

# Photographs and Field Notes





C1: Photographs



McLean's Mountain Windfarm

October 26, 2004 North Channel: Station #11

Photo taken from the south (Little Current) side of the channel, looking east from the swing bridge at the shore.



#### Photo 2

McLean's Mountain Windfarm

October 26, 2004 North Channel: Station #11

Photo taken from the south (Little Current) side of the channel, looking north across the channel.



McLean's Mountain Windfarm

October 26, 2004 North Channel of Lake Huron Station #11

Photo taken from the north side of the channel, looking south at the shore area and channel.

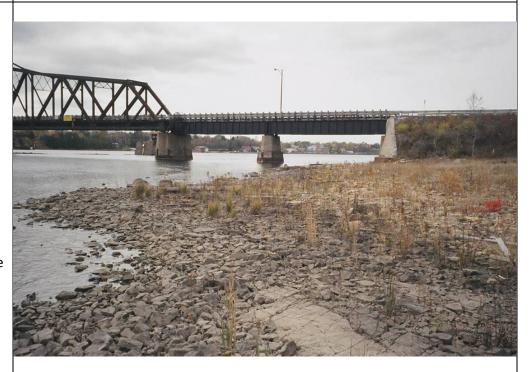


#### Photo 4

McLean's Mountain Windfarm

October 26, 2004 North Channel of Lake Huron Station #11

Photo taken from the north side of the channel, looking north at the swing bridge and shoreline.



McLean's Mountain Wind Farm

May 7, 2010

Perch Creek Station #1

Marsh area at downstream end of Perch Creek

Looking downstream



#### Photo 6

McLean's Mountain Wind Farm

May 7, 2010

Perch Creek Station #1

Looking upstream



McLean's Mountain Wind Farm

May 7, 2010

Tributary of Perch Creek Station #2

Upstream grass channel with minimal flow

Looking upstream



#### Photo 8

McLean's Mountain Wind Farm

May 7, 2010

Tributary of Perch Creek Station #2

Downstream culvert and open water wetland with small channel



McLean's Mountain Wind Farm

May 7, 2010

Tributary of Perch Creek Station #3

Blocked upstream double CSP culvert preventing flow downstream

Looking upstream



#### Photo 10

McLean's Mountain Wind Farm

May 7, 2010

Tributary of Perch Creek Station #3

Double CSP culvert downstream



McLean's Mountain Wind Farm

May 7, 2010

Tributary of Perch Creek Station #3

Wetland area upstream of back road (extension of Guida's Sideroad)

Looking upstream



#### Photo 12

McLean's Mountain Wind Farm

May 7, 2010

Tributary of Perch Creek Station #3

Wetland area with braided channels downstream of back road (extension of Guida's Sideroad)



McLean's Mountain Wind Farm

May 6, 2010

Tributary of Perch Lake Station #4

Open marsh wetland upstream of dry channel

Facing upstream



#### Photo 14

McLean's Mountain Wind Farm

May 6, 2010

Tributary of Perch Lake Station #4

Wet low lying area with standing water downstream of open wetland; no defined channel

Facing downstream



McLean's Mountain Wind Farm

May 5, 2010

Tributary of Bass Lake Station #5

High gradient stream with multiple waterfall barriers

Looking upstream



#### Photo 16

McLean's Mountain Wind Farm

May 5, 2010

Tributary of Bass Lake Station #5

Cattail wetland area upstream

Looking upstream



McLean's Mountain
Wind Farm

May 6, 2010

Tributary of Bass Lake Station #6

Channel formed by depressed tire marks with small flow through culvert north of Green Bush Rd.

Looking upstream



#### Photo 18

McLean's Mountain Wind Farm

May 6, 2010

Tributary of Bass Lake Station #6

Pool and small channel flowing into farm field south of Green Bush Rd.



McLean's Mountain Wind Farm

May 6, 2010

Tributary of Manitowaning Bay Station #7

Channel formed by depressed tire marks with small flow through culvert north of Green Bush Rd.

Looking upstream



#### Photo 20

McLean's Mountain
Wind Farm

May 6, 2010

Tributary of Manitowaning Bay Station #7

Pool and small channel flowing into farm field south of Green Bush Rd.



McLean's Mountain Windfarm

May 5, 2011

Tributary of Manitowaning Bay Station #9

West of Boozeneck Road.

Facing downstream



#### Photo 22

McLean's Mountain Windfarm

May 5, 2011

Tributary of Manitowaning Bay Station #9

Pond near Boozeneck Road Crossing.

Facing upstream



McLean's Mountain Windfarm

May 5, 2011

Unnamed Tributary
Station #10

Grass channel on the south side of Harbourview Road.

Facing upstream



#### Photo 24

McLean's Mountain Windfarm

Unnamed Tributary
Station #10

Undefined grass channel on the north side of Harbourview Road.

Facing upstream.





C2: Field Notes



Downstream

Dx 3567 - Harsh area bls view 3569 - bls view bloosections

**Ministry of Transportation** 

(2) 4 387, 2 415 MIN

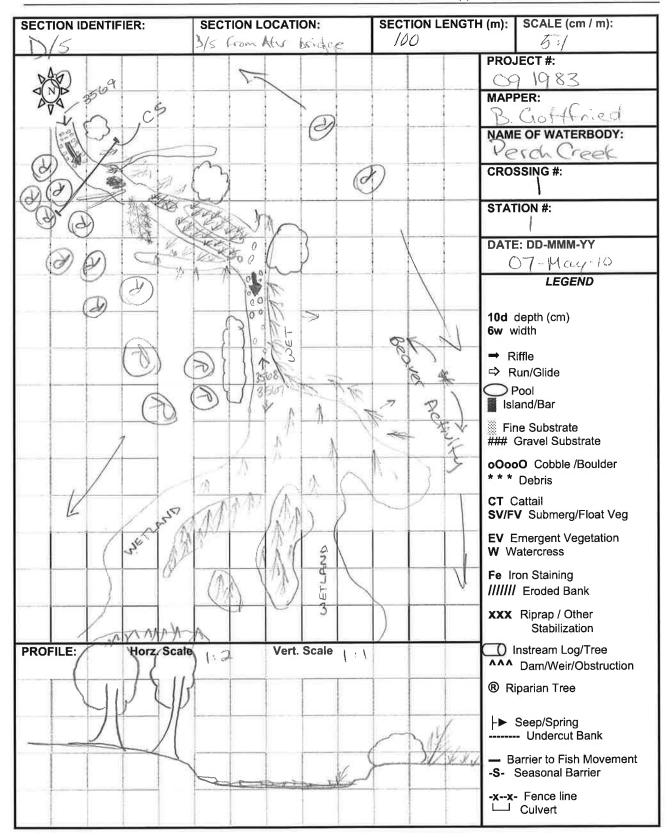
Section 4: Field Investigations

Environmental Guide for Fish and Fish Habitat

Appendix 4.A: Watercourse Field Record Form

GENERAL INF	ORMATION					,			
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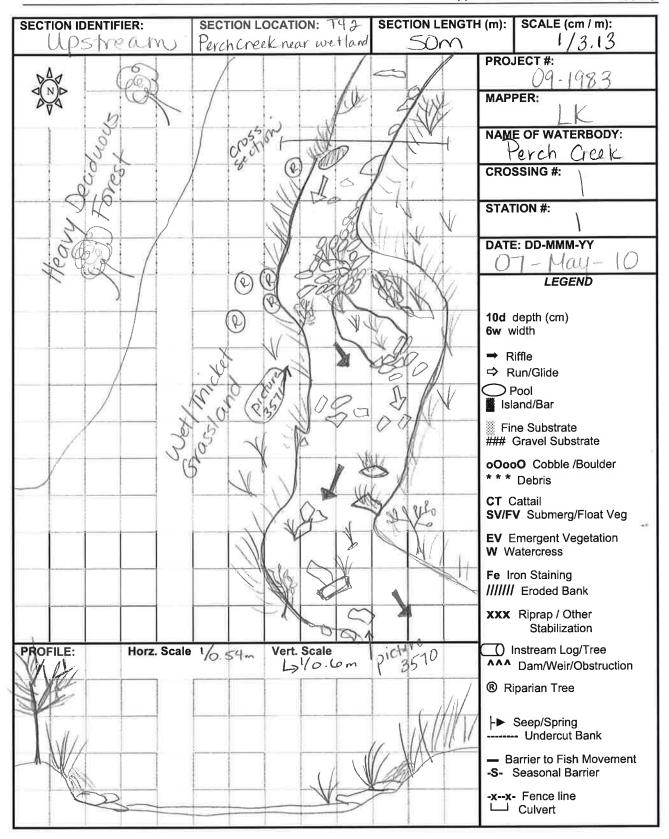
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Appendix 4.A: Watercourse Field Record Form

