
Total Benthic Invertebrates	190	2532	113	2835	945	190	100	1375	794	113	2532	3186	531	140	100	981	401	76	2532
Taxonomic Richness (Genus-level) [2]	11	14	9	19	--	--	--	--	--	9	14	25	--	--	--	--	--	5	14

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Tom River (2006)			Tom River (2006) Habitat IO-04 Total (n = 3)							
Site ID	IO-04 (2006)										
Reach	IO-04										
Replicate Station	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
ROUNDWORMS											
P. Nemata	0	2	6	8	3	2	1	3	2	0	6
ANNELIDS											
P. Annelida											
WORMS	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	2	2	0	4	1	2	1	1	1	0	2
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS											
P. Arthropoda											
MITES	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0
O. Acari	4	14	14	33	11	14	4	6	3	4	14
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	0	0	0	0	0	0	0	0	0	0	0
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0
INSECTS											
Cl. Insecta											
BEETLES	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	2	2	1	0	0	1	1	0	2
Hydroporus	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	39	39	19	97	32	39	12	12	7	19	39
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	0	2	0	2	1	0	0	1	1	0	2
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	0	0	0	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0
Sergentia	2	0	2	4	1	2	1	1	1	0	2
Stempellinella	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Tom River (2006)			Tom River (2006) Habitat IO-04 Total (n = 3)							
Site ID	IO-04 (2006)										
Reach	IO-04										
Replicate Station	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0
Diamesa	225	153	126	503	168	153	63	51	30	126	225
Protanypus	0	0	0	0	0	0	0	0	0	0	0
Pseudodiamesa	0	0	0	0	0	0	0	0	0	0	0
Pseudokiefferiella	0	2	0	2	1	0	0	1	1	0	2
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0	0	0	0
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	0	0	2	2	1	0	0	1	1	0	2
Cricotopus/Orthocladius	0	0	8	8	3	0	1	5	3	0	8
Diplocladius	0	0	0	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0	0	0	0
Heterotrissocladius	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus	4	8	0	12	4	4	2	4	2	0	8
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	0	0	0	0	0	0	0	0
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	0	0	0	0	0	0	0	0	0	0	0
Paracladius	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	0	0	0	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0	0	0
Pseudosmittia	0	0	0	0	0	0	0	0	0	0	0
Rheocricotopus	0	2	0	2	1	0	0	1	1	0	2
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	0	0	0	0	0	0	0	0	0	0	0
Tvetenia	0	8	0	8	3	0	1	5	3	0	8
Zalutschia	0	0	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0
Procladius	0	0	0	0	0	0	0	0	0	0	0
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	19	33	41	93	31	33	12	11	7	19	41
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0	0	0	0
Tipula	0	6	6	12	4	6	2	4	2	0	6
Total Benthic Invertebrates	295	272	227	794	265	272	100	35	20	227	295
Taxonomic Richness (Genus-level) [2]	6	11	9	15	--	--	--	--	--	6	11

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Tom River (2007)			Tom River (2007) Habitat IO-04 Total (n = 3)							
Site ID	IO-04 (2007)										
Reach	IO-04										
Replicate Station	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
ROUNDWORMS											
P. Nemata	0	2	0	2	1	0	1	1	1	0	2
ANNELIDS											
P. Annelida											
WORMS	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	0	0	2	2	1	0	1	1	1	0	2
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS											
P. Arthropoda											
MITES	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0
O. Acari	2	0	0	2	1	0	1	1	1	0	2
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	0	0	0	0	0	0	0	0	0	0	0
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0
INSECTS											
Cl. Insecta											
BEETLES	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	2	0	0	2	1	0	1	1	1	0	2
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	0	2	0	2	1	0	1	1	1	0	2
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	0	0	0	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	0	0	0	0	0	0	0	0	0	0
Stempellinella	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	0	0	2	2	1	0	1	1	1	0	2
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	2	0	2	1	0	1	1	1	0	2

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Tom River (2007)			Tom River (2007) Habitat IO-04 Total (n = 3)							
Site ID	IO-04 (2007)										
Reach	IO-04										
Replicate Station	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0
Diamesa	0	0	4	4	1	0	2	2	1	0	4
Protanypus	0	0	0	0	0	0	0	0	0	0	0
Pseudodiamesa	0	0	0	0	0	0	0	0	0	0	0
Pseudokiefferiella	2	2	2	6	2	2	4	0	0	2	2
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0	0	0	0
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	2	0	0	2	1	0	1	1	1	0	2
Corynoneura	4	0	0	4	1	0	2	2	1	0	4
Cricotopus	2	8	0	10	3	2	6	4	2	0	8
Cricotopus/Orthocladius	0	2	0	2	1	0	1	1	1	0	2
Diplocladius	0	0	0	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0	0	0	0
Heterotrissocladius	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	0	0	0	0	0	0	0	0
?Limnophyes sp. A	0	2	0	2	1	0	1	1	1	0	2
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	39	2	25	66	22	25	38	19	11	2	39
Paracladius	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	0	0	0	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0	0	0
Pseudosmittia	0	0	0	0	0	0	0	0	0	0	0
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	23	14	14	52	17	14	30	5	3	14	23
Tvetenia	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	0	0	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0
Procladius	0	0	0	0	0	0	0	0	0	0	0
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0	0	0	0
Tipula	2	2	6	10	3	2	6	2	1	2	6
Total Benthic Invertebrates	78	39	56	173	58	56	100	20	11	39	78
Taxonomic Richness (Genus-level) [2]	8	10	7	16	--	--	--	--	--	7	10

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued –

Waterbody / Site ID / Reach / Replicate Station	Tom River (2006 + 2007) Habitat IO-04 Total (n = 6)								Tom River Overall (n = 12)							
	Sum	Mean	Median	% [1]	SD	SE	Min	Max	Sum	Mean	Median	% [1]	SD	SE	Min	Max
ROUNDWORMS																
P. Nemata	10	2	1	1	2	1	0	6	21	2	2	0.5	2	1	0	6
ANNELIDS																
P. Annelida																
WORMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	6	1	1	1	1	0	0	2	27	2	2	1	3	1	0	12
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS																
P. Arthropoda																
MITES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Acari	35	6	3	4	7	3	0	14	43	4	1	1	5	2	0	14
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INSECTS																
Cl. Insecta																
BEETLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Agabus	2	0	0	0	1	0	0	2	2	0	0	0.0	1	0	0	2
Hydroporus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	99	16	10	10	19	8	0	39	184	15	6	4	18	5	0	49
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	4	1	0	0	1	0	0	2	1926	160	0	46	525	152	0	1827
Paracladopelma	0	0	0	0	0	0	0	0	41	3	0	1	12	3	0	41
Paratanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sergentia	4	1	0	0	1	0	0	2	4	0	0	0	1	0	0	2
Stempellinella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	2	0	0	0	1	0	0	2	14	1	0	0	4	1	0	12
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	2	0	0	0	1	0	0	2	2	0	0	0	1	0	0	2

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody / Site ID / Reach / Replicate Station	Tom River (2006 + 2007) Habitat IO-04 Total (n = 6)								Tom River Overall (n = 12)							
	Sum	Mean	Median	% [1]	SD	SE	Min	Max	Sum	Mean	Median	% [1]	SD	SE	Min	Max
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diamesa	507	85	65	52	97	39	0	225	557	46	5	13	77	22	0	225
Protanypus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pseudodiamesa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pseudokiefferiella	8	1	2	1	1	0	0	2	12	1	0	0	1	0	0	4
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Acricotopus	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	2
Chaetocladius	2	0	0	0	1	0	0	2	2	0	0	0	1	0	0	2
Corynoneura	4	1	0	0	2	1	0	4	10	1	0	0	2	1	0	6
Cricotopus	12	2	1	1	3	1	0	8	45	4	1	1	7	2	0	23
Cricotopus/Orthocladius	10	2	0	1	3	1	0	8	258	21	0	6	69	20	0	239
Diplocladius	0	0	0	0	0	0	0	0	6	1	0	0	2	1	0	6
?Eukiefferiella	0	0	0	0	0	0	0	0	35	3	0	1	6	2	0	16
Heterotrissocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus	12	2	0	1	3	1	0	8	388	32	0	9	94	27	0	330
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Limnophyes sp. A	2	0	0	0	1	0	0	2	8	1	0	0	1	0	0	4
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	6	1	0	0	1	0	0	4
Orthocladius (Euorthocladius)	66	11	1	7	17	7	0	39	134	11	0	3	21	6	0	64
Paracladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pseudosmittia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rheocricotopus	2	0	0	0	1	0	0	2	2	0	0	0	1	0	0	2
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	52	9	7	5	10	4	0	23	212	18	13	5	23	7	0	74
Tvetenia	8	1	0	1	3	1	0	8	29	2	0	1	6	2	0	21
Zalutschia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	4	0	0	0	1	0	0	4
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	19	2	0	0	5	1	0	16
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Procladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	93	15	9	10	18	8	0	41	95	8	0	2	15	4	0	41
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	21	2	0	0.5	5	1	0	16
Ormosia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tipula	23	4	4	2	3	1	0	6	43	4	2	1	4	1	0	10
Total Benthic Invertebrates	967	161	153	100	116	47	39	295	4153	346	140	100	694	200	39	2532
Taxonomic Richness (Genus-level) [2]	22	--	--	--	--	--	6	11	30	--	--	--	--	--	5	11

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Mary River			Mary River (2007) Habitat AO-01 Total (n = 3)							
Site ID	AO-01 (2007)										
Reach	AO-01										
Replicate Station	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
ROUNDWORMS											
P. Nemata	0	0	0	0	0	0	0	0	0	0	0
ANNELIDS											
P. Annelida											
WORMS	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	0	0	2	2	1	0	1	1	1	0	2
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS											
P. Arthropoda											
MITES	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0
O. Acari	6	14	6	27	9	6	15	5	3	6	14
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	0	0	0	0	0	0	0	0	0	0	0
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0
INSECTS											
Cl. Insecta											
BEETLES											
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	0	0	0	0	0	0	0	0	0	0	0
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	8	8	0	16	5	8	9	5	3	0	8
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	0	0	0	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	0	0	0	0	0	0	0	0	0	0
Stempellinella	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Mary River			Mary River (2007) Habitat AO-01 Total (n = 3)							
Site ID	AO-01 (2007)										
Reach	AO-01										
Replicate Station	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0
Diamesa	2	0	0	2	1	0	1	1	1	0	2
Protanypus	0	0	0	0	0	0	0	0	0	0	0
Pseudodiamesa	0	0	0	0	0	0	0	0	0	0	0
Pseudokiefferiella	6	10	37	54	18	10	31	17	10	6	37
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0	0	0	0
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	0	0	0	0	0	0	0	0	0	0	0
Cricotopus/Orthocladius	0	4	0	4	1	0	2	2	1	0	4
Diplocladius	0	0	0	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0	0	0	0
Heterotrissocladius	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	0	0	0	0	0	0	0	0
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	8	2	10	21	7	8	12	4	2	2	10
Paracladius	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	0	0	0	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0	0	0
Pseudosmittia	0	0	0	0	0	0	0	0	0	0	0
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	2	2	1	0	1	1	1	0	2
Tokunagaia	8	21	6	35	12	8	20	8	5	6	21
Tvetenia	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	0	0	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0
Procladius	0	0	0	0	0	0	0	0	0	0	0
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	6	0	2	8	3	2	5	3	2	0	6
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0
Dicranota	2	0	0	2	1	0	1	1	1	0	2
Ormosia	0	0	0	0	0	0	0	0	0	0	0
Tipula	0	2	0	2	1	0	1	1	1	0	2
Total Benthic Invertebrates	47	62	66	175	58	62	100	10	6	47	66
Taxonomic Richness (Genus-level) [2]	8	7	7	12 [3]	--	--	--	--	--	7	8

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Mary River			Mary River (2007) Habitat CO-01 Total (n = 3)							
Site ID	CO-01 (2007)										
Reach	CO-01			Sum	Mean	Median	% [1]	SD	SE	Min	Max
Replicate Station	B1	B2	B3								
ROUNDWORMS											
P. Nemata	6	0	2	8	3	2	1	3	2	0	6
ANNELIDS											
P. Annelida											
WORMS	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	0	0	0	0	0	0	0	0	0	0	0
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS											
P. Arthropoda											
MITES	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0
O. Acari	2	0	0	2	1	0	0	1	1	0	2
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	0	0	0	0	0	0	0	0	0	0	0
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0
INSECTS											
Cl. Insecta											
BEETLES	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	4	4	1	0	1	2	1	0	4
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	0	0	0	0	0	0	0	0	0	0	0
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	49	0	235	285	95	49	52	124	72	0	235
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	0	0	0	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	0	0	0	0	0	0	0	0	0	0
Stempellinella	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Mary River			Mary River (2007) Habitat CO-01 Total (n = 3)							
Site ID	CO-01 (2007)										
Reach	CO-01										
Replicate Station	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0
Diamesa	0	0	0	0	0	0	0	0	0	0	0
Protanypus	0	0	0	0	0	0	0	0	0	0	0
Pseudodiamesa	0	0	0	0	0	0	0	0	0	0	0
Pseudokiefferiella	4	45	6	56	19	6	10	23	13	4	45
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0	0	0	0
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	39	16	33	89	30	33	16	12	7	16	39
Cricotopus/Orthocladius	0	0	0	0	0	0	0	0	0	0	0
Diplocladius	0	0	0	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0	0	0	0
Heterotrissocladius	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus	2	0	16	19	6	2	3	9	5	0	16
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	0	0	0	0	0	0	0	0
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	0	0	0	0	0	0	0	0	0	0	0
Paracladius	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	0	0	6	6	2	0	1	4	2	0	6
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	8	8	3	0	1	5	3	0	8
Pseudosmittia	33	0	27	60	20	27	11	18	10	0	33
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	0	0	0	0	0	0	0	0	0	0	0
Tvetenia	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	0	0	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0
Procladius	0	0	0	0	0	0	0	0	0	0	0
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0
Dicranota	2	2	0	4	1	2	1	1	1	0	2
Ormosia	0	0	0	0	0	0	0	0	0	0	0
Tipula	2	8	0	10	3	2	2	4	2	0	8
Total Benthic Invertebrates	140	72	338	551	184	140	100	138	80	72	338
Taxonomic Richness (Genus-level) [2]	9	4	9	12	--	--	--	--	--	4	9

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Mary River			Mary River (2007) Habitat CO-05 Total (n = 3)							
Site ID	CO-05 (2007)										
Reach	CO-05										
Replicate Station	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
ROUNDWORMS											
P. Nemata	2	0	0	2	1	0	0	1	1	0	2
ANNELIDS											
P. Annelida											
WORMS	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	0	0	2	2	1	0	0	1	1	0	2
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS											
P. Arthropoda											
MITES	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0
O. Acari	2	0	4	6	2	2	1	2	1	0	4
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	0	0	0	0	0	0	0	0	0	0	0
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0
INSECTS											
Cl. Insecta											
BEETLES	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	2	2	1	0	0	1	1	0	2
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	0	0	0	0	0	0	0	0	0	0	0
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	4	8	291	303	101	8	33	164	95	4	291
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	6	6	2	0	1	4	2	0	6
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	0	0	0	0	0	0	0	0	0	0
Stempellinella	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Mary River			Mary River (2007) Habitat CO-05 Total (n = 3)							
Site ID	CO-05 (2007)										
Reach	CO-05										
Replicate Station	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0
Diamesa	0	0	0	0	0	0	0	0	0	0	0
Protanypus	0	0	0	0	0	0	0	0	0	0	0
Pseudodiamesa	0	0	0	0	0	0	0	0	0	0	0
Pseudokiefferiella	93	14	4	111	37	14	12	48	28	4	93
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0	0	0	0
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	122	56	95	272	91	95	30	33	19	56	122
Cricotopus/Orthocladius	0	2	4	6	2	2	1	2	1	0	4
Diplocladius	0	0	0	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0	0	0	0
Heterotrissocladius	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus	6	2	29	37	12	6	4	14	8	2	29
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	2	0	2	1	0	0	1	1	0	2
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	4	4	1	0	0	2	1	0	4
Orthocladius (Euorthocladius)	19	2	0	21	7	2	2	10	6	0	19
Paracladius	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	0	0	45	45	15	0	5	26	15	0	45
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	2	2	1	0	0	1	1	0	2
Pseudosmittia	31	8	43	82	27	31	9	18	10	8	43
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	0	4	4	8	3	4	1	2	1	0	4
Tvetenia	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	0	0	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	6	6	2	0	1	4	2	0	6
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0
Procladius	0	0	0	0	0	0	0	0	0	0	0
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0	0	0	0
Tipula	0	0	0	0	0	0	0	0	0	0	0
Total Benthic Invertebrates	278	99	542	920	307	278	100	223	129	99	542
Taxonomic Richness (Genus-level) [2]	8	9	15	18	--	--	--	--	--	8	15

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued –

Waterbody	Mary River			Mary River (2006) Habitat CO-10 Total (n = 3)							
Site ID	CO-10 (2006)										
Reach	CO-10										
Replicate Station	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
ROUNDWORMS											
P. Nemata	2	6	6	14	5	6	1	2	1	2	6
ANNELIDS											
P. Annelida											
WORMS	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	0	4	2	6	2	2	1	2	1	0	4
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS											
P. Arthropoda											
MITES	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0
O. Acari	14	8	4	27	9	8	3	5	3	4	14
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	0	10	0	10	3	0	1	6	3	0	10
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	2	0	0	2	1	0	0	1	1	0	2
INSECTS											
Cl. Insecta											
BEETLES	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	14	6	12	33	11	12	3	4	2	6	14
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	0	0	0	0	0	0	0	0	0	0	0
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	0	0	0	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	0	0	0	0	0	0	0	0	0	0
Stempellinella	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Mary River			Mary River (2006) Habitat CO-10 Total (n = 3)							
Site ID	CO-10 (2006)										
Reach	CO-10										
Replicate Station	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0
Diamesa	0	8	8	16	5	8	2	5	3	0	8
Protanypus	0	0	0	0	0	0	0	0	0	0	0
Pseudodiamesa	0	0	0	0	0	0	0	0	0	0	0
Pseudokiefferiella	115	49	2	167	56	49	16	57	33	2	115
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0	0	0	0
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	95	74	0	169	56	74	16	50	29	0	95
Cricotopus/Orthocladius	0	0	39	39	13	0	4	23	13	0	39
Diplocladius	0	0	0	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	6	6	2	0	1	4	2	0	6
Heterotrissocladius	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus	0	72	0	72	24	0	7	42	24	0	72
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	0	0	0	0	0	0	0	0
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	0	0	0	0	0	0	0	0	0	0	0
Paracladius	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	0	0	0	0	0	0	0	0	0	0	0
Paralimnophyes	0	8	2	10	3	2	1	4	2	0	8
Psectrocladius	0	0	0	0	0	0	0	0	0	0	0
Pseudosmittia	0	23	0	23	8	0	2	13	8	0	23
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	363	16	23	402	134	23	38	198	114	16	363
Tvetenia	4	0	6	10	3	4	1	3	2	0	6
Zalutschia	0	0	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0
indeterminate	4	6	0	10	3	4	1	3	2	0	6
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0
Procladius	0	2	0	2	1	0	0	1	1	0	2
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	6	0	4	10	3	4	1	3	2	0	6
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0	0	0	0
Tipula	8	6	0	14	5	6	1	4	2	0	8
Total Benthic Invertebrates	629	301	115	1045	348	301	100	260	150	115	629
Taxonomic Richness (Genus-level) [2]	10	14	11	19	--	--	--	--	--	10	14

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Mary River			Mary River (2007) Habitat CO-10 Total (n = 3)							
Site ID	CO-10 (2007)										
Reach	CO-10										
Replicate Station	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
ROUNDWORMS											
P. Nemata	4	0	0	4	1	0	2	2	1	0	4
ANNELIDS											
P. Annelida											
WORMS	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	0	2	0	2	1	0	1	1	1	0	2
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS											
P. Arthropoda											
MITES	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0
O. Acari	2	0	4	6	2	2	2	2	1	0	4
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	0	0	0	0	0	0	0	0	0	0	0
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0
INSECTS											
Cl. Insecta											
BEETLES	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	0	2	2	4	1	2	2	1	1	0	2
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	0	0	0	0	0	0	0	0	0	0	0
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	0	0	0	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	0	0	0	0	0	0	0	0	0	0
Stempellinella	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Mary River			Mary River (2007) Habitat CO-10 Total (n = 3)							
Site ID	CO-10 (2007)										
Reach	CO-10										
Replicate Station	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0
Diamesa	0	0	0	0	0	0	0	0	0	0	0
Protanypus	0	0	0	0	0	0	0	0	0	0	0
Pseudodiamesa	0	0	0	0	0	0	0	0	0	0	0
Pseudokiefferiella	2	14	16	33	11	14	12	8	5	2	16
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0	0	0	0
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	2	0	0	2	1	0	1	1	1	0	2
Corynoneura	0	2	0	2	1	0	1	1	1	0	2
Cricotopus	19	16	25	60	20	19	22	4	2	16	25
Cricotopus/Orthocladius	0	0	2	2	1	0	1	1	1	0	2
Diplocladius	0	0	0	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0	0	0	0
Heterotrissocladius	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus	2	2	0	4	1	2	2	1	1	0	2
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	2	0	0	2	1	0	1	1	1	0	2
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	4	14	6	25	8	6	9	5	3	4	14
Paracladius	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	0	0	0	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0	0	0
Pseudosmittia	0	0	0	0	0	0	0	0	0	0	0
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	47	49	16	113	38	47	41	18	11	16	49
Tvetenia	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	0	0	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0
Procladius	0	0	0	0	0	0	0	0	0	0	0
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0	0	0	0
Tipula	4	6	4	14	5	4	5	1	1	4	6
Total Benthic Invertebrates	89	109	76	274	91	89	100	17	10	76	109
Taxonomic Richness (Genus-level) [2]	10	8	7	13	--	--	--	--	--	7	10

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody / Site ID / Reach / Replicate Station	Mary River (2006 + 2007) Habitat CO-10 Total (n = 6)								Mary River EO-01 (2007) EO-01			Mary River (2007) Habitat EO-01 Total (n = 3)							
	Sum	Mean	Median	% [1]	SD	SE	Min	Max	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
ROUNDWORMS																			
P. Nemata	19	3	3	1	3	1	0	6	21	82	0	103	34	21	4	43	25	0	82
ANNELIDS																			
P. Annelida																			
WORMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	8	1	1	1	2	1	0	4	21	16	0	37	12	16	2	11	6	0	21
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS																			
P. Arthropoda																			
MITES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Acari	33	5	4	3	5	2	0	14	0	0	4	4	1	0	0	2	1	0	4
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	8	0	8	3	0	0	5	3	0	8
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	10	2	0	1	4	2	0	10	0	0	0	0	0	0	0	0	0	0	0
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	2	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0
INSECTS																			
Cl. Insecta																			
BEETLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	16	41	0	58	19	16	2	21	12	0	41
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	37	6	4	3	6	2	0	14	4	0	2	6	2	2	0	2	1	0	4
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	0	0	0	0	0	0	0	0	590	627	0	1216	405	590	51	352	203	0	627
Paracladopelma	0	0	0	0	0	0	0	0	4	0	0	4	1	0	0	2	1	0	4
Paratanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	0	0	0	0	0	0	0	16	8	0	25	8	8	1	8	5	0	16
Stempellinella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	8	8	0	16	5	8	1	5	3	0	8

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody / Site ID / Reach / Replicate Station	Mary River (2006 + 2007) Habitat CO-10 Total (n = 6)								Mary River EO-01 (2007) EO-01			Mary River (2007) Habitat EO-01 Total (n = 3)							
	Sum	Mean	Median	% [1]	SD	SE	Min	Max	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diamesa	16	3	0	1	4	2	0	8	0	0	0	0	0	0	0	0	0	0	0
Protanypus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pseudodiamesa	0	0	0	0	0	0	0	0	4	0	0	4	1	0	0	2	1	0	4
Pseudokiefferiella	200	33	15	15	44	18	2	115	8	8	0	16	5	8	1	5	3	0	8
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0	25	0	0	25	8	0	1	14	8	0	25
?Acricotopus	0	0	0	0	0	0	0	0	12	33	0	45	15	12	2	17	10	0	33
Chaetocladius	2	0	0	0	1	0	0	2	8	0	0	8	3	0	0	5	3	0	8
Corynoneura	2	0	0	0	1	0	0	2	16	8	0	25	8	8	1	8	5	0	16
Cricotopus	229	38	22	17	37	15	0	95	25	8	6	39	13	8	2	10	6	6	25
Cricotopus/Orthocladius	41	7	0	3	16	6	0	39	16	16	0	33	11	16	1	10	5	0	16
Diplocladius	0	0	0	0	0	0	0	0	0	33	0	33	11	0	1	19	11	0	33
?Eukiefferiella	6	1	0	0	3	1	0	6	0	0	4	4	1	0	0	2	1	0	4
Heterotrissocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus	76	13	1	6	29	12	0	72	107	165	2	274	91	107	11	83	48	2	165
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	2	0	0	0	1	0	0	2	8	0	0	8	3	0	0	5	3	0	8
?Limnophyes sp. A	0	0	0	0	0	0	0	0	4	8	0	12	4	4	1	4	2	0	8
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	12	66	0	78	26	12	3	35	20	0	66
Orthocladius (Euorthocladius)	25	4	2	2	6	2	0	14	4	0	27	31	10	4	1	14	8	0	27
Paracladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	0	0	0	0	0	0	0	0	0	91	0	91	30	0	4	52	30	0	91
Paralimnophyes	10	2	0	1	3	1	0	8	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pseudosmittia	23	4	0	2	9	4	0	23	0	0	0	0	0	0	0	0	0	0	0
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	4	0	0	4	1	0	0	2	1	0	4
Tokunagaia	515	86	35	39	136	56	16	363	45	33	14	93	31	33	4	16	9	14	45
Tvetenia	10	2	0	1	3	1	0	6	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	10	2	0	1	3	1	0	6	25	25	4	54	18	25	2	12	7	4	25
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	4	8	0	12	4	4	1	4	2	0	8
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Procladius	2	0	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	8	0	8	3	0	0	5	3	0	8
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	10	2	0	1	3	1	0	6	0	0	0	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tipula	29	5	5	2	3	1	0	8	8	8	6	23	8	8	1	1	1	6	8
Total Benthic Invertebrates	1320	220	112	100	217	88	76	629	1019	1311	70	2400	800	1019	100	649	375	70	1311
Taxonomic Richness (Genus-level) [2]	23	--	--	--	--	--	10	14	25	22	8	31	--	--	--	--	--	8	25

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Mary River			Mary River (2006) Habitat GO Total (n = 3)							
Site ID	GO-09 (2006)										
Reach	GO										
Replicate Station	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
ROUNDWORMS											
P. Nemata	0	2	4	6	2	2	1	2	1	0	4
ANNELIDS											
P. Annelida											
WORMS	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	0	0	0	0	0	0	0	0	0	0	0
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS											
P. Arthropoda											
MITES	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0
O. Acari	0	4	0	4	1	0	0	2	1	0	4
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	0	0	0	0	0	0	0	0	0	0	0
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0
INSECTS											
Cl. Insecta											
BEETLES	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	173	80	91	344	115	91	28	51	29	80	173
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	2	0	0	2	1	0	0	1	1	0	2
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	0	0	0	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	0	0	0	0	0	0	0	0	0	0
Stempellinella	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Mary River			Mary River (2006) Habitat GO Total (n = 3)							
Site ID	GO-09 (2006)										
Reach	GO										
Replicate Station	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0
Diamesa	311	167	241	720	240	241	59	72	42	167	311
Protanypus	0	0	0	0	0	0	0	0	0	0	0
Pseudodiamesa	2	2	0	4	1	2	0	1	1	0	2
Pseudokiefferiella	10	2	4	16	5	4	1	4	2	2	10
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0	0	0	0
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	2	0	0	2	1	0	0	1	1	0	2
Corynoneura	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	0	0	0	0	0	0	0	0	0	0	0
Cricotopus/Orthocladius	0	0	0	0	0	0	0	0	0	0	0
Diplocladius	0	2	0	2	1	0	0	1	1	0	2
?Eukiefferiella	0	0	0	0	0	0	0	0	0	0	0
Heterotrissocladius	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus	4	2	0	6	2	2	1	2	1	0	4
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	0	0	0	0	0	0	0	0
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	0	4	0	4	1	0	0	2	1	0	4
Paracladius	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	0	0	0	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0	0	0
Pseudosmittia	0	0	0	0	0	0	0	0	0	0	0
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	27	2	41	70	23	27	6	20	11	2	41
Tvetenia	2	0	0	2	1	0	0	1	1	0	2
Zalutschia	0	0	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0
indeterminate	25	0	0	25	8	0	2	14	8	0	25
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0
Procladius	0	0	0	0	0	0	0	0	0	0	0
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0	0	0	0
Tipula	4	0	0	4	1	0	0	2	1	0	4
Total Benthic Invertebrates	563	268	381	1212	404	381	100	149	86	268	563
Taxonomic Richness (Genus-level) [2]	10	9	4	14	--	--	--	--	--	4	10

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Mary River			Mary River			Mary River (2007) Habitat GO Total (n = 6)							
Site ID	GO-03 (2007)			GO-09 (2007)										
Reach	GO			GO										
Replicate Station	B1	B2	B3	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
ROUNDWORMS														
P. Nemata	0	0	0	4	4	2	10	2	1	0	2	1	0	4
ANNELIDS														
P. Annelida														
WORMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	0	0	0	0	0	2	2	0	0	0	1	0	0	2
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS														
P. Arthropoda														
MITES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Acari	0	2	0	4	6	0	12	2	1	0	3	1	0	6
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INSECTS														
Cl. Insecta														
BEETLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	0	0	0	8	2	8	19	3	1	1	4	2	0	8
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	0	0	0	0	2	0	2	0	0	0	1	0	0	2
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stempellinella	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued –

Waterbody	Mary River			Mary River			Mary River (2007) Habitat GO Total (n = 6)							
Site ID	GO-03 (2007)			GO-09 (2007)										
Reach	GO			GO										
Replicate Station	B1	B2	B3	B1	B2	B3	Sum	Mean	Median	% [1]	SD	SE	Min	Max
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diamesa	2	0	0	14	2	6	25	4	2	1	6	2	0	14
Protanypus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pseudodiamesa	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pseudokiefferiella	4	6	10	342	287	68	718	120	39	27	154	63	4	342
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	0	2	0	8	2	6	19	3	2	1	3	1	0	8
Corynoneura	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	2	6	2	29	31	0	70	12	4	3	14	6	0	31
Cricotopus/Orthocladius	0	0	0	0	0	2	2	0	0	0	1	0	0	2
Diplocladius	0	0	0	2	4	2	8	1	1	0	2	1	0	4
?Eukiefferiella	2	0	0	0	0	14	16	3	0	1	6	2	0	14
Heterotrissocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus	0	0	0	4	6	2	12	2	1	0	3	1	0	6
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Limnophyes sp. A	0	0	0	0	2	0	2	0	0	0	1	0	0	2
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	68	23	56	144	39	301	631	105	62	24	105	43	23	301
Paracladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pseudosmittia	0	0	0	0	0	2	2	0	0	0	1	0	0	2
Rheocricotopus	0	0	0	0	0	2	2	0	0	0	1	0	0	2
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	64	58	85	241	369	202	1019	170	143	39	124	51	58	369
Tvetenia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	4	0	0	4	4	12	2	2	0	2	1	0	4
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	2	0	0	0	0	2	0	0	0	1	0	0	2
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Procladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thienemannimyia complex	0	0	0	2	0	0	2	0	0	0	1	0	0	2
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	2	0	0	2	0	0	0	1	0	0	2
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tipula	4	0	6	4	4	23	41	7	4	2	8	3	0	23
Total Benthic Invertebrates	146	103	159	810	765	647	2631	438	403	100	336	137	103	810
Taxonomic Richness (Genus-level) [2]	7	8	5	13	14	15	22	--	--	--	--	--	5	15

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody / Site ID / Reach / Replicate Station	Mary River (2006 + 2007) Habitat GO Total (n = 9)								Mary River Overall (n = 27)							
	Sum	Mean	Median	% [1]	SD	SE	Min	Max	Sum	Mean	Median	% [1]	SD	SE	Min	Max
ROUNDWORMS																
P. Nemata	16	2	2	0	2	1	0	4	148	5	2	2	16	3	0	82
ANNELIDS																
P. Annelida																
WORMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	2	0	0	0	1	0	0	2	52	2	0	1	5	1	0	21
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS																
P. Arthropoda																
MITES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Acari	16	2	0	0	2	1	0	6	89	3	2	1	4	1	0	14
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	8	0	0	0.1	2	0	0	8
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	0	0	0	0	0	0	0	0	10	0	0	0	2	0	0	10
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	2	0	0	0.0	0	0	0	2
INSECTS																
Cl. Insecta																
BEETLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	64	2	0	1	8	2	0	41
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	363	40	8	9	61	20	0	173	406	15	0	4	39	7	0	173
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	4	0	0	0	1	0	0	2	1825	68	0	20	171	33	0	627
Paracladopelma	0	0	0	0	0	0	0	0	4	0	0	0	1	0	0	4
Paratanytarsus	0	0	0	0	0	0	0	0	6	0	0	0	1	0	0	6
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	0	0	0	0	0	0	0	25	1	0	0	3	1	0	16
Stempellinella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	16	1	0	0	2	0	0	8

