



APPENDIX B

Site Investigation Field Notes

1071 cloudcover

Date: 10 Sept 2010	Project #: 10-1181-0085	Weather Conditions: sunny wind 13 km/hr
Collectors: Lasha Mine	Time: 10:15	Time: 10:45
Watercourse Name: 4 (cut) tunnel	30A	55d
Reach ID	003	003
UTM easting and northing (CL of crossing)	0597481 4745158	0580378 4747173
Flow regime (permanent, intermittent, ephemeral)	Permanent	not a waterbody as defined by R.I.P.
Mean Bank width (m)	wet: 2m 2m Full: 5m	wet: N/A Full: no bank
Mean Bank depth (cm)	wet: 50cm Full: 2m	wet: N/A Full: no bank
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	SI 60 MU 20. BO 10%. CL 10 water opaque silty	SI CL
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	meandering stream w some po large pools	not a waterbody, field swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) slightly stable	LUB unstable
	Right upstream bank (RUB) slightly stable	RUB unstable
Flow conditions (dry, stagnant, low/moderate/high flow)	low flow	any
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	poor - herbaceous, well grazed by cattle - Bromo grass - Queen - Aster spp. ^{canes} - some Broad-leaved ^{lacc} ^{arrowweed}	poor - soy
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- pipe loosestone emergent reed edge - low cover, riparian area very grazed no instream cover (than opacity)	poor - soy
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	None observed (opacity)	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	- potential refuge, spawning - low flow	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	no fish observed (too opaque) but very likely as runs into sandstone Creek	none 100% disturbed (has been plowed in last year)
Photo Numbers	upstream 6 downstream 7	upstream 9 downstream 10

- horse wren
- Kingfisher
- blue jay
- frog (green)

water: N/A Air: 16°C

Nexera Nantredoke

humid

Date: 31 AUG 2010	Project #: 10-1151-0035	Weather Conditions: Sunny, 0% cloud cover wind 5-10 km/hr
Collectors: Losh's Mine & Kurt Stamm	Time:	Time:
Watercourse Name: Losh's Pond	287	
Reach ID	# 287	
UTM easting and northing (CL of crossing)	0591820 4748765	
Flow regime (permanent, intermittent, ephemeral)	Permanent (under culvert)	
Mean Bank width (m)	wet: 6m	Full: 8m
Mean Bank depth (cm)	wet: 50cm	Full: 15m
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MUMuck, DE-detritus)	MU CL SI	
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	meandering, flat	
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) Slightly Stable	
	Right upstream bank (RUB) Slightly stable	
Flow conditions (dry, stagnant, low/moderate/high flow)	low	
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	fair -- upstream well shaded (80%) by Ash, buttonbush, cardinal flower, hawthorn	
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	instream cover 90% cover w/ button bush & culvert & trees overhanging.	
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	- low flow refuges pools - Good cover	
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	- Green frogs fish observed, downstream component same as downstream component for 286	
Photo Numbers: Losh's camera	DOWNSTREAM 48	UPSTREAM 49 AT CULVERT 50
Temperature (oC)	water: 19.6 oC	Air: 29.5 oC

Northern Nantahale

Date: **27 AUG 2010**

Collectors: **Lisha Hino & Derek Morin Star**

Watercourse Name: **Derek Morin Star**

Reach ID

UTM easting and northing (CL of crossing)
B10 095 3

Flow regime (permanent, intermittent, ephemeral)

Mean Bank width (m) **downstream →**

Mean Bank depth (cm) **down →**

Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)

Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)

Bank Stability (stable, slightly stable, unstable, slightly unstable)

Flow conditions (dry, stagnant, low/moderate/high flow)

Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)

Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)

Evidence of groundwater inputs (e.g. watercress, seeps, springs)

Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)

Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)

Photo Numbers
Derek's Camera

Temperature (oC)