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HABITAT												
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Summer Entire le High bear												





### Ministry of Transportation Environmental Guide for Fish and Fish Habitat

Section 4: Field Investigations Appendix 4.E: Fish Community Inventory Record Form

GENERAL INFORMAT	ION								
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collectors:	G. LK				TIME ST	ARTED:	TI	ME FIN	IISHED:
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TOWNSHIP:			N	INR DIST		Espa	nola		
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LOCATION:	LENGTH (m)	AIR TEM	P. pH		DISSOL' OXYGEN (		WATER		ONDUCTIVITY (μS/cm)
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Downstream				-					4
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GEAR	*								
ELECTROFISHER:									
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Additional Notes Appe	nded? No	o Yes nun	nber of pages		_				

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CAPTUR	E INFORMATION			التاليسية	
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NO.	SCIENTIFIC NAME / COMMON NAME	PHYSICA	L CONDITION	TOP PRED	ATOR
		# fish with	# fish with	Length (mm)	AGE CLASS
		blackspot	lesions, tumours,	F= total fork or	YOY / Adult
177		Dhat	maturity etc.	(L = total length)	
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WT 111	Creek Chub			86 mm	
1	Brook Stickleback			43 mm	
州州	Northern Redhelly Dace	2565 4	3566		30 mm
HIT	Northern Redbelly Dace Central Mudminnow	3343		73mm	
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PAGE \_\_\_\_ of \_\_\_ Number all pages

Page 4 of 15

Oct-06

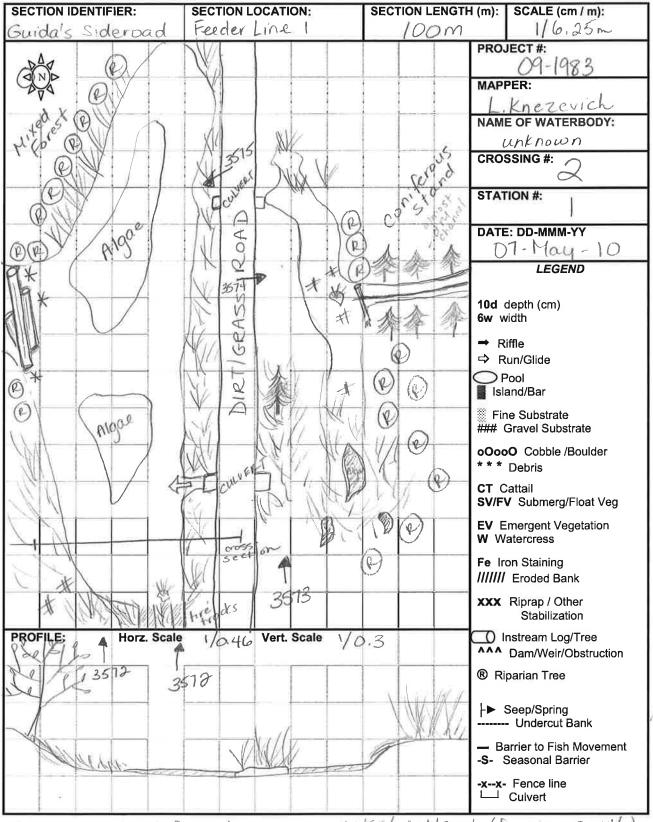
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as 15 - Dis open water

Ministry of Transportation
Environmental Guide for Fish and Fish Habitat

Section 4: Field Investigations Appendix 4.C: Fish Habitat Mapping



Pictures 3575 - Downstream open water/wetland (facing south)
3574 - Upstream dry channel into open water wetland (north)
3573 - Upstream and road (facing west)

17 T 0417794 5085106

+ Bear track, American Bittern call, ducks observed

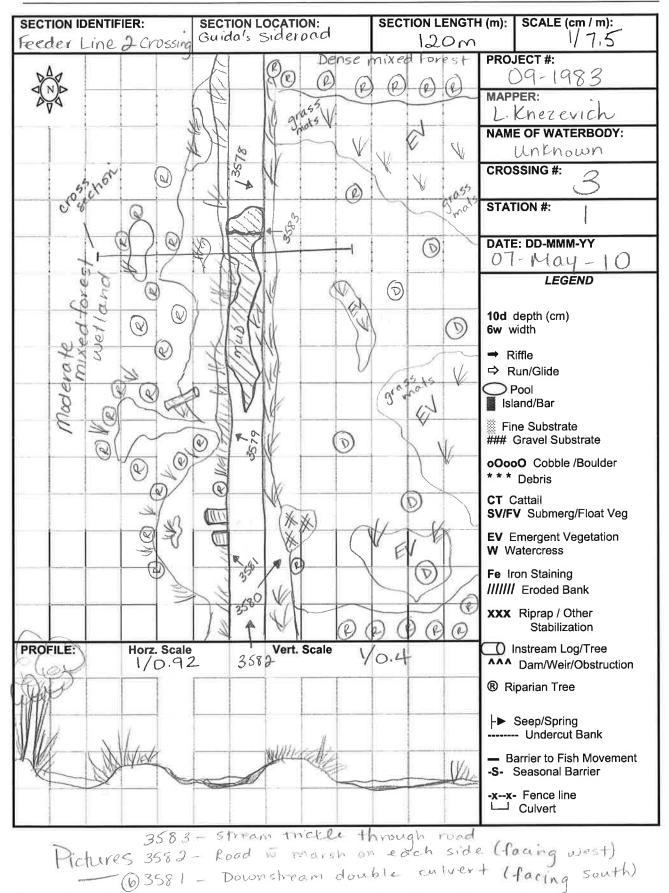
\* pic 3577 - Bear track

Section 4: Field Investigations

**Ministry of Transportation** 

Environmental Guide for Fish and Fish Habitat

Appendix 4.C: Fish Habitat Mapping



Oct-06

3580 - Blocked upstream culvert 3579 · Downstream wetland (facing south) 3578 - Upstream marsh (facing north)