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody / Site ID / Reach / Replicate Station	Mary River (2006 + 2007) Habitat GO Total (n = 9)								Mary River Overall (n = 27)							
	Sum	Mean	Median	% [1]	SD	SE	Min	Max	Sum	Mean	Median	% [1]	SD	SE	Min	Max
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diamesa	744	83	6	19	123	41	0	311	763	28	0	8	79	15	0	311
Protanypus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pseudodiamesa	4	0	0	0	1	0	0	2	8	0	0	0	1	0	0	4
Pseudokiefferiella	734	82	10	19	134	45	2	342	1171	43	10	13	84	16	0	342
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0	25	1	0	0	5	1	0	25
?Acricotopus	0	0	0	0	0	0	0	0	45	2	0	0	7	1	0	33
Chaetocladius	21	2	2	1	3	1	0	8	31	1	0	0	2	0	0	8
Corynoneura	0	0	0	0	0	0	0	0	27	1	0	0	3	1	0	16
Cricotopus	70	8	2	2	13	4	0	31	699	26	16	8	34	7	0	122
Cricotopus/Orthocladius	2	0	0	0	1	0	0	2	87	3	0	1	8	2	0	39
Diplocladius	10	1	0	0	1	0	0	4	43	2	0	0	6	1	0	33
?Eukiefferiella	16	2	0	0	5	2	0	14	27	1	0	0	3	1	0	14
Heterotrissocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus	19	2	2	0	2	1	0	6	425	16	2	5	38	7	0	165
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	0	0	0	0	0	12	0	0	0	2	0	0	8
?Limnophyes sp. A	2	0	0	0	1	0	0	2	14	1	0	0	2	0	0	8
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	82	3	0	1	13	2	0	66
Orthocladius (Euorthocladius)	635	71	39	17	98	33	0	301	732	27	4	8	63	12	0	301
Paracladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	0	0	0	0	0	0	0	0	142	5	0	2	19	4	0	91
Paralimnophyes	0	0	0	0	0	0	0	0	10	0	0	0	2	0	0	8
Psectrocladius	0	0	0	0	0	0	0	0	10	0	0	0	2	0	0	8
Pseudosmittia	2	0	0	0	1	0	0	2	167	6	0	2	13	2	0	43
Rheocricotopus	2	0	0	0	1	0	0	2	2	0	0	0	0	0	0	2
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	6	0	0	0	1	0	0	4
Tokunagaia	1089	121	64	28	123	41	2	369	1740	64	23	19	104	20	0	369
Tvetenia	2	0	0	0	1	0	0	2	12	0	0	0	1	0	0	6
Zalutschia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	37	4	0	1	8	3	0	25	107	4	0	1	8	1	0	25
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	2	0	0	0	1	0	0	2	14	1	0	0	2	0	0	8
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Procladius	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
Thienemannimyia complex	2	0	0	0	1	0	0	2	10	0	0	0	2	0	0	8
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	2	0	0	0	1	0	0	2	21	1	0	0.2	2	0	0	6
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	6	0	0	0.1	1	0	0	2
Ormosia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tipula	45	5	4	1	7	2	0	23	109	4	4	1	5	1	0	23
Total Benthic Invertebrates	3843	427	381	100	276	92	103	810	9208	341	159	100	336	65	47	1311
Taxonomic Richness (Genus-level) [2]	24	--	--	--	--	--	5	15	43	--	--	--	--	--	4	25

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Sheardown Lake Tributary 1			Sheardown Lake Trib 1 Reach 1 (2008) Total (n = 3)							
Site ID / Reach	Trib 1 Reach 1 SDLT1-REACH 1 (2008)			Sum	Mean	Median	% [1]	SD	SE	Min	Max
Replicate Station	B1	B2	B3								
ROUNDWORMS											
P. Nemata	0	2	4	6	2	2	1	2	1	0	4
ANNELIDS											
P. Annelida											
WORMS	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	6	14	4	25	8	6	3	5	3	4	14
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS											
P. Arthropoda											
MITES	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0
O. Acari	29	23	60	111	37	29	12	20	11	23	60
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	0	0	0	0	0	0	0	0	0	0	0
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0
INSECTS											
Cl. Insecta											
BEETLES	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0
immature	2	0	2	4	1	2	0	1	1	0	2
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	0	2	0	2	1	0	0	1	1	0	2
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	0	2	0	2	1	0	0	1	1	0	2
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	0	0	0	0	0	0	0	0
Rheotanytarsus	16	19	6	41	14	16	5	7	4	6	19
Sergentia	0	0	0	0	0	0	0	0	0	0	0
Stempellinella	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Sheardown Lake Tributary 1			Sheardown Lake Trib 1 Reach 1 (2008) Total (n = 3)							
Site ID / Reach	Trib 1 Reach 1 SDLT1-REACH 1 (2008)			Sum	Mean	Median	% [1]	SD	SE	Min	Max
Replicate Station	B1	B2	B3								
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0
Diamesa	2	0	0	2	1	0	0	1	1	0	2
Protanypus	0	0	0	0	0	0	0	0	0	0	0
Pseudodiamesa	0	0	0	0	0	0	0	0	0	0	0
Pseudokiefferiella	52	45	107	204	68	52	23	34	20	45	107
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0	0	0	0
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	85	56	91	231	77	85	26	19	11	56	91
Cricotopus/Orthocladius	0	0	0	0	0	0	0	0	0	0	0
Diplocladius	0	0	0	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0	0	0	0
Heterotrissocladius	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	2	0	0	2	1	0	0	1	1	0	2
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	2	0	2	1	0	0	1	1	0	2
Orthocladius (Euorthocladius)	2	0	2	4	1	2	0	1	1	0	2
Paracladius	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	2	0	0	2	1	0	0	1	1	0	2
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0	0	0
Pseudosmittia	52	35	21	107	36	35	12	15	9	21	52
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	0	4	0	4	1	0	0	2	1	0	4
Tvetenia	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	0	0	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0
Procladius	0	0	0	0	0	0	0	0	0	0	0
Thienemannimyia complex	10	4	2	16	5	4	2	4	2	2	10
indeterminate	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0	0	0	0
Tipula	56	33	43	132	44	43	15	11	7	33	56
Total Benthic Invertebrates	315	241	342	899	300	315	100	52	30	241	342
Taxonomic Richness (Genus-level) [2]	13	12	11	17 [3]	--	--	--	--	--	11	13

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Sheardown Lake Tributary 1			Sheardown Lake Trib 1 Reach 2 (2007) Habitat SH Total (n = 3)							
Site ID	ST1-DS (2007)										
Reach	Trib 1 Reach 2			Sum	Mean	Median	% [1]	SD	SE	Min	Max
Replicate Station	B1	B2	B3								
ROUNDWORMS											
P. Nemata	6	21	12	39	13	12	3	7	4	6	21
ANNELIDS											
P. Annelida											
WORMS	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	43	29	4	76	25	29	6	20	11	4	43
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS											
P. Arthropoda											
MITES	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0
O. Acari	10	4	58	72	24	10	5	29	17	4	58
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	2	0	0	2	1	0	0	1	1	0	2
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0
INSECTS											
Cl. Insecta											
BEETLES	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	4	4	1	0	0	2	1	0	4
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	0	0	0	0	0	0	0	0	0	0	0
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	0	0	0	0	0	0	0	0	0	0	0
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	6	4	8	19	6	6	1	2	1	4	8
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	0	0	0	0	0	0	0	0	0	0
Stempellinella	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Sheardown Lake Tributary 1			Sheardown Lake Trib 1 Reach 2 (2007) Habitat SH Total (n = 3)							
Site ID	ST1-DS (2007)										
Reach	Trib 1 Reach 2			Sum	Mean	Median	% [1]	SD	SE	Min	Max
Replicate Station	B1	B2	B3								
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0
Diamesa	0	0	0	0	0	0	0	0	0	0	0
Protanypus	0	0	0	0	0	0	0	0	0	0	0
Pseudodiamesa	0	0	0	0	0	0	0	0	0	0	0
Pseudokiefferiella	12	62	103	177	59	62	13	45	26	12	103
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0	0	0	0
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	0	4	0	4	1	0	0	2	1	0	4
Cricotopus	52	264	140	456	152	140	34	107	62	52	264
Cricotopus/Orthocladius	2	8	0	10	3	2	1	4	2	0	8
Diplocladius	0	0	0	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0	0	0	0
Heterotrissocladius	2	0	4	6	2	2	0	2	1	0	4
Hydrobaenus	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	0	0	0	0	0	0	0	0
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	2	0	4	6	2	2	0	2	1	0	4
Paracladius	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	0	0	0	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	4	8	4	16	5	4	1	2	1	4	8
Pseudosmittia	14	78	25	118	39	25	9	34	20	14	78
Rheocricotopus	0	4	0	4	1	0	0	2	1	0	4
Synorthocladius	0	4	0	4	1	0	0	2	1	0	4
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	10	0	8	19	6	8	1	5	3	0	10
Tvetenia	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	0	0	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0
Procladius	8	0	0	8	3	0	1	5	3	0	8
Thienemannimyia complex	16	16	12	45	15	16	3	2	1	12	16
indeterminate	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	4	0	4	1	0	0	2	1	0	4
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0	0	0	0
Tipula	151	49	33	233	78	49	18	64	37	33	151
Total Benthic Invertebrates	342	561	421	1324	441	421	100	111	64	342	561
Taxonomic Richness (Genus-level) [2]	16	15	14	21	--	--	--	--	--	14	16

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Sheardown Lake Tributary 1			Sheardown Lake Trib 1 Reach 2a (2008) Total (n = 3)							
Site ID / Reach	Trib 1 Reach 2 SDLT1-REACH 2 (2008)			Sum	Mean	Median	% [1]	SD	SE	Min	Max
Replicate Station	B1	B2	B3								
ROUNDWORMS											
P. Nemata	8	25	8	41	14	8	2	10	5	8	25
ANNELIDS											
P. Annelida											
WORMS	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	0	66	8	74	25	8	4	36	21	0	66
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS											
P. Arthropoda											
MITES	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0
O. Acari	39	33	19	91	30	33	5	11	6	19	39
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	0	0	0	0	0	0	0	0	0	0	0
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0
INSECTS											
Cl. Insecta											
BEETLES	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0
Acentrella	2	0	0	2	1	0	0	1	1	0	2
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	2	2	1	0	0	1	1	0	2
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	2	0	0	2	1	0	0	1	1	0	2
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	0	0	0	0	0	0	0	0	0	0	0
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	2	8	6	16	5	6	1	3	2	2	8
Rheotanytarsus	4	0	0	4	1	0	0	2	1	0	4
Sergentia	0	0	0	0	0	0	0	0	0	0	0
Stempellinella	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Sheardown Lake Tributary 1			Sheardown Lake Trib 1 Reach 2a (2008) Total (n = 3)							
Site ID / Reach	Trib 1 Reach 2 SDLT1-REACH 2 (2008)			Sum	Mean	Median	% [1]	SD	SE	Min	Max
Replicate Station	B1	B2	B3								
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0
Diamesa	0	0	0	0	0	0	0	0	0	0	0
Protanypus	0	0	0	0	0	0	0	0	0	0	0
Pseudodiamesa	0	0	0	0	0	0	0	0	0	0	0
Pseudokiefferiella	74	85	45	204	68	74	10	20	12	45	85
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0	0	0	0
?Acricotopus	2	0	0	2	1	0	0	1	1	0	2
Chaetocladius	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	157	551	148	856	285	157	44	230	133	148	551
Cricotopus/Orthocladius	0	0	0	0	0	0	0	0	0	0	0
Diplocladius	0	0	0	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0	0	0	0
Heterotrissocladius	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	8	0	8	3	0	0	5	3	0	8
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	2	33	4	39	13	4	2	17	10	2	33
Paracladius	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	0	8	0	8	3	0	0	5	3	0	8
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	2	2	1	0	0	1	1	0	2
Pseudosmittia	41	233	23	297	99	41	15	116	67	23	233
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	12	25	8	45	15	12	2	9	5	8	25
Tvetenia	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	0	0	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	2	0	0	2	1	0	0	1	1	0	2
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0
Procladius	0	0	0	0	0	0	0	0	0	0	0
Thienemannimyia complex	23	25	16	64	21	23	3	4	2	16	25
indeterminate	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0	0	0	0
Tipula	60	82	43	186	62	60	10	20	11	43	82
Total Benthic Invertebrates	431	1181	334	1946	649	431	100	464	268	334	1181
Taxonomic Richness (Genus-level) [2]	14	13	12	18	--	--	--	--	--	13	14

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody / Site ID / Reach / Replicate Station	Sheardown Lake Trib 1 Reach 2 (2007 + 2008) Total (n = 6)							
	Sum	**Mean**	**Median**	**% [1]**	**SD**	**SE**	**Min**	**Max**
ROUNDWORMS								
P. Nemata	80	13	10	2	8	3	6	25
ANNELIDS								
P. Annelida								
WORMS	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0
F. Enchytraeidae	151	25	19	5	26	11	0	66
F. Lumbriculidae	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0
ARTHROPODS								
P. Arthropoda								
MITES	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0
O. Acari	163	27	26	5	20	8	4	58
HARPACTICOIDS	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0
Cl. Ostracoda	2	0	0	0	1	0	0	2
SPRINGTAILS	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0
INSECTS								
Cl. Insecta								
BEETLES	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0
Acentrella	2	0	0	0	1	0	0	2
STONEFLIES	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0
?Grensia	4	1	0	0	2	1	0	4
TRUE FLIES	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0
pupae	2	0	0	0	1	0	0	2
BITING-MIDGE	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0
chironomid pupae	2	0	0	0	1	0	0	2
S.F. Chironominae	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0
Micropsectra	0	0	0	0	0	0	0	0
Paracladopelma	0	0	0	0	0	0	0	0
Paratanytarsus	35	6	6	1	2	1	2	8
Rheotanytarsus	4	1	0	0	2	1	0	4
Sergentia	0	0	0	0	0	0	0	0
Stempellinella	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	0	0	0	0	0
Tanytarsus	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody / Site ID / Reach / Replicate Station	Sheardown Lake Trib 1 Reach 2 (2007 + 2008) Total (n = 6)							
	Sum	**Mean**	**Median**	**% [1]**	**SD**	**SE**	**Min**	**Max**
S.F. Diamesinae	0	0	0	0	0	0	0	0
Diamesa	0	0	0	0	0	0	0	0
Protanypus	0	0	0	0	0	0	0	0
Pseudodiamesa	0	0	0	0	0	0	0	0
Pseudokiefferiella	381	64	68	12	32	13	12	103
S.F. Orthocladiinae	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0
?Acricotopus	2	0	0	0	1	0	0	2
Chaetocladius	0	0	0	0	0	0	0	0
Corynoneura	4	1	0	0	2	1	0	4
Cricotopus	1311	219	153	40	176	72	52	551
Cricotopus/Orthocladius	10	2	0	0	3	1	0	8
Diplocladius	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0
Heterotrissocladius	6	1	0	0	2	1	0	4
Hydrobaenus	0	0	0	0	0	0	0	0
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0
Limnophyes	8	1	0	0	3	1	0	8
?Limnophyes sp. A	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	45	8	3	1	13	5	0	33
Paracladius	0	0	0	0	0	0	0	0
Parakiefferiella	8	1	0	0	3	1	0	8
Paralimnophyes	0	0	0	0	0	0	0	0
Psectrocladius	19	3	3	1	3	1	0	8
Pseudosmittia	414	69	33	13	83	34	14	233
Rheocricotopus	4	1	0	0	2	1	0	4
Synorthocladius	4	1	0	0	2	1	0	4
Thienemanniella	0	0	0	0	0	0	0	0
Tokunagaia	64	11	9	2	8	3	0	25
Tvetenia	0	0	0	0	0	0	0	0
Zalutschia	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0
Trichotanypus	2	0	0	0	1	0	0	2
S.F. Tanypodinae	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0
Procladius	8	1	0	0	3	1	0	8
Thienemannimyia complex	109	18	16	3	5	2	12	25
indeterminate	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0
Clinocera	4	1	0	0	2	1	0	4
Empididae pupae	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0
Tipula	419	70	55	13	43	18	33	151
Total Benthic Invertebrates	3270	545	426	100	322	132	334	1181
Taxonomic Richness (Genus-level) [2]	27	--	--	--	--	--	12	16

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Sheardown Lake Tributary			Sheardown Lake Trib 1 Reach 4 (2007) Habitat SH Total (n = 3)							
Site ID	ST1-US (2007)										
Reach	Trib 1 Reach 4			Sum	Mean	Median	% [1]	SD	SE	Min	Max
Replicate Station	B1	B2	B3								
ROUNDWORMS											
P. Nemata	25	198	107	330	110	107	2	87	50	25	198
ANNELIDS											
P. Annelida											
WORMS	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	33	231	49	313	104	49	2	110	63	33	231
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	16	16	5	0	0	10	5	0	16
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS											
P. Arthropoda											
MITES	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0
O. Acari	8	0	16	25	8	8	0	8	5	0	16
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	8	0	16	25	8	8	0	8	5	0	16
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	8	0	0	8	3	0	0	5	3	0	8
INSECTS											
Cl. Insecta											
BEETLES	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	8	0	8	16	5	8	0	5	3	0	8
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	0	0	0	0	0	0	0	0	0	0	0
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	0	0	0	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	0	0	0	0	0	0	0	0	0	0
Stempellinella	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Sheardown Lake Tributary			Sheardown Lake Trib 1 Reach 4 (2007) Habitat SH Total (n = 3)							
Site ID	ST1-US (2007)										
Reach	Trib 1 Reach 4			Sum	Mean	Median	% [1]	SD	SE	Min	Max
Replicate Station	B1	B2	B3								
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0
Diamesa	0	0	0	0	0	0	0	0	0	0	0
Protanypus	0	0	0	0	0	0	0	0	0	0	0
Pseudodiamesa	0	0	0	0	0	0	0	0	0	0	0
Pseudokiefferiella	825	7027	594	8445	2815	825	62	3649	2107	594	7027
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0	0	0	0
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	0	132	0	132	44	0	1	76	44	0	132
Cricotopus	198	264	297	759	253	264	6	50	29	198	297
Cricotopus/Orthocladius	157	165	16	338	113	157	2	83	48	16	165
Diplocladius	8	0	33	41	14	8	0	17	10	0	33
?Eukiefferiella	165	0	33	198	66	33	1	87	50	0	165
Heterotrissocladius	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus	0	33	264	297	99	33	2	144	83	0	264
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	8	99	25	132	44	25	1	48	28	8	99
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	280	1089	157	1526	509	280	11	506	292	157	1089
Paracladius	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	0	66	8	74	25	8	1	36	21	0	66
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0	0	0
Pseudosmittia	0	0	0	0	0	0	0	0	0	0	0
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	165	132	231	528	176	165	4	50	29	132	231
Tvetenia	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	0	0	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	66	8	74	25	8	1	36	21	0	66
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	8	66	132	206	69	66	2	62	36	8	132
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0
Procladius	0	0	0	0	0	0	0	0	0	0	0
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	8	8	3	0	0	5	3	0	8
Simuliidae	8	0	0	8	3	0	0	5	3	0	8
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0	0	0	0
Tipula	43	2	31	76	25	31	1	21	12	2	43
Total Benthic Invertebrates	1957	9569	2052	13577	4526	2052	100	4368	2522	1957	9569
Taxonomic Richness (Genus-level) [2]	16	14	19	22		--	--	--	--	14	19

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Sheardown Lake Tributary 1			Sheardown Lake Trib 1 Reach 4 (2008) Total (n = 3)							
Site ID / Reach	SDLT1-REACH 4 (2008)			Sum	Mean	Median	% [1]	SD	SE	Min	Max
Replicate Station	B1	B2	B3								
ROUNDWORMS											
P. Nemata	21	33	82	136	45	33	1	33	19	21	82
ANNELIDS											
P. Annelida											
WORMS	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	37	25	82	144	48	37	2	30	18	25	82
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	4	0	8	12	4	4	0	4	2	0	8
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS											
P. Arthropoda											
MITES	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0
O. Acari	8	0	8	16	5	8	0	5	3	0	8
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	0	0	33	33	11	0	0	19	11	0	33
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0
INSECTS											
Cl. Insecta											
BEETLES	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	8	8	3	0	0	5	3	0	8
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	8	8	3	0	0	5	3	0	8
MIDGES	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	4	0	0	4	1	0	0	2	1	0	4
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	8	0	0	8	3	0	0	5	3	0	8
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	0	0	0	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	0	0	0	0	0	0	0	0	0	0
Stempellinella	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Sheardown Lake Tributary 1			Sheardown Lake Trib 1 Reach 4 (2008) Total (n = 3)							
Site ID / Reach	SDLT1-REACH 4 (2008)			Sum	Mean	Median	% [1]	SD	SE	Min	Max
Replicate Station	B1	B2	B3								
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0
Diamesa	16	0	0	16	5	0	0	10	5	0	16
Protanypus	0	0	0	0	0	0	0	0	0	0	0
Pseudodiamesa	0	0	0	0	0	0	0	0	0	0	0
Pseudokiefferiella	748	2173	74	2996	999	748	33	1072	619	74	2173
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0	0	0	0
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	505	184	478	1167	389	478	13	178	103	184	505
Cricotopus/Orthocladius	0	0	0	0	0	0	0	0	0	0	0
Diplocladius	27	0	115	142	47	27	2	60	35	0	115
?Eukiefferiella	52	0	0	52	17	0	1	30	17	0	52
Heterotrissocladius	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus	16	0	685	701	234	16	8	391	225	0	685
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	43	14	66	124	41	43	1	26	15	14	66
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	8	0	25	33	11	8	0	13	7	0	25
Orthocladius (Euorthocladius)	348	536	58	942	314	348	10	241	139	58	536
Paracladius	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	0	0	0	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	35	0	0	35	12	0	0	20	12	0	35
Pseudosmittia	8	0	289	297	99	8	3	164	95	0	289
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	157	336	115	608	203	157	7	117	68	115	336
Tvetenia	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	0	0	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	14	0	14	5	0	0	8	5	0	14
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	140	229	1047	1416	472	229	16	500	289	140	1047
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0
Procladius	0	0	0	0	0	0	0	0	0	0	0
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	4	0	0	4	1	0	0	2	1	0	4
Muscidae	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	0	8	0	8	3	0	0	5	3	0	8
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0	0	0	0
Tipula	78	82	49	210	70	78	2	18	10	49	82
Total Benthic Invertebrates	2270	3635	3233	9138	3046	3233	100	701	405	2270	3635
Taxonomic Richness (Genus-level) [2]	20	11	17	24	--	--	--	--	--	11	20

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody / Site ID / Reach / Replicate Station	Sheardown Lake Trib 1 Reach 4 (2007 + 2008) Habitat SH Total (n = 6)							
	Sum	**Mean**	**Median**	**% [1]**	**SD**	**SE**	**Min**	**Max**
ROUNDWORMS								
P. Nemata	466	78	58	2	68	28	21	198
ANNELIDS								
P. Annelida								
WORMS	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0
F. Enchytraeidae	458	76	43	2	78	32	25	231
F. Lumbriculidae	0	0	0	0	0	0	0	0
indeterminate	16	3	0	0	7	3	0	16
Lumbriculus	12	2	0	0	3	1	0	8
F. Tubificide	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0
ARTHROPODS								
P. Arthropoda								
MITES	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0
O. Acari	41	7	8	0	6	3	0	16
HARPACTICOIDS	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0
Cl. Ostracoda	58	10	4	0	13	5	0	33
SPRINGTAILS	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0
O. Collembola	8	1	0	0	3	1	0	8
INSECTS								
Cl. Insecta								
BEETLES	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0
pupae	8	1	0	0	3	1	0	8
BITING-MIDGE	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0
Atrichopogon	8	1	0	0	3	1	0	8
MIDGES	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0
chironomid pupae	21	3	2	0	4	2	0	8
S.F. Chironominae	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0
Micropsectra	8	1	0	0	3	1	0	8
Paracladopelma	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0
Sergentia	0	0	0	0	0	0	0	0
Stempellinella	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	0	0	0	0	0
Tanytarsus	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody / Site ID / Reach / Replicate Station	Sheardown Lake Trib 1 Reach 4 (2007 + 2008) Habitat SH Total (n = 6)							
	Sum	**Mean**	**Median**	**% [1]**	**SD**	**SE**	**Min**	**Max**
S.F. Diamesinae	0	0	0	0	0	0	0	0
Diamesa	16	3	0	0	7	3	0	16
Protanypus	0	0	0	0	0	0	0	0
Pseudodiamesa	0	0	0	0	0	0	0	0
Pseudokiefferiella	11441	1907	787	50	2603	1063	74	7027
S.F. Orthocladiinae	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0
?Acricotopus	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	0	0	0	0	0
Corynoneura	132	22	0	1	54	22	0	132
Cricotopus	1926	321	280	8	139	57	184	505
Cricotopus/Orthocladius	338	56	8	1	81	33	0	165
Diplocladius	184	31	18	1	44	18	0	115
?Eukiefferiella	249	42	16	1	64	26	0	165
Heterotrissocladius	0	0	0	0	0	0	0	0
Hydrobaenus	998	166	25	4	273	112	0	685
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0
Limnophyes	256	43	34	1	35	14	8	99
?Limnophyes sp. A	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0
Metriocnemus	33	5	0	0	10	4	0	25
Orthocladius (Euorthocladius)	2468	411	314	11	370	151	58	1089
Paracladius	0	0	0	0	0	0	0	0
Parakiefferiella	74	12	0	0	26	11	0	66
Paralimnophyes	0	0	0	0	0	0	0	0
Psectrocladius	35	6	0	0	14	6	0	35
Pseudosmittia	297	49	0	1	117	48	0	289
Rheocricotopus	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0
Tokunagaia	1136	189	161	5	82	34	115	336
Tvetenia	0	0	0	0	0	0	0	0
Zalutschia	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0
indeterminate	89	15	4	0	26	11	0	66
S.F. Podonominae	0	0	0	0	0	0	0	0
Trichotanypus	1623	270	136	7	388	158	8	1047
S.F. Tanypodinae	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0
Procladius	0	0	0	0	0	0	0	0
Thienemannimyia complex	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0
F. Ephydridae	4	1	0	0	2	1	0	4
Muscidae	8	1	0	0	3	1	0	8
Simuliidae	16	3	0	0	4	2	0	8
F. Tipulidae	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0
Tipula	287	48	46	1	30	12	2	82
Total Benthic Invertebrates	22715	3786	2752	100	2913	1189	1957	9569
Taxonomic Richness (Genus-level) [2]	30	--	--	--	--	--	11	20

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Sheardown Lake Tributary (2007)			Sheardown Lake Trib 9 Reach 1 (2007) Habitat SH Total (n = 3)							
Site ID	ST9-US (2007)										
Reach	Trib 9 Reach 1			Sum	Mean	Median	% [1]	SD	SE	Min	Max
Replicate Station	B1	B2	B3								
ROUNDWORMS											
P. Nemata	54	33	54	140	47	54	7	12	7	33	54
ANNELIDS											
P. Annelida											
WORMS	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	78	16	35	130	43	35	6	32	18	16	78
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS											
P. Arthropoda											
MITES	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0
O. Acari	8	33	29	70	23	29	3	13	8	8	33
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	0	0	12	12	4	0	1	7	4	0	12
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	2	2	1	0	0	1	1	0	2
INSECTS											
Cl. Insecta											
BEETLES	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	2	2	1	0	0	1	1	0	2
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	4	4	8	3	4	0	2	1	0	4
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	0	0	2	2	1	0	0	1	1	0	2
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	4	8	10	23	8	8	1	3	2	4	10
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	0	0	0	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	0	0	0	0	0	0	0	0	0	0
Stempellinella	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Sheardown Lake Tributary (2007)			Sheardown Lake Trib 9 Reach 1 (2007) Habitat SH Total (n = 3)							
Site ID	ST9-US (2007)										
Reach	Trib 9 Reach 1			Sum	Mean	Median	% [1]	SD	SE	Min	Max
Replicate Station	B1	B2	B3								
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0
Diamesa	4	0	0	4	1	0	0	2	1	0	4
Protanypus	0	0	0	0	0	0	0	0	0	0	0
Pseudodiamesa	0	0	0	0	0	0	0	0	0	0	0
Pseudokiefferiella	4	12	12	29	10	12	1	5	3	4	12
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0	0	0	0
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	16	25	43	85	28	25	4	14	8	16	43
Corynoneura	8	4	0	12	4	4	1	4	2	0	8
Cricotopus	181	128	89	398	133	128	19	47	27	89	181
Cricotopus/Orthocladius	33	8	31	72	24	31	3	14	8	8	33
Diplocladius	16	4	10	31	10	10	1	6	4	4	16
?Eukiefferiella	16	0	0	16	5	0	1	10	5	0	16
Heterotrissocladius	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus sp. 0	58	66	89	212	71	66	10	16	9	58	89
Krenosmittia	0	4	6	10	3	4	0	3	2	0	6
Limnophyes	8	0	4	12	4	4	1	4	2	0	8
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	4	0	2	6	2	2	0	2	1	0	4
Orthocladius (Euorthocladius)	37	45	62	144	48	45	7	13	7	37	62
Paracladius	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	0	0	0	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0	0	0
Pseudosmittia	21	12	16	49	16	16	2	4	2	12	21
Rheocricotopus	0	4	0	4	1	0	0	2	1	0	4
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	144	247	95	487	162	144	23	78	45	95	247
Tvetenia	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	0	0	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0
indeterminate	33	8	0	41	14	8	2	17	10	0	33
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	4	8	10	23	8	8	1	3	2	4	10
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0
Procladius	0	0	0	0	0	0	0	0	0	0	0
Thienemannimyia complex	0	0	2	2	1	0	0	1	1	0	2
indeterminate	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0
Clinocera	4	4	2	10	3	4	0	1	1	2	4
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	2	2	1	0	0	1	1	0	2
Simuliidae	0	0	6	6	2	0	0	4	2	0	6
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0	0	0	0
Tipula	23	29	45	97	32	29	5	12	7	23	45
Total Benthic Invertebrates	761	705	678	2144	715	705	100	42	24	678	761
Taxonomic Richness (Genus-level) [2]	22	21	26	31	--	--	--	--	--	21	26

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Sheardown Lake Tributary			Sheardown Lake Trib 12 Reach 1 (2007) Habitat SH Total (n = 3)							
Site ID	ST12-WQ (DS) (2007)										
Reach	Trib 12 Reach 1			Sum	Mean	Median	% [1]	SD	SE	Min	Max
Replicate Station	B1	B2	B3								
ROUNDWORMS											
P. Nemata	6	0	21	27	9	6	1	11	6	0	21
ANNELIDS											
P. Annelida											
WORMS	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	2	0	16	19	6	2	1	9	5	0	16
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS											
P. Arthropoda											
MITES	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0
O. Acari	4	2	0	6	2	2	0	2	1	0	4
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	2	0	8	10	3	2	0	4	2	0	8
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0
INSECTS											
Cl. Insecta											
BEETLES	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	2	0	0	2	1	0	0	1	1	0	2
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	2	0	0	2	1	0	0	1	1	0	2
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	0	0	0	0	0	0	0	0	0	0	0
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	0	0	0	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	0	0	0	0	0	0	0	0	0	0
Stempellinella	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Sheardown Lake Tributary			Sheardown Lake Trib 12 Reach 1 (2007) Habitat SH Total (n = 3)							
Site ID	ST12-WQ (DS) (2007)										
Reach	Trib 12 Reach 1			Sum	Mean	Median	% [1]	SD	SE	Min	Max
Replicate Station	B1	B2	B3								
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0
Diamesa	2	0	0	2	1	0	0	1	1	0	2
Protanypus	0	0	0	0	0	0	0	0	0	0	0
Pseudodiamesa	0	0	0	0	0	0	0	0	0	0	0
Pseudokiefferiella	4	0	25	29	10	4	1	13	8	0	25
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0	0	0	0
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	14	0	49	64	21	14	2	25	15	0	49
Corynoneura	4	0	45	49	16	4	2	25	14	0	45
Cricotopus	39	0	161	200	67	39	8	84	48	0	161
Cricotopus/Orthocladius	16	0	161	177	59	16	7	88	51	0	161
Diplocladius	115	0	425	540	180	115	21	220	127	0	425
?Eukiefferiella	8	0	99	107	36	8	4	55	32	0	99
Heterotrissocladius	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus	2	0	4	6	2	2	0	2	1	0	4
Hydrobaenus sp. 0	89	0	91	179	60	89	7	52	30	0	91
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	2	0	8	10	3	2	0	4	2	0	8
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	8	8	3	0	0	5	3	0	8
Orthocladius (Euorthocladius)	0	0	0	0	0	0	0	0	0	0	0
Paracladius	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	0	0	0	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0	0	0
Pseudosmittia	19	0	132	151	50	19	6	71	41	0	132
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	78	0	602	680	227	78	26	327	189	0	602
Tvetenia	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	0	0	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0
indeterminate	12	0	95	107	36	12	4	52	30	0	95
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	93	0	78	171	57	78	7	50	29	0	93
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0
Procladius	0	0	0	0	0	0	0	0	0	0	0
Thienemannimyia complex	4	0	0	4	1	0	0	2	1	0	4
indeterminate	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	8	8	3	0	0	5	3	0	8
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	2	0	4	6	2	2	0	2	1	0	4
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0	0	0	0
Tipula	2	0	23	25	8	2	1	13	7	0	23
Total Benthic Invertebrates	526	2	2064	2592	864	526	100	1072	619	2	2064
Taxonomic Richness (Genus-level) [2]	23	1	21	25	--	--	--	--	--	1	23

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Sheardown Lake Tributary			Sheardown Lake Trib 12 Reach 2 (2007) Habitat SH Total (n = 3)							
Site ID	ST12-US (2007)										
Reach	Trib 12 Reach 2			Sum	Mean	Median	% [1]	SD	SE	Min	Max
Replicate Station	B1	B2	B3								
ROUNDWORMS											
P. Nemata	0	25	25	49	16	25	2	14	8	0	25
ANNELIDS											
P. Annelida											
WORMS	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	0	0	8	8	3	0	0	5	3	0	8
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	8	8	16	5	8	1	5	3	0	8
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS											
P. Arthropoda											
MITES	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0
O. Acari	16	25	74	115	38	25	5	31	18	16	74
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	25	41	8	74	25	25	3	16	10	8	41
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0
INSECTS											
Cl. Insecta											
BEETLES	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	0	0	0	0	0	0	0	0	0	0	0
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	0	0	25	25	8	0	1	14	8	0	25
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	16	33	33	82	27	33	3	10	5	16	33
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	0	0	0	0	0	0	0	0	0	0
Stempellinella	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	8	0	8	3	0	0	5	3	0	8