Weather Conditions: **Sunny, 40% cloud cover, wind 0-5 kts/hr**

Time: **13:59**

262

#262 577648 4745155

Permanent Sandlusk creek

wet: **20m** Full: **22m**

wet: **72m** Full: **74m**

Si 40
CL 30 approx
MU 30

flat river low flow

LUB **stable upstream, slightly unstable downstream**

RUB **stable upstream, slightly unstable downstream**
low flow - very slow flow

- Good upstream - well vegetated w/ wt ash, dogwood, Giant yellow 70% riparian shading

- fair downstream - lower vegetation grazed & eroded by cattle

no cover instream other than very silted & opaque water (cannot see below 5cm depth)

none observed

- high potential for warm water fish & cyprinids

- Carp observed (likely) → large fish

- painted turtle surfacing toward bank

- bank swallow nests under bridge

- disturbance downstream

UPSTREAM **0423** DOWNSTREAM **0424**

water: **24.8°C** Air: **21.1°C**
(at water edge)

Date: Aug 5, 2010	Project #: 10-1151-0035	Weather Conditions: sunny, 26°C, light wind
Collectors: RC/DM	Time: 09:15	Time: 09:42
Watercourse Name	ID# 185b	ID# 185a
Reach ID		
UTM easting and northing (CL of crossing)	(081) 586836 4747620	(083) 587015 4747684
Flow regime (permanent, intermittent, ephemeral)	intermittent	ephemeral
Mean Bank width (m)	wet: 16 m Full: 22 m	wet: N/A Full: 2.5 m
Mean Bank depth (cm)	wet: 14 cm Full: 1-2 m	wet: N/A Full: 40-50 cm
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	BE, CO	MU, cut grass.
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	meandering	straightened channel/ ditch.
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) stable	LUB stable
	Right upstream bank (RUB) stable	RUB stable
Flow conditions (dry, stagnant, low/moderate/high flow)	low	dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	herbaceous (reed canopy grass, willow, burn oak) some manicured lawn.	lawn (cut grass)
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	willow overhanging debris pickeral weed LWD, SWD undercut banks boulders cobble instream/overhanging vascular plants	same as above
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	None	None
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	spawning areas? low flow refuge pools?	None.
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	leopard frog fish observed (minnows) pike? crayfish Monarch. sculpin sand darter (several species)	puddle from rain previous night. 60 cm frogs (6 observed) 60 cm culvert (ditch).
Water temp / Air temp	24.2°C / 24.1°C (shade)	
Photo Numbers	upstream (N) 0225 downstream (S) 0226	upstream (N) 0231 downstream (W) 0232
Date:	Project #:	Weather Conditions:

pike? 0227
dead crayfish 0228, 0229

(Other than humidity in Air)

Date: 05 AUG 2010	Project #: 10-1151-0035	Weather Conditions: Sunny, humid, 28.2°C 0% cloud cover
Collectors: Lasha Milno & Amber Sabovrin	Time started: 09:40 to 09:58	Time finished: 10:06 to 10:13
Watercourse Name		
Reach ID	214	187
UTM easting and northing (CL of crossing) (Lasha's)	004: 0587215 4750569	005: 0590909 4748560
Flow regime (permanent, intermittent, ephemeral)	Permanent	Intermittent
Mean Bankfull width (m)	Wet 4m Bank 10m	Wet N/A Bank 2m
Mean Bankfull depth (cm)	7100cm 7300cm	N/A 40cm
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	100% MUCK	20 MU 40 CL 40 SI
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	30 Meandering	Meandering field Swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) Stable	LUB Unstable
	Right upstream bank (RUB) Stable	RUB Unstable
Flow conditions (dry, stagnant, low/moderate/high flow)	Low	Dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	- Good apt shading - Few trees (willow) white - otherwise bank 100% covered w/ hydrophytic veg eg - cattail - rushes - red canary - swamp milkweed some duckweed in water	POOR no vegetation except soy
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- logs in water (banking, cover), dark muck substrate, vegetation overhanging bank.	- none other than soy in channel downstream. - upstream is newly plowed plowed.
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	- none observed - sloping banks to stream (~40° slope).	none.
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	YES, very productive for various aquatic species. - Bull Frog	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	- Green Frog (several) - fish observed (Cypripids). - Dissects Agricultural fields - Odonata sp. - purple martin	NO FISH → American Goldfinch & Downy Woodpecker High disturbance, agriculture
Photo Numbers (Lasha's)	UPSTREAM 8 DOWNSTREAM 9	UPSTREAM 10 DOWNSTREAM 11

UPSTREAM
PEARS OPEN
INDO ND
SPOGS
WNSTREAM
VARIABLE
DTH
LOW
EL.