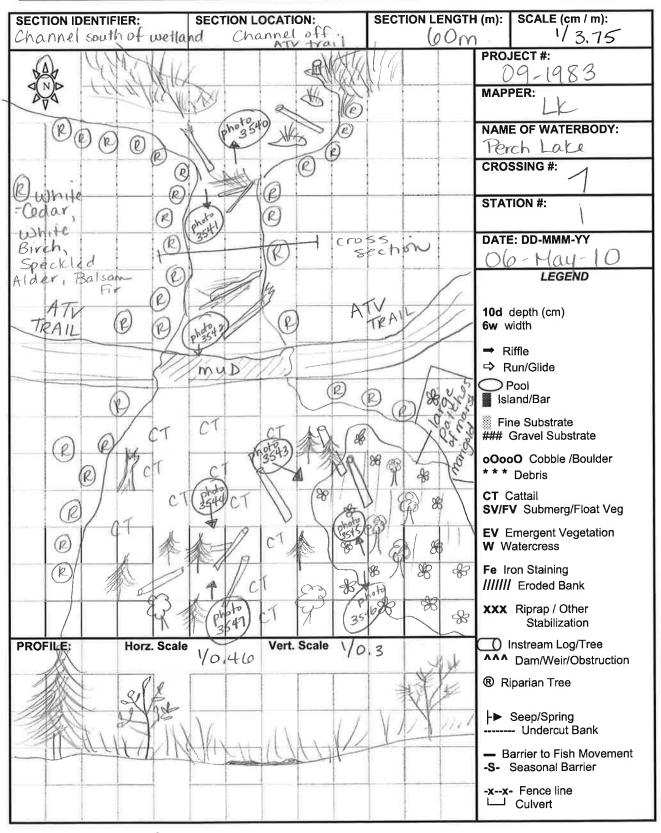
GENERAL INF	ODMATION									
PROJECT #:	ORMATION	PROJE	CT DESCRIPTION	ON: D/	AY:	MONT	Ή:	YEAR	₹:	
091	983	Mcs	leans	Col	) Co	0	2	J.	0(0	
Is STREAM RE	ALIGNMENT red	quired for	this section:							
O Yes	0 No	0 (	Jnknown							
COLLECTORS BPG	:  <		ATHER CONDIT	IONS:		STARTI 40	ED:	Т	IME FINISI	
AID TELID	0		WATER TEMP	٠ ٢	IA		CONDU	JCTIVITY		
	ERS AND DESC	RIPTIONS	See habi	(. f	, ~~~				7 - (7 -	
LOCATION			see havi	ren	map					
NAME OF WAT	ERBODY:	DRAIN	AGE SYSTEM:	CI	ROSSING	i #:	STA	TION #:		
			ch lerke	"	7		0.21	1		
LOCATION OF	CROSSING:		hound f		. rest	lano	2 4	Rec	cl. I	alie
mean -	T23	OK. 63						3 / 1		
GPS COORDIN	ATES: 042375	56 50	86220		CHAINAG		NI			
TOWNSHIP:	Manita	oulin		MNR	DISTRICT	ESPI	ANOL	A		
LAND USE AN										
SURROUNDING	Forest,a	to te	colly.	SOUR Neas	CES OF	POLLUT	ION:	cross	Cons	
Perch Lab		Treel,	)	<u> </u>						
EXISTING STR	UCTURE TYPE				_					
Bridge C	) [	Box Culver	tO Open	Foot Culve	ert O		CSP O		N.	/A Q
Other O Desc							Size (	w x h) m <sup>2</sup>		ŕ
SECTION TYPE	E AND MORPHO		250710111004	TION						
SECTION TYPE	E AND MORPHO		SECTION LOCA	TION: Ch	nanne Detla	1 nor	tho	AT AT	V tro	ul,
SECTION TYPE SECTION IDEN	E AND MORPHO ITIFIER:		SECTION LOCA (include on habitat m	TION: Clap)	etla	l nor	th a	of At th o	V tro	ail
SECTION TYPE SECTION IDEN	E AND MORPHO ITIFIER:		(include on habitat m	ap)	etla	end	th a	of At th o	TED WETL	ail
SECTION TYPE SECTION IDEN Whole TYPE: Strea	E AND MORPHO ITIFIER: Cheche m/river Cha	nnelized O	(include on habitat m	Intermit	etla	Epheme O	th a sour	of At th o ASSOCIA	TED WETL	ail
SECTION TYPE SECTION IDEN Whole TYPE: Strea	E AND MORPHO ITIFIER: Checked m / river Cha	nnelized O	Permanent O	Intermit	tent	Epheme O ELOCIT	th c sour	th o	TED WETL	ail
SECTION TYPE SECTION IDEN Whole TYPE: Streat TOTAL SECTION	E AND MORPHO ITIFIER: Checker m / river Cha ON LENGTH (m)	nnelized O	Permanent O Rif	Intermit  CUI	tent V	Epheme O ELOCIT	Y (m/s):	th o  ASSOCIA  Ye  N/A	TED WETL	ail AND:
SECTION TYPE SECTION IDEN TYPE: Streat TOTAL SECTION SUB-	E AND MORPHO ITIFIER: Checker m / river Cha O DN LENGTH (m)	onnelized O Poc	Permanent O Rif	Intermit  CUI	RRENT V	Epheme O ELOCIT	Y (m/s):	ASSOCIA Vec	TED WETL	ail AND:
SECTION TYPE SECTION IDEN TYPE: Streat  TOTAL SECTION SUB- SECTION(S) Percentage	E AND MORPHO ITIFIER: Checker m / river Cha O DN LENGTH (m)	onnelized O Poc	Permanent O Rif	Intermit  CUI	RRENT V	Epheme O ELOCIT	Y (m/s):	ASSOCIA Vec	TED WETL	ail AND:
SECTION TYPE SECTION IDEN TYPE: Streat  TOTAL SECTION SUB- SECTION(S) Percentage of area  Mean depth wetted (m) Mean width	E AND MORPHO ITIFIER: Checker m / river Cha O DN LENGTH (m)	onnelized O Poc	Permanent O Rif	Intermit  CUI	RRENT V	Epheme O ELOCIT	Y (m/s):	ASSOCIA Vec	TED WETL	ail AND:
SECTION TYPE SECTION IDEN TYPE: Streat  TOTAL SECTION SUB- SECTION(S)  Percentage of area  Mean depth wetted (m)  Mean width wetted (m)  Mean	E AND MORPHO ITIFIER: Checker m / river Cha O DN LENGTH (m)	onnelized O Poc	Permanent O Rif	Intermit  CUI	RRENT V	Epheme O ELOCIT	Y (m/s):	ASSOCIA Vec	TED WETL	ail AND:
SECTION TYPE SECTION IDEN TYPE: Streat  TOTAL SECTION SUB- SECTION(S)  Percentage of area  Mean depth wetted (m)  Mean width wetted (m)	E AND MORPHO ITIFIER: Checker m / river Cha O DN LENGTH (m)	onnelized O Poc	Permanent O Rif	Intermit  CUI	RRENT V	Epheme O ELOCIT	Y (m/s):	ASSOCIA Vec	TED WETL	ail AND:
SECTION TYPE SECTION IDEN TYPE: Streat  TOTAL SECTION SUB- SECTION(S)  Percentage of area  Mean depth wetted (m)  Mean width wetted (m)  Mean bankfull width (m)  Mean bankfull	E AND MORPHO ITIFIER: Checker m / river Cha O DN LENGTH (m)	onnelized O Poc	Permanent O Rif	Intermit  CUI	RRENT V	Epheme O ELOCIT	Y (m/s):	ASSOCIA Vec	TED WETL	ail AND:
SECTION TYPE SECTION IDEN TYPE: Streat  TOTAL SECTION SUB- SECTION(S)  Percentage of area  Mean depth wetted (m)  Mean width wetted (m)  Mean bankfull width (m)  Mean	E AND MORPHO ITIFIER: Checker m / river Cha O DN LENGTH (m)	nnelized O	Permanent O Rif	Intermit  CUI  Ffle  D	RRENT V	Epheme O ELOCIT	Y (m/s):	ASSOCIA Vec	TED WETL	ail AND:
SECTION TYPE SECTION IDEN TYPE: Streat  TOTAL SECTION SUB- SECTION(S)  Percentage of area  Mean depth wetted (m)  Mean width wetted (m)  Mean bankfull width (m)  Mean bankfull depth(m)	E AND MORPHO ITIFIER: Chenne M / river Cha O ON LENGTH (m) Run O	nnelized O	Permanent O Rif	Intermit  CUI  Ffle  D	RRENT V Flat 100 6.C	Epheme O ELOCIT	Y (m/s):	ASSOCIA Yea N/A culvert	TED WETL	ail AND:



BANK STABILI	TV										
BANK STABILI	UV	_	Stable	S	lightly Un	stable	Mode	rately Uns	stable	Unstable	9
Left Up	stream E	Bank	0		0			0		0 (	no ban
Right Up	stream E	Bank	0		0			0		0/	(no ba
HABITAT		-	U	_							
IN-STREAM COVER (% surface area):	Under bank		Boulders	Cobble	Instream	n	- 1	Organic debris	Vascular Mail Instream 75 Overhanging		None
SHORE CO	VER	1	00 – 90 %	90 –	60%	60-	30%		30 – 1%	No	ne
(% stream sh	aded):		0	(	)		3		0	<u> </u>	
VEGETATION	TYPE		Submerge	nt		Floating			Emergent		lone
(%):	ominant							Cartai		m	arsh
	Species						4	Osass	WI WILL	ails mo	rigold
MIGRATORY		None			Seaso	onal			Permanent		1
OBSTRUCTION	is:								Dense woo	low w	ster 3
POTENTIAL		Spaw	ning		Evide	nce of Grou	ndwater		Other		
CRITICAL HAB	IIAI				YES	3					
POTENTIAL EN	IHANCE	IENT	OPPORTUNIT	IES:							
-define	al.	000	nal								
- 61615	US 6		15.10	MARIE							
-define -flow -coarse	a	( - l	and V	CERCE	*20-70						
COCH SC	,2 C	DEA	IC T.								
											- 1
COMMENTS:				_							
- only	Som	200	hat	chan	neliz	ed 1	A 1	StA	6m (	4/5)	
- No fl											
- outlet	Ro	Le	15 Wel	Hend	15	15010	ated	duc	to m	ud/la	9
bottle										/	
- only	Ston	din	S/ poct	cel u	ocitor	in "	char	me "			
- No rea											
Additional Note	s Appen	ded?	O No O	Yes	number	of pages					

\* headed South into Constar thicket - o no sign of opening (70m South of 17 T 0423675

(No sign of Lake)