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Sheardown Lake Tributary			Sheardown Lake Trib 12 Reach 2 (2007) Habitat SH Total (n = 3)							
Site ID	ST12-US (2007)										
Reach	Trib 12 Reach 2			Sum	Mean	Median	% [1]	SD	SE	Min	Max
Replicate Station	B1	B2	B3								
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0
Diamesa	0	0	0	0	0	0	0	0	0	0	0
Protanypus	0	0	0	0	0	0	0	0	0	0	0
Pseudodiamesa	0	0	0	0	0	0	0	0	0	0	0
Pseudokiefferiella	0	0	0	0	0	0	0	0	0	0	0
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0	0	0	0
?Acricotopus	21	58	8	87	29	21	3	26	15	8	58
Chaetocladius	4	0	0	4	1	0	0	2	1	0	4
Corynoneura	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	99	338	190	627	209	190	25	121	70	99	338
Cricotopus/Orthocladius	8	16	41	66	22	16	3	17	10	8	41
Diplocladius	0	0	0	0	0	0	0	0	0	0	0
?Eukiefferiella	12	49	74	136	45	49	5	31	18	12	74
Heterotrissocladius	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	8	16	25	49	16	16	2	8	5	8	25
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	16	25	16	58	19	16	2	5	3	16	25
Orthocladius (Euorthocladius)	0	0	0	0	0	0	0	0	0	0	0
Paracladius	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	33	41	16	91	30	33	4	13	7	16	41
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	4	0	0	4	1	0	0	2	1	0	4
Pseudosmittia	4	25	8	37	12	8	1	11	6	4	25
Rheocricotopus	16	264	223	503	168	223	20	133	77	16	264
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	0	41	49	91	30	41	4	27	15	0	49
Tvetenia	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	0	0	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	25	0	25	8	0	1	14	8	0	25
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0
Procladius	37	16	8	62	21	16	2	15	9	8	37
Thienemannimyia complex	33	25	16	74	25	25	3	8	5	16	33
indeterminate	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	0	33	173	206	69	33	8	92	53	0	173
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0	0	0	0
Tipula	0	0	0	0	0	0	0	0	0	0	0
Total Benthic Invertebrates	355	1113	1031	2499	833	1031	100	416	240	355	1113
Taxonomic Richness (Genus-level) [2]	16	20	20	24	--	--	--	--	--	16	20

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody / Site ID / Reach / Replicate Station	Sheardown Lake Tributaries Overall (n = 24)							
	Sum	**Mean**	**Median**	**% [1]**	**SD**	**SE**	**Min**	**Max**
ROUNDWORMS								
P. Nemata	769	32	21	2	44	9	0	198
ANNELIDS								
P. Annelida								
WORMS	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0
F. Enchytraeidae	790	33	16	2	49	10	0	231
F. Lumbriculidae	0	0	0	0	0	0	0	0
indeterminate	33	1	0	0.1	4	1	0	16
Lumbriculus	12	1	0	0.0	2	0	0	8
F. Tubificide	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0
ARTHROPODS								
P. Arthropoda								
MITES	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0
O. Acari	507	21	16	1	20	4	0	74
HARPACTICOIDS	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0
Cl. Ostracoda	157	7	0	0.5	11	2	0	41
SPRINGTAILS	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0
O. Collembola	10	0	0	0.0	2	0	0	8
INSECTS								
Cl. Insecta								
BEETLES	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0
Hydroporus	2	0	0	0.0	0	0	0	2
MAYFLIES	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0
Acentrella	4	0	0	0.0	1	0	0	2
STONEFLIES	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0
immature	4	0	0	0.0	1	0	0	2
CADDISFLIES	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0
?Grensia	12	1	0	0.0	1	0	0	4
TRUE FLIES	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0
pupae	10	0	0	0	2	0	0	8
BITING-MIDGE	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0
Atrichopogon	8	0	0	0.0	2	0	0	8
MIDGES	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0
chironomid pupae	29	1	0	0	2	0	0	8
S.F. Chironominae	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0
Micropsectra	58	2	0	0	6	1	0	25
Paracladopelma	0	0	0	0	0	0	0	0
Paratanytarsus	118	5	0	0	10	2	0	33
Rheotanytarsus	45	2	0	0	5	1	0	19
Sergentia	0	0	0	0	0	0	0	0
Stempellinella	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	0	0	0	0	0
Tanytarsus	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	8	0	0	0	2	0	0	8

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody / Site ID / Reach / Replicate Station	Sheardown Lake Tributaries Overall (n = 24)							
	Sum	**Mean**	**Median**	**% [1]**	**SD**	**SE**	**Min**	**Max**
S.F. Diamesinae	0	0	0	0	0	0	0	0
Diamesa	25	1	0	0	3	1	0	16
Protanypus	0	0	0	0	0	0	0	0
Pseudodiamesa	0	0	0	0	0	0	0	0
Pseudokiefferiella	12085	504	48	35	1469	300	0	7027
S.F. Orthocladiinae	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0
?Acricotopus	89	4	0	0	12	3	0	58
Chaetocladius	153	6	0	0	14	3	0	49
Corynoneura	198	8	0	1	28	6	0	132
Cricotopus	4693	196	159	14	148	30	0	551
Cricotopus/Orthocladius	664	28	5	2	53	11	0	165
Diplocladius	755	31	0	2	90	18	0	425
?Eukiefferiella	509	21	0	1	41	8	0	165
Heterotrissocladius	6	0	0	0	1	0	0	4
Hydrobaenus	1004	42	0	3	147	30	0	685
Hydrobaenus sp. 0	392	16	0	1	33	7	0	91
Krenosmittia	10	0	0	0	1	0	0	6
Limnophyes	338	14	6	1	24	5	0	99
?Limnophyes sp. A	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0
Metriocnemus	107	4	0	0	8	2	0	25
Orthocladius (Euorthocladius)	2662	111	3	8	248	51	0	1089
Paracladius	0	0	0	0	0	0	0	0
Parakiefferiella	175	7	0	1	17	3	0	66
Paralimnophyes	0	0	0	0	0	0	0	0
Psectrocladius	58	2	0	0	7	1	0	35
Pseudosmittia	1056	44	20	3	73	15	0	289
Rheocricotopus	511	21	0	1	69	14	0	264
Synorthocladius	4	0	0	0	1	0	0	4
Thienemanniella	0	0	0	0	0	0	0	0
Tokunagaia	2462	103	45	7	142	29	0	602
Tvetenia	0	0	0	0	0	0	0	0
Zalutschia	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0
indeterminate	237	10	0	1	23	5	0	95
S.F. Podonominae	0	0	0	0	0	0	0	0
Trichotanypus	1843	77	3	5	215	44	0	1047
S.F. Tanypodinae	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0
Procladius	70	3	0	0	8	2	0	37
Thienemannimyia complex	206	9	3	1	10	2	0	33
indeterminate	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0
Clinocera	23	1	0	0	2	0	0	8
Empididae pupae	0	0	0	0	0	0	0	0
F. Ephydridae	4	0	0	0	1	0	0	4
Muscidae	10	0	0	0.0	2	0	0	8
Simuliidae	235	10	0	1	35	7	0	173
F. Tipulidae	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0
Tipula	959	40	38	3	35	7	0	151
Total Benthic Invertebrates	34120	1422	692	100	1989	406	2	9569
Taxonomic Richness (Genus-level) [2]	47	--	--	--	--	--	1	26

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Camp Lake Tributary			Camp Lake Trib 1 Reach 1 (2007) Habitat CL Total (n = 3)							
Site ID	CLT1-DS (2007)										
Reach	Trib 1 Reach 1			Sum	Mean	Median	% [1]	SD	SE	Min	Max
Replicate Station	B1	B2	B3								
ROUNDWORMS											
P. Nemata	33	0	4	37	12	4	2	18	10	0	33
ANNELIDS											
P. Annelida											
WORMS	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	21	10	111	142	47	21	6	56	32	10	111
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS											
P. Arthropoda											
MITES	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0
O. Acari	16	6	29	52	17	16	2	11	7	6	29
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	4	4	1	0	0	2	1	0	4
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	8	2	0	10	3	2	0	4	2	0	8
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0
INSECTS											
Cl. Insecta											
BEETLES	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0
immature	4	2	4	10	3	4	0	1	1	2	4
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	4	2	0	6	2	2	0	2	1	0	4
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	280	0	33	313	104	33	14	153	88	0	280
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	12	0	12	25	8	12	1	7	4	0	12
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	0	0	0	0	0	0	0	0	0	0
Stempellinella	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsus	33	0	0	33	11	0	1	19	11	0	33
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Camp Lake Tributary			Camp Lake Trib 1 Reach 1 (2007) Habitat CL Total (n = 3)							
Site ID	CLT1-DS (2007)										
Reach	Trib 1 Reach 1			Sum	Mean	Median	% [1]	SD	SE	Min	Max
Replicate Station	B1	B2	B3								
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0
Diamesa	0	0	4	4	1	0	0	2	1	0	4
Protanypus	0	0	0	0	0	0	0	0	0	0	0
Pseudodiamesa	0	0	0	0	0	0	0	0	0	0	0
Pseudokiefferiella	25	14	29	68	23	25	3	7	4	14	29
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0	0	0	0
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	0	0	4	4	1	0	0	2	1	0	4
Corynoneura	58	0	8	66	22	8	3	31	18	0	58
Cricotopus	144	19	111	274	91	111	12	65	38	19	144
Cricotopus/Orthocladius	49	2	29	80	27	29	4	24	14	2	49
Diplocladius	0	0	0	0	0	0	0	0	0	0	0
?Eukiefferiella	21	4	4	29	10	4	1	10	5	4	21
Heterotrissocladius	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus	396	2	54	452	151	54	20	214	124	2	396
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	4	4	1	0	0	2	1	0	4
Limnophyes	8	2	21	31	10	8	1	9	5	2	21
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	21	39	70	130	43	39	6	25	14	21	70
Paracladius	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	0	0	0	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	25	0	0	25	8	0	1	14	8	0	25
Pseudosmittia	70	4	107	181	60	70	8	52	30	4	107
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	4	4	1	0	0	2	1	0	4
Thienemanniella	0	0	4	4	1	0	0	2	1	0	4
Tokunagaia	25	39	82	146	49	39	6	30	17	25	82
Tvetenia	0	0	4	4	1	0	0	2	1	0	4
Zalutschia	0	0	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	4	0	0	4	1	0	0	2	1	0	4
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0
Procladius	0	0	0	0	0	0	0	0	0	0	0
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	4	4	1	0	0	2	1	0	4
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	4	4	1	0	0	2	1	0	4
Ormosia	0	0	0	0	0	0	0	0	0	0	0
Tipula	47	14	52	113	38	47	5	20	12	14	52
Total Benthic Invertebrates	1305	163	798	2266	755	798	100	572	330	163	1305
Taxonomic Richness (Genus-level) [2]	21	14	25	29 [3]	--	--	--	--	--	14	25

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Camp Lake Tributary			Camp Lake Trib 1 Reach 3 (2007) Habitat CL Total (n = 3)							
Site ID	CLT1-US (2007)										
Reach	Trib 1 Reach 3			Sum	Mean	Median	% [1]	SD	SE	Min	Max
Replicate Station	B1	B2	B3								
ROUNDWORMS											
P. Nemata	0	0	2	2	1	0	0	1	1	0	2
ANNELIDS											
P. Annelida											
WORMS	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	4	6	0	10	3	4	1	3	2	0	6
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	2	0	2	1	0	0	1	1	0	2
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS											
P. Arthropoda											
MITES	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0
O. Acari	0	4	2	6	2	2	0	2	1	0	4
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	0	0	0	0	0	0	0	0	0	0	0
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0
INSECTS											
Cl. Insecta											
BEETLES	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0
immature	0	2	0	2	1	0	0	1	1	0	2
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	0	0	0	0	0	0	0	0	0	0	0
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	0	0	0	0	0	0	0	0	0	0	0
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	0	0	0	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	0	0	0	0	0	0	0	0	0	0
Stempellinella	0	2	0	2	1	0	0	1	1	0	2
Stictochironomus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Camp Lake Tributary			Camp Lake Trib 1 Reach 3 (2007) Habitat CL Total (n = 3)							
Site ID	CLT1-US (2007)										
Reach	Trib 1 Reach 3			Sum	Mean	Median	% [1]	SD	SE	Min	Max
Replicate Station	B1	B2	B3								
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0
Diamesa	0	0	2	2	1	0	0	1	1	0	2
Protanypus	0	0	0	0	0	0	0	0	0	0	0
Pseudodiamesa	0	0	0	0	0	0	0	0	0	0	0
Pseudokiefferiella	21	0	33	54	18	21	4	17	10	0	33
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0	0	0	0
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	4	4	4	12	4	4	1	0	0	4	4
Corynoneura	0	2	0	2	1	0	0	1	1	0	2
Cricotopus	128	35	39	202	67	39	13	52	30	35	128
Cricotopus/Orthocladius	8	0	0	8	3	0	1	5	3	0	8
Diplocladius	4	0	0	4	1	0	0	2	1	0	4
?Eukiefferiella	0	0	19	19	6	0	1	11	6	0	19
Heterotrissocladius	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus	16	2	0	19	6	2	1	9	5	0	16
Hydrobaenus sp. 0	58	0	0	58	19	0	4	33	19	0	58
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	8	2	0	10	3	2	1	4	2	0	8
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	148	27	245	421	140	148	28	110	63	27	245
Paracladius	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	0	0	0	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0	0	0
Pseudosmittia	33	12	0	45	15	12	3	17	10	0	33
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	4	0	0	4	1	0	0	2	1	0	4
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	342	70	80	493	164	80	32	154	89	70	342
Tvetenia	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	0	0	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	4	8	0	12	4	4	1	4	2	0	8
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0
Procladius	0	0	0	0	0	0	0	0	0	0	0
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	4	0	2	6	2	2	0	2	1	0	4
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0	0	0	0
Tipula	72	27	23	122	41	27	8	27	16	23	72
Total Benthic Invertebrates	860	206	452	1518	506	452	100	330	191	206	860
Taxonomic Richness (Genus-level) [2]	16	15	11	24	--	--	--	--	--	11	16

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Camp Lake Tributary			Camp Lake Trib 2 Reach 1 (2007) Habitat CL Total (n = 3)							
Site ID	CLT2-DS (2007)										
Reach	Trib 2 Reach 1			Sum	Mean	Median	% [1]	SD	SE	Min	Max
Replicate Station	B1	B2	B3								
ROUNDWORMS											
P. Nemata	0	4	12	16	5	4	1	6	4	0	12
ANNELIDS											
P. Annelida											
WORMS	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	10	10	12	33	11	10	3	1	1	10	12
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS											
P. Arthropoda											
MITES	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0
O. Acari	4	4	16	25	8	4	2	7	4	4	16
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	0	0	0	0	0	0	0	0	0	0	0
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0
INSECTS											
Cl. Insecta											
BEETLES	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	4	4	21	29	10	4	2	10	5	4	21
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	2	19	16	37	12	16	3	9	5	2	19
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	0	0	0	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	0	0	0	0	0	0	0	0	0	0
Stempellinella	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Camp Lake Tributary			Camp Lake Trib 2 Reach 1 (2007) Habitat CL Total (n = 3)							
Site ID	CLT2-DS (2007)										
Reach	Trib 2 Reach 1			Sum	Mean	Median	% [1]	SD	SE	Min	Max
Replicate Station	B1	B2	B3								
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0
Diamesa	21	10	29	60	20	21	5	9	5	10	29
Protanypus	0	0	0	0	0	0	0	0	0	0	0
Pseudodiamesa	2	0	0	2	1	0	0	1	1	0	2
Pseudokiefferiella	10	19	25	54	18	19	4	7	4	10	25
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0	0	0	0
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	2	6	8	16	5	6	1	3	2	2	8
Corynoneura	2	6	0	8	3	2	1	3	2	0	6
Cricotopus	25	74	58	157	52	58	12	25	15	25	74
Cricotopus/Orthocladius	10	29	4	43	14	10	3	13	7	4	29
Diplocladius	2	4	0	6	2	2	0	2	1	0	4
?Eukiefferiella	16	33	25	74	25	25	6	8	5	16	33
Heterotrissocladius	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus	19	72	8	99	33	19	8	34	20	8	72
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	0	16	16	5	0	1	10	5	0	16
?Limnophyes sp. A	0	6	0	6	2	0	0	4	2	0	6
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	68	97	128	293	98	97	23	30	17	68	128
Paracladius	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	0	0	0	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	4	0	4	1	0	0	2	1	0	4
Pseudosmittia	2	4	4	10	3	4	1	1	1	2	4
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	64	60	111	235	78	64	18	29	17	60	111
Tvetenia	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	0	0	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0
Procladius	0	0	0	0	0	0	0	0	0	0	0
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	0	2	0	2	1	0	0	1	1	0	2
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0	0	0	0
Tipula	43	14	12	70	23	14	5	17	10	12	43
Total Benthic Invertebrates	307	482	507	1297	432	482	100	109	63	307	507
Taxonomic Richness (Genus-level) [2]	17	20	16	22	--	--	--	--	--	16	20

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued –

Waterbody	Camp Lake Tributary			Camp Lake Trib 2 Reach 2 (2007) Habitat CL Total (n = 3)							
Site ID	CLT2-US (2007)										
Reach	Trib 2 Reach 2			Sum	Mean	Median	% [1]	SD	SE	Min	Max
Replicate Station	B1	B2	B3								
ROUNDWORMS											
P. Nemata	2	8	2	12	4	2	1	4	2	2	8
ANNELIDS											
P. Annelida											
WORMS	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	8	16	2	27	9	8	2	7	4	2	16
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS											
P. Arthropoda											
MITES	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0
O. Acari	2	21	6	29	10	6	3	10	6	2	21
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	0	0	0	0	0	0	0	0	0	0	0
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0	0	0	0
INSECTS											
Cl. Insecta											
BEETLES	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0
immature	2	0	0	2	1	0	0	1	1	0	2
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	0	0	0	0	0	0	0	0	0	0	0
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	0	4	0	4	1	0	0	2	1	0	4
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	0	0	0	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	0	0	0	0	0	0	0	0	0	0
Stempellinella	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Camp Lake Tributary			Camp Lake Trib 2 Reach 2 (2007) Habitat CL Total (n = 3)							
Site ID	CLT2-US (2007)										
Reach	Trib 2 Reach 2			Sum	Mean	Median	% [1]	SD	SE	Min	Max
Replicate Station	B1	B2	B3								
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0
Diamesa	0	0	6	6	2	0	1	4	2	0	6
Protanypus	0	0	0	0	0	0	0	0	0	0	0
Pseudodiamesa	0	0	0	0	0	0	0	0	0	0	0
Pseudokiefferiella	23	21	2	45	15	21	4	11	7	2	23
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0	0	0	0
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	39	37	4	80	27	37	7	20	11	4	39
Corynoneura	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	105	87	35	227	76	87	21	36	21	35	105
Cricotopus/Orthocladius	0	0	0	0	0	0	0	0	0	0	0
Diplocladius	2	0	0	2	1	0	0	1	1	0	2
?Eukiefferiella	45	144	4	194	65	45	18	72	42	4	144
Heterotrissocladius	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus	2	0	2	4	1	2	0	1	1	0	2
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	0	0	0	0	0	0	0	0
?Limnophyes sp. A	6	0	0	6	2	0	1	4	2	0	6
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	68	37	37	142	47	37	13	18	10	37	68
Paracladius	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	0	0	0	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0	0	0
Pseudosmittia	4	0	0	4	1	0	0	2	1	0	4
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	99	132	27	258	86	99	24	54	31	27	132
Tvetenia	0	0	0	0	0	0	0	0	0	0	0
Zalutschia	0	0	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0
Procladius	0	0	0	0	0	0	0	0	0	0	0
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	0	0	0	0	0	0	0	0	0	0	0
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0	0	0	0
Tipula	14	27	10	52	17	14	5	9	5	10	27
Total Benthic Invertebrates	423	534	138	1095	365	423	100	204	118	138	534
Taxonomic Richness (Genus-level) [2]	15	11	12	17	--	--	--	--	--	11	15

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody / Site ID / Reach / Replicate Station	Camp Lake Tributaries Overall (n = 12)							
	Sum	**Mean**	**Median**	**% [1]**	**SD**	**SE**	**Min**	**Max**
ROUNDWORMS								
P. Nemata	68	6	2	1	9	3	0	33
ANNELIDS								
P. Annelida								
WORMS	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0
F. Enchytraeidae	212	18	10	3	30	9	0	111
F. Lumbriculidae	0	0	0	0	0	0	0	0
indeterminate	2	0	0	0	1	0	0	2
Lumbriculus	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0
ARTHROPODS								
P. Arthropoda								
MITES	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0
O. Acari	111	9	5	2	9	3	0	29
HARPACTICOIDS	0	0	0	0	0	0	0	0
O. Harpacticoida	4	0	0	0	1	0	0	4
SEED SHRIMPS	0	0	0	0	0	0	0	0
Cl. Ostracoda	10	1	0	0	2	1	0	8
SPRINGTAILS	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0
O. Collembola	0	0	0	0	0	0	0	0
INSECTS								
Cl. Insecta								
BEETLES	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0
Acentrella	0	0	0	0	0	0	0	0
STONEFLIES	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0
immature	14	1	0	0	2	0	0	4
CADDISFLIES	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0
chironomid pupae	35	3	0	1	6	2	0	21
S.F. Chironominae	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0
Micropsectra	355	30	1	6	80	23	0	280
Paracladopelma	0	0	0	0	0	0	0	0
Paratanytarsus	25	2	0	0	5	1	0	12
Rheotanytarsus	0	0	0	0	0	0	0	0
Sergentia	0	0	0	0	0	0	0	0
Stempellinella	2	0	0	0	1	0	0	2
Stictochironomus	0	0	0	0	0	0	0	0
Tanytarsus	33	3	0	1	10	3	0	33
Tanytarsini indeterminate	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody / Site ID / Reach / Replicate Station	Camp Lake Tributaries Overall (n = 12)							
	Sum	**Mean**	**Median**	**% [1]**	**SD**	**SE**	**Min**	**Max**
S.F. Diamesinae	0	0	0	0	0	0	0	0
Diamesa	72	6	1	1	9	3	0	29
Protanypus	0	0	0	0	0	0	0	0
Pseudodiamesa	2	0	0	0	1	0	0	2
Pseudokiefferiella	221	18	21	4	10	3	0	33
S.F. Orthocladiinae	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0
?Acricotopus	0	0	0	0	0	0	0	0
Chaetocladius	113	9	4	2	14	4	0	39
Corynoneura	76	6	0	1	16	5	0	58
Cricotopus	860	72	66	14	43	12	19	144
Cricotopus/Orthocladius	132	11	3	2	16	5	0	49
Diplocladius	12	1	0	0	2	0	0	4
?Eukiefferiella	315	26	18	5	40	11	0	144
Heterotrissocladius	0	0	0	0	0	0	0	0
Hydrobaenus	573	48	5	9	112	32	0	396
Hydrobaenus sp. 0	58	5	0	1	17	5	0	58
Krenosmittia	4	0	0	0	1	0	0	4
Limnophyes	58	5	1	1	7	2	0	21
?Limnophyes sp. A	12	1	0	0	2	1	0	6
Mesocricotopus	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	986	82	68	16	65	19	21	245
Paracladius	0	0	0	0	0	0	0	0
Parakiefferiella	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0
Psectrocladius	29	2	0	0	7	2	0	25
Pseudosmittia	241	20	4	4	34	10	0	107
Rheocricotopus	0	0	0	0	0	0	0	0
Synorthocladius	8	1	0	0	2	0	0	4
Thienemanniella	4	0	0	0	1	0	0	4
Tokunagaia	1132	94	75	18	85	24	25	342
Tvetenia	4	0	0	0	1	0	0	4
Zalutschia	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0
Trichotanypus	16	1	0	0	3	1	0	8
S.F. Tanypodinae	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0
Procladius	0	0	0	0	0	0	0	0
Thienemannimyia complex	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0
Empididae pupae	4	0	0	0.1	1	0	0	4
F. Ephydridae	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0
Simuliidae	8	1	0	0.1	1	0	0	4
F. Tipulidae	0	0	0	0	0	0	0	0
Dicranota	4	0	0	0.1	1	0	0	4
Ormosia	0	0	0	0	0	0	0	0
Tipula	357	30	25	6	20	6	10	72
Total Benthic Invertebrates	6175	515	467	100	336	97	138	1305
Taxonomic Richness (Genus-level) [2]	36	--	--	--	--	--	11	25

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Mary River (2005)		Mary River (2005) Habitat E0-01a Total (n = 2)								Mary River (2005)			
Site ID	E2-01	E0-03									C0-01	D0-01	H0-01	A0-01
Reach/Location	E0-01a	E0-01a	Sum	Mean	Median	%[1]	SD	SE	Min	Max	C0-01	Boundary of C0-10 & E0-01	G0	A0-01
ROUNDWORMS														
P. Nemata	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANNELIDS														
P. Annelida														
WORMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	2	0	2	1	1	1	1	1	0	2	12	0	0	2
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	2	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0	0	2	0
ARTHROPODS														
P. Arthropoda														
MITES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Acari	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	4	0	4	2	2	2	3	2	0	4	0	2	0	2
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	0	2	2	1	1	1	1	1	0	2	0	0	0	0
INSECTS														
Cl. Insecta														
BEETLES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acentrella	6	0	6	3	3	2	4	3	0	6	4	2	0	2
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	16	6	23	11	11	8	7	5	6	16	19	6	87	16
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	2	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stempellinella	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Mary River (2005)		Mary River (2005) Habitat E0-01a Total (n = 2)								Mary River (2005)			
Site ID	E2-01	E0-03									C0-01	D0-01	H0-01	A0-01
Reach/Location	E0-01a	E0-01a	Sum	Mean	Median	%[1]	SD	SE	Min	Max	C0-01	Boundary of C0-10 & E0-01	G0	A0-01
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diamesa	0	0	0	0	0	0	0	0	0	0	0	0	146	0
Protanypus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pseudodiamesa	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pseudokiefferiella	16	2	19	9	9	7	10	7	2	16	1357	2	4	2
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Corynoneura	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	21	0	21	10	10	8	15	10	0	21	49	0	0	0
Cricotopus/Orthocladius	0	4	4	2	2	2	3	2	0	4	8	2	27	4
Diplocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heterotrissocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnophyes	0	0	0	0	0	0	0	0	0	0	6	0	0	0
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	12	0	12	6	6	5	9	6	0	12	0	0	0	0
Paracladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pseudosmittia	8	0	8	4	4	3	6	4	0	8	0	0	0	0
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tokunagaia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tvetenia	82	2	85	42	42	31	57	40	2	82	103	6	0	23
Zalutschia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Procladius	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	56	10	66	33	33	24	32	23	10	56	49	10	41	103
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tipula	10	8	19	9	9	7	1	1	8	10	8	6	0	0
Total Benthic Invertebrates	235	35	270	135	135	100	141	100	35	235	1621	37	307	155
Taxonomic Richness (Genus-level) [2]	10	6	12 [3]	--	--	--	--	--	6	10	11	7	5	7

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	**Mary River (2005) Overall (n = 6)**							
Site ID								
Reach/Location	**Sum**	**Mean**	**Median**	**%**[1]	**SD**	**SE**	**Min**	**Max**
ROUNDWORMS								
P. Nemata	0	0	0	0	0	0	0	0
ANNELIDS								
P. Annelida								
WORMS	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0
F. Enchytraeidae	16	3	1	1	5	2	0	12
F. Lumbriculidae	2	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	2	0	0	0	1	0	0	2
ARTHROPODS								
P. Arthropoda								
MITES	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0
O. Acari	0	0	0	0	0	0	0	0
HARPACTICOIDS	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0
Cl. Ostracoda	8	1	1	0	2	1	0	4
SPRINGTAILS	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0
O. Collembola	2	0	0	0	1	0	0	2
INSECTS								
Cl. Insecta								
BEETLES	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0
Agabus	0	0	0	0	0	0	0	0
Hydroporus	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0
Acentrella	14	2	2	1	2	1	0	6
STONEFLIES	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0
immature	0	0	0	0	0	0	0	0
CADDISFLIES	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0
chironomid pupae	151	25	16	6	31	13	6	87
S.F. Chironominae	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0
Cryptochironomous	2	0	0	0	1	0	0	2
Lipiniella	0	0	0	0	0	0	0	0
Micropsectra	0	0	0	0	0	0	0	0
Paracladopelma	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0
Sergentia	0	0	0	0	0	0	0	0
Stempellinella	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	0	0	0	0	0
Tanytarsus	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody / Site ID / Reach/Location	Mary River (2005) Overall (n = 6)							
	Sum	**Mean**	**Median**	**%**[1]	**SD**	**SE**	**Min**	**Max**
S.F. Diamesinae	0	0	0	0	0	0	0	0
Diamesa	146	24	0	6	60	24	0	146
Protanypus	0	0	0	0	0	0	0	0
Pseudodiamesa	0	0	0	0	0	0	0	0
Pseudokiefferiella	1384	231	3	58	552	225	2	1357
S.F. Orthocladiinae	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0
?Acricotopus	0	0	0	0	0	0	0	0
Chaetocladius	0	0	0	0	0	0	0	0
Corynoneura	0	0	0	0	0	0	0	0
Cricotopus	70	12	0	3	20	8	0	49
Cricotopus/Orthocladius	45	8	4	2	10	4	0	27
Diplocladius	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0
Heterotrissocladius	0	0	0	0	0	0	0	0
Hydrobaenus	0	0	0	0	0	0	0	0
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0
Krenosmittia	0	0	0	0	0	0	0	0
Limnophyes	6	1	0	0	3	1	0	6
?Limnophyes sp. A	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	12	2	0	1	5	2	0	12
Paracladius	0	0	0	0	0	0	0	0
Parakiefferiella	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0
Pseudosmittia	8	1	0	0	3	1	0	8
Rheocricotopus	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0
Thienemanniella	0	0	0	0	0	0	0	0
Tokunagaia	0	0	0	0	0	0	0	0
Tvetenia	216	36	14	9	45	18	0	103
Zalutschia	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0
Procladius	0	0	0	0	0	0	0	0
Thienemannimyia complex	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0
F. Empididae	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0
Simuliidae	270	45	45	11	34	14	10	103
F. Tipulidae	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0
Tipula	33	5	7	1	4	2	0	10
Total Benthic Invertebrates	2390	398	195	100	608	248	35	1621
Taxonomic Richness (Genus-level) [2]	17	--	--	--	--	--	5	11

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

Table A4.3-5.1. - Continued -

Waterbody	Camp Lake Tributary (2005)			Camp Lake Tributary (2005) Overall (n = 3)								Sheardown Lake Trib 1 Reach 2 (2005)	
Site ID	FS-01	K0-01	J0-01									D1-01	
Reach/Location	Trib 1 Reach 1	Trib 2 Reach 2	Lake Outlet Stream	Sum	Mean	Median	%[1]	SD	SE	Min	Max	Trib 1 Reach 2	%[1]
ROUNDWORMS													
P. Nemata	0	0	0	0	0	0	0	0	0	0	0	0	0
ANNELIDS													
P. Annelida													
WORMS	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Oligochaeta	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Enchytraeidae	4	0	2	6	2	2	1	2	1	0	4	19	3
F. Lumbriculidae	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0
Lumbriculus	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Tubificide	0	0	0	0	0	0	0	0	0	0	0	0	0
Limnodrilus udekemianus	0	0	0	0	0	0	0	0	0	0	0	0	0
ARTHROPODS													
P. Arthropoda													
MITES	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Arachnida	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Acari	0	0	0	0	0	0	0	0	0	0	0	0	0
HARPACTICOIDS	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Harpacticoida	0	0	0	0	0	0	0	0	0	0	0	0	0
SEED SHRIMPS	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Ostracoda	0	0	0	0	0	0	0	0	0	0	0	2	0
SPRINGTAILS	0	0	0	0	0	0	0	0	0	0	0	0	0
Cl. Entognatha	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Collembola	2	0	0	2	1	0	0	1	1	0	2	0	0
INSECTS													
Cl. Insecta													
BEETLES	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Coleoptera	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Dytiscidae	0	0	0	0	0	0	0	0	0	0	0	0	0
Agabus	0	2	0	2	1	0	0	1	1	0	2	0	0
Hydroporus	0	0	0	0	0	0	0	0	0	0	0	0	0
MAYFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Ephemeroptera	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Baetidae	0	0	0	0	0	0	0	0	0	0	0	0	0
Acentrella	2	16	0	19	6	2	3	9	5	0	16	0	0
STONEFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Plecoptera	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Capniidae	0	0	0	0	0	0	0	0	0	0	0	0	0
immature	0	23	0	23	8	0	4	13	8	0	23	0	0
CADDISFLIES	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Trichoptera	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Apataniidae	0	0	0	0	0	0	0	0	0	0	0	0	0
Apatania	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Limnephilidae	0	0	0	0	0	0	0	0	0	0	0	0	0
?Grensia	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUE FLIES	0	0	0	0	0	0	0	0	0	0	0	0	0
O. Diptera	0	0	0	0	0	0	0	0	0	0	0	0	0
pupae	0	0	0	0	0	0	0	0	0	0	0	0	0
BITING-MIDGE	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ceratopogonidae	0	0	0	0	0	0	0	0	0	0	0	0	0
Atrichopogon	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDGES	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Chironomidae	0	0	0	0	0	0	0	0	0	0	0	0	0
chironomid pupae	27	8	8	43	14	8	8	11	6	8	27	126	22
S.F. Chironominae	0	0	0	0	0	0	0	0	0	0	0	0	0
Chironomus	0	0	0	0	0	0	0	0	0	0	0	0	0
Cryptochironomous	0	0	0	0	0	0	0	0	0	0	0	0	0
Lipiniella	0	0	0	0	0	0	0	0	0	0	0	0	0
Micropsectra	0	0	0	0	0	0	0	0	0	0	0	0	0
Paracladopelma	0	0	0	0	0	0	0	0	0	0	0	0	0
Paratanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0
Rheotanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0
Sergentia	0	0	0	0	0	0	0	0	0	0	0	0	0
Stempellinella	0	0	0	0	0	0	0	0	0	0	0	0	0
Stictochironomus	0	0	0	0	0	0	0	0	0	0	0	0	0
Tanytarsus	0	0	0	0	0	0	0	0	0	0	0	0	0
Tanytarsini indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0

1 percent abundance of the overall total.