USER -
by
10/1/10
7 calls
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m
want

Air temp 28.2
Water temp 24.7°C

AIR TEMP 28.2
INSTREAM N/A

Nanticoke Nevada

Sunny, 0% cloud cover 5-10 ^{wind} km/hr
 Temperature 28.7°C

Lasha Munko &
 Amber Saborn

Collectors:	Time: 11:18 to 11:28	
Watercourse Name	AUG-5-2010	
Reach ID	188b	188c
UTM easting and northing (Lasha's)	010 0593621 4747232	011 0593728 4746887
Flow regime (permanent, intermittent, ephemeral)	Intermittent	Intermittent
Mean Bank width (m)	wet: 2.0 Full: 5m	wet: N/A Full: 3.0
Mean Bank depth (cm)	wet: 40cm Full: 102cm	wet: N/A Full: 10cm
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	30 MU 30 CL 20 SI	50 CL 50 SI
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	meandering field swale	meandering to straightened field swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) slightly stable Right upstream bank (RUB) slightly stable	LUB unstable RUB unstable
Flow conditions (dry, stagnant, low/moderate/high flow)	wet, low flow, Some dry areas	Dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	poor-fair vegetation in channel - reed canary - beard - purple loosestrife - spittle rush - cattail (few)	poor - sparsely vegetated - non native vegetation - common ragweed - soy - biennial wild lettuce Some cattails by culvert
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	none other than vegetation & culvert	NO COVER
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	may support some cyprinids at culvert otherwise poor habitat	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	Disturbed influence by surrounding agriculture (corn, soy) & runs under road.	100% disturbed - dissects soy field & runs under road.
Photo Numbers	Lasha's UPSTREAM 18 DOWNSTREAM 19	21

no shade (0%)
 lettuce

AT CULVERT 20
 many frogs observed at culvert - leopard frogs - green frogs
 instream Temp 25.1°C.
 Odonata spp.

Nextera Nanticoke 10-1151-0035
 4 August 2010 60% Cloudcover, humid 31.1°C, wind 10-15km/hr.

Collectors: Lasha Mino & Amber Sabourin	Time: 15:14 to 15:33	Tidal
Watercourse Name		
Reach ID 184a	184c	184b
UTM easting and northing (Lasha's)	017 0585417 4748223	018 0585222 4748182
Flow regime (permanent, intermittent, ephemeral)	Permanent	Intermittent
Mean Bank width (m)	wet: 5m Full: 6m	wet: N/A Full: Not defined
Mean Bank depth (cm)	wet: 30cm Full: 100cm	wet: N/A Full: Not defined
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	10% BO 10% Muck 20% CO 20% pebbles 20% Si 20% CL	10% SA 50% CL 40% Si
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	- Pool - straight - river.	field swale Braided (not defined)
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) Slightly stable Right upstream bank (RUB) Slightly stable	LUB unstable RUB unstable
Flow conditions (dry, stagnant, low/moderate/high flow)	LOW	DRY
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	- good - wooded - willow sp. (white) - herbaceous - reed/corn - 20% stream shading - banana waterweed	- poor - 0% stream cover other than soy in swale
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- some many over hanging banks & vegetation - some boulders instream	none other than soy.
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none observed - tadpoles observed	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	- yes high potential - deep	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	- clear water - larger pool downstream - adjacent to some agriculture (pasture, soy). - odonate sp UPSTREAM 150 DOWNSTREAM 151	none - 100% disturbed in agricultural fields of soy & beside road UPSTREAM 152 DOWNSTREAM 153

AIRTEMP 31.1°C
 INSTREAM 28.6°C

→
 → N/A.