\* other photos

3548 - South looking at marsh 1-06 3550 - Stream channel through marsh 13551 3552 - Marsh, looking to the west

(2) 3518 - Bosnice

3520 - Leoting als need met land (mary).
3523 - Leoting Section 4: Field Investigations

**Ministry of Transportation** 

Environmental Guide for Fish and Fish Habitat

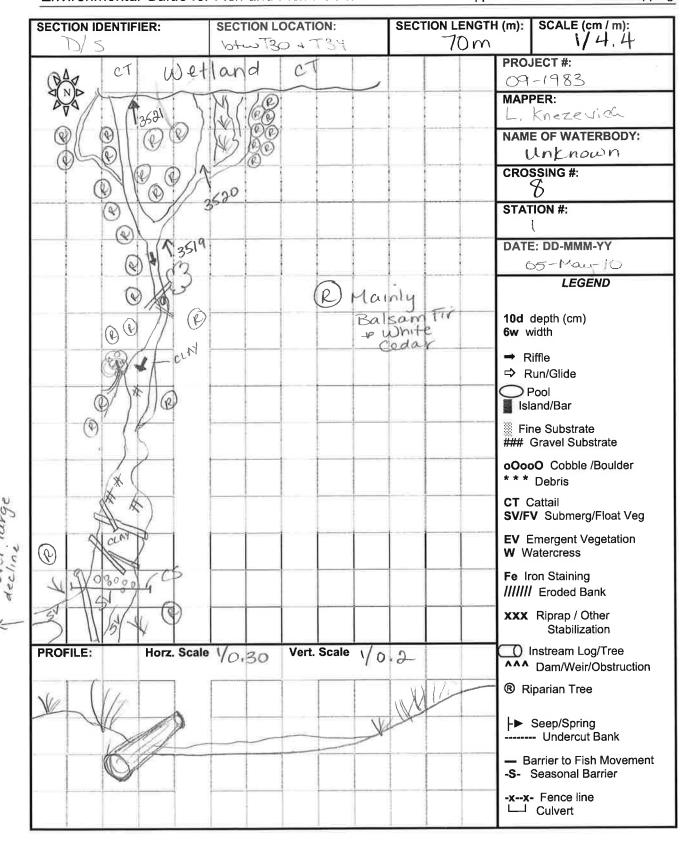
Appendix 4.A: Watercourse Field Record Form

														_
GENER	AL INF	ORMATIO	N						(10)					l
PROJEC	CT #: /	79-19	82			CRIPTIO		DAY:	MON	TH:	YEAR	201	0	
						lounta	(V)	05		0:	2	QU!		ł
Is STRE	AM RE	٠		quired for	this sec	tion:								
O Yes		XQ No		Ο ι	Jnknow	n								
COLLEC	CTORS		1 1	,		CONDITI			E STAR			IME FINIS		l
		BG,	LK	Su		part	ralcle	ond			:30		:40	
AIR TEN	MP:	15.0			WATE	R TEMP:				CONI	DUCTIVITY	(µS/cm):		
	107917-22									<u> </u>				- 5r. 70
РНОТО	NUMB	ERS AND	DESC	RIPTIONS	-10	2 2	(ule	مماليا	re of	2 A 14		Fe . 1	etland)	1000
4 - 1		DIS Bai	AFEA	/ 3	211	20	( 00   3	Cone	16 211	C CCI.	MEE	3 (0)	e rise of	nobite
LOCATI	_	TERBODY:		DRAIN	AGE SY	CTEM:		CROSSII	NG #:	ST	ATION #:			
		SUP	i		ch Lo		- 1	CROSSII	8	"	)			
			10.				. /	. (	0	-1 0 10	- G/		2.0	
LOCAII	ION OF	CROSSIN	G:	Chai	nnel	200	ノナハ	0+	Wet	Lar	d fl	own	9	
		over	V	righ	gra	diei	1+ (	cha	nnel	b/	w T:	30/34	f propo:	led ,
GPS CC					- J		мто	CHAIN	AGE:	NI	A		-	turbir
		17	T	04239	29 5	08440	7							1
TOWNS	HIP:	110		Inc. I			MNR	DISTRI	CT:	E800	nda			
ANIB	105-44			touli	1 )		-1							-
		D POLLUI G LAND U					SOL	RCES O	F POLLU	TION:				1
$\mathcal{M}_{\mathcal{O}}$	der	ate fr	SVP	st p	510-21	_		Von						
11 102	7010	grass	lar	nd	,		/	V810	2					
EXISTIN	NG STR	RUCTURE	TYPE				-							
				Box Culver	٠,	Onon	Foot Cu	lvort O		CSP (			√ AV	
	Bridge (			BOX Cuivei		Open	FOOL Cu	IVEIL O		7			W/ JA	1
Other O	Desc	rihe:								Size	e (w x h) m <sup>2</sup>			
		E AND MO	RPHO	DLOGY						GIL	Au X III			
SECTIO	N IDEN	ITIFIER:				N LOCA		Sout	h of	Wer	land	betu	reen	1
Betw	1-62/1	730 r	T.	34	(include o	n habitat ma	ip)	pro	pose	d -	130 p 7	34 +	urbines	
TYPE:	Strea	am / river	Cha	nnelized	Perm	nanent	Intern	nittent	Ephen	neral	ASSOCIA	TED WET	LAND: Tream	1
		0		X		0	b	×	0		Nort	sourc	c	
TOTAL	SECTION	ON LENGT	H (m)						VELOCI	TY (m/s		m/s		1
IOIAL	OLOTIN	011 01101	,								10	m/2	•	
SUI		Run	ì	Poo	ol	Rif	fle	F	lats	Insid	de culvert		Other	
SECTIO	ON(S)	0		<b>X</b>		}	χ		0		0			
Percer	ntage													
of a	rea			50	)	50	J	_						
Mean o	depth													
wette	d (m)			0.1	Om	0.00	5m	_						
Mean v	width													
wette	d (m)			0.8	m	0,5	5 M							1
Mea	an													
bank		-	-	1.0	^^	08	3m	_						
width				1,01	71	J. (	, ,			-				-
Mea				_								1		
bank depth														
Subst						1	10							
		-	-	mu		Co	1G1	-		and the property of the	pro militaria.			
Bedro	ck	Boulder		Cobble	Gra	vel	Sand		Silt	C	lay	Muck	Detritus	
Br		Bo		Co		ir	Sa		Si		CI	Mu	D	

-) lower part of stream (D/c) involves multiple Waterfalls and drops down escarpment

Appendix 4.A: Watercourse Field Record Form

BANK STABILIT	TY											
			Stable	S	lightly Uns	table I	Mode	rately Uns	table	L	Jnstable	)
Left Up	stream E	Bank	0		Ø			0			0	
Right Up	stream E	Bank	O		Ø			0			0	
HABITAT							LE S					
IN-STREAM	Under		Boulders	Cobble	Woody E	ebris		Organic	Vascu	lar Macrop	hytes	None
COVER (% surface	bank	(S			Instream			debris	Instrea			
area):	90	`		30	mstream			5	IIISUG	,		40
	20				Overhan	ging			Overh	anging		10
SHORE CO		1	00 – 90 %		60%	60- 30	%		30 – 1%		Noi	
(% stream sha		_	0	<u>)</u>		0		_	0		0	
VEGETATION	TYPE		Submerge	nt		Floating		E	Emergen	nt	N	one
(%):	ominant		10								1 9	$\bigcirc$
	Species					1					l	
MIGRATORY		None			Seaso	nal Lack	of	flow		nent Mu		
OBSTRUCTION	IS:					Herfall b			drop	os esco	arpm	ent
POTENTIAL		Spaw	ning limit	ed		nce of Ground			Other			
CRITICAL HAB			ential h			None						
LIMITING: POTENTIAL EN			e K	cts	_	1001	_					
W1'd-	en s	517 (	to allo	ed								
n 30 barriers to escarpment ar - very high grad down stream - no fish observ			area graded n	runi						ley		
Additional National	n Anne-	4040	X No. o	Vos	number	of pages						
<b>Additional Note</b>	s Apper	ided?	Ø No O	Yes	number	of pages		_				