Table A4.3-5.1. - Continued -

Waterbody	Camp Lake Tributary (2005)			Camp Lake Tributary (2005) Overall (n = 3)								Sheardown Lake Trib 1 Reach 2 (2005)	
Site ID	FS-01	K0-01	J0-01									D1-01	
Reach/Location	Trib 1 Reach 1	Trib 2 Reach 2	Lake Outlet Stream	Sum	Mean	Median	%[1]	SD	SE	Min	Max	Trib 1 Reach 2	%[1]
S.F. Diamesinae	0	0	0	0	0	0	0	0	0	0	0	0	0
Diamesa	4	10	6	21	7	6	4	3	2	4	10	0	0
Protanypus	0	0	0	0	0	0	0	0	0	0	0	0	0
Pseudodiamesa	0	0	0	0	0	0	0	0	0	0	0	0	0
Pseudokiefferiella	16	6	0	23	8	6	4	8	5	0	16	82	14
S.F. Orthocladiinae	0	0	0	0	0	0	0	0	0	0	0	0	0
Abiskomyia	0	0	0	0	0	0	0	0	0	0	0	0	0
?Acricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0
Chaetocladius	0	2	0	2	1	0	0	1	1	0	2	0	0
Corynoneura	0	0	0	0	0	0	0	0	0	0	0	0	0
Cricotopus	31	0	0	31	10	0	6	18	10	0	31	85	15
Cricotopus/Orthocladius	0	0	2	2	1	0	0	1	1	0	2	0	0
Diplocladius	0	0	0	0	0	0	0	0	0	0	0	0	0
?Eukiefferiella	0	0	0	0	0	0	0	0	0	0	0	0	0
Heterotrissocladius	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydrobaenus sp. 0	0	0	0	0	0	0	0	0	0	0	0	0	0
Krenosmittia	2	0	0	2	1	0	0	1	1	0	2	0	0
Limnophyes	0	4	0	4	1	0	1	2	1	0	4	0	0
?Limnophyes sp. A	0	0	0	0	0	0	0	0	0	0	0	0	0
Mesocricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0
Metriocnemus	0	0	0	0	0	0	0	0	0	0	0	0	0
Orthocladius (Euorthocladius)	2	0	0	2	1	0	0	1	1	0	2	0	0
Paracladius	0	0	0	0	0	0	0	0	0	0	0	0	0
Parakiefferiella	0	0	0	0	0	0	0	0	0	0	0	0	0
Paralimnophyes	0	0	0	0	0	0	0	0	0	0	0	0	0
Psectrocladius	0	0	0	0	0	0	0	0	0	0	0	0	0
Pseudosmittia	2	0	0	2	1	0	0	1	1	0	2	41	7
Rheocricotopus	0	0	0	0	0	0	0	0	0	0	0	0	0
Synorthocladius	0	0	0	0	0	0	0	0	0	0	0	0	0
Thienemanniella	2	0	0	2	1	0	0	1	1	0	2	0	0
Tokunagaia	0	0	0	0	0	0	0	0	0	0	0	0	0
Tvetenia	268	6	19	293	98	19	53	148	85	6	268	153	27
Zalutschia	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate A	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate B	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	0	0
S.F. Podonominae	0	0	0	0	0	0	0	0	0	0	0	0	0
Trichotanypus	0	0	0	0	0	0	0	0	0	0	0	0	0
S.F. Tanypodinae	0	0	0	0	0	0	0	0	0	0	0	0	0
Arctopelopia	0	0	0	0	0	0	0	0	0	0	0	0	0
Procladius	0	0	0	0	0	0	0	0	0	0	0	2	0
Thienemannimyia complex	0	0	0	0	0	0	0	0	0	0	0	0	0
indeterminate	0	0	0	0	0	0	0	0	0	0	0	8	1
F. Empididae	0	0	0	0	0	0	0	0	0	0	0	0	0
Clinocera	0	0	0	0	0	0	0	0	0	0	0	0	0
Empididae pupae	0	0	0	0	0	0	0	0	0	0	0	0	0
F. Ephydridae	0	0	0	0	0	0	0	0	0	0	0	0	0
Muscidae	0	0	0	0	0	0	0	0	0	0	0	0	0
Simuliidae	14	12	2	29	10	12	5	7	4	2	14	8	1
F. Tipulidae	0	0	0	0	0	0	0	0	0	0	0	0	0
Dicranota	0	0	0	0	0	0	0	0	0	0	0	0	0
Ormosia	0	0	0	0	0	0	0	0	0	0	0	0	0
Tipula	37	12	0	49	16	12	9	19	11	0	37	43	8
Total Benthic Invertebrates	414	103	39	557	186	103	100	201	116	39	414	569	100
Taxonomic Richness (Genus-level) [2]	13	10	5	18	--	--	--	--	--	5	13	10	--

1 percent abundance of the overall total.
2 numbers of taxa reported at Genus level; if group identified to higher level, then it was assumed that only one Genus was represented and this possibly resulted in a conservative estimate of number of taxa.
3 total number of taxa observed to Genus-level.

APPENDIX 4.4-1.

DETAILED METHODS FOR ACOUSTIC TAG IMPLANTATION AND MONITORING AND PRESENTATION OF DETAILED FLOY® AND ACOUSTIC TAGGING RESULTS.

Page

Acoustic Tagging Methods

Arctic char selected for acoustic tagging had a minimum fork length of 375 mm and were in good condition to ensure survival following surgery. These fish were collected during experimental gillnetting programs conducted in Camp, Sheardown, Mary, and Angajurjualuk lakes. Tagging candidates were anaesthetized in a solution of clove oil and ethanol according to Peake (1998). The clove oil was first dissolved in ethanol at a ratio of 1:10 (approximately 3 mL clove oil : 27 mL ethanol) and the solution was mixed into approximately 30 L of lake water. Fish were placed in the anaesthetic solution until they could not maintain an upright position in the water and then were placed onto a V-shaped surgical table, ventral side up. As anaesthetized fish are unable to ventilate on their own, fresh water was continually pumped over the gills during the surgical procedure.

A mid-ventral incision, approximately 2 cm in length, was made through the body wall of the fish using a sterilized 30 mm long scalpel. The acoustic transmitter, sterilized in alcohol, was then inserted into the body cavity of the fish, and gently pushed forward to avoid stressing the incision. The incision was closed using three chromic gut sutures (#3) and then the fish was placed in a tank of lake water until they were able to maintain equilibrium and had regained their strength and mobility before being released.

Individually coded model V13 acoustic transmitters supplied by VEMCO Ltd. (Halifax, Nova Scotia; www.vemco.com) were surgically implanted into fish. The transmitters measured 36 mm in length, 13 mm in diameter, weighed 6 g in water, and had a battery life expectancy of about two years. These transmitters emit a pulse train every 50 – 150 seconds to minimize simultaneous pulse train transmissions by other acoustic transmitters in the immediate area.

To monitor movements of acoustically tagged fish in 2007 and 2008, stationary VR2 acoustic receivers, also supplied by VEMCO Ltd., were set at single locations in Camp Lake, the southeast basin of Sheardown Lake, and the north basin of Mary Lake and at three locations in the south basin of Mary Lake (mid-basin, near the Mary River inflow, and near the Mary River outflow). An additional receiver was set in Angajurjualuk Lake near the inflow of Mary River in 2007 only. Receivers were installed from late July to mid- September in 2007 and early May to early September in 2008. Data were downloaded from the receivers within a few days after deployment and again after approximately one month to confirm that they were working properly. All receivers were removed prior to freeze-up to avoid damage from ice and all data were downloaded.

Stationary receivers operate with an omni-directional hydrophone and internal data logger. The omni-directional hydrophone detects the pulse train transmitted from active transmitters within

its range of detection, which may vary depending on conditions (i.e.; range of detection decreases with increasing current and "noise"). At each stationary receiver location, a coated steel cable attached to a king anchor was held vertically in the water column by a large float. Stationary receivers were attached via steel brackets to the cable and lowered into the water using a second float line. A U-bolt attached to the cable approximately 2m off the lake bottom served as a stopper. This set-up allowed each receiver to be held vertically in the water column and allowed for the receivers to be pulled up the anchor cable with relative ease while eliminating the need to pull the anchor. This also ensured that following each download, receivers would be repositioned in the same location and at the same depth. Stationary receivers recorded the transmitter code number, date, and time of detection in an internal data logger until downloaded by an IBM/PC/AT computer. A VR1PC computer interface (VEMCO Ltd.) was used to transfer data between receiver and computer.

Peake, S.J. 1998. Sodium bicarbonate and clove oil as potential anaesthetics for non-salmonid fishes. North American Journal of Fisheries Management 18:919-924.

Floy® Tagging Results

The following tables (tables A4.4-1.1 and A4.4-1.2) present detailed biological and recapture information for fish marked with Floy® tags in waterbodies in the Mine Area from 2006-2008.

Table A4.4-1.1. Tag and biological information for Arctic char marked with Floy® tags in lakes in the Mine Area, 2006-2008.

Prefix	Tag No.	Date Tagged	Fish No.	Tagging Location[1]	Fork Length (mm)	Weight (g)
NSC	75619	9-Aug-06	268	CL	459	800
NSC	75620	9-Aug-06	269	CL	360	300
NSC	75621	9-Aug-06	271	CL	310	250
NSC	79843	03-Sep-08	1	SL-NW	391	600
NSC	79844	03-Sep-08	2	SL-NW	309	320
NSC	79845	03-Sep-08	4	SL-NW	338	350
NSC	79846	03-Sep-08	5	SL-NW	276	250
NSC	79847	04-Sep-08	6	SL-SE	395	650
NSC	79848	04-Sep-08	8	SL-SE	430	1200
NSC	79849	04-Sep-08	9	SL-SE	398	700
NSC	79850	04-Sep-08	11	SL-SE	390	675
NSC	83201	30-Jul-07	264	ML-S	373	500
NSC	83202	30-Jul-07	266	ML-S	414	625
NSC	83203	30-Jul-07	267	ML-S	387	550
NSC	83204	30-Jul-07	268	ML-S	392	600
NSC	83205	30-Jul-07	269	ML-S	416	625
NSC	83206	30-Jul-07	270	ML-S	401	600
NSC	83207	30-Jul-07	271	ML-S	395	550
NSC	83208	30-Jul-07	272	ML-S	398	500
NSC	83209	30-Jul-07	273	ML-S	429	700
NSC	83210	30-Jul-07	274	ML-S	413	600
NSC	83211	30-Jul-07	276	ML-S	408	475
NSC	83212	30-Jul-07	277	ML-S	422	550
NSC	83213	30-Jul-07	280	ML-S	392	500
NSC	83214	30-Jul-07	281	ML-S	397	550
NSC	83215	30-Jul-07	282	ML-S	396	600
NSC	83216	30-Jul-07	283	ML-S	240	100
NSC	83217	30-Jul-07	286	ML-S	436	725
NSC	83218	30-Jul-07	288	ML-S	326	400
NSC	83219	30-Jul-07	289	ML-S	403	650
NSC	83220	30-Jul-07	290	ML-S	408	500
NSC	83221	30-Jul-07	291	ML-S	413	575
NSC	83222	30-Jul-07	292	ML-S	497	1100
NSC	83223	30-Jul-07	293	ML-S	357	400
NSC	83224	30-Jul-07	294	ML-S	414	625
NSC	83225	30-Jul-07	298	ML-S	368	450
NSC	83226	30-Jul-07	299	ML-S	421	450
NSC	83227	30-Jul-07	300	ML-S	417	625
NSC	83228	30-Jul-07	301	ML-S	431	625
NSC	83229	30-Jul-07	302	ML-S	430	700
NSC	83230	30-Jul-07	309	ML-S	402	525
NSC	83231	30-Jul-07	310	ML-S	434	575
NSC	83232	30-Jul-07	311.1	ML-S	409	625
NSC	83233	30-Jul-07	312.2	ML-S	410	575

Table A4.4-1.1. Continued.

Prefix	Tag No.	Date Tagged	Fish No.	Tagging Location[1]	Fork Length (mm)	Weight (g)
NSC	83234	30-Jul-07	313	ML-S	283	150
NSC	83235	30-Jul-07	314	ML-S	381	400
NSC	83236	30-Jul-07	315	ML-S	390	550
NSC	83237	30-Jul-07	316	ML-S	455	625
NSC	83238	30-Jul-07	317	ML-S	406	550
NSC	83239	30-Jul-07	318	ML-S	413	625
NSC	83240	30-Jul-07	319	ML-S	412	575
NSC	83241	30-Jul-07	320	ML-S	393	575
NSC	83242	30-Jul-07	321	ML-S	390	500
NSC	83243	30-Jul-07	322	ML-S	390	500
NSC	83244	30-Jul-07	323	ML-S	436	800
NSC	83245	30-Jul-07	324	ML-S	411	625
NSC	83246	30-Jul-07	328	ML-S	413	600
NSC	83247	30-Jul-07	330	ML-S	429	650
NSC	83248	30-Jul-07	331	ML-S	300	250
NSC	83249	30-Jul-07	332	ML-S	376	450
NSC	83250	30-Jul-07	335	ML-S	427	725
NSC	83251	30-Jul-07	336	ML-S	382	600
NSC	83252	30-Jul-07	337	ML-S	408	625
NSC	83253	30-Jul-07	341	ML-S	387	500
NSC	83254	30-Jul-07	342	ML-S	222	100
NSC	83255	30-Jul-07	344	ML-S	321	300
NSC	83256	30-Jul-07	345	ML-S	363	325
NSC	83257	30-Jul-07	346	ML-S	357	400
NSC	83258	30-Jul-07	347	ML-S	373	525
NSC	83259	30-Jul-07	348	ML-S	671	3050
NSC	83260	30-Jul-07	349	ML-S	351	400
NSC	83261	30-Jul-07	350	ML-S	388	400
NSC	83262	30-Jul-07	351	ML-S	378	475
NSC	83263	31-Jul-07	353	AL	382	500
NSC	83264	31-Jul-07	354	AL	440	675
NSC	83265	31-Jul-07	355	AL	412	650
NSC	83266	31-Jul-07	356	AL	403	550
NSC	83267	31-Jul-07	359	AL	368	500
NSC	83268	31-Jul-07	360	AL	374	400
NSC	83269	31-Jul-07	360.1	AL	357	400
NSC	83270	31-Jul-07	361	AL	391	375
NSC	83271	31-Jul-07	362	AL	388	500
NSC	83272	31-Jul-07	363	AL	410	500
NSC	83273	31-Jul-07	364	AL	396	450
NSC	83274	31-Jul-07	365	AL	398	425
NSC	83275	31-Jul-07	366	AL	437	575
NSC	83276	31-Jul-07	367	AL	377	400
NSC	83277	31-Jul-07	368	AL	349	250
NSC	83278	31-Jul-07	369	AL	421	550
NSC	83279	31-Jul-07	371	AL	447	800

Table A4.4-1.1. Continued.

Prefix	Tag No.	Date Tagged	Fish No.	Tagging Location[1]	Fork Length (mm)	Weight (g)
NSC	83280	31-Jul-07	372	AL	364	425
NSC	83281	31-Jul-07	373	AL	391	500
NSC	83282	31-Jul-07	374	AL	401	450
NSC	83283	31-Jul-07	378	AL	412	650
NSC	83284	31-Jul-07	376	AL	334	350
NSC	83285	31-Jul-07	377	AL	438	800
NSC	83286	31-Jul-07	379	AL	357	400
NSC	83287	31-Jul-07	375	AL	446	850
NSC	83288	31-Jul-07	380	AL	441	650
NSC	83289	31-Jul-07	382	AL	428	625
NSC	83290	31-Jul-07	384	AL	372	450
NSC	83291	31-Jul-07	386	AL	324	300
NSC	83292	31-Jul-07	387	AL	417	550
NSC	83293	31-Jul-07	388	AL	348	375
NSC	83294	31-Jul-07	390	AL	347	400
NSC	83295	31-Jul-07	391	AL	392	400
NSC	83296	31-Jul-07	393	AL	411	525
NSC	83297	1-Aug-07	394	AL	418	525
NSC	83298	1-Aug-07	395	AL	397	500
NSC	83299	1-Aug-07	396	AL	516	1300
NSC	83300	1-Aug-07	398	AL	388	450
NSC	83302	1-Aug-07	399	AL	263	125
NSC	83303	1-Aug-07	400	AL	392	500
NSC	83304	1-Aug-07	401	AL	387	425
NSC	83305	1-Aug-07	403	AL	392	400
NSC	83306	1-Aug-07	404	AL	369	400
NSC	83307	1-Aug-07	406	AL	417	525
NSC	83308	1-Aug-07	409	AL	403	525
NSC	83309	1-Aug-07	411	AL	434	575
NSC	83310	1-Aug-07	412	AL	393	525
NSC	83311	1-Aug-07	413	AL	391	500
NSC	83312	1-Aug-07	414	AL	438	625
NSC	83313	1-Aug-07	416	AL	395	475
NSC	83314	1-Aug-07	417	AL	440	625
NSC	83315	1-Aug-07	418	AL	404	500
NSC	83316	1-Aug-07	421	AL	446	700
NSC	83317	1-Aug-07	422	AL	392	475
NSC	83318	1-Aug-07	423	AL	392	475
NSC	83319	1-Aug-07	424	AL	351	300
NSC	83320	1-Aug-07	426	AL	353	200
NSC	83321	1-Aug-07	427	AL	421	450
NSC	83322	1-Aug-07	428	AL	428	700
NSC	83323	1-Aug-07	429	AL	393	475
NSC	83324	1-Aug-07	430	AL	394	500
NSC	83325	1-Aug-07	431	AL	423	475

Table A4.4-1.1. Continued.

Prefix	Tag No.	Date Tagged	Fish No.	Tagging Location[1]	Fork Length (mm)	Weight (g)
NSC	83326	1-Aug-07	432	AL		
NSC	83327	1-Aug-07	433	AL	543	900
NSC	83328	1-Aug-07	434	AL	433	625
NSC	83329	1-Aug-07	435	AL	442	675
NSC	83330	1-Aug-07	436	AL	427	600
NSC	83331	1-Aug-07	437	AL	400	475
NSC	83332	1-Aug-07	438	AL	462	1050
NSC	83333	1-Aug-07	439	AL	423	650
NSC	83334	1-Aug-07	443	AL	434	700
NSC	83335	1-Aug-07	444	AL	382	450
NSC	83336	1-Aug-07	442	AL	433	725
NSC	83337	1-Aug-07	441	AL	444	700
NSC	83338	1-Aug-07	440	AL	500	1200
NSC	83339	1-Aug-07	446	AL	432	650
NSC	83340	1-Aug-07	447	AL	412	450
NSC	83341	1-Aug-07	448	AL	500	1150
NSC	83342	1-Aug-07	449	AL	471	700
NSC	83343	1-Aug-07	450	AL	634	2100
NSC	83344	1-Aug-07	451	AL	368	400
NSC	83345	1-Aug-07	452	AL	400	500
NSC	83346	1-Aug-07	453	AL	412	600
NSC	83347	1-Aug-07	454	AL	432	625
NSC	83348	1-Aug-07	455	AL	514	1450
NSC	83349	1-Aug-07	456	AL	408	550
NSC	83350	1-Aug-07	457	AL	402	400
NSC	85001	23-Jul-07	1	CL	540	1450
NSC	85002	23-Jul-07	2	CL	316	400
NSC	85003	23-Jul-07	5	CL	353	450
NSC	85004	23-Jul-07	6	CL	353	450
NSC	85005	23-Jul-07	7	CL	307	250
NSC	85006	23-Jul-07	8	CL	329	350
NSC	85007	23-Jul-07	9	CL	330	275
NSC	85008	23-Jul-07	10	CL	326	275
NSC	85009	23-Jul-07	11	CL	346	400
NSC	85010	23-Jul-07	12	CL	327	375
NSC	85011	23-Jul-07	13	CL	296	300
NSC	85012	23-Jul-07	14	CL	303	275
NSC	85013	23-Jul-07	16	CL	336	400
NSC	85014	23-Jul-07	18	CL	543	1500
NSC	85015	23-Jul-07	19	CL	252	100
NSC	85016	23-Jul-07	21	CL	301	250
NSC	85017	23-Jul-07	22	CL	627	2850
NSC	85018	23-Jul-07	23	CL	276	125
NSC	85019	23-Jul-07	24	CL	243	150
NSC	85020	23-Jul-07	25	CL	324	275
NSC	85021	23-Jul-07	26	CL	242	175

Table A4.4-1.1. Continued.

Prefix	Tag No.	Date Tagged	Fish No.	Tagging Location[1]	Fork Length (mm)	Weight (g)
NSC	85022	23-Jul-07	27	CL	286	225
NSC	85023	23-Jul-07	28	CL	243	175
NSC	85024	23-Jul-07	29	CL	266	175
NSC	85025	24-Jul-07	36	CL	682	3050
NSC	85026	24-Jul-07	37	CL	410	650
NSC	85027	24-Jul-07	41	CL	611	2100
NSC	85028	24-Jul-07	43	CL	321	300
NSC	85029	24-Jul-07	44	CL	312	325
NSC	85030	24-Jul-07	45	CL	330	400
NSC	85031	24-Jul-07	46	CL	309	275
NSC	85032	24-Jul-07	47	CL	576	1875
NSC	85033	24-Jul-07	48	CL	406	625
NSC	85034	24-Jul-07	49	CL	271	150
NSC	85035	24-Jul-07	50	CL	342	425
NSC	85036	24-Jul-07	51	CL	313	325
NSC	85037	24-Jul-07	52	CL	348	425
NSC	85038	24-Jul-07	53	CL	310	425
NSC	85039	24-Jul-07	54	CL	351	425
NSC	85040	24-Jul-07	55	CL	378	500
NSC	85041	24-Jul-07	56	CL	374	425
NSC	85042	24-Jul-07	57	CL	278	250
NSC	85043	24-Jul-07	58	CL	316	300
NSC	85044	24-Jul-07	61	CL	312	350
NSC	85045	24-Jul-07	62	CL	382	500
NSC	85046	24-Jul-07	63	CL	337	400
NSC	85047	24-Jul-07	64	CL	343	325
NSC	85048	24-Jul-07	65	CL	322	375
NSC	85049	24-Jul-07	66	CL	321	350
NSC	85050	24-Jul-07	67	CL	317	325
NSC	85051	24-Jul-07	68	CL	361	500
NSC	85052	24-Jul-07	75	CL	318	350
NSC	85053	24-Jul-07	76	CL	520	1150
NSC	85054	24-Jul-07	77	CL	402	500
NSC	85055	24-Jul-07	78	CL	346	375
NSC	85056	24-Jul-07	79	CL	373	350
NSC	85057	24-Jul-07	80	CL	392	475
NSC	85058	25-Jul-07	83	CL	268	225
NSC	85059	25-Jul-07	85	CL	343	425
NSC	85060	26-Jul-07	106	ML-N	389	625
NSC	85061	25-Jul-07	87	CL	292	275
NSC	85062	25-Jul-07	88	CL	398	475
NSC	85063	25-Jul-07	89	CL	323	375
NSC	85064	25-Jul-07	90	CL	364	375
NSC	85065	25-Jul-07	91	CL	274	175
NSC	85066	26-Jul-07	92	ML-N	333	400

Table A4.4-1.1. Continued.

Prefix	Tag No.	Date Tagged	Fish No.	Tagging Location[1]	Fork Length (mm)	Weight (g)
NSC	85067	26-Jul-07	93	ML-N	403	500
NSC	85068	26-Jul-07	94	ML-N	353	500
NSC	85069	26-Jul-07	95	ML-N	340	400
NSC	85070	26-Jul-07	96	ML-N	339	400
NSC	85071	26-Jul-07	108	ML-N	458	850
NSC	85072	26-Jul-07	105	ML-N	341	475
NSC	85074	26-Jul-07	103	ML-N	369	575
NSC	85075	26-Jul-07	104	ML-N	400	650
NSC	85076	26-Jul-07	109	ML-N	386	450
NSC	85077	26-Jul-07	111	ML-N	378	350
NSC	85078	26-Jul-07	112	ML-N	416	675
NSC	85079	26-Jul-07	113	ML-N	398	650
NSC	85080	26-Jul-07	114	ML-N	387	475
NSC	85081	26-Jul-07	115	ML-N	367	525
NSC	85082	26-Jul-07	116	ML-N	394	525
NSC	85083	26-Jul-07	117	ML-N	408	500
NSC	85084	26-Jul-07	118	ML-N	357	475
NSC	85085	26-Jul-07	119	ML-N	394	500
NSC	85086	26-Jul-07	120	ML-N	397	525
NSC	85087	26-Jul-07	121	ML-N	367	450
NSC	85088	26-Jul-07	122	ML-N	372	450
NSC	85089	26-Jul-07	123	ML-N	425	700
NSC	85090	26-Jul-07	124	ML-N	391	600
NSC	85091	26-Jul-07	125	ML-N	423	625
NSC	85092	26-Jul-07	126	ML-N	396	525
NSC	85093	26-Jul-07	127	ML-N	446	575
NSC	85094	26-Jul-07	128	ML-N	408	650
NSC	85095	26-Jul-07	129	ML-N	393	575
NSC	85096	26-Jul-07	130	ML-N	403	625
NSC	85097	26-Jul-07	132.1	ML-N	433	600
NSC	85098	26-Jul-07	132.2	ML-N	402	600
NSC	85099	26-Jul-07	133.2	ML-N	402	425
NSC	85100	26-Jul-07	134.2	ML-N	388	550
NSC	85251	26-Jul-07	135.2	ML-N	361	450
NSC	85252	26-Jul-07	136.2	ML-N	383	450
NSC	85253	26-Jul-07	137.2	ML-N	412	425
NSC	85254	26-Jul-07	138.2	ML-N	356	450
NSC	85255	26-Jul-07	143.2	ML-N	401	500
NSC	85256	26-Jul-07	144.2	ML-N	340	350
NSC	85257	26-Jul-07	145.2	ML-N	432	675
NSC	85258	26-Jul-07	146.2	ML-N	383	550
NSC	85259	26-Jul-07	147.2	ML-N	392	550
NSC	85260	26-Jul-07	151.2	ML-N	403	425
NSC	85261	26-Jul-07	152.2	ML-N	410	425
NSC	85262	26-Jul-07	153.2	ML-N	399	500
NSC	85263	26-Jul-07	154.2	ML-N	407	500

Table A4.4-1.1. Continued.

Prefix	Tag No.	Date Tagged	Fish No.	Tagging Location[1]	Fork Length (mm)	Weight (g)
NSC	85264	26-Jul-07	156.2	ML-N	396	525
NSC	85265	26-Jul-07	157.2	ML-N	393	550
NSC	85266	26-Jul-07	158.2	ML-N	362	450
NSC	85267	26-Jul-07	159.2	ML-N	409	700
NSC	85268	26-Jul-07	160.2	ML-N	388	500
NSC	85269	26-Jul-07	161.2	ML-N	421	675
NSC	85270	26-Jul-07	162.2	ML-N	394	500
NSC	85271	26-Jul-07	163.2	ML-N	434	625
NSC	85272	26-Jul-07	164.2	ML-N	388	600
NSC	85273	26-Jul-07	165.2	ML-N	386	475
NSC	85274	26-Jul-07	166.2	ML-N	376	525
NSC	85275	26-Jul-07	167.2	ML-N	333	350
NSC	85276	26-Jul-07	168.2	ML-N	322	400
NSC	85277	26-Jul-07	169.2	ML-N	428	500
NSC	85278	26-Jul-07	170.2	ML-N	353	425
NSC	85280	26-Jul-07	172.2	ML-N	358	425
NSC	85281	26-Jul-07	173.2	ML-N	376	475
NSC	85282	26-Jul-07	176.2	ML-N	394	525
NSC	85283	26-Jul-07	177.2	ML-N	398	500
NSC	85284	26-Jul-07	178.2	ML-N	344	450
NSC	85285	26-Jul-07	180.2	ML-N	352	375
NSC	85286	27-Jul-07	181.2	ML-N	321	325
NSC	85287	27-Jul-07	182.2	ML-N	413	425
NSC	85288	27-Jul-07	184.2	ML-N	408	450
NSC	85289	27-Jul-07	185.2	ML-N	428	700
NSC	85290	27-Jul-07	186.2	ML-N	401	625
NSC	85291	27-Jul-07	187.2	ML-N	397	575
NSC	85292	27-Jul-07	188.2	ML-N	398	500
NSC	85293	27-Jul-07	189.2	ML-N	402	550
NSC	85294	28-Jul-07	190	ML-S	341	450
NSC	85295	28-Jul-07	191	ML-S	363	450
NSC	85296	28-Jul-07	193	ML-S	390	500
NSC	85297	28-Jul-07	194	ML-S	394	675
NSC	85298	28-Jul-07	195	ML-S	468	850
NSC	85299	28-Jul-07	196	ML-S	413	700
NSC	85300	28-Jul-07	197	ML-S	422	525
NSC	85485	3-Aug-07	610	SL-SE	367	450
NSC	85486	3-Aug-07	611	SL-SE	393	600
NSC	85487	3-Aug-07	612	SL-SE	372	500
NSC	85488	3-Aug-07	613	SL-SE	377	450
NSC	85501	28-Jul-07	198	ML-S	383	450
NSC	85502	28-Jul-07	201	ML-S	403	650
NSC	85503	28-Jul-07	202	ML-S	411	600
NSC	85504	28-Jul-07	203	ML-S	389	450
NSC	85505	28-Jul-07	207	ML-S	392	550

Table A4.4-1.1. Continued.

Prefix	Tag No.	Date Tagged	Fish No.	Tagging Location[1]	Fork Length (mm)	Weight (g)
NSC	85506	29-Jul-07	208	ML-S	372	500
NSC	85507	29-Jul-07	211	ML-S	391	500
NSC	85508	29-Jul-07	212	ML-S	357	425
NSC	85509	29-Jul-07	215	ML-S	409	600
NSC	85510	29-Jul-07	216	ML-S	384	525
NSC	85511	29-Jul-07	217	ML-S	402	550
NSC	85512	29-Jul-07	219	ML-S	268	200
NSC	85513	29-Jul-07	220	ML-S	417	700
NSC	85514	29-Jul-07	221	ML-S	391	650
NSC	85515	29-Jul-07	222	ML-S	457	825
NSC	85516	29-Jul-07	223	ML-S	372	500
NSC	85517	29-Jul-07	224	ML-S	383	525
NSC	85518	29-Jul-07	225	ML-S	215	75
NSC	85519	29-Jul-07	227	ML-S	207	75
NSC	85520	29-Jul-07	228	ML-S	468	1000
NSC	85521	29-Jul-07	229	ML-S	530	1500
NSC	85522	29-Jul-07	230	ML-S	590	1675
NSC	85523	29-Jul-07	231	ML-S	435	700
NSC	85524	29-Jul-07	232	ML-S	434	725
NSC	85525	29-Jul-07	233	ML-S	402	675
NSC	85526	29-Jul-07	234	ML-S	381	550
NSC	85527	29-Jul-07	235	ML-S	418	575
NSC	85528	29-Jul-07	236	ML-S	358	450
NSC	85529	29-Jul-07	237	ML-S	382	500
NSC	85530	29-Jul-07	238	ML-S	389	500
NSC	85531	29-Jul-07	239	ML-S	354	400
NSC	85532	29-Jul-07	241	ML-S	315	300
NSC	85533	29-Jul-07	242	ML-S	422	725
NSC	85534	29-Jul-07	243	ML-S	407	650
NSC	85535	29-Jul-07	246	ML-S	377	400
NSC	85536	29-Jul-07	247	ML-S	268	150
NSC	85537	29-Jul-07	248	ML-S	643	2550
NSC	85538	29-Jul-07	249	ML-S	388	600
NSC	85539	29-Jul-07	250	ML-S	432	750
NSC	85540	29-Jul-07	251	ML-S	367	500
NSC	85541	30-Jul-07	254	ML-S	350	400
NSC	85542	30-Jul-07	255	ML-S	397	525
NSC	85543	30-Jul-07	256	ML-S	447	625
NSC	85544	30-Jul-07	257	ML-S	363	425
NSC	85545	30-Jul-07	258	ML-S	392	625
NSC	85546	30-Jul-07	259	ML-S	361	450
NSC	85547	30-Jul-07	260	ML-S	427	600
NSC	85548	30-Jul-07	261	ML-S	405	600
NSC	85549	30-Jul-07	262	ML-S	432	550
NSC	85550	30-Jul-07	263	ML-S	392	575
NSC	85904	1-Aug-07	458	AL	403	400

Table A4.4-1.1. Continued.

Prefix	Tag No.	Date Tagged	Fish No.	Tagging Location[1]	Fork Length (mm)	Weight (g)
NSC	85905	1-Aug-07	459	AL	353	400
NSC	85906	1-Aug-07	460	AL	380	400
NSC	85907	1-Aug-07	461	AL	378	425
NSC	85908	1-Aug-07	462	AL	423	575
NSC	85909	1-Aug-07	463	AL	340	325
NSC	85910	1-Aug-07	464	AL	413	550
NSC	85911	1-Aug-07	465	AL	381	475
NSC	85912	1-Aug-07	466	AL	517	1200
NSC	85913	1-Aug-07	467	AL	416	750
NSC	85914	1-Aug-07	468	AL	405	600
NSC	85915	1-Aug-07	469	AL	371	400
NSC	85916	1-Aug-07	470	AL	380	425
NSC	85917	1-Aug-07	471	AL	443	750
NSC	85918	1-Aug-07	472	AL	387	500
NSC	85919	1-Aug-07	473	AL	438	750
NSC	85920	1-Aug-07	474	AL	432	700
NSC	85921	1-Aug-07	475	AL	390	375
NSC	85922	1-Aug-07	478	AL	373	500
NSC	85923	1-Aug-07	479.1	AL	356	400
NSC	85924	1-Aug-07	480	AL	321	325
NSC	85925	1-Aug-07	481	AL	379	525
NSC	85926	1-Aug-07	482	AL	394	575
NSC	85927	1-Aug-07	485	AL	546	1800
NSC	85928	1-Aug-07	486	AL	395	400
NSC	85929	1-Aug-07	487	AL	352	400
NSC	85930	1-Aug-07	488	AL	430	500
NSC	85931	1-Aug-07	489	AL	382	400
NSC	85932	1-Aug-07	490	AL	598	4150
NSC	85933	1-Aug-07	491	AL	597	4600
NSC	85934	2-Aug-07	500	SL-NW	382	400
NSC	85935	2-Aug-07	501	SL-NW	413	700
NSC	85936	2-Aug-07	502	SL-NW	475	1000
NSC	85937	2-Aug-07	503	SL-NW	380	500
NSC	85938	2-Aug-07	504	SL-NW	377	475
NSC	85939	2-Aug-07	507	SL-NW	571	1050
NSC	85940	2-Aug-07	508	SL-NW	367	400
NSC	85941	2-Aug-07	509	SL-NW	387	675
NSC	85942	2-Aug-07	510	SL-NW	343	375
NSC	85943	2-Aug-07	511	SL-NW	257	100
NSC	85944	2-Aug-07	512.2	SL-NW	517	1225
NSC	85945	2-Aug-07	513	SL-NW	462	800
NSC	85946	2-Aug-07	516	SL-NW	363	350
NSC	85947	2-Aug-07	517	SL-NW	380	400
NSC	85948	2-Aug-07	520	SL-NW	351	375
NSC	85949	2-Aug-07	521	SL-NW	317	300

Table A4.4-1.1. Continued.