WATERCOURSE

Date: 4 AUG 2010	Project #: 10-1151-0035	Weather Conditions: OVERCAST, SQUALLY BREAKS, HUMID 29°C
Collectors: Lasha & Amber	Time: 10:27 to 11:20	Time: 12:03 to
Watercourse Name	162b	161a
Reach ID	instream temp 27.8°C air temp 32.2°C	
UTM easting and northing (CL of crossing)	006 0577528 4748015	009 0576843 4747821
Flow regime (permanent, intermittent, ephemeral)	Permanent	Permanent
Mean Bank width (m)	wet: 10m Full: 12m	wet: 2m Full:
Mean Bank depth (cm)	wet: 71cm Full: 200cm	wet: 30cm Full:
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MUMuck, DE-detritus)	50% SI 10% DE 40% CL	50% SI 10% RS 40% CL
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	meandering	slightly meandering
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) slightly stable Right upstream bank (RUB) stable	LUB stable RUB stable
Flow conditions (dry, stagnant, low/moderate/high flow)	low flow	low flow
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	Good 5% stream shading - Grant Ragweed - wt. vernal - string of nettles - willow S sugar - ash - maple	Fair 100% stream cover (vegetation) downstream 10% upstream - downstream more vegetated - emergent macrophytes - broad-leaved arrowhead - weed canopy - grant ragweed
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- some undercut banks & some woody debris in stream, otherwise low cover - high cover due to siltation of water (opaque)	- some overhanging vegetation & low ridge @ dec. otherwise NO cover
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none observed - heard jumping at shore (likely carp)	small (cyprinids) fish observed in pool below bridge - no ground water inputs observed
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	Suitable for warmwater species - likely for carp cyprinids.	- able to hold small cyprinid nursery habitat
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	no fish observed (capacity high) - adjacent to agricultural lands & roads veg disturbed	fish observed. adjacent to agriculture & roads so disturbed v fathead minnow
Photo Numbers	UPSTREAM 133 DOWNSTREAM 134, 135 (riparian wet meadow)	UPSTREAM 138 DOWNSTREAM 139
Date:	Project #:	Weather Conditions: SUNNY

meadow marsh & riparian area
SWT 3-2

Canopy: Cover 10%, willows, wt elm
understory: 30% willows, gray dogwood, red osier, button bush
vegetation: 40% Grant Ragweed dominated (as 135)
some wet meadow characteristics (as 135)

Water temp: 25.7°C

Date: 04 / Aug / 10	Project #: 10-1151-00	Weather Conditions: high in some sun
Collectors: L.M./A.S.	Time: 09:04 to 09:19	
Watercourse Name		
Reach ID	Pt. #158 and #157 (ripa)	
UTM easting and northing (CL of crossing)	WPT #001 574571 4748799	
Flow regime (permanent, intermittent, ephemeral)	<input checked="" type="checkbox"/> P	
Mean Bank width (m)	wet: 3 m Full: 6 m	
Mean Bank depth (cm)	wet: ~0.5 m Full: ~1.5 m	
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MUMuck, DE-detritus)	clay-silt	
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	field swale <input checked="" type="checkbox"/> slightly meandering	
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) poor to fair Right upstream bank (RUB) poor to fair	
Flow conditions (dry, stagnant, low/moderate/high flow)	(small reach) dry - small pool/puddle <input checked="" type="checkbox"/> stagnant	
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	low flow in deeper channel - reed canary grass - reed - ash & Eu. buckthorn - m - some water-cress and - h wt. elm	
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- some undercut banks - - overhanging veg. & roots - broadleaf arrowhead reed canary grass.	
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	None - potential for fish habitat if connects up to watercourse further downstream	
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	None <input checked="" type="checkbox"/> - water temp; 21.8°C (stagnant) air temp 24°C - crayfish - green frog (pic) - tadpoles	
Photo Numbers	upstream 121 downstream 122	
Date:	Project #:	

water temp: 23.2°C in deeper water

pic # 123.