# Ministry of Transportation Environmental Guide for Fish and Fish Habitat

Section 4: Field Investigations Appendix 4.C: Fish Habitat Mapping

SECTION IDENTIFIER:	SECTION LOCATION:	SECTION LENGTH (m):	SCALE (cm / m):
4/5	bto 730 + 734	50m	f:3
Q 11 1/1 1/1	11 11 11	1 1 1	JECT#: 9-/983
	W. K.	MAF	PER:
1 CT CT			E OF WATERBODY:
	CT C 8	CPC	SSING #:
	1 01	CRC	831NG #.
01		STA	TION #: /
		1 1 1	E: DD-MMM-YY
	9-1-		D5-May-10 LEGEND
CI	CT CT	404	d ( )
PA No. or			depth (cm) width
	Bat	1200	Riffle Run/Glide
L CT			Pool
		1	land/Bar ine Substrate
		[_/_]	Gravel Substrate
/ c3	C	000	oO Cobble /Boulder Debris
	C A		Cattail <b>FV</b> Submerg/Float Veg
17	•		Emergent Vegetation Vatercress
CS A N	25326		ron Staining // Eroded Bank
350	)	XXX	Riprap / Other Stabilization
PROFILE: Horz. Scale	Vert. Scale		Instream Log/Tree Dam/Weir/Obstruction
THE STATE OF THE S	9 9		Riparian Tree
1 9 9 9	11/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1		Seep/Spring Undercut Bank
	WAY VAN VAAA		Barrier to Fish Movement Seasonal Barrier
Pockated		-X)	r- Fence line Culvert

### Ministry of Transportation

Environmental Guide for Fish and Fish Habitat

Section 4: Field Investigations Appendix 4.A: Watercourse Field Record Form

GENERAL INFORMATION PROJECT DESCRIPTION: MONTH: YEAR: PROJECT #: DAY: 2010 09-1983 McLean's Mountain May 06 Is STREAM REALIGNMENT required for this section: No No O Yes O Unknown COLLECTORS: **WEATHER CONDITIONS:** TIME STARTED: TIME FINISHED: 12:40 0:20 Sun light cloud CONDUCTIVITY (µS/cm): WATER TEMP: AIR TEMP: PHOTO NUMBERS AND DESCRIPTIONS: - drawn on map 3527 4 35.28 LOCATION CROSSING #: STATION #: NAME OF WATERBODY: DRAINAGE SYSTEM: DIS unknown Green Bush Road west of Burnell's **LOCATION OF CROSSING:** Sideroad **GPS COORDINATES:** MTO CHAINAGE: 0426161 5087058 Espanola MNR DISTRICT: TOWNSHIP: Manitoulin LAND USE AND POLLUTION SOURCES OF POLLUTION: SURROUNDING LAND USE: Road runoff, sadimentation Savannah grass **EXISTING STRUCTURE TYPE** Open Foot Culvert O CSP X N/A O Bridge O Box CulvertO (diameter) Size (w x h) m<sup>2</sup> 0.40 m Other O Describe: SECTION TYPE AND MORPHOLOGY SECTION LOCATION: SECTION IDENTIFIER: Downstream (include on habitat map) Culvert along road ASSOCIATED WETLAND: TYPE: Stream / river Channelized Permanent Intermittent Ephemeral None 0 0 0 O CURRENT VELOCITY (m/s): TOTAL SECTION LENGTH (m): ~ /OOr~ SUB-Pool Riffle Flats Inside culvert Other Run SECTION(S) 0 0 0 0 Percentage of area Mean depth wetted (m) Mean width wetted (m) Mean bankfull width (m) Mean bankfull 0,20 depth(m) Gr, Sa, Substrate MU **Detritus** Sand Clay Muck **Bedrock Boulder** Cobble Gravel CI Mu D Во Co Gr Sa Br

0.16

Appendix 4.A: Watercourse Field Record Form

BANK STABILIT	ΓY											
			Stable	S	lightly Uns	stable	Mod	derately Uns	table	Unst	table	
Left Up	stream E	Bank	Ø		0			0			)	
Right Up	stream E	Bank	×		0			0		(	)	
HABITAT							٠,					
IN-STREAM COVER	Under bank		Boulders	Cobble	Woody D	ebris		Organic debris	Vascu	lar Macrophyte	es None	
(% surface			=====		Instream		.		Instrea		10	
area):	a):				Overhanging				Overh:	Overhanging		
					Overnan	99			Overnanging			
SHORE CO		1	00 – 90 %	90 –	60%	60-	30%		30 – 1%		None	
(% stream sha	aded):		0	C				0 0			0	
VEGETATION (%):	TYPE		Submerge 20	nt		Floating			mergen	t	None	
	minant		$\alpha U$					terres			10	
	Species							9	rass			
MIGRATORY		None		•	Seaso	nal Lag	ck c	F	Perma	nent Lack we su	betalo	
OBSTRUCTION							100		170	W + 3W	DSHUFE	
POTENTIAL CRITICAL HABI		Spaw			Evider	nce of Grou		ег	Other			
LIMITING:			MA			NIA						
POTENTIAL EN	HANCE	IENT	opportuniti strate, nite	IES:	y-							
Lack	5 5	ub	strate,	dept	h, poi	ol-n'	ffle	seg.	uen	Ce		
2 2 2	d	efi	nite 0	hann.	el							
and												
COMMENTS:												
Poor	14 0	def	fined c	hanr	nel r	unnII	29	throu	gh 1	culver	+	
thon	Jak	<	avanr	eah t	ype	gra	35	plain	MS.	Flow		
11110	"ugn	-	14.1 1 2	2 00 0 11	nts	of e	mei	rgent	ara	SSES		
15	100	<i>)</i> .	savanr High	(111000	7773	,		J	J			
Additional Nata	o Anno-	dod2	M No. O	Yee	m.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	of names	_					
Additional Note	s Appen	aed?	Ø No O	Tes	number	or pages		_				

## Ministry of Transportation Environmental Guide for Fish and Fish Habitat

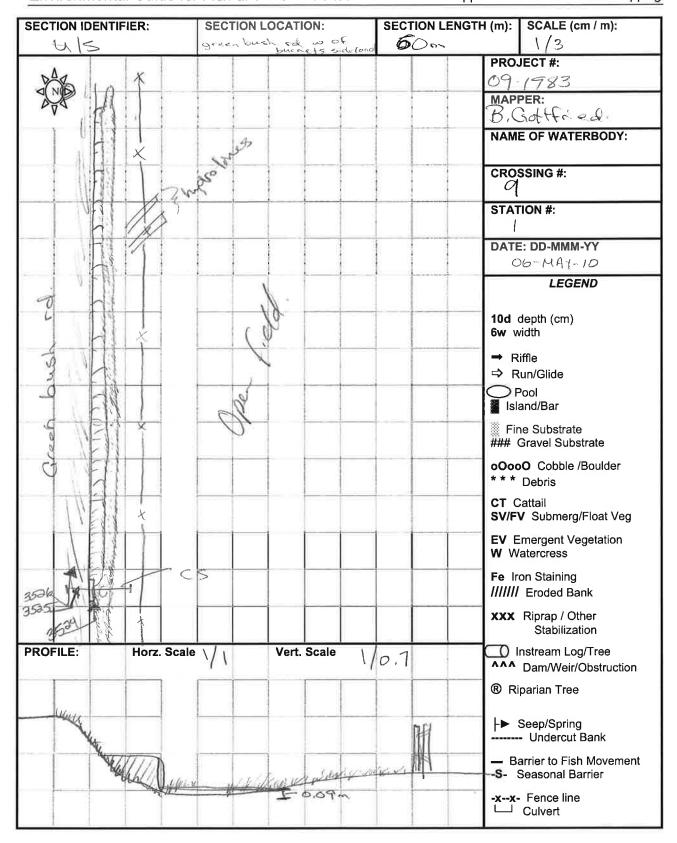
Section 4: Field Investigations Appendix 4.C: Fish Habitat Mapping

SECTION IDENTIFIER:	SECTION LOCATION: SECTION LENGTH		SCALE (cm / m):
DIS	Culvert on Green Bush		1/4.38
	Savo	type habitat	JECT #: 09 - 1983
8			PER:
	W W mail osh	Gre	en Bush Rd tland Istream area SSING#:
	Who said		TION #:
Dry V	Dry gra	\$ 5	1
grass 🔰			E: DD-MMM-YY )6 - May - 10
1	Green emerg	Hong Stream	LEGEND
	Channel	10d 6w	depth (cm) width
1	cross sec	⇒ I	Riffle Run/Glide
XXXM	V	- x	Pool land/Bar
VIV V	**************************************		ne Substrate Gravel Substrate
	The V		oO Cobble /Boulder Debris
( ) ( ) ( )	##		Cattail V Submerg/Float Veg
photo 3521	( ( ( ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (	EV W V	Emergent Vegetation Vatercress
	# # CULVERT	( CSPs ) Fe	ron Staining / Eroded Bank
	Dirt Gravel Road	Protog XXX	Riprap / Other Stabilization
PROFILE: Horz. Scale	the state of the s		Instream Log/Tree Dam/Weir/Obstruction
THE SHE	1//	MALANILI	Riparian Tree
Jan All M	While I would keep		Seep/Spring Undercut Bank
			Barrier to Fish Movement Seasonal Barrier
			r- Fence line Culvert