Prefix	Tag No.	Date Tagged	Fish No.	Tagging Location[1]	Fork Length (mm)	Weight (g)
NSC	85950	2-Aug-07	522	SL-NW	336	325
NSC	85951	2-Aug-07	523	SL-NW	468	875
NSC	85952	2-Aug-07	524	SL-NW	255	125
NSC	85953	2-Aug-07	526	SL-NW	349	400
NSC	85954	2-Aug-07	527	SL-NW	391	525
NSC	85955	2-Aug-07	528	SL-NW	378	475
NSC	85956	2-Aug-07	529	SL-NW	361	350
NSC	85957	2-Aug-07	531	SL-NW	251	100
NSC	85958	2-Aug-07	532	SL-NW	377	425
NSC	85959	2-Aug-07	533	SL-NW	548	1375
NSC	85960	2-Aug-07	534	SL-NW	382	425
NSC	85961	2-Aug-07	535	SL-NW	400	400
NSC	85962	2-Aug-07	537	SL-NW	350	400
NSC	85963	2-Aug-07	542	SL-NW	587	1800
NSC	85964	2-Aug-07	543	SL-NW	538	1100
NSC	85965	2-Aug-07	544	SL-NW	444	725
NSC	85966	2-Aug-07	545	SL-NW	332	350
NSC	85967	2-Aug-07	546	SL-NW	548	1350
NSC	85968	2-Aug-07	547	SL-NW	340	300
NSC	85969	2-Aug-07	548	SL-NW	401	550
NSC	85970	2-Aug-07	553	SL-NW	384	500
NSC	85971	2-Aug-07	554	SL-NW	273	200
NSC	85972	2-Aug-07	556	SL-NW	450	700
NSC	85973	2-Aug-07	557	SL-NW	385	400
NSC	85974	3-Aug-07	558	SL-NW	391	425
NSC	85975	3-Aug-07	559	SL-NW	327	325
NSC	85976	3-Aug-07	561	SL-NW	234	125
NSC	85977	3-Aug-07	562	SL-NW	260	150
NSC	85978	3-Aug-07	563	SL-NW	268	175
NSC	85979	3-Aug-07	564	SL-NW	361	400
NSC	85980	3-Aug-07	565	SL-NW	530	1175
NSC	85981	3-Aug-07	567	SL-NW	467	750
NSC	85982	3-Aug-07	568	SL-NW	357	475
NSC	85983	3-Aug-07	569	SL-NW	297	300
NSC	85984	3-Aug-07	571	SL-NW	378	500
NSC	85985	3-Aug-07	572	SL-NW	575	1075
NSC	85986	3-Aug-07	575	SL-NW	310	325
NSC	85987	3-Aug-07	576	SL-NW	384	550
NSC	85988	3-Aug-07	577	SL-NW	382	525
NSC	85989	3-Aug-07	578	SL-NW	434	600
NSC	85990	3-Aug-07	579	SL-NW	450	600
NSC	85991	3-Aug-07	580	SL-NW	376	500
NSC	85992	3-Aug-07	581	SL-NW	562	1600
NSC	85993	3-Aug-07	582	SL-NW	370	350
NSC	85994	3-Aug-07	587	SL-SE	363	375
NSC	85995	3-Aug-07	588	SL-SE	386	500

Table A4.4-1.1. Continued.

Prefix	Tag No.	Date Tagged	Fish No.	Tagging Location[1]	Fork Length (mm)	Weight (g)
NSC	85996	3-Aug-07	589	SL-SE	366	450
NSC	85997	3-Aug-07	590	SL-SE	362	425
NSC	85998	3-Aug-07	594	SL-SE	364	500
NSC	85999	3-Aug-07	595	SL-SE	376	500
NSC	86000	3-Aug-07	596	SL-SE	348	475
NSC	86477	3-Aug-07	598	SL-SE	415	700
NSC	86478	3-Aug-07	599	SL-SE	410	700
NSC	86479	3-Aug-07	600	SL-SE	392	700
NSC	86480	3-Aug-07	601	SL-SE	338	375
NSC	86481	3-Aug-07	602	SL-SE	343	400
NSC	86482	3-Aug-07	604	SL-SE	406	600
NSC	86483	3-Aug-07	605	SL-SE	318	250
NSC	86484	3-Aug-07	606	SL-SE	396	600
NSC	88128	04-Sep-08	23	SL-SE	385	675
NSC	88129	04-Sep-08	25	SL-SE	409	700
NSC	88130	04-Sep-08	27	SL-SE	413	800
NSC	88131	04-Sep-08	31	SL-SE	364	460
NSC	88133	04-Sep-08	33	SL-SE	416	675
NSC	88134	04-Sep-08	32	SL-SE	364	450
NSC	88135	04-Sep-08	26	SL-SE	415	850
NSC	88136	04-Sep-08	24	SL-SE	420	700
NSC	88137	04-Sep-08	20	SL-SE	417	750
NSC	88139, 88140	04-Sep-08	22	SL-SE	379	675
NSC	88141	04-Sep-08	19	SL-SE	431	700
NSC	88142	04-Sep-08	21	SL-SE	408	800
NSC	88143	04-Sep-08	17	SL-SE	392	500
NSC	88144	04-Sep-08	16	SL-SE	377	510
NSC	88145	04-Sep-08	15	SL-SE	370	525
NSC	88146	04-Sep-08	14	SL-SE	495	600
NSC	88147	04-Sep-08	13	SL-SE	342	500
NSC	88148	04-Sep-08	12	SL-SE	388	650
NSC	88156	04-Sep-08	52	SL-SE	410	710
NSC	88157	04-Sep-08	50	SL-SE	420	725
NSC	88160	04-Sep-08	49	SL-SE	365	500
NSC	88161	04-Sep-08	48	SL-SE	375	510
NSC	88162	04-Sep-08	47	SL-SE	388	650
NSC	88163	04-Sep-08	46	SL-SE	403	650
NSC	88164	04-Sep-08	45	SL-SE	393	525
NSC	88165	04-Sep-08	44	SL-SE	366	500
NSC	88166	04-Sep-08	43	SL-SE	377	510
NSC	88167	04-Sep-08	42	SL-SE	365	500
NSC	88168	04-Sep-08	41	SL-SE	389	610
NSC	88172	04-Sep-08	37	SL-SE	373	525
NSC	88173	04-Sep-08	34	SL-SE	378	500
NSC	88174	04-Sep-08	36	SL-SE	400	600

Table A4.4-1.1. Continued.

Prefix	Tag No.	Date Tagged	Fish No.	Tagging Location[1]	Fork Length (mm)	Weight (g)
NSC	88175	04-Sep-08	35	SL-SE	378	525
NSC	89101	04-Sep-08	54	SL-SE	355	400
NSC	89102	04-Sep-08	55	SL-SE	338	450
NSC	89103	04-Sep-08	56	SL-SE	380	500
NSC	89104	04-Sep-08	57	SL-SE	418	700
NSC	89105	04-Sep-08	58	SL-SE	410	725
NSC	89106	04-Sep-08	59	SL-SE	428	850
NSC	89107	04-Sep-08	60	SL-SE	410	650
NSC	89108	04-Sep-08	61	SL-SE	363	500
NSC	89109	04-Sep-08	62	SL-SE	345	400
NSC	89111	04-Sep-08	63	SL-SE	380	525
NSC	89113	04-Sep-08	64	SL-SE	385	500
NSC	89114	04-Sep-08	65	SL-SE	384	500
NSC	89117	04-Sep-08	66	SL-SE	315	300
NSC	89118	04-Sep-08	67	SL-SE	385	600
NSC	89119	04-Sep-08	68	SL-SE	375	550
NSC	89120	05-Sep-08	69	CL	350	400
NSC	89121	05-Sep-08	70	CL	385	500
NSC	89122	05-Sep-08	71	CL	391	500
NSC	89123	05-Sep-08	73	CL	745	5600
NSC	89125	05-Sep-08	74	CL	583	2400
NSC	89176	06-Sep-08	75	CL	236	200
NSC	89177	06-Sep-08	76	CL	238	225
NSC	89178	06-Sep-08	77	CL	323	350
NSC	89180	06-Sep-08	80	CL	332	350
NSC	89182	06-Sep-08	81	CL	351	425
NSC	89183	06-Sep-08	83	CL	383	600
NSC	89184	06-Sep-08	84	CL	330	300
NSC	89185	07-Sep-08	87	CL	386	500
NSC	89186	07-Sep-08	88	CL	350	425
NSC	89187	07-Sep-08	89	CL	526	1200
NSC	89188	07-Sep-08	90	CL	430	800
NSC	89189	09-Sep-08	1777	SDLT1	320	250

1 - AL = Angajurjualuk Lake, CL = Camp Lake, ML-N = Mary Lake - North Basin, ML-S = Mary Lake - South Basin, SL-NW = Sheardown Lake – Northwest basin, SL-SE = Sheardown Lake – Southeast basin, SDLT1 = Sheardown Lake Tributary 1

Table A4.4-1.2. Summary of Arctic char marked with Floy® tags and recaptured in waterbodies in the Mine Area, 2006-2008.

Waterbody	Year	No. Fish Tagged	No. Fish Recaptured	Recapture Comments
Angajurjualuk Lake	2007	117	0	
Camp Lake	2006	3	0	
	2007	64	1	Recaptured in hoop net set in CLT2 during fall 2007
	2008	16	0	
Mary Lake - North Basin	2007	77	0	
Mary Lake - South Basin	2007	119	0	
Sheardown Lake[1]	2007	79	1	Recaptured in the same location during fall 2008
	2008	57	0	

1 - One of the fish tagged in the Sheardown Lake watershed in 2008 was captured in a hoop net set at the confluence with Sheardown Lake Tributary #1; all others were captured in gill nets set in the lake

Acoustic Tagging Results

The following tables (tables A4.4-1.3 and A4.4-1.4) present detailed biological and monitoring information for individual fish marked with acoustic tags in waterbodies in the Mine Area from 2007-2008. Detections for individually tagged fish are presented by receiver in Table A4.4-1.4.

Table A4.4-1.3. Movements of acoustically tagged Arctic char within Mine Area lakes during 2007 and 2008.

Acoustic Tag #	Acoustic Code	Floy-tag #	Length (mm)	Weight (g)	Date Tagged	Date Last Detected	Location Tagged	Number of Detections		Interlake / basin Movements	Movement Summary
								2007	2008		
4340	150	85033	406	625	24-Jul-07	10-Sep-08	Camp Lake	835	15325	No	
4341	151	85032	576	1875	24-Jul-07	10-Sep-08	Camp Lake	3234	22429	No	
4342	152	85027	611	2100	24-Jul-07	10-Sep-08	Camp Lake	3403	19768	No	
4347	157	85054	402	500	24-Jul-07	09-Sep-08	Camp Lake	26069	28921	Yes	Moved to ML-N on 23-Aug-07, returned to CL on 7-Jul-08
4348	158	85045	382	500	24-Jul-07	10-Sep-08	Camp Lake	1484	26794	No	
4349	159	85053	520	1150	24-Jul-07	07-Sep-08	Camp Lake	18963	40771	No	
4393	203	85025	682	3050	24-Jul-07	10-Sep-08	Camp Lake	3433	17221	No	
4454	1179	85026	410	650	24-Jul-07	10-Sep-08	Camp Lake	8988	68440	No	
5317	1150	85017	627	2850	23-Jul-07	30-Aug-08	Camp Lake	2759	9872	No	
4345	155	85292	398	500	27-Jul-07	10-Sep-08	Mary Lake - N	22037	10922	Yes	Moved to ML-S sometime between 20-Jul and 20-Aug-08, returned to ML-N by 22-Aug-08
4346	156	85291	397	575	27-Jul-07	10-Sep-08	Mary Lake - N	22536	12754	No	
4350	160	85290	401	625	27-Jul-07	22-Aug-08	Mary Lake - N	13986	12051	Yes	Moved from ML-N to ML-S on 8-Jul-08, returned by 15-Jul-08
4351	161	85071	458	850	26-Jul-07	10-Sep-08	Mary Lake - N	17085	25965	Yes	Moved from ML-N to ML-S on 25-Jul-08, moved between receivers within ML-S until returning to ML-N on 23-Aug-08
4352	162	85503	411	600	28-Jul-07	05-Sep-08	Mary Lake - S	1595	22747	No	Moved between receivers within ML-S
4353	163	85504	389	450	28-Jul-07	10-Sep-08	Mary Lake - S	12083	25087	Yes	Moved to ML-N from 24-Jun to 4-Jul-08 and then returned to ML-S; Moved between receivers in ML-S remainder of the time in 2007 and 2008
4354	164	85505	392	550	28-Jul-07	24-Aug-08	Mary Lake - S	9018	1	No	Only one hit in 2008, on 24-Aug
4355	165	85513	417	700	29-Jul-07	12-Sep-08	Mary Lake - S	13288	21976	No	Moved between receivers within ML-S
4356	166	85522	590	1675	29-Jul-07	12-Sep-08	Mary Lake - S	21261	26167	No	Moved between receivers within ML-S
4357	167	85509	409	600	29-Jul-07	25-Aug-07	Mary Lake - S	9318	0	No	Moved between receivers within ML-S in 2007; not observed in 2008
4358	168	85511	402	550	29-Jul-07	12-Sep-08	Mary Lake - S	28177	53175	No	Moved between receivers within ML-S

Table A4.4-1.3. Continued.

Acoustic Tag #	Acoustic Code	Floy-tag #	Length (mm)	Weight (g)	Date Tagged	Date Last Detected	Location Tagged	Number of Detections		Interlake / basin Movements	Movement Summary
								2007	2008		
4359	169	85521	530	1500	29-Jul-07	12-Sep-08	Mary Lake - S	14458	11221	Yes	Moved to ML-N from 23-Jun to 29-Jun-08, returned to ML-S for ~ half a day on 29-Jun, moved back to ML-N until 12-Jul, returned to ML-S for the remainder of the survey in 2008; Moved between receivers in ML-S the remainder of the time in 07 and 08
4360	170	85520	468	1000	29-Jul-07	08-Sep-08	Mary Lake - S	12398	15832	No	Moved between receivers within ML-S
4384	194	85515	457	825	29-Jul-07	12-Sep-08	Mary Lake - S	16418	10895	No	Moved between receivers within ML-S
4361	171	85936	475	1000	02-Aug-07	07-Sep-07	Sheardown Lake - NW	3033	0	Yes?	There were an additional 354 hits at the Mary Lake @ Mary River Inlet receiver on July 22, 07. This fish was not recorded in Sheardown Lake until Aug, 07. These hits may indicate this fish spent time in Mary River during July. Possibly returned to and remained in the northwest basin of Sheardown Lake in 2008.
4362	172	85935	413	700	02-Aug-07	10-Sep-08	Sheardown Lake - NW	6206	34076	Yes?	Recorded in the SE in Aug-Sep, 07 and 08 and May-June, 08 - in the NW the remainder of the time?
4363	173	85951	468	875	02-Aug-07	15-Aug-08	Sheardown Lake - NW	2	636	Yes?	NW Basin in 2007? SE only from 8-15 Aug 2008, NW basin the rest of the time in 08?
4364	174	85944	517	1225	02-Aug-07	N/A	Sheardown Lake - NW	0	0	No	Stayed in northwest basin both years?
4367	177	85939	571	1050	02-Aug-07	10-Sep-07	Sheardown Lake - NW	3120	0	Yes?	Mainly in SE only during late Aug-Sep 07. Stayed in northwest basin in 2008?
4371	181	85959	548	1375	02-Aug-07	26-Aug-08	Sheardown Lake - NW	2582	472	Yes?	SE basin in Aug both years - NW basin the rest of the time?
4379	189	85963	587	1800	02-Aug-07	12-Aug-08	Sheardown Lake - NW	3317	4097	Yes?	SE from mid to late Aug, 07 and 2-Jul to 12-Aug, 08 - NW rest of the time?
4385	195	85945	462	800	02-Aug-07	N/A	Sheardown Lake - NW	0	0	No	Stayed in northwest basin both years?

Table A4.4-1.4. Movements of acoustically tagged Arctic char detected in lakes in the Mary River Mine and Camp Study Area during 2007 and 2008.

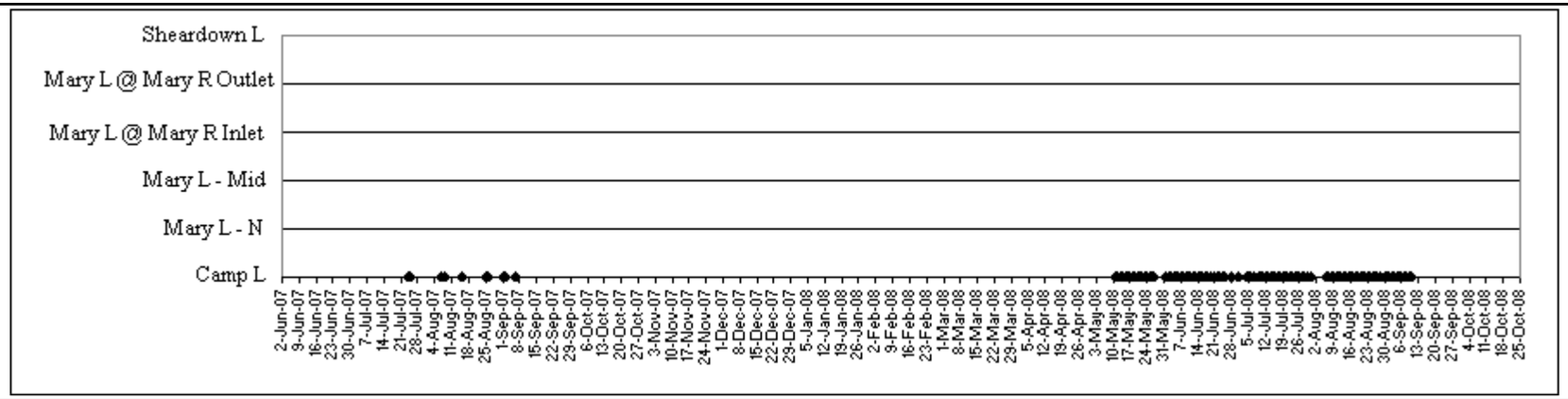
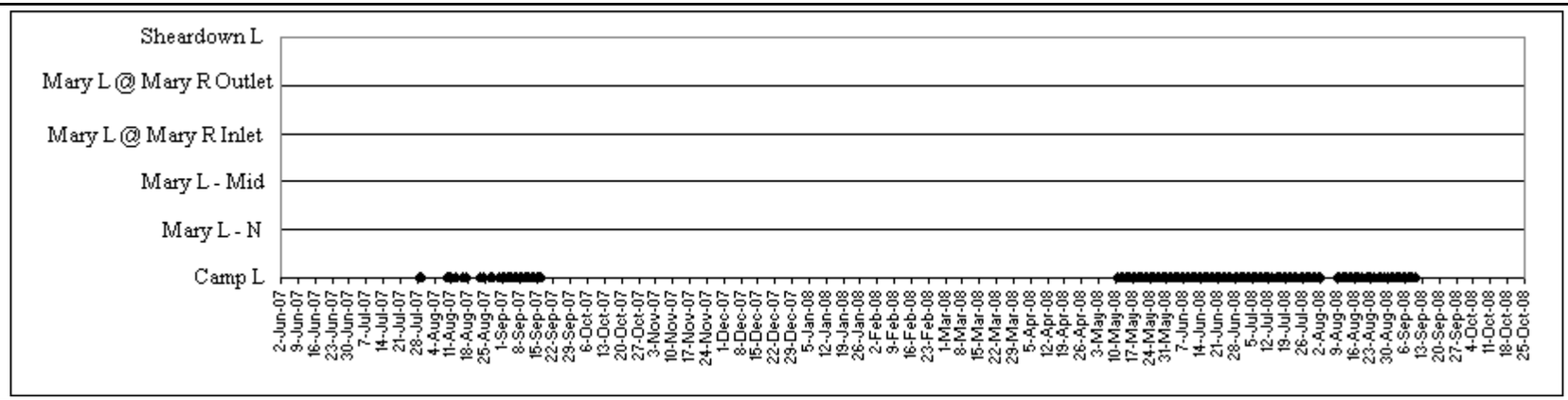
Code	Stationary Receiver Detections	Trend/Summary[1]
150		Appeared to remain in Camp Lake throughout 2007-08.
151		Appeared to remain in Camp Lake throughout 2007-08.

Table A4.4-1.4. Continued.

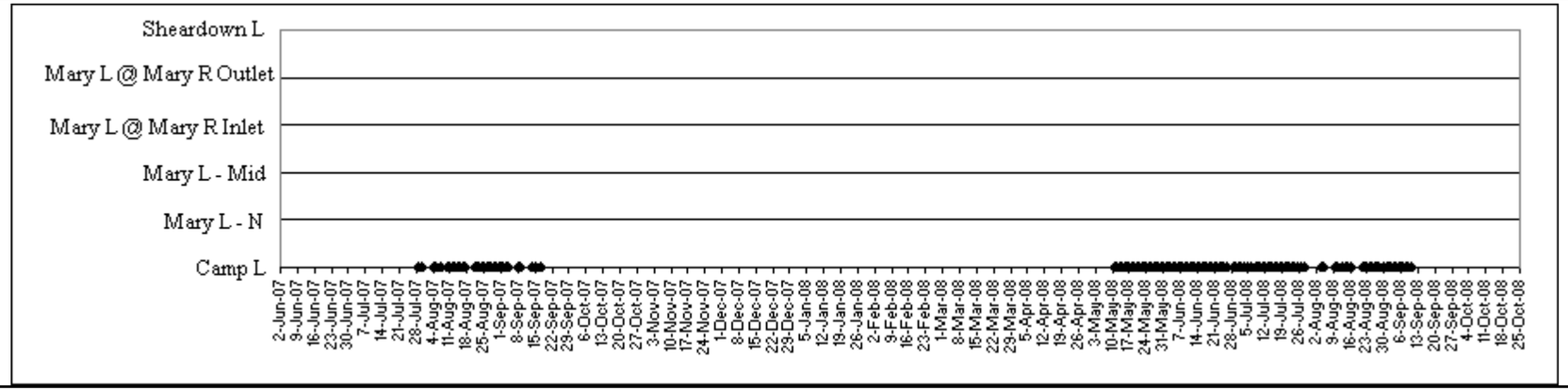
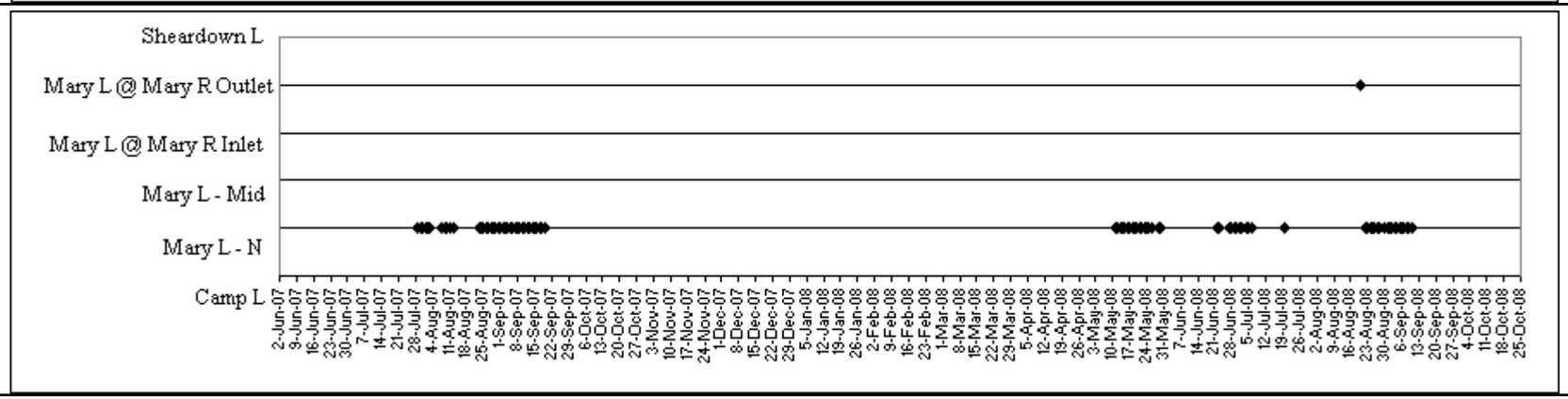
Code	Stationary Receiver Detections	Trend/Summary[1]
152		Appeared to remain in Camp Lake throughout 2007-08.
155		Moved to ML-S sometime between 20-Jul and 20-Aug-08, returned to ML-N by 22-Aug-08.

Table A4.4-1.4. Continued.

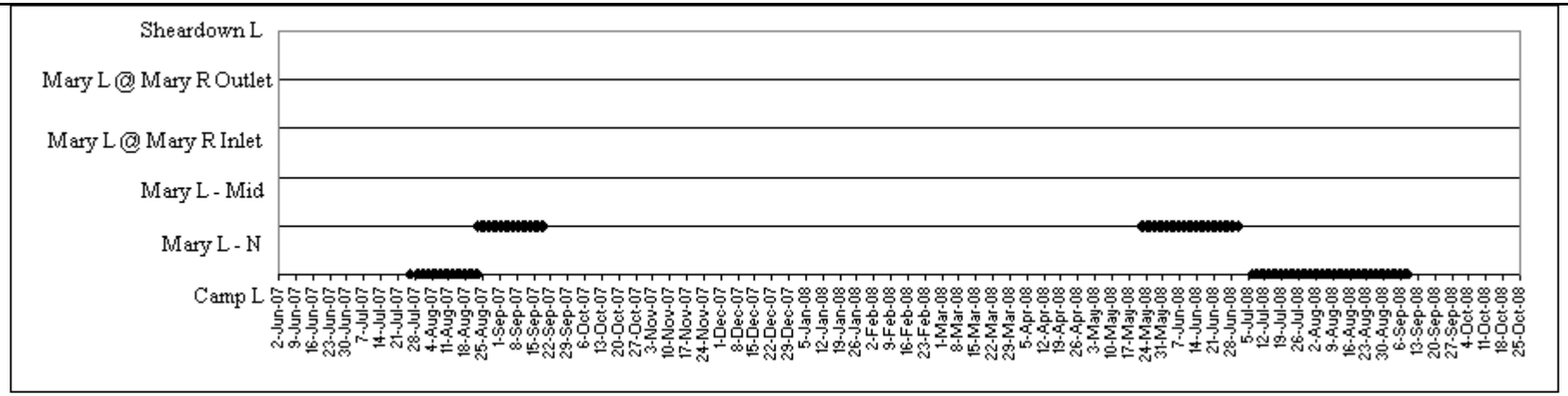
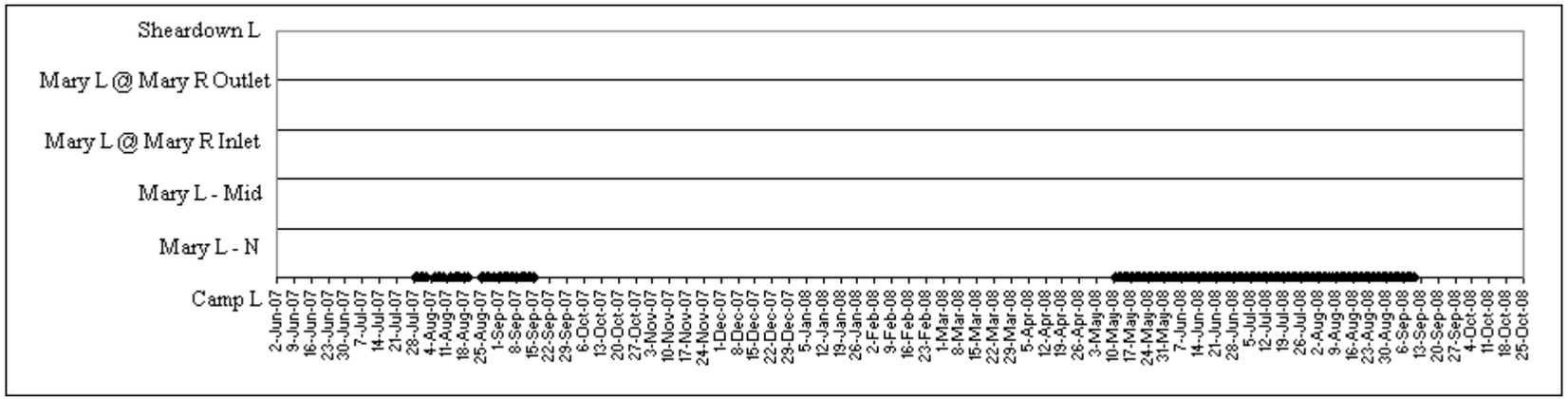
Code	Stationary Receiver Detections	Trend/Summary[1]
157		Moved to ML-N on 23-Aug-07, returned to CL on 7-Jul-08
158		Appeared to remain in Camp Lake throughout 2007-08.

Table A4.4-1.4. Continued.

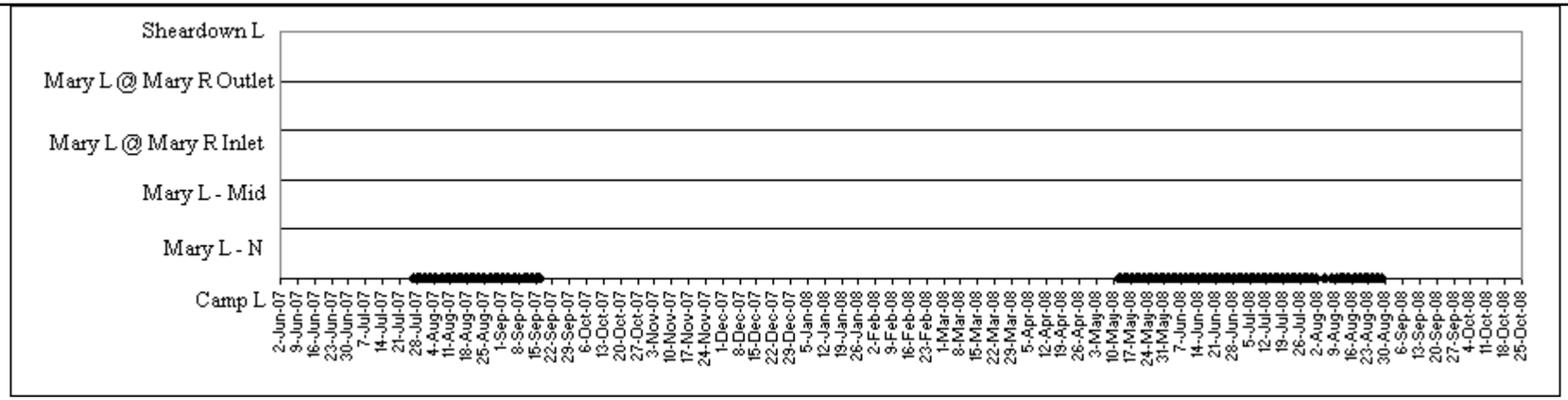
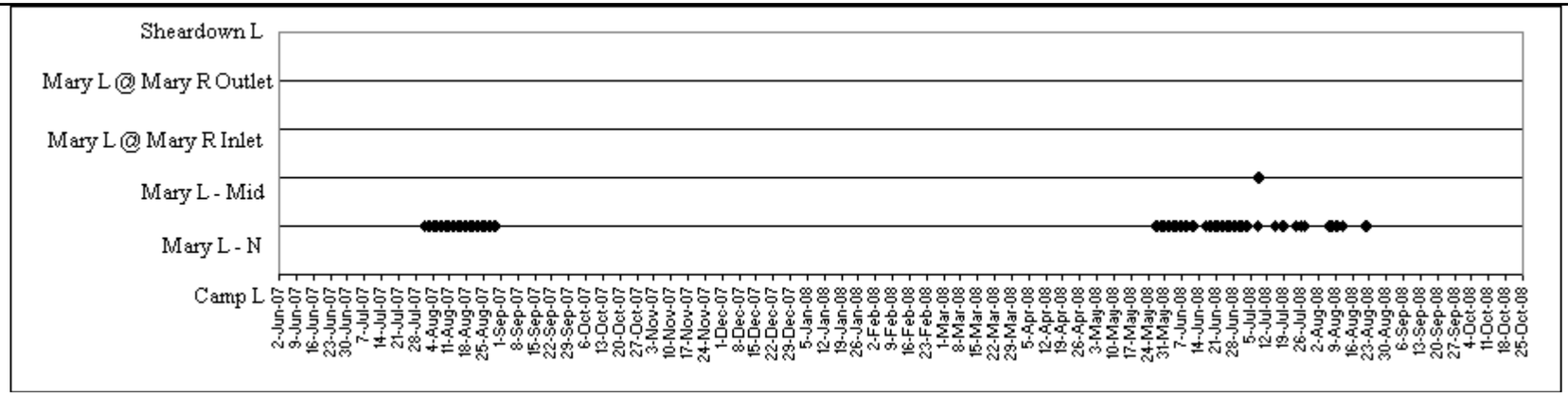
Code	Stationary Receiver Detections	Trend/Summary[1]
159		Appeared to remain in Camp Lake throughout 2007-08.
160		Moved from ML-N to ML-S on 8-Jul-08, returned by 15-Jul-08

Table A4.4-1.4. Continued.