Date: June 25, 2010	Project #: 10-11510035	Weather Conditions: Hot dry, clear calm
Collectors: DM/AS	Time started: 13:30	Time Finished: Time 14:37
Watercourse Name		
Reach ID	6	7A
UTM easting and northing (CL of crossing)	574210, 4746375	573693, 4746482
Flow regime (permanent, intermittent, ephemeral)	Dry	permanent
Mean Bankfull width (m)	~1m	wet 1.5m bank 6.8m
Mean Bankfull depth (cm)	~10cm	18cm ~1.2m
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	Silt & clay	MU
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	Swale	Meandering channel
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) stable	LUB slightly stable
	Right upstream bank (RUB) stable	RUB " "
Flow conditions (dry, stagnant, low/moderate/high flow)	Dry	stagnant
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	Poor - none	Herbaceous reed canary grass
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	None	Undercut banks
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	None	None
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	None	None
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle		
Photo Numbers	Up (W) - 0005 Down (E) - 0006	up (NW) - 0014 Down (SE) - 0015

Air Temp 31.4°C
Water Temp 26°C

Date: 15 July 2010	Project #: 10-1151-0035	Weather Conditions: sunny, 10% cloud, wind S-10 km/h	
Collectors: DN/AS	Time started: 13:21	Time Finished: 13:24	
Watercourse Name			
Reach ID	131a	131b	
UTM easting and northing (CL of crossing)	#120 592820 4744091	#121 592854 4743984	
Flow regime (permanent, intermittent, ephemeral)	E	E	
Mean Bankfull width (m)	N/A	N/A	
Mean Bankfull depth (cm)	N/A	N/A	
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	- Mu	- Mu	
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	- field swale	- field swale	
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) N/A	LUB N/A	
	Right upstream bank (RUB) N/A	RUB N/A	
Flow conditions (dry, stagnant, low/moderate/high flow)	- dry	- dry	
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	- plowed	- plowed	
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- none	- none	
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	- none	- none	
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	- none	- none	
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	- none	- none	
Photo Numbers	upstream (E) 0095	downstream (W) 0096	upstream (E) 0097
			downstream (W) 0098

Date: 15 July 2010	Project #: 10-1151-C038	Weather Conditions:
Collectors: DMJAS	Time started: 17:15	Time Finished: 17:25
Watercourse Name:		
Reach ID	150a	150b
UTM easting and northing (CL of crossing)	#141 596826 4744039	#142 596673 4744207
Flow regime (permanent, intermittent, ephemeral)	E	P?
Mean Bankfull width (m)	N/A	wetted 3m bank ~5m
Mean Bankfull depth (cm)	N/A	36cm ~2m
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	MU	MU? (murky water)
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	field swale	flat & meandering
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) N/A	LUB slightly stable
	Right upstream bank (RUB) N/A	RUB slightly stable
Flow conditions (dry, stagnant, low/moderate/high flow)	dry	- low/no flow
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	plowed	- herbaceous - reed canary grass - willow sp. - dogwood
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	none	- reed canary grass - willow
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle)	None	- GRFR - murky water - can't see substrate - warm water (no thermometer)
Photo Numbers	upstream (E) 0129 downstream (W) 0130	upstream (W) 0131 downstream (E) 0132