GENERAL INFORMATION PROJECT DESCRIPTION: PROJECT #: DAY: MONTH: YEAR: Joio 09-1983 Olo 05 Is STREAM REALIGNMENT required for this section: Ø No O Yes O Unknown **WEATHER CONDITIONS:** TIME STARTED: TIME FINISHED: COLLECTORS: 12:15 2:20 B. Golfford Sunay windy WATER TEMP: CONDUCTIVITY (µS/cm): AIR TEMP: 13°C PHOTO NUMBERS AND DESCRIPTIONS: Su holitat 1des D LOCATION NAME OF WATERBODY: **DRAINAGE SYSTEM: CROSSING #:** STATION #: NA NA LOCATION OF CROSSING: West of Burnets Green bush rd 12000 GPS COORDINATES: MTO CHAINAGE: NIA 17 T 0426161 5087058 MNR DISTRICT: TOWNSHIP: Manitoulin LAND USE AND POLLUTION SURROUNDING LAND USE: SOURCES OF POLLUTION: open pasture, gravel road, fenced road runoff **EXISTING STRUCTURE TYPE** CSP Q Bridge O Box CulvertO Open Foot Culvert O N/A O Size (wxh) m2 O440m Other O Describe: SECTION TYPE AND MORPHOLOGY SECTION IDENTIFIER: SECTION LOCATION: (include on habitat map) 50mu/5 Crossing of areca bush id ASSOCIATED WETLAND: TYPE: Intermittent **Ephemeral** Stream / river Channelized Permanent 0 0 0 TOTAL SECTION LENGTH (m): 50 CURRENT VELOCITY (m/s): N/A (Still Riffle SUB-Run Pool **Flats** Inside culvert Other SECTION(S) 0 0 0 0 0 Percentage 100 of area Mean depth 0.05 wetted (m) Mean width wetted (m) Mean bankfull width (m) Mean bankfull depth(m) al, sa, Mu Substrate Silt **Detritus** Cobble Sand Clay Muck **Bedrock** Boulder Gravel CI Mu D Br Во Co Gr Sa Si

Appendix 4.A: Watercourse Field Record Form

BANK STABILI	TY											
			Stable	8	Slightly Uns	table	Mod	erately Uns	table	Uns	table	
Left Up	stream I	Bank	0		0	0			0		0	
Right Up	stream l	Bank	9		0	o		0		0		
HABITAT												
IN-STREAM COVER (% surface area):	Under bani		Boulders	Cobble	Instream  Overhang	ging	Organic debris  Instream  Overhanging			es None		
SHORE CO		1	00 – 90 %	90 –	60%	60-	30%		30 – 1%		None	
(% stream sha	aded):		0		2		0		0		0	
VEGETATION	TYPE		Submerge	nt		Floating			Emergen	t	None	
(%):	ominant					6		terrestr.	_	\$5	3	
	Species					·.			Super			
MIGRATORY None OBSTRUCTIONS:			/	Seasoi	nal	-	Permanent					
POTENTIAL Spawning Evidence of Groundwater Seep Leon Groundwater												
LIMITING: POTENTIAL EN	HANGE	MENT	OBBODIUNIT	EC.								
- additi						હતું કહે.						
-ground = low e -goorly -Minor	grade (	ien.	t, heavi	ly vec	no k	ant	ful	Ç	See	55		
Additional Note	es Appei	nded?	Ø № O	Yes	number	of pages						



## Ministry of Transportation Environmental Guide for Fish and Fish Habitat

Section 4: Field Investigations Appendix 4.E: Fish Community Inventory Record Form

GENERAL INFORMAT								, I			
PROJECT #: 09-1	983 /	PROJECT DESC MCLEAN'S M	RIPTION:	DAY	06	, MON	TH: Lay	YEA	2010		
collectors: 8	G, LK	-			TIME	STARTED 1:1	_	TIME F	INISHED: 4:00		
		ight clo	and I		SURFA	CE CON	DITIONS (i	f applic	able):		
CONDITIONS:	ening, i	gni		Calm Rippled Wavy Rough				Rough			
				X		0	- 1	0	0		
GENERAL LOCATION											
NAME OF WATERBOD				LOCATION OF STATION:							
Unkno	wn			Green Bush Rd. Roodside Stream/u							
TOWNSHIP:	anito u	ulin		MNR DIS		anal	a				
SAMPLING LOCATION	S AND WATE	R CHEMISTRY									
US (North road side)	LENGTH (m)	AIR TEMP (°C)	, p	н		N (mg/L)	TEMP		CONDUCTIVITY (μS/cm)		
Upstream	1	13°c									
Downstream		13'c									
Culvert / Hwy ROW		100									
WATER COLOUR:	Colourles	s O Yellow	brown 🖠	Blu	ie/green	0	Turbid O		Other O		
GEAR											
ELECTROFISHER:											
Length (m): 550	$\sim$	Settings:	250,	(ot)		Seconds: 6/0					
NETS and TRAPS:			~ 001								
MINNOW TRAP: O	#	DIP NET	Ø	TRAP NET O							
SEINE: O		GILL O		OTHER O specify							
HAULS			Time (24 ho	4 hour clock):							
(#):		Set			Clear						
		Time				time					
LENGTH		MESH SIZ	ZE:			DEPT	H OF CAP	TURE:			
(m):		Smallest					um (m):				
SAMPLE COLLECTION		Largest (	cm):			Maxin	num (m):				
FISH KEPT?		# OF BAGS			Р	RESERV	ATIVE:				
O Yes No			Formalin	0	Frozen	0	Alcohol	0	Other O		
COMMENTS											
All found side (	in sm northe	nall pool rn side dehonal	near e) I fish	· cu	lver serv	t, or	г ир.	she	an		
			·								
Additional Notes Appe	nded? X No	o Yes num	ber of pages	s							

NIA

NIA

Section 4: Field Investigations Appendix 4.E: Fish Community Inventory Record Form

CAPTU	RE INFORMATION				
PRO	JECT NO.:	STATION N	IO.:		
NO.	SCIENTIFIC NAME / COMMON NAME	PHYSICA	AL CONDITION	TOP PRED	ATOR
		# fish with blackspot	# fish with lesions, tumours, maturity etc.	Length (mm) F= total fork or L = total length	AGE CLASS YOY / Adult
2	Northern Redbelly Dace			76/68	
1	Northern Redbelly Dace Central Mudminnow	3534, 3535		43	
	+ Check ID of				
	* Check ID of  N. Redbelly Daniel  thinks it may be a finescale dace				
	a finescale dace				
	11.				
		2			