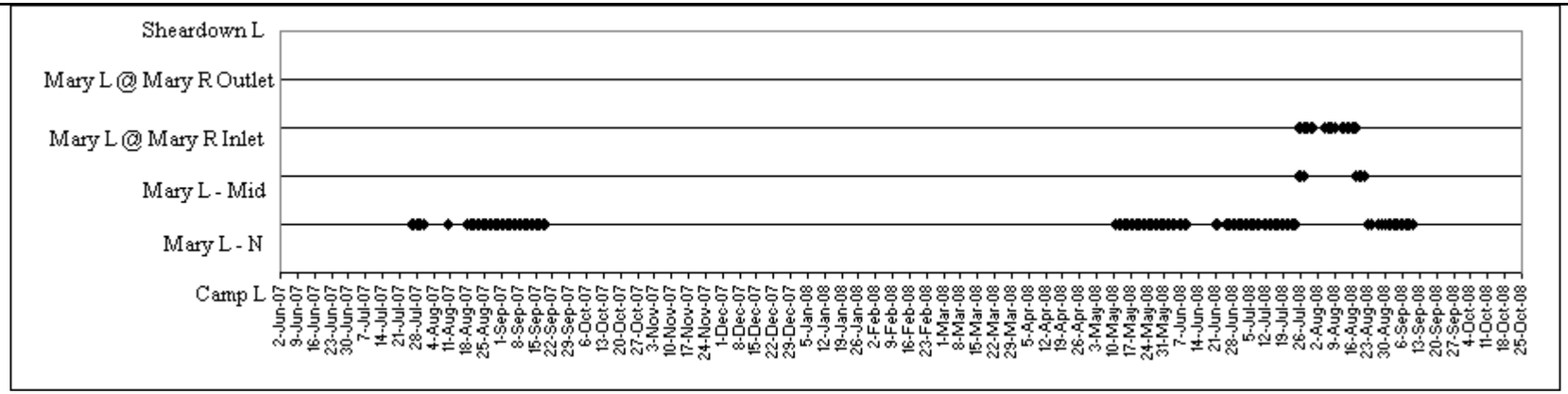
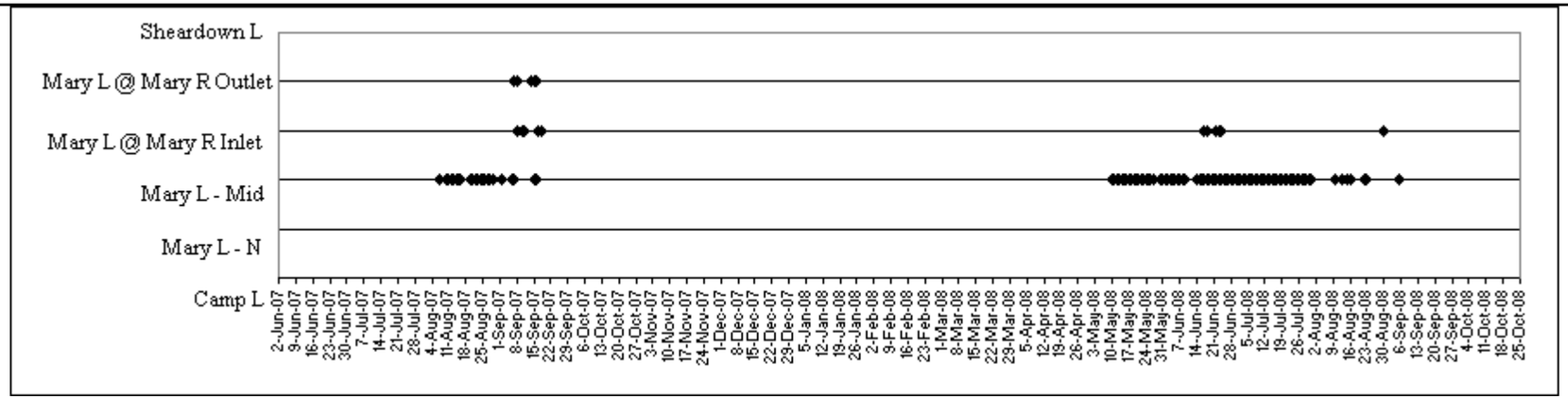
Code	Stationary Receiver Detections	Trend/Summary[1]
161		Moved from ML-N to ML-S on 25-Jul-08, moved between receivers within ML-S until returning to ML-N on 23-Aug-08
162		Moved between receivers within ML-S

Table A4.4-1.4. Continued.

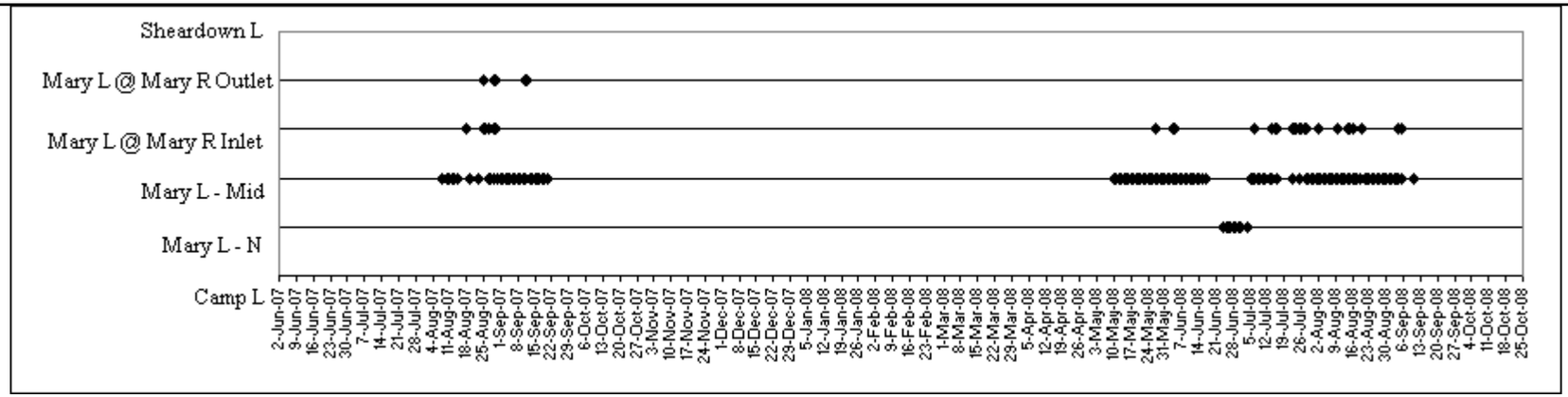
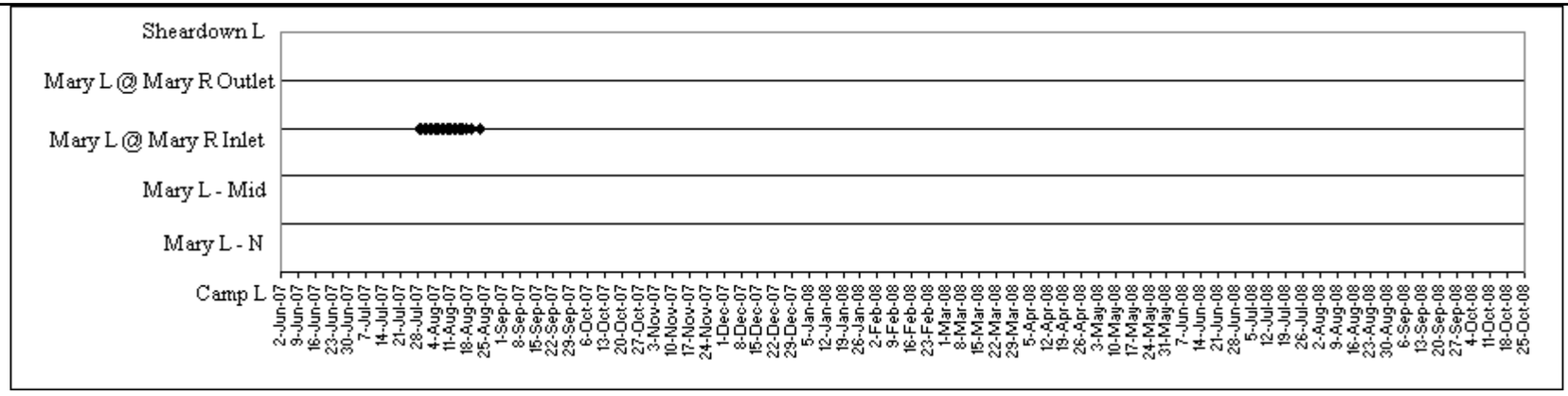
Code	Stationary Receiver Detections	Trend/Summary[1]
163		Moved to ML-N from 24-Jun to 4-Jul-08 and then returned to ML-S; Moved between receivers in ML-S remainder of the time in 2007 and 2008
164		Only one hit in 2008, on 24-Aug

Table A4.4-1.4. Continued.

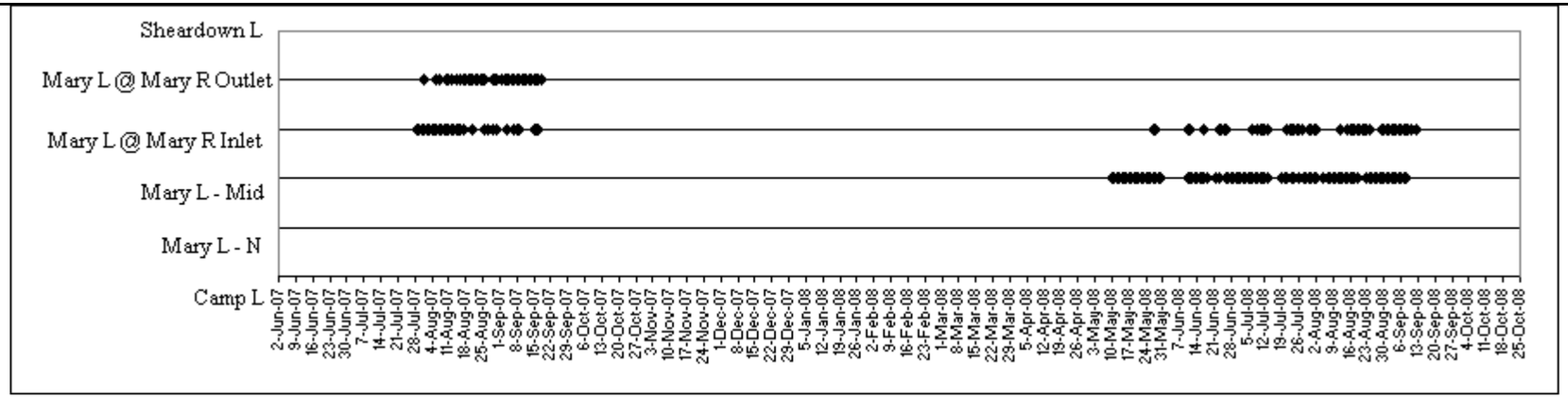
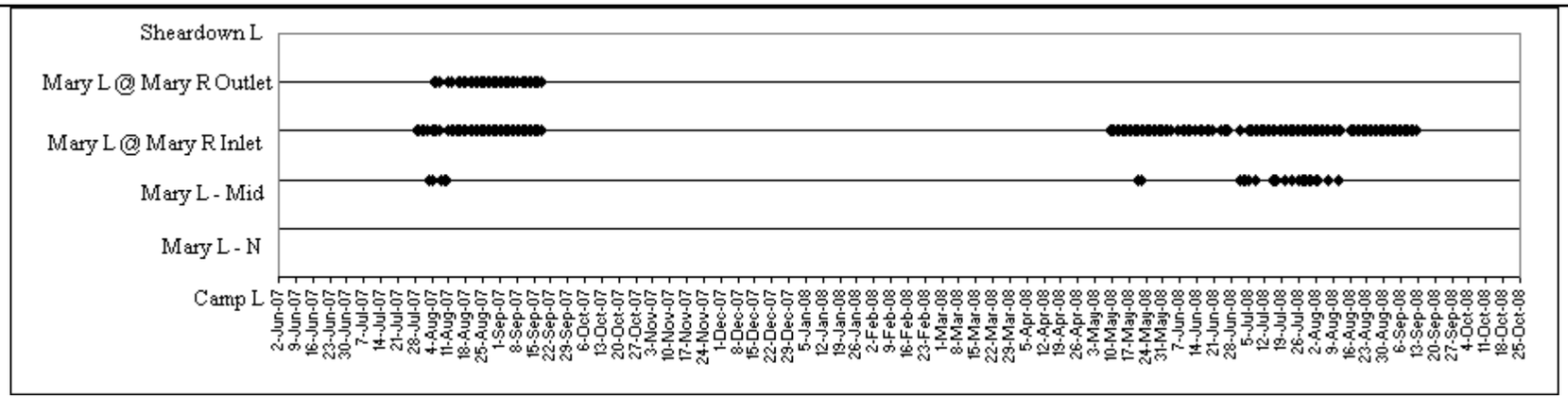
Code	Stationary Receiver Detections	Trend/Summary[1]
165		Moved between receivers within ML-S
166		Moved between receivers within ML-S

Table A4.4-1.4. Continued.

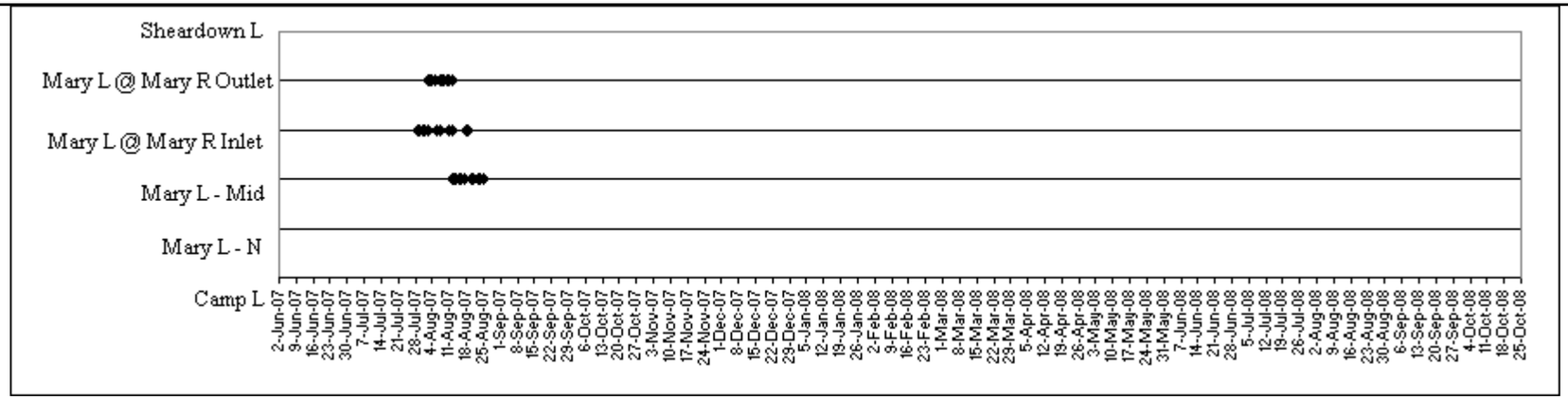
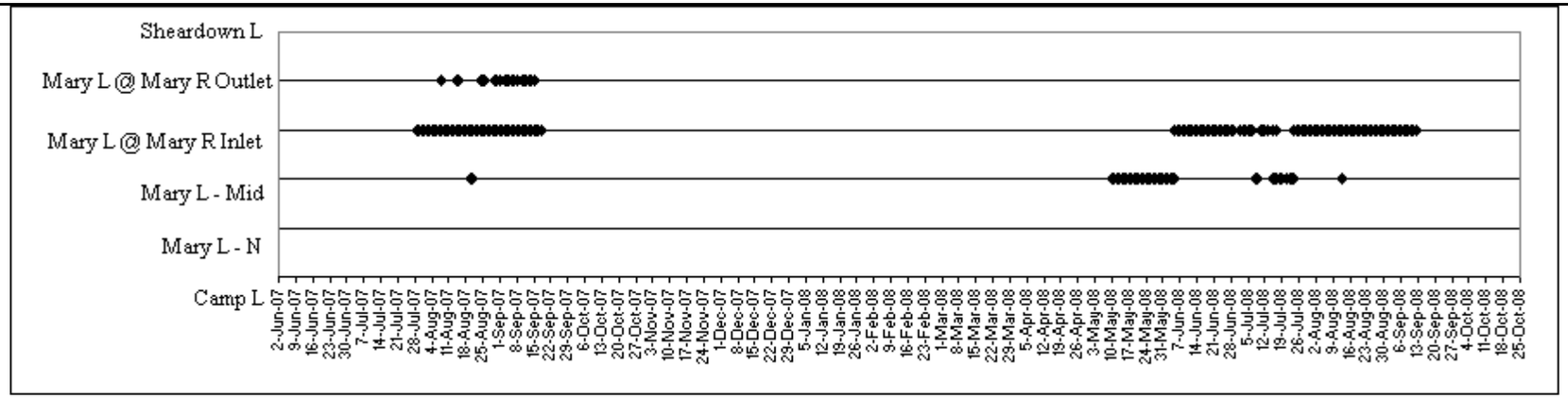
Code	Stationary Receiver Detections	Trend/Summary[1]
167		Moved between receivers within ML-S in 2007; not observed in 2008
168		Moved between receivers within ML-S

Table A4.4-1.4. Continued.

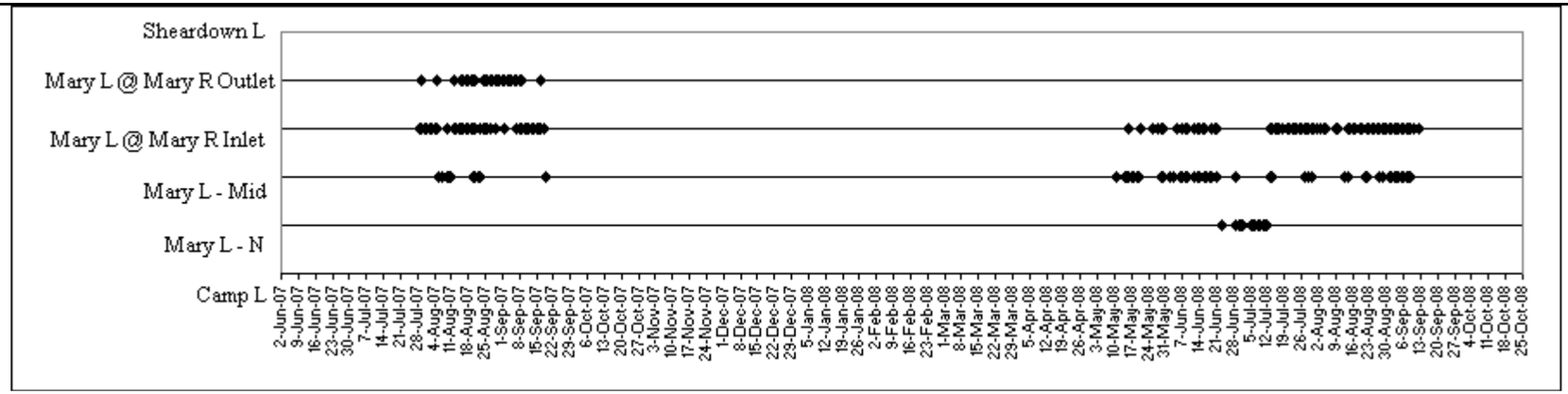
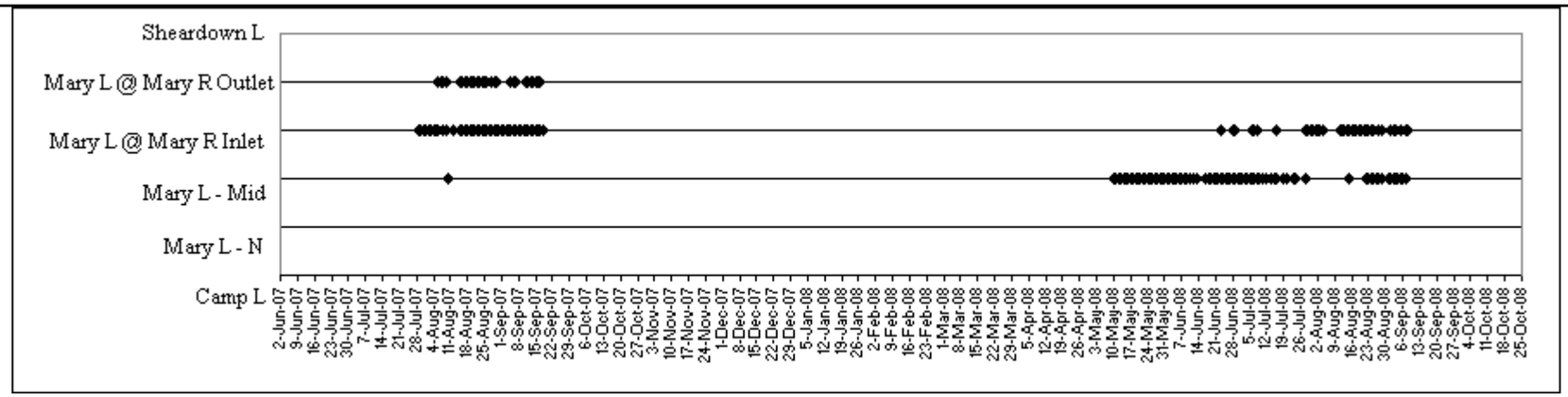
Code	Stationary Receiver Detections	Trend/Summary[1]
169		Moved to ML-N from 23-Jun to 29-Jun-08, returned to ML-S for ~ half a day on 29-Jun, moved back to ML-N until 12-Jul, returned to ML-S for the remainder of the survey in 2008; Moved between receivers in ML-S the remainder of the time in 07 and 08
170		Moved between receivers within ML-S

Table A4.4-1.4. Continued.

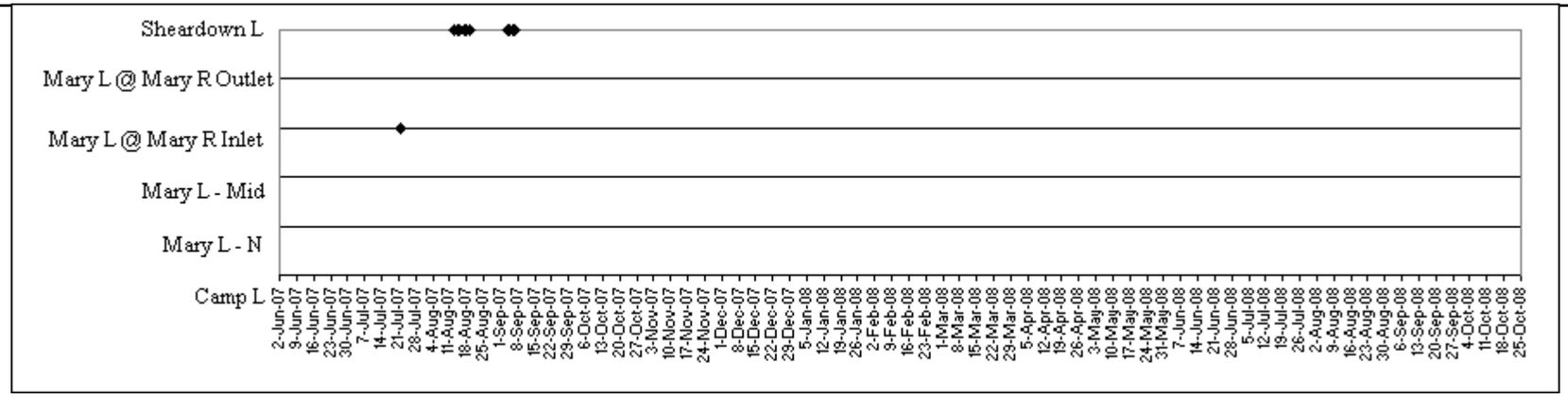
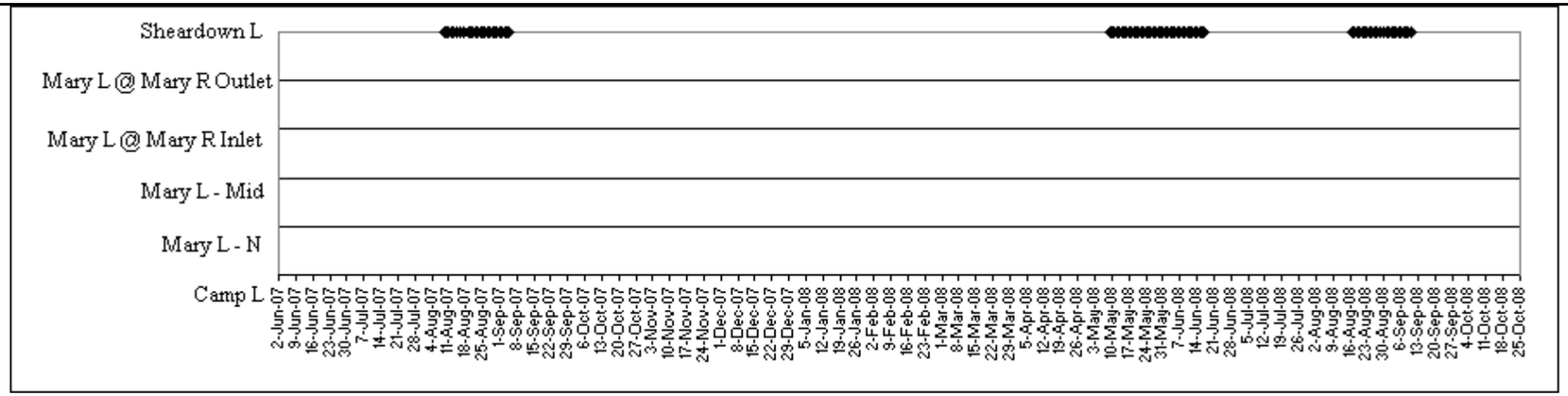
Code	Stationary Receiver Detections	Trend/Summary[1]
171		There were an additional 354 hits at the Mary Lake @ Mary River Inlet receiver on July 22, 07. This fish was not recorded in Sheardown Lake until Aug, 07. These hits may indicate this fish spent time in Mary River during July. Possibly returned to and remained in the northwest basin of Sheardown Lake in 2008 where it was originally tagged.
172		Recorded in the SE in Aug-Sep, 07 and 08 and May-June, 08 - in the NW the remainder of the time?

Table A4.4-1.4. Continued.

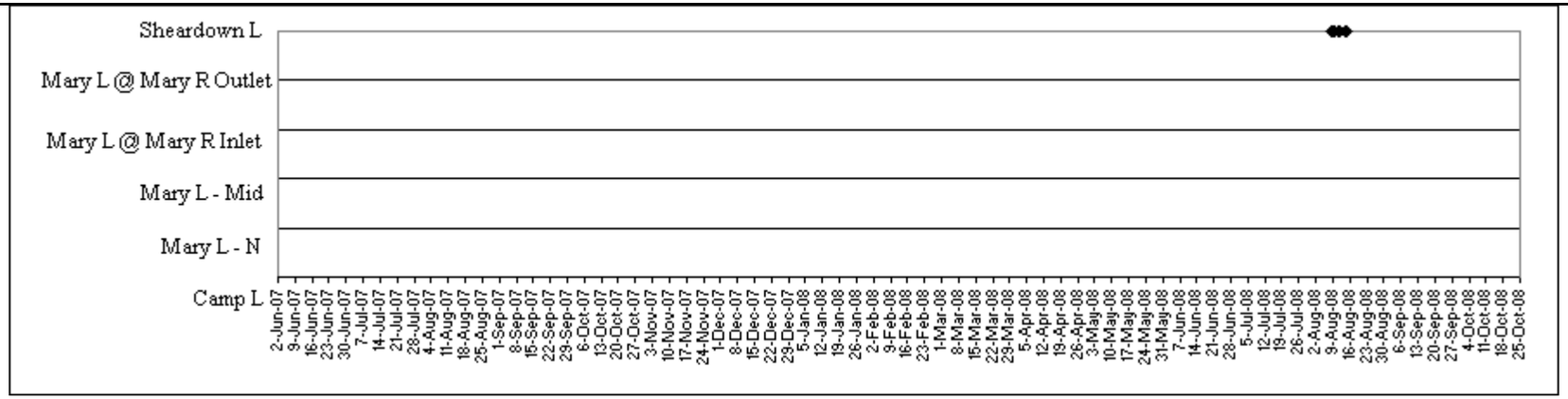
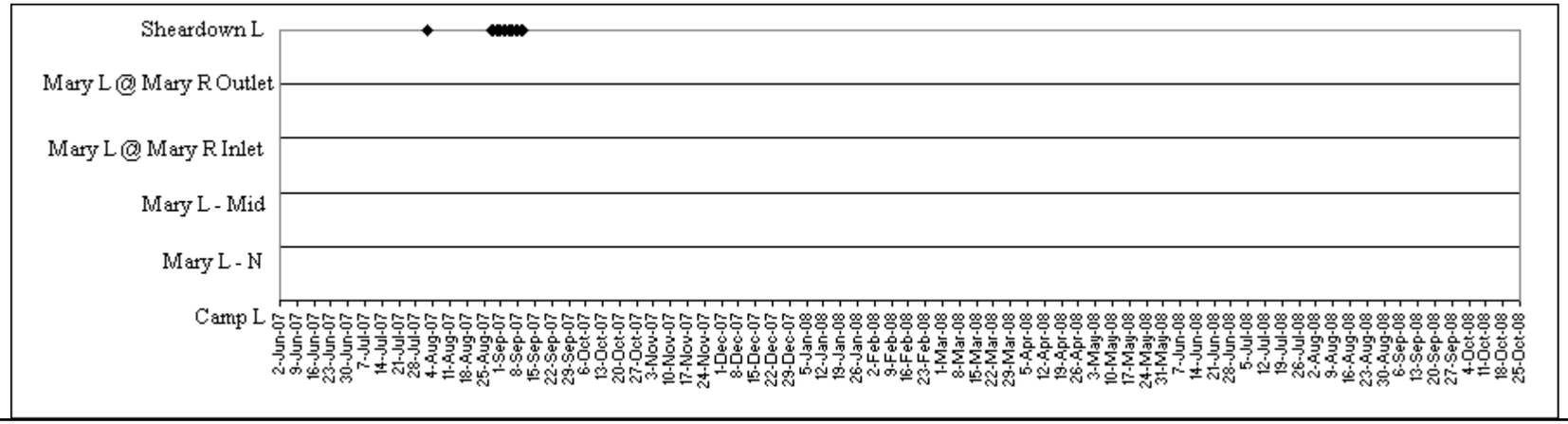
Code	Stationary Receiver Detections	Trend/Summary[1]
173		NW Basin in 2007? SE only from 8-15 Aug 2008, NW basin the rest of the time in 08?
174	No Detections	Stayed in northwest basin both years?
177		Mainly in SE only during late Aug-Sep 07. Stayed in northwest basin in 2008?

Table A4.4-1.4. Continued.

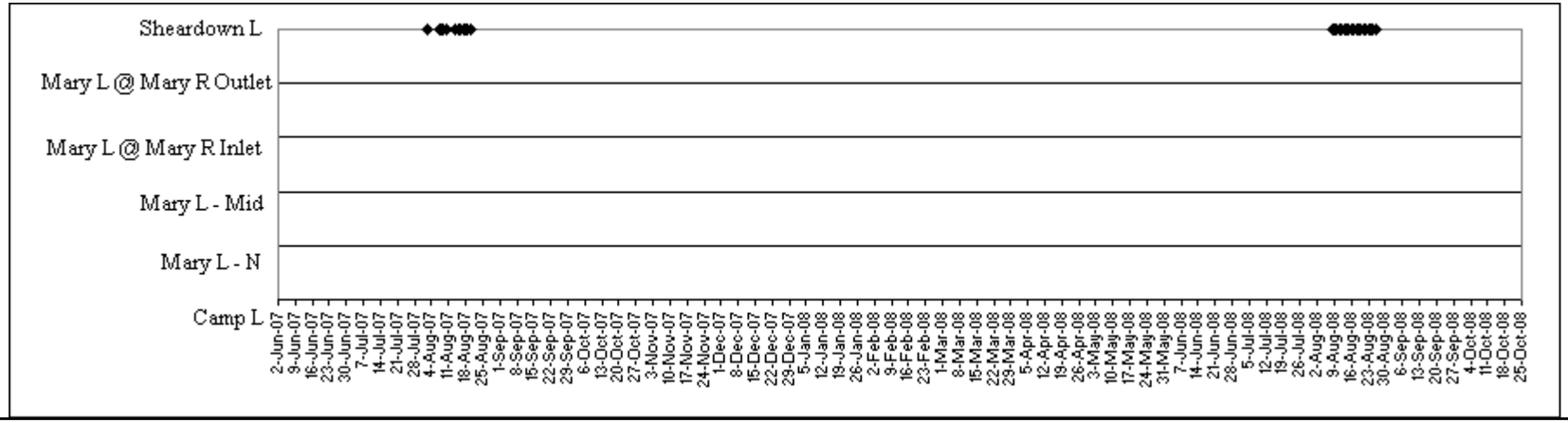
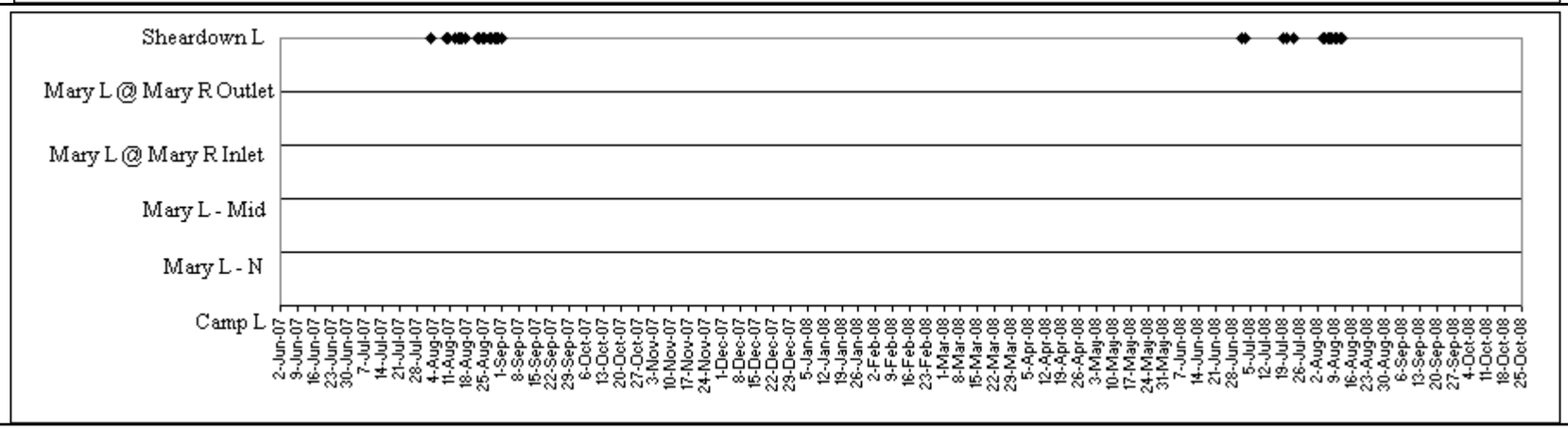
Code	Stationary Receiver Detections	Trend/Summary[1]
181		SE basin in Aug both years - NW basin the rest of the time?
189		SE from mid to late Aug, 07 and 2-Jul to 12-Aug, 08 - NW rest of the time?

Table A4.4-1.4. Continued.