Date: 15 JULY 2010	Project #: 10-1151-0038	Weather Conditions: SUNNY, 32.0 5-10 km/hr winds 10% cloud cover humid
Collectors: Kasha Milne & KURT STAMM	Time started: 15:56 ^{done} 16:17	Time Finished: 16:25 ^{start} 16:25 ^{finish}
Watercourse Name		
Reach ID	TURBINE 46 ID 119	TURBINE 45 ID 143
UTM easting and northing (CL of crossing) BDGPS 03	WPT: 035 596933 4745863	WPT: 036 596512 4745147
Flow regime (permanent, intermittent, ephemeral)	Intermittent - permanent ^{noted}	Intermittent ^{upstream} permanent ^{noted} - downstream
Mean Bankfull width (m)	120 cm	170 cm
Mean Bankfull depth (cm)	20 cm	45 cm
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	60% MU 20% SI 20% CL	60% MU 20% SI 20% CL
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	Field swale stagnant meandering w/ pools braided	- Field swale ^{for} meandering & braided - culvert at rd. channel (single) upstream on other side of rd.
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) slightly unstable	LUB slightly stable
	Right upstream bank (RUB) slightly unstable	RUB slightly stable
Flow conditions (dry, stagnant, low/moderate/high flow)	stagnant	dry upstream, some standing pools downstream
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	good fair - poor a lot of vegetation in swale; scapes, rushes, d/side clover, narrow-leaved cattail, blue vervain	fair - reed canopy, goldenrod, reed - narrowleaf, willows 40% stream cover upstream 80% cover downstream - willows, goldenrod, beach pea, bullrush, narrow-leaved c
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	no undercut banks only cover is some vegetation in swale (40%),	vegetation growing in channel
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none } However upstream in forest may have ground water input	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	Fish observed upstream ^{ephemeral} for frogs perhaps & 100-1778
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	none, disturbed due to agricultural field it dissects (soy)	- small nursery habitat, disturbance of agriculture (soy drainage) & road
Photo Numbers		

downstream may be permanent pool
21 cm det
meandering channel (single) upstream on other side of rd.

Air 32.2
Water 33.4

& 100-1778

A. Goldfinch

AIR TEMP 30.800
Water Temp 32.0
minimally disturbed

KURT'S CAMERA
UPSTREAM: 100-1772
DOWNSTREAM: 100-1773

V. oppossum, barn swan
UPSTREAM: 100-1774
DOWNSTREAM: 100-1772 & 100-

BIOGPS 03

Date: 30 June 2010	Project #: 10-1151-0035	Weather Conditions: Sunny, wind 15-20 mph, cloud cover
Collectors: Lashley & Rick Baldwin	Time started:	Time Finished:
Watercourse Name		
Reach ID	# 87	
UTM easting and northing (CL of crossing)	WPT	
Flow regime (permanent, intermittent, ephemeral)	Permanent??	
Mean Bankfull width (m)	4-5m	
Mean Bankfull depth (cm)	0.25-0.50m	
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	muck occasional Cobble/boulder cladophora choked	
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	Run/flat (10-15cm deep) Field Swale meandering	monkey flower michigan Lily Water plantain
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) Stable	LUB
	Right upstream bank (RUB) Stable	RUB
Flow conditions (dry, stagnant, low/moderate/high flow)	Stagnant	
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	1.5m Riparian zone Sedges/rushes/grasses Willow Smartweed 20% stream shaded	Notes: Water + a bird Abundant yoy's cyprinid Tadpoles / Adult Green frog - 1- Adult cyprinid (unidentified)
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	Abundant overhanging grasses Some cobble/boulder Some undercut banks	
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	No	
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	Yes nursery	
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	Farmer Road crossing	
Photo Numbers	* 345 w/s 346 o/s	

347 - water
24.8°C @ 15:40
A n n n 5% A.K.A. 00

BIOGPS 03

20. September

Date: 20 June 2010	Project #: 10-1151-0035	Weather Conditions: Sunny w/ light clouds (over 10)
Collectors: Lena & Rick Baldwin	Time started: 15:00	Time Finished: 15:30
Watercourse Name		
Reach ID	#86 - u/s of Bridge	
UTM easting and northing (CL of crossing)	(043WPT) 588516 4748031	
Flow regime (permanent, intermittent, ephemeral)	Dry / may diffuse under stream bed	
Mean Bankfull width (m)	20m	
Mean Bankfull depth (cm)	0.5 - 1.5m	
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	gravel / sand silt / clay	
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	Braided through terrestrial grasses Cattails / Bolrus / Smartweed	Swamp Milkweed Water plantain Spikes rock
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) unstable	LUB
	Right upstream bank (RUB) stable	RUB
Flow conditions (dry, stagnant, low/moderate/high flow)	Dry	
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	grass / 0%	Note: dry u/s for about 50m then stagnant water (channel) 10-15m wide Unable to detect flow either u/s or dis of bridge
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	overhanging terrestrial plants	Wildlife Incidentals Leopard frog
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	No	
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	No	
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	CATTLE CROSSING	COWS IN creek 50m/s of bridge
Photo Numbers Lena's Camera	342 u/s 243 D/S	