Circle number if a sample was kept

PAGE \_\_\_\_\_ of \_\_\_\_ Number all pages

Oct-06

Page 4 of 15



(B) 3532 uls ditch

(b) 3529 DIS pool/did Section 4: Field Investigations

Ministry of Transportation

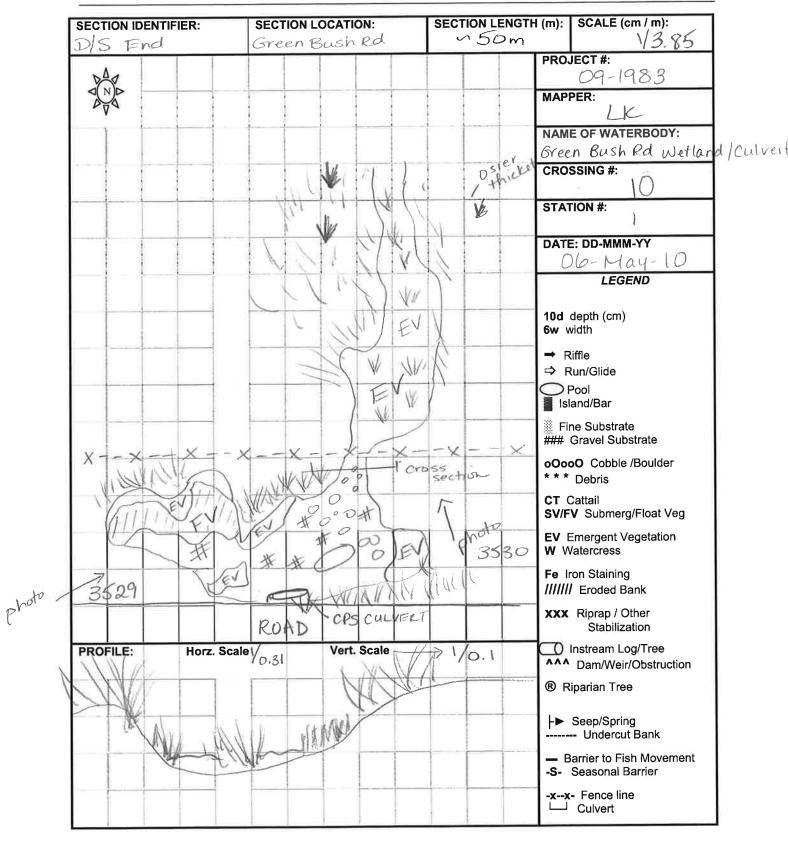
Section 4: Field Investigations

Environmental Guide for Fish and Fish Habitat

Appendix 4.A: Watercourse Field Record Form

OFNEDAL IN	50DMATION						_				
GENERAL IN PROJECT #:		DDO II	ECT DESCRIP	TION	DAY	٧٠ .	MONT	H·	YEA	R:	
r ROSLOT #.	09-198	83 McLe	an's Mour	Main	A	<b>Y</b> :06	/	1ai	/	R: 201	0
Is STREAM R	EALIGNMEN				,			7			
O Yes	Ø No	0	Unknown								
COLLECTORS	/.	WE	ATHER CON	DITION	<b>1</b> S:	TIME	START	ED:	- 1	TIME FINIS	HED:
	BG, LI	K S	unny, lie	aht.	cloud		2	1:30		3:	00
AIR TEMP:	113°C		WATER TE	MP:		111		COND	UCTIVITY	/ (µS/cm):	
	15 0										
PHOTO NUME	BERS AND D	ESCRIPTIONS	: 2610	9/00	ad si	dela	beers	r) .	3530	(day	onstream)
LOCATION			004	(10	au sn	AUTEU	A P Co.			(UV	
LOCATION NAME OF WA	TERBODY:	DRAIN	IAGE SYSTE	M:	CR	OSSING	3 #:	STA	ATION #:		
					•	10	)	"		/	
LOCATION OF	CROSSING		nknou	11.1		-10	C = 0		R 1	pd	
Down	nstrea	m rid	e of c	ulv	ert	on	Gre	en	DUSI	PU	
	$\omega$	est of	Burn	etts	Sid	ero	ad				
GPS COORDI	NATES:	_			мто сн						
	1	04261	92 50871	2501	MANIE EI	OTDIOT			,		
TOWNSHIP:					MNR DI	SIRICI	: E	sp	anol	a	
LAND USE AN	ND POLLUTIO	ON									
SURROUNDIN	IG LAND US	E:	- /		SOURC	ES, OF	POLLUT	ION:	diana	ntat	ion/
Open	grass	savani	1an					50	aime	11 1 00-1	,,,,,
					rui	1 0	† · <del> </del>				
EXISTING ST	RUCTURE TY	/PE							$\overline{\mathbf{H}}$		
Bridge	0	Box Culver	tO O	pen Fo	ot Culver	t O	1	CSP		r	N/A O
Other O Des	cribe:							Size	(w x h) m	$^{2}$ $0.44$	m diam.
SECTION TYP		PHOLOGY	"								
SECTION IDE			SECTION LC (include on habit		on: Cu	uver	t on	Gra	eenE	ush	Ra.
Culvert	DIS		`								
TYPE: Stre	am / river	Channelized	Permanen	t	Intermitte	ent	Epheme	eral	ASSOCIA	ATED WET	
	0	0	0		×		О			Non-	e
TOTAL SECTI	ON LENGTH	l (m):			CURI	RENT V	ELOCIT	Y (m/s	):		Ť
OUD	T Post	Par		Diffic		Elet	- I	Incid	a subject	1	Other
SUB- SECTION(S)	Run	Poe		Riffle		Flat		msiu	e culvert		Other
	0	0		0		×			0	<b>.</b>	
Percentage of area						100	$\circ$ $\mid$	-			
						, 0 (				-	
Mean depth wetted (m)	~ 1 - of <del>1 - of 1 - of</del>					0.0	5				
Mean width										-	
wetted (m)	4124-4		Paterna A	or tales of the		2.0	)	-		-	
Mean										1	
bankfull				-		2.	0				
width (m)						٠, ١	_			-	
Mean						^ '	7				
bankfull depth(m)	-			CTT .		0.0	10	-		-	
Substrate					(-	or, Co	,	-		1	
	Parks sheldown	- Andrews	(30), (40)	SOUTH STATE		50,1	Ď l			THE PROPERTY.	No All Properties
Bedrock	Boulder	Cobble	Gravel	1	Sand	_	Silt	CI	ay	Muck	Detritus
Deditork	Bo	Co	Gr		Sa		si		יי ויי	Mu	מ

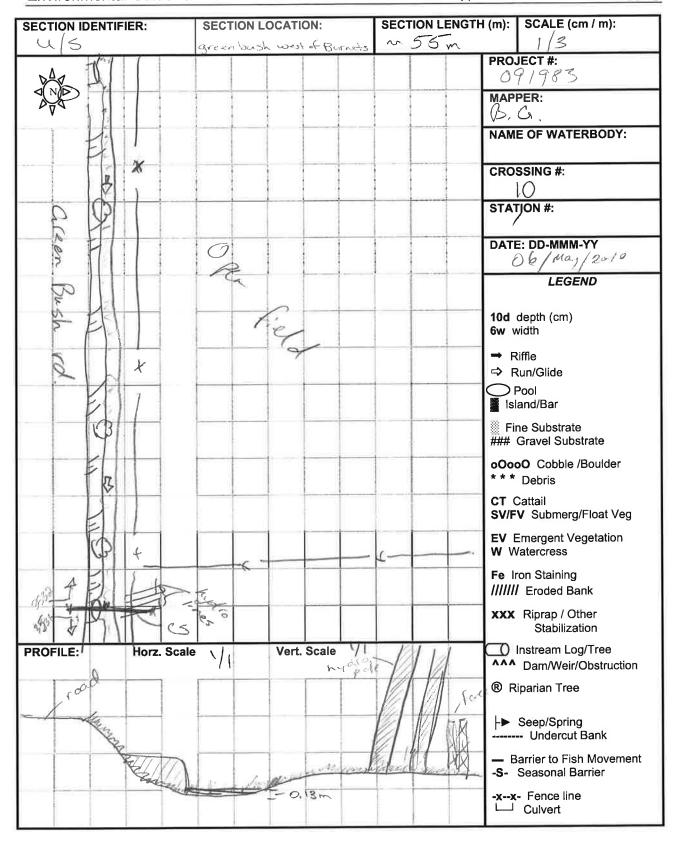
BANK STABILI	TY												
		Stable	S	lightly Un:	stable	Mod	Moderately Unstable			Unstable			
Left Up	stream B	ank	) X		0			0		0			
Right Up	stream B	ank	<b>X</b>		0	0		0		0			
HABITAT													
IN-STREAM COVER (% surface area):	Underd bank		Boulders	Cobble	Woody I			Organic debris		lar Macrop		None 5	
areaj.				,	Overhar					anging \			
SHORE CO		1	00 – 90 %	90	60%	60-	- 30%		30 – 1%				
(% stream sha			0	<u> </u>	<u> </u>	Fleeting	<u> </u>		<u> </u>			0	
VEGETATION (%):	TYPE		Submerge	nt		Floating			Emergen (A)	Emergent		опе	
	ominant		Moss,					O.C.	SSES		1 10	$\bigcirc$	
	Species	fil	amentous	algae	$\alpha$	lgae		gra	276.2				
MIGRATORY OBSTRUCTION		None		J	Seaso	onal flou	w, su	ubstrate		nent Fl strate,	pool/	nfle	
POTENTIAL		Spaw	ning		Evide	Evidence of Groundwater							
CRITICAL HAB	ITAT					Non	e						
POTENTIAL EN	IHANCEN	IENT	OPPORTUNIT	IES:				- 11. 15.					
COMMENTS			opportunit te thro										
Simila	strec	2.11	O No O	ss Sa		for s ah r	nte mai	4 + 5 rsh/r	s to nea	mer dow	ge		