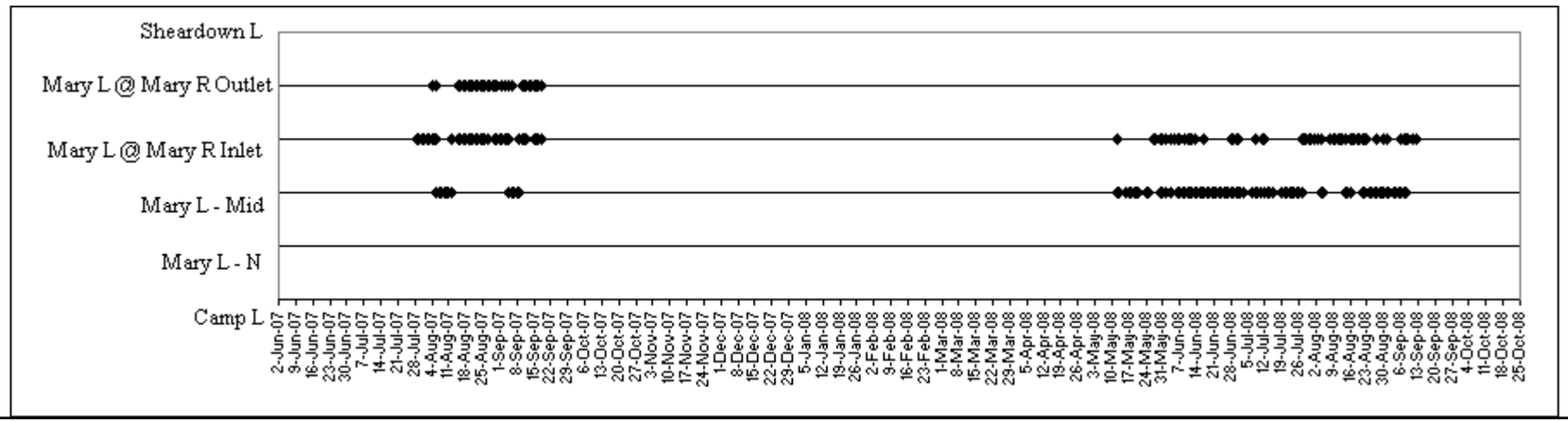
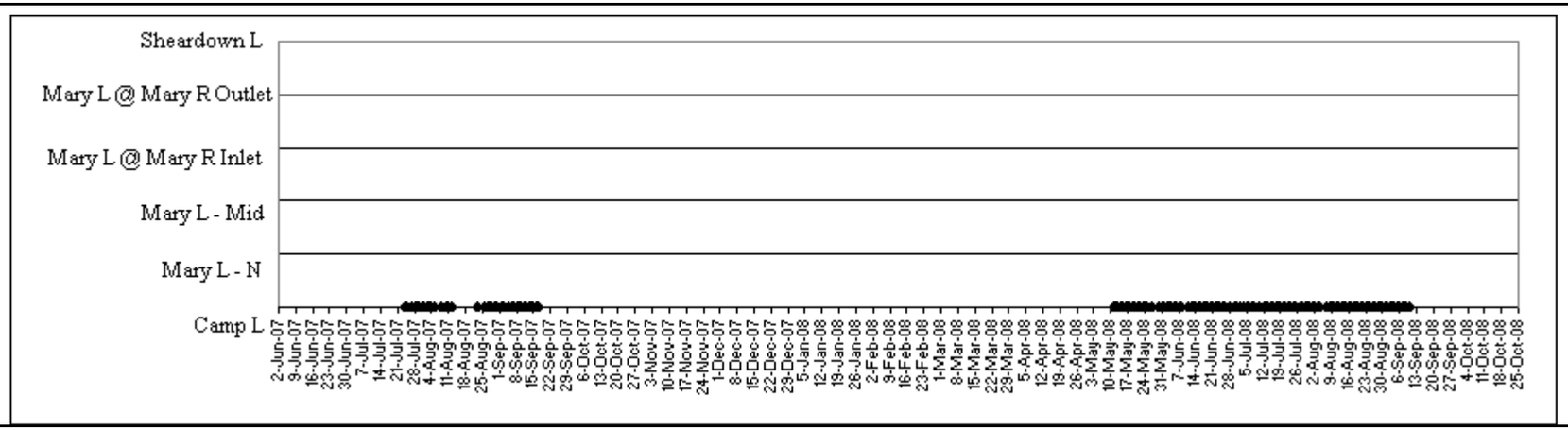
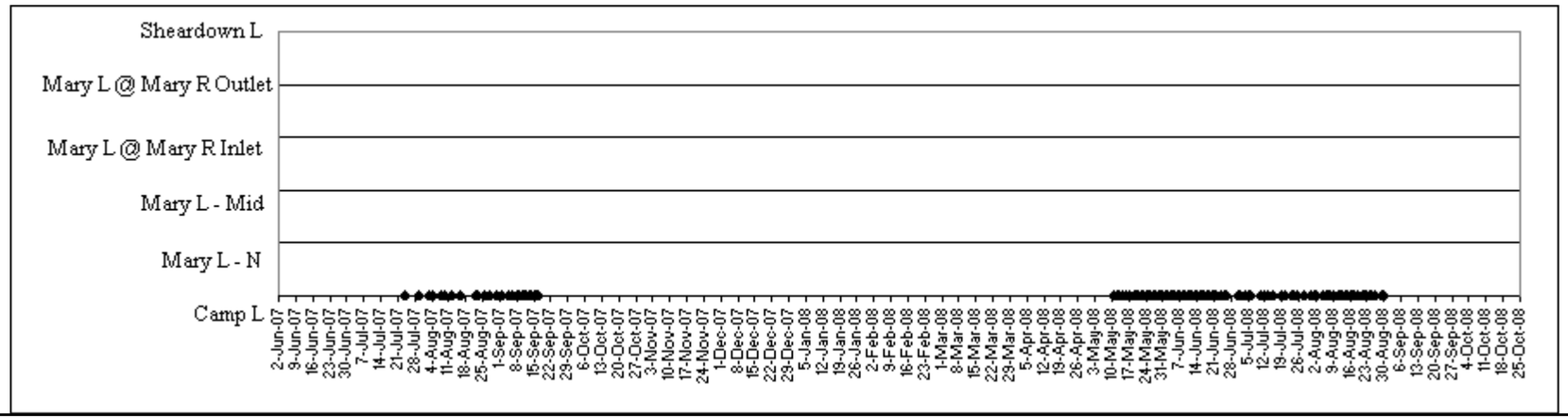
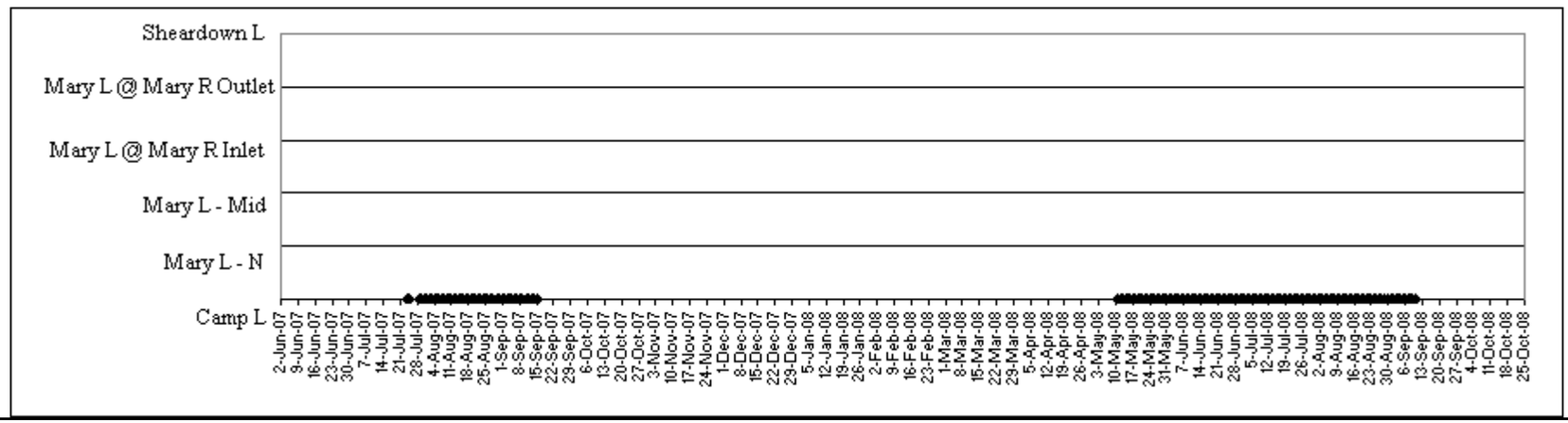
Code	Stationary Receiver Detections	Trend/Summary[1]
194		Moved between receivers within ML-S
195	No Detections	Stayed in northwest basin both years?
203		Appeared to remain in Camp Lake throughout 2007-08.

Table A4.4-1.4. Continued.

Code	Stationary Receiver Detections	Trend/Summary[1]
1150		Appeared to remain in Camp Lake throughout 2007-08.
1179		Appeared to remain in Camp Lake throughout 2007-08.

APPENDIX 4.4-2.

DESCRIPTION OF STRONTIUM ANALYSIS BACKGROUND AND TECHNIQUES AND PRESENTATION OF DETAILED RESULTS.

Page

Strontium Analysis

Laser ablation microprobe technology (LA-ICP-MS analysis) is used to determine elemental concentrations in the bony structures of fish. Differences in elemental concentration at different locations on the structure can be used to make inferences about fish movements between fresh and marine water and biological cycles such as reproduction. The following sections provide a brief background and methodology describing how this technology is used to investigate anadromous behaviour in fish.

Background

The concentration of strontium in the bony structures of fish has frequently been used to determine the degree of anadromy in fish populations (Bagenal et al.1973; Behrens-Yamada et al. 1979; Moreau and Barbeau 1979; Gaboury 1980; Radtke 1989; Kalish 1990; MacDonell et al 1992; Coutant and Chen 1993; Halden et al. 1995, 1996; Babaluk et al. 1997; Stephenson et al. 2005). Marine water contains hundreds of times more strontium than freshwater (Ophel and Judd 1968; Rosenthal et al. 1970) and fish feeding in a marine environment will take up more strontium than fish of the same species feeding in freshwater. The metabolism of strontium and other trace elements is similar to that of calcium in that it is deposited and retained in the bony tissues of the animal during growth (Mugiya 1964; Ophel and Judd 1968; Degens et al. 1969; Eisenberg 1973). Thus, strontium will be deposited at greater or lesser rates within a given fish depending upon diet and whether that individual is feeding in fresh or marine water (Ophel and Judd 1968), such that strontium concentration within layers of the bony structure is not uniform (Radtke et al. 1990; Campana 1999).

Previous investigations assessing anadromy were limited to determining the average concentration of strontium for the entire bony structure, without the ability to determine areas of different concentration within the structure. Therefore, it was not possible to determine when or how many times a given fish moved between fresh and marine waters. Threshold limits of average strontium were developed for some species, and average strontium concentrations in excess of the threshold value were considered to be suggestive of anadromy (Moreau and Barbeau 1979; Stewart and Bernier 1983; Swanson and Kansas 1987; MacDonell et al. 1992). This approach is limited because if the fish remains out of a marine environment for several years, or abandons the marine environment completely, average strontium concentration may decline below the threshold value (because it is deposited at a much lower rate in freshwater), and the fish would be considered non-anadromous even though it had made some use of a marine environment.

More recently, it has become possible to determine strontium concentrations at discrete locations

("point-in-time") within the bony structures of a fish (strontium zoning) using particle-induced x-ray emission (PIXE) or laser ablation microprobe technology (LA-ICP-MS) (Kalish 1989; 1990; also see following sections for methodology). Several investigators have used these technologies to examine fish life histories, including characterizing anadromous behaviour (Coote et al. 1991; Halden et al. 1995; Radtke 1995; Halden et al. 1996; Radtke et al. 1996; Veinott et al. 1999; Stephenson et al. 2005).

Otolith Collection and Preparation

Otoliths were removed from a subsample of Arctic char gillnetting mortalities from the south basin of Mary Lake, Angajurjualuk Lake, and both basins of Sheardown Lake during summer, 2007, fish community investigations. Sampled otoliths were placed in labelled coin envelopes and submitted to the University of Manitoba for analyses.

Otoliths from selected fish are embedded in epoxy resin, and a transverse cut is made to create a dorso-ventral cross section through the nucleus of the otolith, exposing all annuli. The posterior half of each cut otolith is re-embedded in a 25 mm diameter acrylic microprobe mount (up to seven otoliths per mount). The exposed otolith surfaces are sequentially ground (with 30 and 9 μm wetted aluminum oxide lapping film), polished (0.3 μm dry aluminum oxide lapping film), and finally ultrasonically cleaned in ultrapure water.

LA-ICP-MS Analysis

To describe the LA-ICP- MS process simply, a laser beam follows a transect across the polished face of the otolith. As the laser moves along, the surface of the otolith is "burned" and elements that compose the otolith are released. Element concentration (strontium and others) is determined using a mass spectrometer. A line scan is then produced by plotting strontium concentration with distance (μm) from the origin of the transect. To produce a line scan that encompasses the duration of a fish's life, the transect starts at the nucleus of the otolith (formed at birth) and extends to the periphery of the otolith (see Figure 4).

In more technical terms, LA-ICP-MS analysis is done using a Thermo Finnigan Element 2 ICP-MS coupled to a Merchantek LUV 213 Nd-YAG laser. Table 1 describes the instrument parameters used during analysis. For fish otoliths, the optimum conditions used a 30 μm diameter beam travelling at 2 μms^{-1}. This provided good sensitivity at a beam size capable of resolving all but the smallest (~20 - 30μm) annular growth features in the otoliths. Calcium (as 56 wt.% CaO) is used as an internal standard. The external calibration standard used is NIST glass 610 using the nominal values reported by Pearce et al. (1997). The measured trace element concentrations, standard deviations and detection limits are processed from intensities using

GLITTER (van Achterberg et al. 2001) and exported to Microsoft® Excel and Sigma Plot® for final presentation.

Data Interpretation

Strontium deposition in otoliths roughly occurs in annual cycles due to the cyclic nature of growth in temperate regions, seasonal patterns in feeding rates, migration, and differences in strontium concentration depending upon where a fish was feeding. Inferences regarding fish movement patterns between fresh and marine water can be made by interpreting patterns of strontium deposition in the fish's otolith. In general, fish that remain in freshwater display pulses of strontium increase that corresponds to seasonal feeding bouts, but the pulses tend to be consistent in magnitude throughout the line scan. Results are graphed such that strontium concentration is displayed at increasing distance from the origin of the microprobe scan (i.e., the centre of the otolith). Changes to strontium concentration with increasing age are then identifiable.

Detailed results

Results of strontium analyses from otoliths of Arctic char captured in 2007 are presented in figures A4.4-2.1a-i). Raw biological data for all char analysed for strontium microchemistry are provided in Table A4.4-2.1. In general, patterns of strontium concentration in the otoliths of sampled fish do not indicate any anadromy. Although, without direct comparisons to concentrations from char captured in the nearest downstream marine habitat (Steensby Inlet), anadromy cannot be completely dismissed. Observed patterns from each lake are discussed below.

Six of the char analysed from the south basin of Mary Lake (Fish #204, 210, 275, 303, 307, and 312) showed little to no change in strontium concentrations (figures A4.4-2.1a, b, and c), suggesting that these fish have remained in or near Mary Lake throughout their lives. Five Mary Lake char (Fish # 192, 209, 304, 311, and 334) all showed a small, short duration increase in strontium concentration at a distance of approximately 200-600 μm from the origin of the microprobe scan. It is unknown if these peaks represent a short duration visit to another body of water or an increase in the background levels of strontium during a particular time period. Additional data on fish ages and background strontium levels are required for analysis. The remaining four Mary Lake char all showed much higher strontium concentration peaks of varying duration and distance along the scan. These strontium concentrations, particularly for Fish #308, suggest that these fish have spent at least a portion of their life cycle in a different waterbody. Observed peak concentrations are consistent with those detected in Angajurjualuk

Lake char (figures A4.4-2.1d, e, and f), which is approximately 6 km downstream. These data indicate that movements of some fish between the two lakes may have occurred.

Average concentrations of strontium in otoliths of char from Angajurjualuk Lake are much higher than those observed in Mary Lake (figures A4.4-2.1d, e, and f). In addition, there is more variation in the concentrations in individual fish. The relatively consistent strontium concentration peaks and valleys of approximately 750 and 250 ppm, respectively, suggest some regular or periodic movement of most fish between different waterbodies or perhaps between different areas of this large lake. The strontium concentration pattern of Fish #403 indicates that this fish probably spent the early part of its life cycle in Mary Lake (figures A4.4-2.1d, e, and f). Four char from Angajurjualuk Lake (Fish #381, 420, 476, and 477) had peak concentrations (> 1000 ppm) that were much higher than other sampled fish. These peaks typically occurred early in life and, therefore, do not suggest anadromy. It is unknown where these fish may have spent the early part of their life cycles.

Of the 15 fish sampled from Sheardown Lake, only one captured from the northwest basin (Fish #541) showed a significant change in strontium concentration (from < 100 to approximately 250 ppm) (figures A4.4-2.1g, h, and i). This change was of short duration and may have resulted from brief movements between waterbodies. The remaining 14 fish showed little or no change in strontium concentrations in otoliths, which suggests that they likely remained in Sheardown Lake throughout the majority of their life cycle. The outflow of Sheardown Lake into the Mary River is relatively shallow (approximately 10 cm) throughout most of the open water season, which may limit the accessibility of downstream areas in the catchment by adult Arctic char to only brief, periodic movements.

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Table A4.4-2.1. Biological data for fish analysed for otolith strontium from lakes in the Mine Area, 2007.

Fish ID	Waterbody	Date Captured	Fork Length (mm)	Weight (g)	Sex	Maturity	Age (yrs)
192	ML-S	28-Jul-07	451	800	M	11	12
204	ML-S	28-Jul-07	424	725	M	11	23
209	ML-S	29-Jul-07	440	750	M	6	16
210	ML-S	29-Jul-07	432	700	F	1	19
265	ML-S	30-Jul-07	396	500	M	6	13
275	ML-S	30-Jul-07	418	550	F	1	15
279	ML-S	30-Jul-07	374	500	F	1	15
284	ML-S	30-Jul-07	408	600	F	2	16
303	ML-S	30-Jul-07	548	1425	M	10	13
304	ML-S	30-Jul-07	374	450	F	1	12
307	ML-S	30-Jul-07	413	575	M	7	11
308	ML-S	30-Jul-07	413	500	F	1	13
311	ML-S	30-Jul-07	412	525	M	6	15
312	ML-S	30-Jul-07	372	450	F	5	16
334	ML-S	30-Jul-07	391	525	M	6	18
352	AL	31-Jul-07	283	200	M	6	10
358	AL	31-Jul-07	358	450	F	1	12
370	AL	31-Jul-07	363	350	F	1	13
381	AL	31-Jul-07	368	400	F	1	10
383	AL	31-Jul-07	333	350	F	1	14
389	AL	31-Jul-07	636	2450	M	10	23
392	AL	31-Jul-07	550	1300	F	5	23
397	AL	01-Aug-07	367	475	F	1	20
402	AL	01-Aug-07	581	2100	M	10	13
405	AL	01-Aug-07	350	425	F	1	13
408	AL	01-Aug-07	396	550	F	1	24
420	AL	01-Aug-07	337	400	F	1	13
425	AL	01-Aug-07	512	1100	M	10	18
476	AL	01-Aug-07	358	400	M	6	16
477	AL	01-Aug-07	341	375	M	1	9
518	SL-NW	02-Aug-07	357	350	M	6	16
540	SL-NW	02-Aug-07	341	371	F	1	11
541	SL-NW	02-Aug-07	507	1000	M	10	22
549	SL-NW	02-Aug-07	384	525	M	6	19
550	SL-NW	02-Aug-07	387	450	M	6	21
552	SL-NW	02-Aug-07	354	350	F	2	17
560	SL-NW	03-Aug-07	508	775	F	11	21
566	SL-NW	03-Aug-07	389	475	M	7	18
574	SL-NW	03-Aug-07	492	950	F	1	17
584	SL-NW	03-Aug-07	393	475	M	6	16
591	SL-SE	03-Aug-07	401	600	M	6	17
592	SL-SE	03-Aug-07	352	350	M	6	14
593	SL-SE	03-Aug-07	405	500	F	11	15
597	SL-SE	03-Aug-07	368	425	F	2	16
608	SL-SE	03-Aug-07	335	350	F	1	11

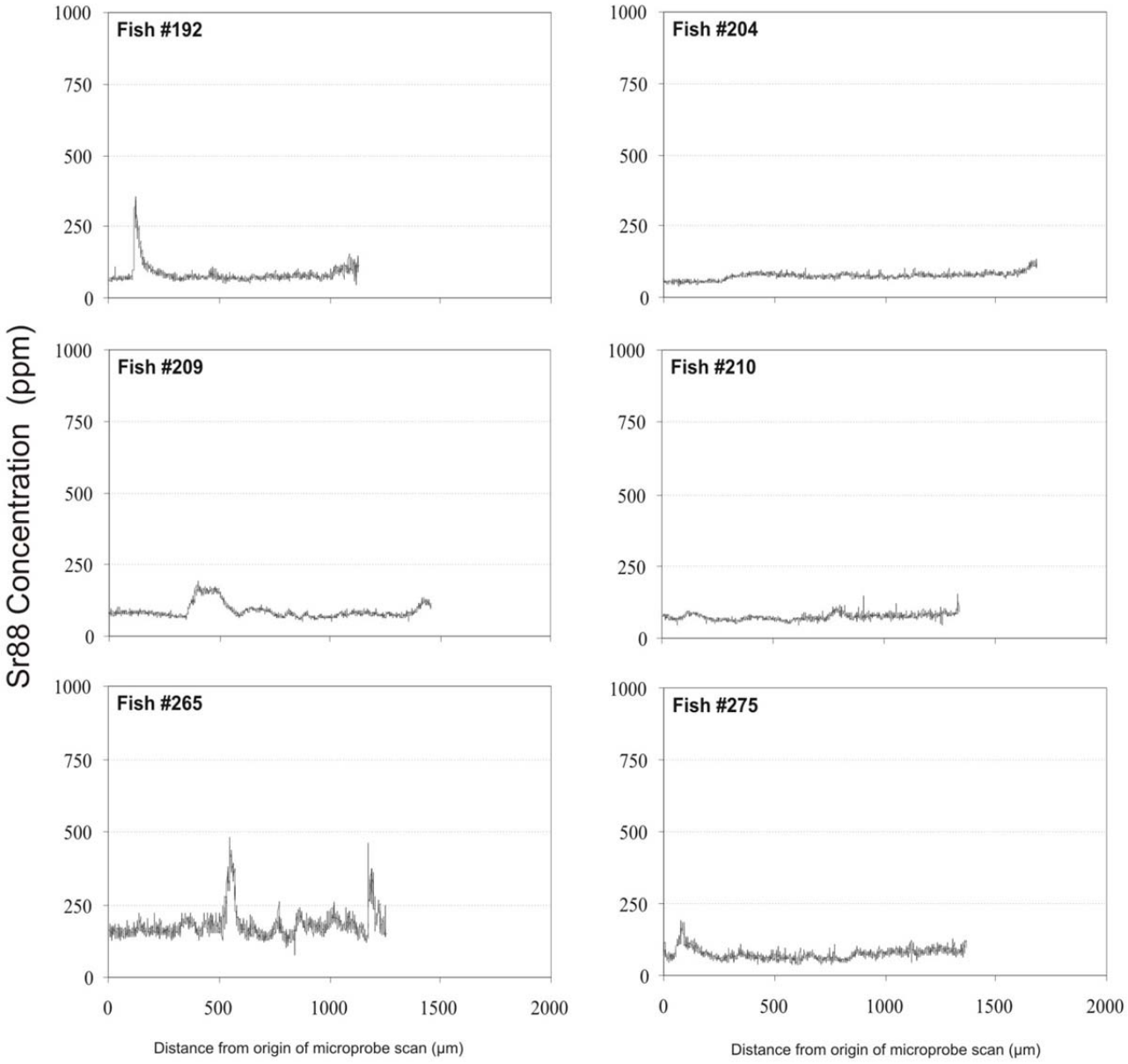

Figure A4.4-2.1a. Strontium concentrations in otoliths of fish captured in the south basin of Mary Lake, 2007.

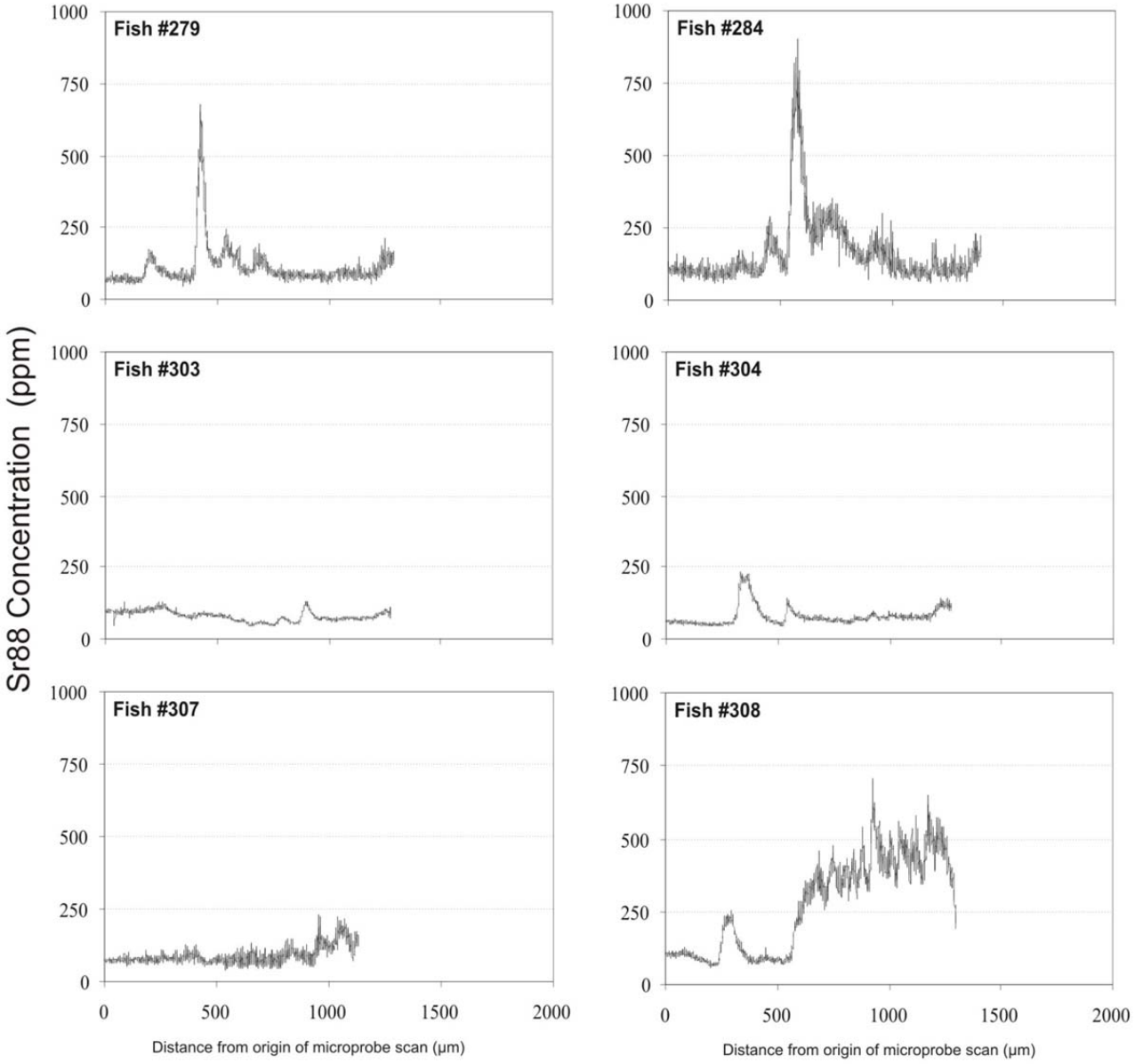

Figure A4.4-2.1b. Strontium concentrations in otoliths of fish captured in the south basin of Mary Lake, 2007.

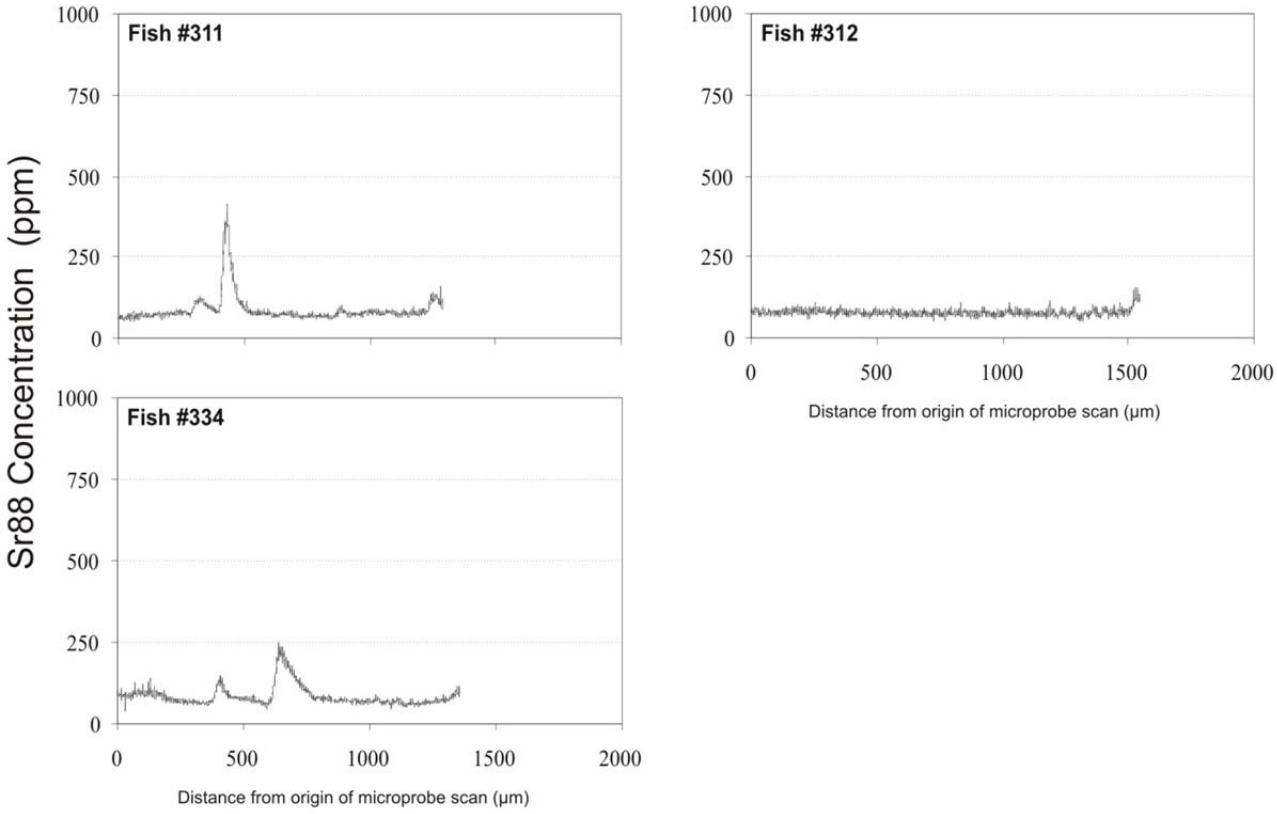

Figure A4.4-2.1c. Strontium concentrations in otoliths of fish captured in the south basin of Mary Lake, 2007.

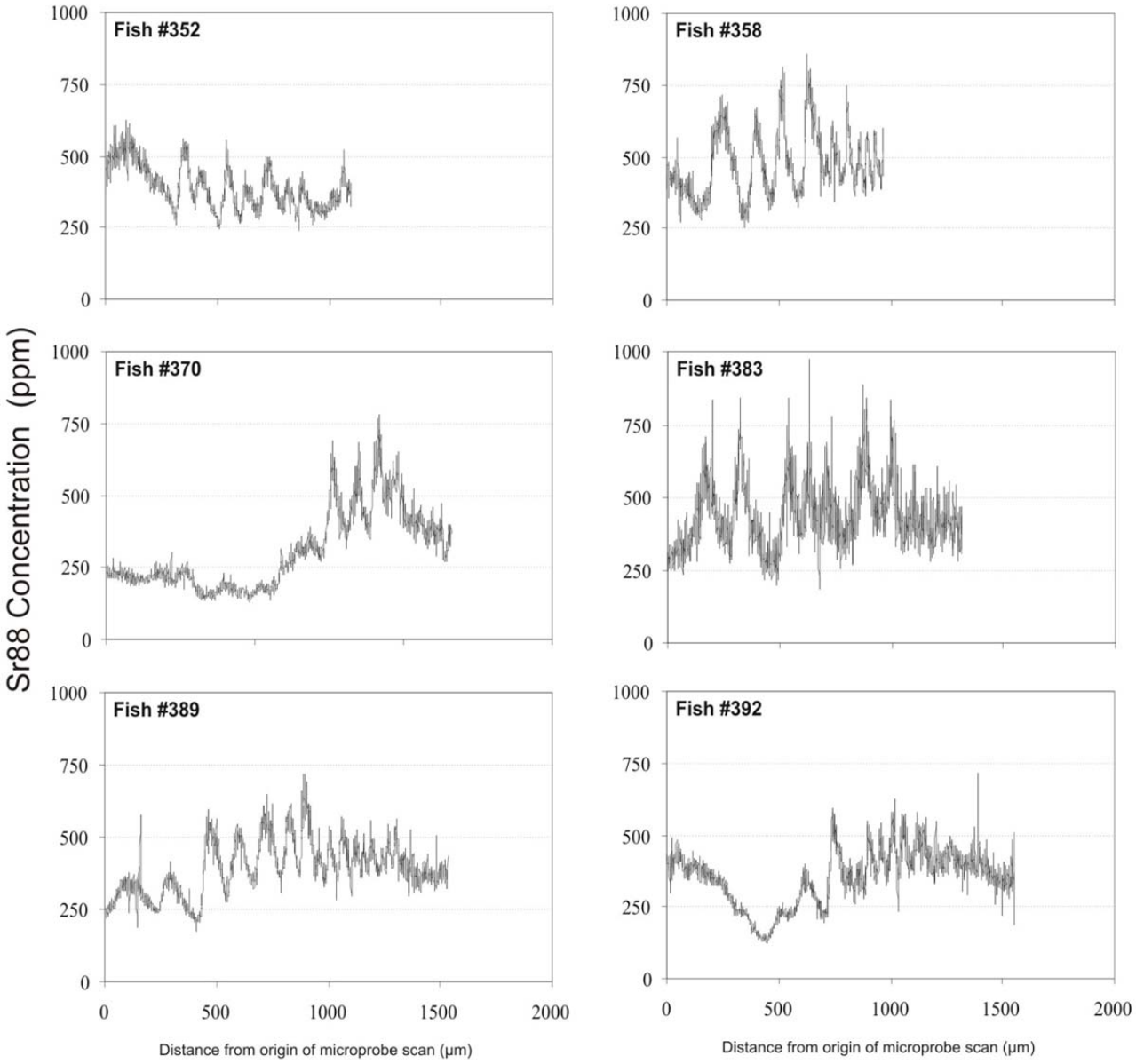

Figure A4.4-2.1d. Strontium concentrations in otoliths of fish captured in Angajurjualuk Lake, 2007.