Appendix 4.A: Watercourse Field Record Form

GENERAL IN	ORMATION									
PROJECT #:	0		CT DESCRIPTION	ON:	DAY:	MON		YEA		
09198			e año		06	06	)	و لئ	0.0	
Is STREAM RE										
O Yes	Ø No		Unknown		- 1.			1.	THE FINIS	UED.
COLLECTORS	D 1. Kass	WE	ATHER CONDIT	rions:		IME START	ED:		TIME FINISI ろいの	1ED:
AIR TEMP:	La 10 Pouc	200	WATER TEMP	Mount		0120	CONDI		(µS/cm):	
13			WATER TEIM	• -		-		_		
PHOTO NUMB			tat m	~0						
LOCATION				- 1			.,			
NAME OF WA		DRAIN	AGE SYSTEM:			SING #:	STA	TION #:		
Unk	nown				10	)		<u> </u>		
LOCATION OF	CROSSING:									
MA Q	ren bu	sh of	west	7	(	RICAC	15	Side	Cd.	
GPS COORDIN		1121	00 - 3 1		O CHAI	NACE				
17.1	0426	193 5	087063				11	Α		
TOWNSHIP:	Manit			MN	R DISTI	RICT: ES	DAN	sla		
LAND USE AN							1,20			
SURROUNDIN		,		so	URCES	OF POLLU	TION:			
gravel roa	d, spen	field		100	od co	m off				
9										
EXISTING STR	UCTURE TYP	E								
Bridge (	)	Box Culver	tO Ope	n Foot C	ulvert C	)	CSP Ø		N	/A O
								9	0 ( )	
Other O Desc		101.007					Size	(wxh)m	0,60.	n
SECTION TYP		IOLOGY	SECTION LOCA	ATION:	Cul	vert o	n Gr	een 1	Rush 1	2 d.
u15			(include on habitat r	nap)	Curi	veri	,, 0.		,	
	am / river   Cl	nannelized	Permanent	Inter	mittent	Ephem	eral	ASSOCIA	TED WET	AND:
	0	0	0		0	· o			NIA	
TOTAL SECTION			2	1	CURRE	NT VELOCI	Y (m/s):	1 10		
TOTAL GLOTI	ON ELITOTIS (	n): 3						(V) 1		
SUB-	Run	Pod	ol R	iffle		Flats	Inside	culvert	'	Other
SECTION(S)	0	0		0		0		0		
Percentage						100				
of area					-	100				Name of the last o
Mean depth wetted (m)						,10	part of the	The Sold Solds ago galaxy	all littles name the outstand 15 of 100 Co.	And the state of the last of t
					+				ļ	
Mean width wetted (m)					3.	5	54			
Mean	<del></del>									
bankfull			had become that the	digment & solver	1	/A	3	Azyd N (Interit		Non-Light.
width (m)						{				
Mean					Α.	P		or a bireach wide, design and it and	di giamani - Ambaran Maria	Control of the Contro
bankfull depth(m)		THE PROJECT CHIEF THE REST OF	to do discount fall spirit level megal in 1999.	annew and	/\	11				
Substrate		and a place to the party of the	The state of the s	and the same of th	ev.	sa, Nu,				
	proved to the providence of the	The state of the s				· v		San married and and and and and and and and and an	Destroyment Services	TOTAL O THEODORY
Bedrock	Boulder	Cobble	Gravel	Sand	d	Silt	Cla	у	Muck	Detritus
Br	Во	Co	Gr	Sa		Si	C	I	Mu	D

BANK STABILI	ΤΥ								
		Stable	S	lightly Unstable	Mod	lerately Uns	table	Unstab	le
Left Up	stream Ba	ank 0		0		0		0	
Right Up	stream Ba	ank 0		0		0		0	
HABITAT									None
IN-STREAM COVER (% surface area):	Underc banks		Cobble	Woody Debris Instream Overhanging	debris debris			eam 85 hanging	
SHORE CO	VER	100 – 90 %	90 –	60% 6			30 – 1%		опе
(% stream sha	aded):	0			0	0 0			0
VEGETATION	TYPE	Submerç	jent	Floating		E	mergent 5		None
(%):							-rial q	ass	
	ominant   Species	-				0,091	2		
MIGRATORY OBSTRUCTION		lone		Seasonal			Permane	nt	
- oddition - oddition - increas	HANCEM M 0 0	Tourd lace	subsi		Ari Za	depth.			
		if the line		u/s sour		51 W	na &		





## Ministry of Transportation Environmental Guide for Fish and Fish Habitat

Section 4: Field Investigations Appendix 4.E: Fish Community Inventory Record Form

GENERAL INFORMAT	ION							-		
PROJECT #:		PROJECT DESC	CRIPTION:	DAY	′:	MONTH	1:	YEAR	t: _	
09198		Mrlean's 1			06		lay		2010	
COLLECTORS: PG	FILK					ARTED:			NISHED:	
			— г			E CONDI	TIONS (if		+:30	
WEATHER CONDITIONS:	innu 1	ight clo	nd -						T	
oonsinonoi o	Zinigi i	gri		Calm	י ן י	Rippled		avy	Rough	
				Ø		0		0	0	
MAME OF WATERBOOM	V.			LOCATIO	ON OF STA	TION				
Unkn			/	SCOOL	Buch	ed i	unct a	C R	urnets Si	
TOWNSHIP:	000			MNR DIS	STRICT:	20.0	OESI 0	I D	X/ [L. ] 3 (3)	
man	itoulir	7		1	Espa	nola	_			
SAMPLING LOCATION					Spo					
LOCATION:	LENGTH		P. pl	Н	DISSOL		WATE		CONDUCTIVITY	
	(m)	(°C)			OXYGEN	(mg/L)	TEMP (	(°C)	(µS/cm)	
Upstream										
Downstream					Total Self Self-Self-Self-Self-Self-Self-Self-Self-					
				and the same of th				_		
Culvert / Hwy ROW										
WATER COLOUR:	Colourles	s Yellov	v/brown O	Blu	ue/green C	) т	urbid O		Other O	
GEAR		7								
ELECTROFISHER:										
Length (m):	m	Settings	250,	100		Second	ls: ( (	10		
NETS and TRAPS:	110		4001	Ce U						
11210 2110 11011 01				_						
MINNOW TRAP: O	#	DIP NET	Ø	TRAP NET O						
SEINE: O		GILL O		OTHER O specify						
HAULS		Period C	of Time (24 ho	24 hour clock):						
(#):		Set				Clear				
		Time	_			time				
LENGTH		MESHS	IZE:			-DEPTH	OF CAP	TURE:		
(m):		Smalles	(cm):			Minimu	ım (m):			
		Largest	(cm):			Maximu	ım (m):			
SAMPLE COLLECTION	N									
FISH KEPT?		# OF BAGS				ESERVAT		T		
O Yes 🛛 No			Formalin	0	Frozen (	)	Alcohol	0	Other O	
COMMENTS:										
1/2 (	1. 00	unht								
Not	sh ca	ugni								
Additional Notes Appe	ended? No	o Yes nui	nber of page	s						

NIA

NIA

NO. SCIENTIFIC NAME / COMMON NAME    Physical Condition	CAPTUR	CAPTURE INFORMATION											
# fish with blackspot lesions, tumours, maturity etc.  AGE CLASS YOY / Adult  Age			STATION NO.:										
# fish with blackspot lesions, tumours, maturity etc.  AGE CLASS YOY / Adult  Age	NO.	SCIENTIFIC NAME / COMMON NAME	PHYSICA	L CONDITION	TOP PREDATOR								
CAUGHT			# fish with	# fish with lesions, tumours,	Length (mm) F= total fork or	AGE CLASS YOY / Adult							
CAUGHT													
		CAUGHT											
		\			/								
				and the state of t									
			3000										
Circle number it a sample was kent	Circle :	number if a sample was kept			<b>\</b>								

PAGE \_\_\_\_\_ of \_\_\_ Number all pages

D.5015 Mcleans Mtn May 5 2011 Water course crossing on Harbour ViewRoad Photos 9883-9885 South Side Harbor View Rd. Width 0.5 m depth 5 cm culvert, ~30 cm substrate grass , channel poorly defined. Water course crossing at Boozeneck Road photos 9892 - 9894 Crossing at Boozeneck bokus Downstran - Width ~ 12.5-3 m at crossing - depth ~ 5-10 m at crossing - water from sewage treatment lagoons emptis Into check - water very green Boszeneck ~ 200 m before Crossing under bridge.