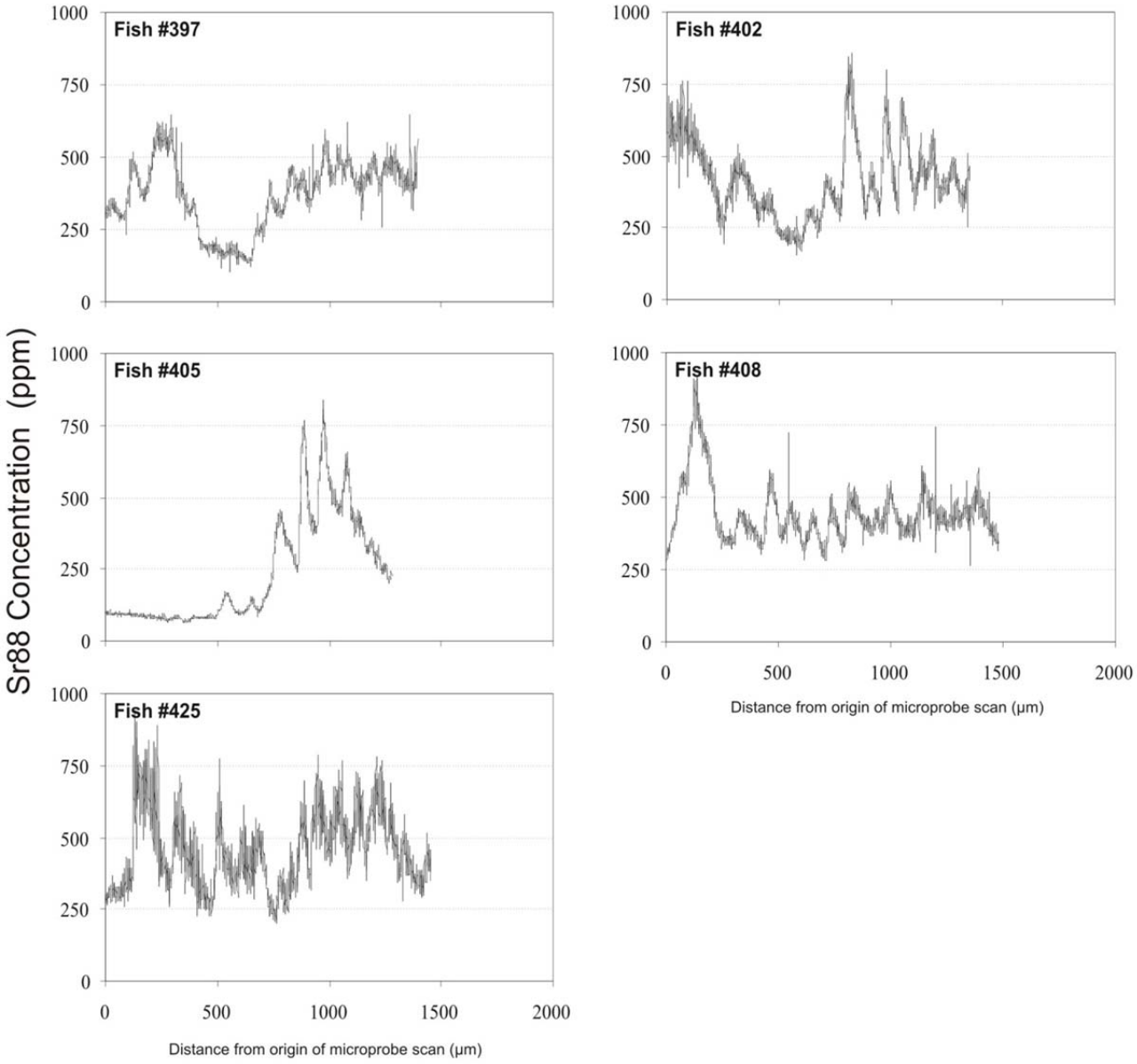

Figure A4.4-2.1e. Strontium concentrations in otoliths of fish captured in Angajurjualuk Lake, 2007.

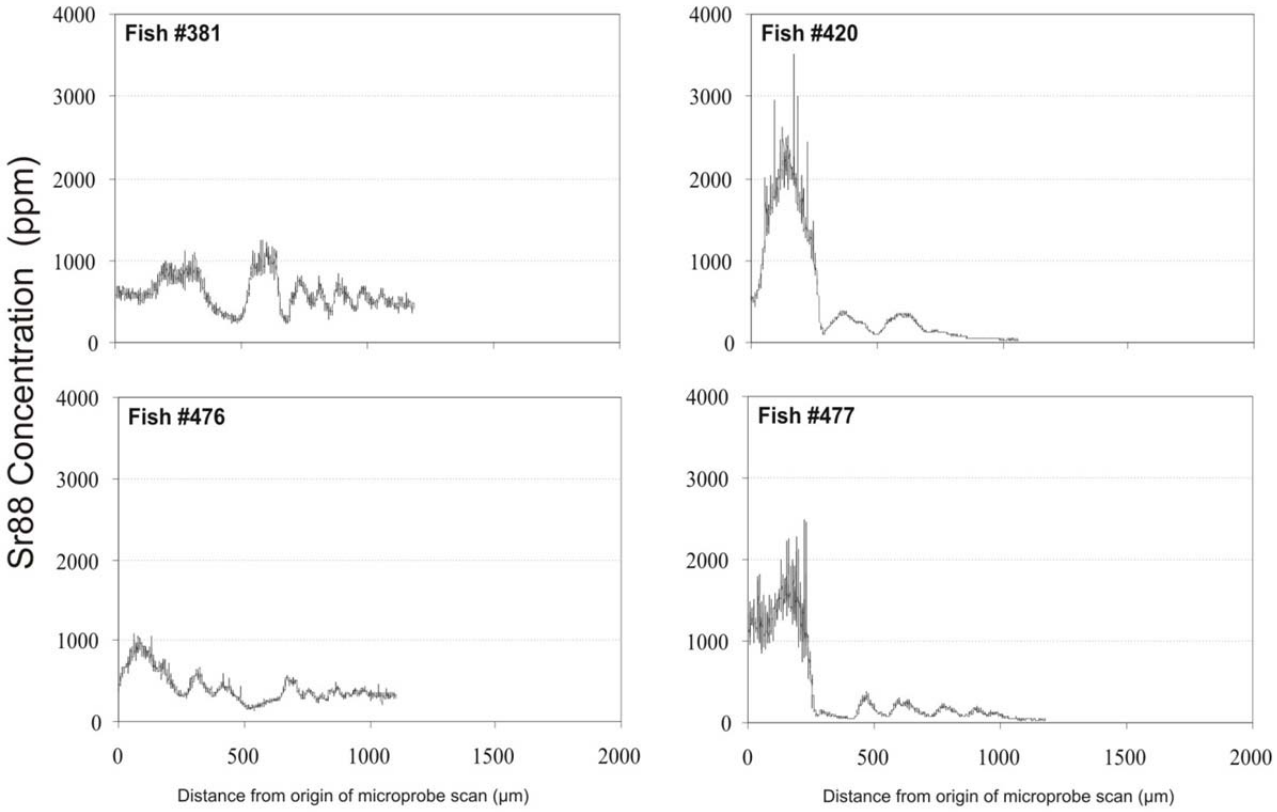

Figure A4.4-2.1f. Strontium concentrations in otoliths of fish captured in Angajurjualuk Lake, 2007.

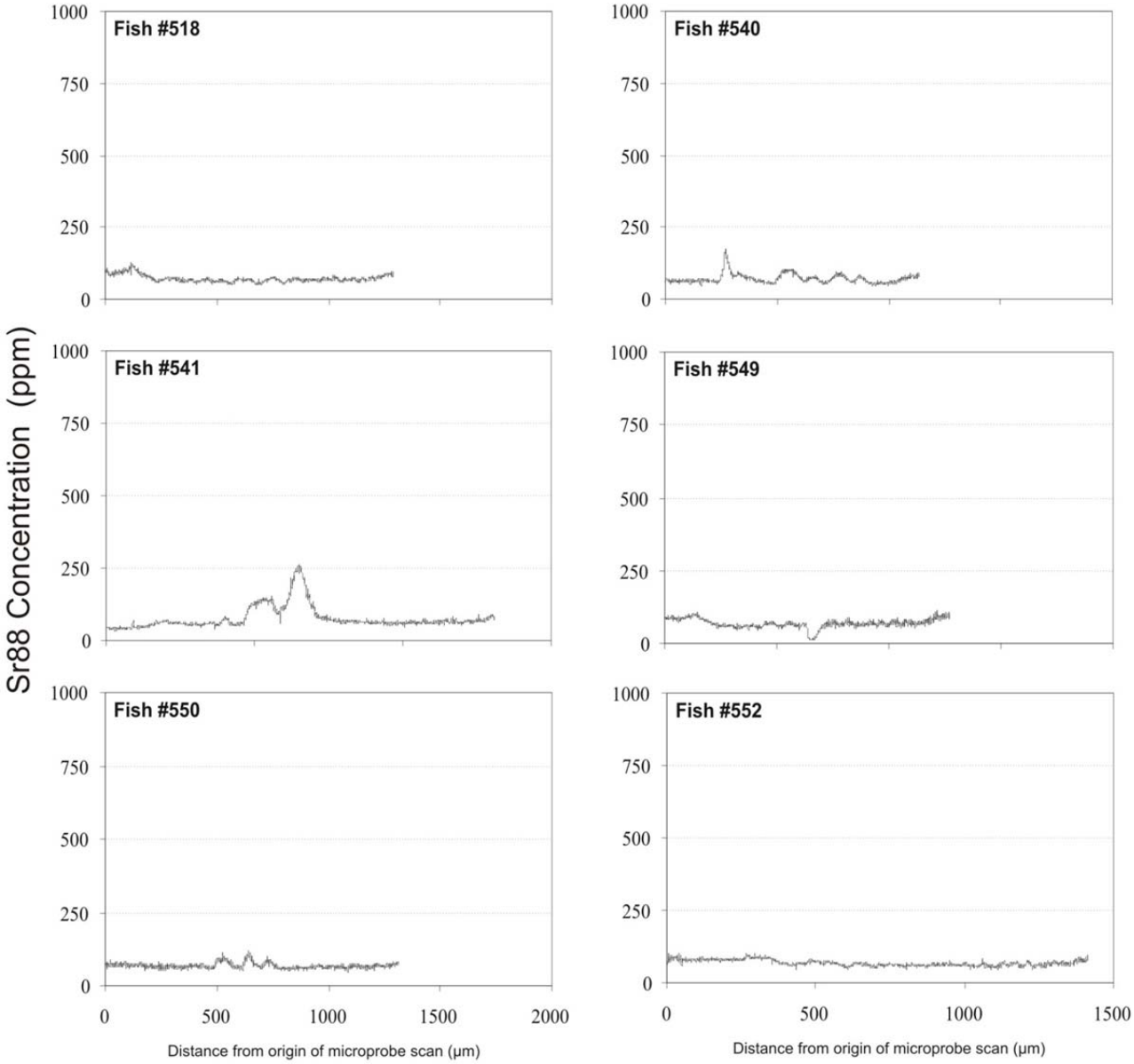

Figure A4.4-2.1g. Strontium concentrations in otoliths of fish captured in the northwest basin of Sheardown Lake, 2007.

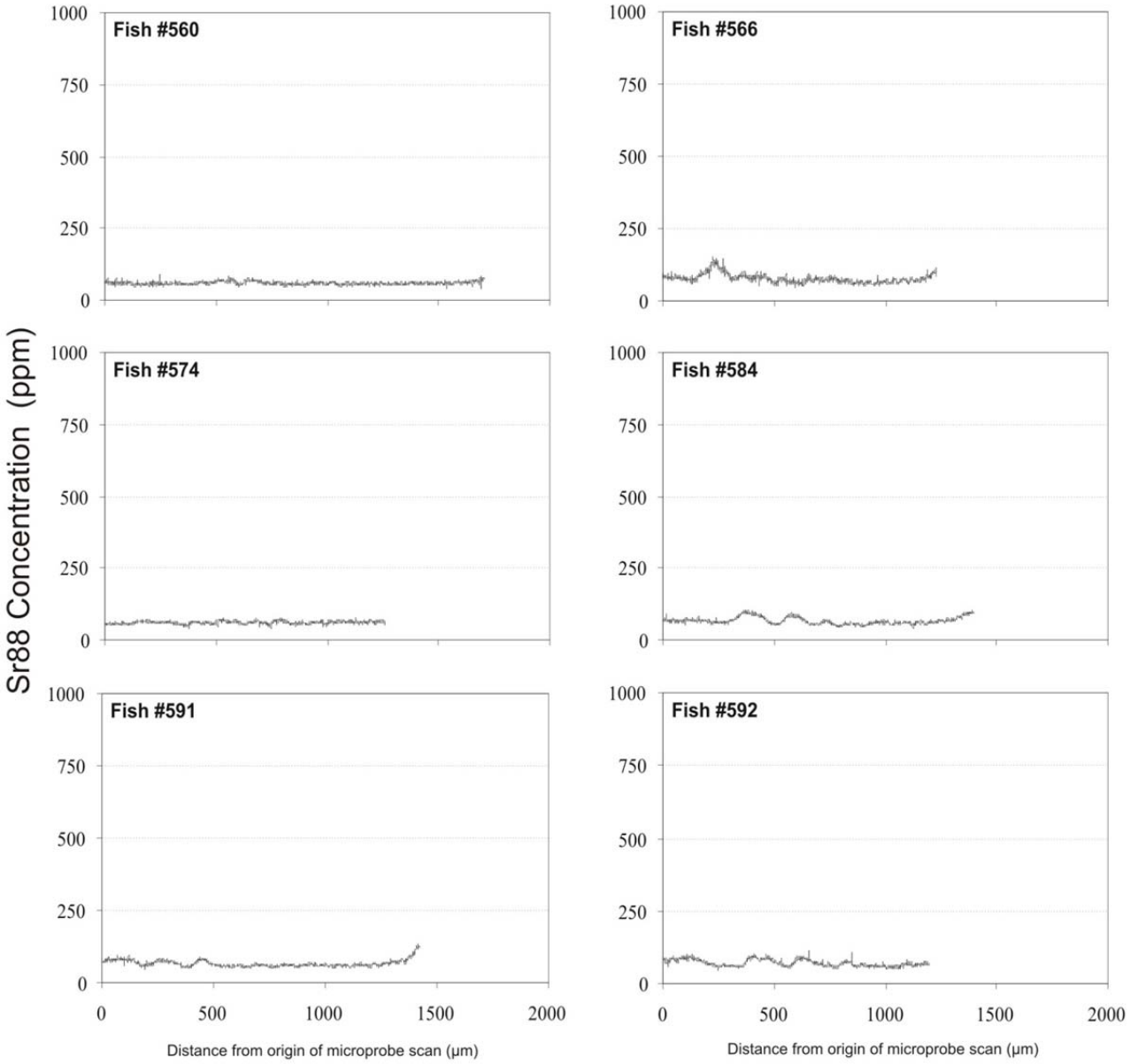

Figure A4.4-2.1h. Strontium concentrations in otoliths of fish captured in both basins of Sheardown Lake, 2007.

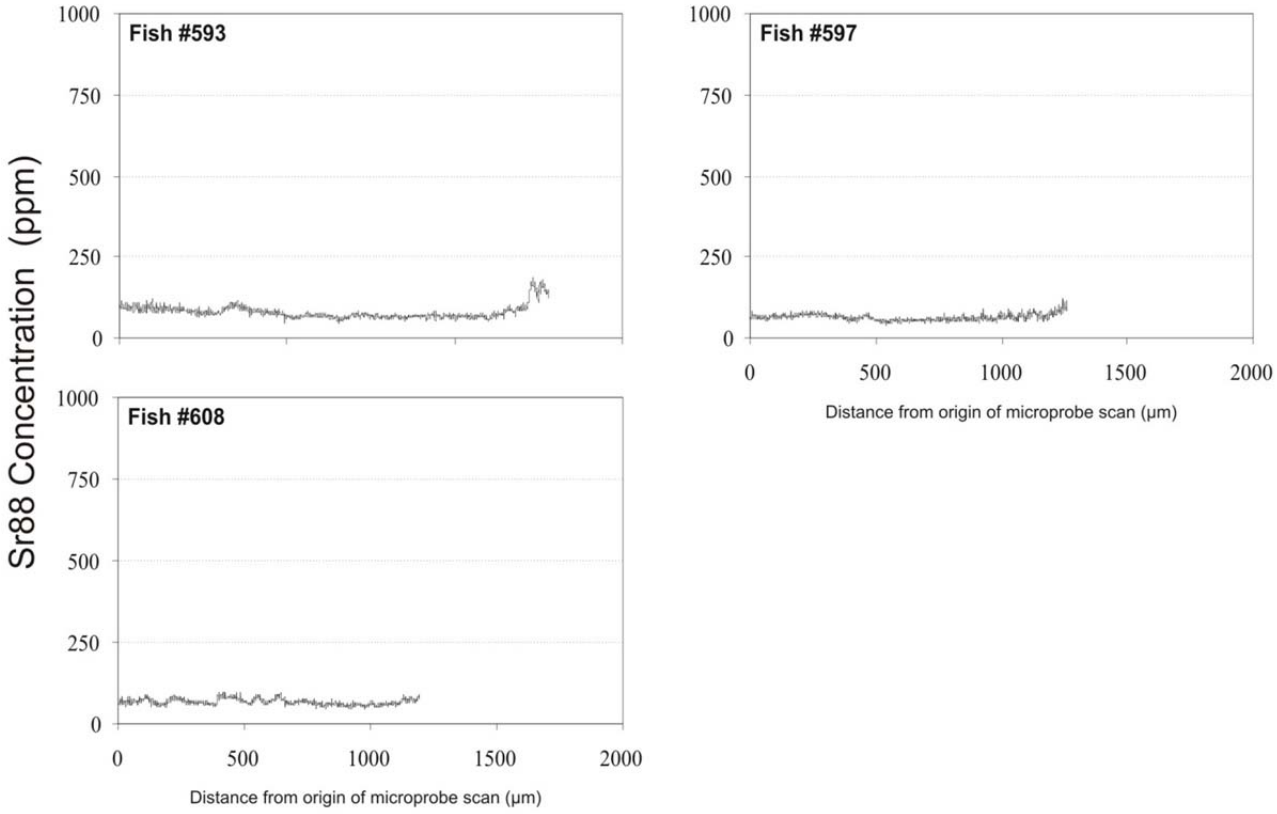

Figure A4.4-2.1i. Strontium concentrations in otoliths of fish captured in the southeast basin of Sheardown Lake, 2007.

APPENDIX 4.4-3.

A GENERALIZED LIFE HISTORY DESCRIPTION FOR ARCTIC CHAR AND NINESPINE STICKLEBACK WITH EMPHASIS ON BAFFIN ISLAND POPULATIONS.

FISH LIFE HISTORY INFORMATION AND HABITAT REQUIREMENTS

ARCTIC CHAR

Distribution

Arctic char (*Salvelinus alpinus*) is circumpolar in distribution and is the most northerly distributed freshwater fish in North America, occurring as far north as northern Ellesmere Island. It is found in most coastal regions from the Mackenzie River east to the northwest coast of Hudson Bay but only a few, mostly landlocked, populations occur west of the Mackenzie (Reist et al. 1997). They also occur on many other islands in the Arctic Archipelago, including Baffin Island (McPhail and Lindsey 1970, Scott and Crossman 1973, Babaluk et al. 1997, DFO 1999, Richardson et al. 2001, Evans et al. 2002, DFO 2005). Char are often the only fish species found in northern freshwater habitats (Johnson 1980). On Baffin Island, only ninespine stickleback (*Pungitius pungitius*) are known to co-occur with Arctic char (McPhail and Lindsey 1970; Scott and Crossman 1973). Char exhibit both anadromous and freshwater life history types and may be found in rivers, lakes, estuaries, and/or marine habitat depending on life history stage.

Life History Types

Two main life history types, anadromous and freshwater resident, have been identified for Arctic char throughout their distribution (Scott and Crossman 1973, Lee et al. 1980; Johnson 1980, 1989). Anadromous stocks spend a significant portion of their lives at sea but return to freshwater annually to overwinter or spawn. Freshwater resident stocks remain in freshwater throughout their lives. This includes stocks that are landlocked and have no access to the sea, as well as stocks that have access to the sea but do not migrate. The latter sometimes coexist with anadromous stocks (Johnson 1980), and may occupy the same lake as distinct populations.

In some cases the freshwater resident life history strategy can be further divided into ‘normal’ and dwarf forms, where two morphologically and behaviourally distinct populations coexist in the same waterbody. This kind of sympatry has been well documented in Europe (Klemetsen and Grotnes 1975, 1980; Hindar and Jonsson 1982; Jonsson and Hindar 1982), Greenland (Sparholt 1985) and Canada (Parker and Johnson 1991; Reist et al. 1995). Lakes with multiple coexisting morphs have also been reported from Europe (Frost 1965; Hinder and Jonsson 1982; Hammar 1984; Riget et al. 1986; Sandlund et al. 1987, 1992a; Savvaitova 1991), but none have yet been described in Canada (Richardson et al. 2001).

Rivers are mainly used as migration routes though some larger rivers in the southern part of its

distribution that don't completely freeze during winter may also be used for spawning and overwintering (MacDonell 1996, 1997, Evans et al. 2002, DFO 2005). Spawning in more northern populations (e.g. Baffin Island) likely occurs almost exclusively in lakes that are deep enough with withstand freezing over winter and at sufficient depths to prevent damage to incubating eggs (Johnson 1980, Dempson and Green 1985, Cunjak et al. 1986, Richardson et al. 2001). There may be some riverine spawning in the Kipisa Lake system on eastern Baffin Island (DFO 2005) and the possibility of riverine spawning in other regions cannot be completely ruled out. However, the bulk of anadromous char spawning activities likely occur in lakes.

Anadromous: Anadromous populations of char exist all along the coast of Baffin Island, wherever rivers provides unrestricted access to lakes that provide suitable spawning and overwintering habitat and are large enough to sustain migratory populations (Moore 1975, Kroeker 1987, DFO 2005).

Sexual maturity is typically reached between ages 3-13 depending largely on latitude (Dempson and Green 1985, Stewart and Bernier 1988, Richardson et al. 2001, Evans et al. 2002). Kroeker (1986, 1987) investigated anadromous Arctic char stocks in ten rivers in the Steensby Inlet, including the Ravn, Cockburn and Ikpikitturjuaq systems, and determined mean age of first maturity to be 11.2 and 11.9 years in 1985 and 1986, respectively.

In the Steensby Inlet area upstream runs commence around the middle of August and peak in late August or the first week of September (Kroeker 1986, 1987). Adult char likely congregate in estuarine habitat prior to migrating upstream.

Arctic char do not spawn every year, likely every two to four years, with individual frequencies likely determined by energy expenditure rates during each spawning event (Sprules 1952, Johnson 1980, Richardson et al. 2001, Evans et al. 2002). In Arctic Canada it is common that many or most individuals do not migrate to sea in the year that they will be spawning (Johnson 1980). Moore (1975) investigated four populations in the Cumberland Sound area, Baffin Island, and concluded that a large proportion of the adult populations remained in fresh water in their spawning years. Char typically show high fidelity to natal streams, though fidelity seems to decrease with age and there may be some mixing of stocks, primarily by resting (juvenile or non-spawners) individuals (Johnson 1980, Gyselman 1994, Evans et al. 2002).

Eggs hatch during spring (April-May) but the larvae typically remain in or near the substrate feeding on yolk sac reserves until July when invertebrate abundance increases (Evans et al. 2002). Young-of-the-year (YOY) char will also move into small tributary streams for feeding

and refuge during the summer. Though rearing areas have not always been identified for different stocks, it is thought that most YOY and young juveniles in NU use the lower reaches of tributary streams accessible from their natal lake (MacDonell 1996, 1997, DFO 2005). In lakes, young char tend to remain within 3 m of the shoreline (Moore 1975). They generally inhabit areas that are less accessible to larger char. Juveniles remain in freshwater for several years (3-8) before they undergo their first migration to the sea (Sprules 1952, Moore 1975, Johnson 1980, Richardson et al. 2001, Evans et al. 2002).

Downstream spring migrations generally begin as soon as ice break-up occurs (May-June) and involves both juveniles migrating to sea for the first time and adults that either spawned the previous fall or non-spawners that overwintered in freshwater (Dempson and Green 1985, Evans et al. 2002). Larger fish tend to begin spring migrations sooner than smaller adults or juveniles. During spring and summer char spend most of their time feeding in coastal or wholly marine environments but may venture briefly into freshwater habitat (Evans et al. 2002). Most anadromous char do not undergo extensive summer migrations, instead remaining within a limited feeding area (Dempson and Kristofferson 1987). Kroeker (1986) reported the view of Inuit fishermen from Igloolik that anadromous Arctic char in the Ikpikitturjuaq system remain very close to the river mouth during their stay in the sea, and my even make occasional forays into freshwater before their final upstream migration. Arctic char do not appear to overwinter at sea (Evans et al. 2002). Even non-spawning adults will migrate upstream to lakes or deep holes in rivers to overwinter.

Freshwater Resident: Freshwater resident Arctic char can be subdivided into normal and dwarf variants that exhibit some differences in biology. Freshwater resident populations can and likely do occur in most lakes throughout Baffin Island as long as they are sufficiently deep to support overwintering and have a current or historical connection to the sea. Normal lacustrine populations spawn during fall at approximately the same time (Sep-Oct) as anadromous populations (Scott and Crossman 1973, Gyselman 1984, Richardson et al. 2001) though they generally do not need to undergo lengthy migrations to reach spawning habitat. Spawning periodicity is also 2-3 years (Scott and Crossman 1973). Sexual maturity of normal landlocked populations in the Canadian Arctic is reached at younger ages (2-9 years) than for anadromous char (Sprules 1952, Richardson et al. 2001). Dwarf resident populations differ from sympatric normal residents by spawning at greater depths and at later dates (as late as February in some populations) than normal char (Jonsson and Hindar 1982, Klemetsen et al. 1997, Richardson et al. 2001). They can also mature at much younger ages than sympatric normal char (Parker and Johnson 1991, Richardson et al. 2001).

Growth rates of normal freshwater resident char tend to be much slower than for anadromous populations within the same geographic regions (McPhail and Lindsey 1970) likely due to reduced productivity of Arctic freshwater lakes compared with Arctic marine habitat (Richardson et al. 2001). Though growth rates may be reduced, normal freshwater residents can often reach larger overall sizes than sympatric populations of anadromous char (DFO 2005). Resident char in the Kipisa system on Baffin Island are known to not only attain a larger size than anadromous fish but they are also darker in appearance and have white muscle tissue instead of red muscle tissue (DFO 2005).

Though sympatric populations of normal and dwarf char are well documented (Hindar and Jonsson 1982, Jonsson and Hindar 1982, Parker and Johnson 1991, Reist et al. 1995, Richardson et al. 2001), there are also sympatric populations of three or four freshwater resident morphs in some European lakes (Hindar and Jonsson 1982, Sandlund et al. 1987, Sandlund et al. 1992a). Though not yet identified from Canadian waters, similar sympatric populations may exist on Baffin Island. Further research is required to reveal the existence of such populations.

Habitat Requirements

Spawning occurs from September to October typically over gravel and rock substrates at temperatures less than 3ºC and depths of 1-11 m along lake shorelines (Sprules 1952, McPhail and Lindsey 1970, Scott and Crossman 1973, Dempson and Green 1985, Richardson et al. 2001, Evans et al. 2002). Spawning on sand has been reported (Moore 1975; Dempson and Green 1985), but this is considered to be a less desirable substrate and may be the result of overcrowding on preferred substrate (Moore 1975). Spawning also has been reported to occur on vegetation (Gyselman 1984, Richardson et al. 2001), but this believed to be uncommon. Female char construct redds but do not cover the eggs following deposition (Evans et al. 2002). Where present, areas of groundwater upwelling may be used for redd construction (Cunjak et al. 1986) though the extent and use of these areas on Baffin Island are generally unknown.

Egg, larval, and juvenile development of freshwater resident char are similar to anadromous populations with younger, smaller fish remaining in shallow nearshore areas or in small tributary streams with sufficient cover (cobble, boulders, vegetation) likely to avoid predation by larger conspecifics (Lawrence and Davies 1978, Sandlund et al. 1987, Johnson 1989, Sandlund et al. 1992a and b, Halvorsen et al. 1997, Richardson et al. 2001). Juveniles can also be found in benthic habitat at depths > 5m to avoid the littoral zones occupied by large char (Johnson 1980, Sandlund et al. 1987, Richardson et al. 2001). Though normal adult residents tend to make seasonal shifts in distribution within lakes to compensate for fluctuations in food availability,

they are most often found in less than 5 m of water over cobble/boulder/gravel substrate (Sandlund et al. 1988, Sandlund et al. 1992a and b, O'Connell and Dempson 1996, Richardson et al. 2001). Adult dwarf residents differ by generally inhabiting shallow littoral habitats during summer and moving to pelagic areas during fall while sympatric normal char occupy even shallower water and show less seasonality with distributions (Klemetsen and Grotnes 1980, Hindar and Jonsson 1982, Richardson et al. 2001).

NINESPINE STICKLEBACK

Distribution

Ninespine stickleback (*Pungitius pungitius*) are found throughout the Canadian Arctic, including most rivers and lakes on the mainland and in portions of the Arctic Archipelago such as Baffin Island (McPhail and Lindsey 1970; Scott and Crossman 1973; Richardson et al. 2001; Evans et al. 2002). The current distribution of this species is thought to be largely influenced by the glaciation events of the Pleistocene epoch (2.6 Mya – 10 Kya) with three distinct centres of dispersal; the Mississippi, Bering, and Atlantic refugia (Aldenhoven et al. 2010). The form that exists along coastlines in NT and NU and in the Arctic Archipelago is the Bering form (McKenzie and Keenleyside 1970; Wootten 1976; Richardson et al. 2001; Evans et al. 2002). On Baffin Island, they are the only other widely distributed freshwater species besides Arctic char (McPhail and Lindsey 1970; Scott and Crossman 1973).

Life History

Ninespine stickleback exhibit lacustrine, riverine, and anadromous life history types (McPhail and Lindsey 1970; Scott and Crossman 1973; Wootten 1976; Richardson et al. 2001; Evans et al. 2002). Spawning for all life history types occurs in shallow brackish or fresh water, typically from May to late July, but it can also occur later during the open water season (McPhail and Lindsey 1970; Jessop et al. 1973; Scott and Crossman 1973) and as deep as 40 m (Goodyear et al. 1982; Richardson et al. 2001). Males defend spawning territory and construct nests or burrows in densely vegetated, low water velocity areas, where available, or in muddy organic bottoms or between rocks along wave swept shores when aquatic vegetation is sparse in some areas of the Arctic (McKenzie and Keenleyside 1970; McPhail and Lindsey 1970; Griswold and Smith 1972; Scott and Crossman 1973; Wootten 1976; Richardson et al. 2001; Evans et al. 2002). Kidney secretions are used to bind together vegetation or organic debris to construct nests (McKenzie and Keenleyside 1970; Jessop et al. 1973; Scott and Crossman 1973). Males may spawn with multiple females, enticing each into the nest where eggs are deposited by the females and then fertilized by the males after the females have been chased away (Scott and Crossman 1973; Richardson et al. 2001; Evans et al. 2002).

There are ecological, behavioural, and morphological differences in the spawning biology of the different forms of ninespine stickleback (Foster 1977). However, relatively little work has been conducted on populations of the Bering form, particularly in the Arctic

Archipelago (Evans et al. 2002). Habitat type and availability on Baffin Island likely influences breeding biology of local populations.

Eggs incubate for 4-7 days depending on water temperatures, after which the fry remain in the nest under the protection of the male for approximately two more weeks (McPhail and Lindsey 1970; Scott and Crossman 1973; Wootten 1976, Evans et al. 2002). After leaving the nest and protection of the male, juvenile ninespine stickleback in the Arctic congregate in shallow areas with sand or silty organic substrates to avoid predation. Anadromous juveniles use shallow brackish areas for early rearing. Like the adults, juveniles move to deeper areas, usually lakes, for overwintering (McPhail and Lindsey 1970; Goodyear et al. 1982; Becker 1983).

Ninespine stickleback typically mature during their first year and can reach 3-5 years of age (Lee et al. 1980; Scott and Scott 1988; Richardson et al. 2001; Evans et al. 2002). As with many Arctic fish species, northern populations may grow slower and reach higher maximum ages than southern populations; however, further research is required before this can be confirmed. Diet is comprised primarily of aquatic insect larvae, crustaceans, eggs and larvae of other fish, other small invertebrates, and algae (Scott and Crossman 1973; Wootten 1976, Lee et al. 1980).

Habitat Requirements

Ninespine stickleback prefer open water in lakes and the mainstem areas of large rivers (Scott and Crossman 1973; Becker 1983; Richardson et al. 2001; Evans et al. 2002). In the Arctic, ninespine stickleback are typically found in cool, quiet, weedy habitat in large, slow streams, shallow bays, tundra ponds, brackish pools, and sloughs (McPhail and Lindsey 1970; Scott and Crossman 1973; Lee et al. 1980; Becker 1983). In lakes they are found down to a maximum of 110 m and are believed to overwinter in deep water, but it is most common in shallow bays. They can also be found in slow streams and ponds. In rivers, ninespine stickleback prefer depths of 0.5-2.5 m with water velocities <0.30 m/s, but can be found in shallower and/or faster water (McPhail and Lindsey 1970; Worgan and FitzGerald 1981; Evans et al. 2002).Though they prefer heavily vegetated habitat, all life history stages of ninespine stickleback can also be found in open water areas, on gravel beaches, or in shallow, silty ponds with sparse aquatic vegetation (McPhail and Lindsey 1970, Scott and Crossman 1973; Richardson et al. 2001).

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