#344 - Pic u/s for Bridge 50m
Stagnant water

D/S - of Bridge. No obvious flow
7-8m wide (wetted) - unstable bank

POND AND LENTIC AREA SURVEY DATASHEET

Project Code: 10-1151-003's Project name: NEXTERA MAMILORE WIND Field Crew: RICK BALDWIN & LORNA

FIELD MAP #: ELC Polygon ID (MAP): 78

Site Diagram: (Include scale and N arrow)

FIELD MAP PROJECTION: NAD 27 NAD 83

GRID ZONE:

Date(dd/mon/yy): 30/06/10 Observers: LM & RB

Start Time (24h) 1:20 End Time (24h):

Air Temp (°C): 23.5 Water Temp (°C):

Sky: 0 1 2 3 4 5 Wind: 0 1 2 3 4 5

Lentic area type: Lake Pond Standing Ephemeral pool

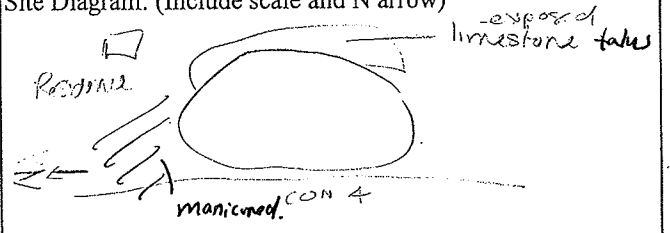
Lotic area types: River (>5m) Stream (<5m) Ditch Cutline

Water flow: Dry Intermittent 0 m/s estimate measured

Disturbed: (Yes) No Some manicured lawn nearby

Length (long axis): 15 m Width (short axis): 8 m

Dominant Substrate: Bedrock Boulder Cobble
Gravel Sand Mud Peat



Center
POND NEAR 10 WATER CROSSING 78 OFF OF (304) CON 4. BETWEEN TURBINE 304 27 (MAP FIGURE)

Dominant Habitat Types Surrounding Feature

Nearest Sandy Soil: Roadside metres 10

Community Description:				
	Spec 1	%	Spec 2	%
Tree	Cottonwood	90	Apple	10
Shrub	Starbush	80	Maniswick sp.	20
Herb	Grasses	70	mint	30

Community Description:				
	Spec 1	%	Spec 2	%
Tree	Apple	50	Cottonwood	50
Shrub	Starbush	100%		
Herb	grasses	80%	mint	20%
Bearing from plot (deg)		Distance from plot (m)		
0587122		4716319		

Turtle Basking/Nesting, Visual Encounter and Other Species Observation Data

Species	Number individuals	Distance (m)/UTM	Bearing	Micro Habitat	Emergent Veg (Y/N)	Disturbed (Y/N)	Notes
							some potential for fish (no apparent inflow or outflow) - bats?
							see back
							-roadside hazard for any turtles
							Complete

Sky: 0 = clear/few clouds; 1 = partly cloudy; 2 = cloudy/overcast; 3 = fog; 4 = drizzle; 5 = showers

Wind: 0 = vertical smoke; 1 = smoke drifts; 2 = wind felt on face, leaves rustle;

3 = leaves/twigs in constant motion; 4 = raises dust, small branches sway; 5 = trees sway.

Species: SNTU (Snapping Turtle); STIN (Stinkpot); PATU (Painted Turtle); NMTU (Northern Map Turtle); BLAN (Blanding's Turtle); SPTU (Spotted Turtle); WOTU (Wood Turtle); SPSP (Spiny Softshell); Green Frog (GRFR); American Toad (AMTO); Wood Frog (WOFR); Bullfrog (BUFR); Leopard Frog (LEFR), Chorus Frog (CHFR), Spring Peeper (SPPE); Gray Tree Frog (GRTR)

GPS location data and photo observations:

ID. 78

GPS Waypoint, line or polyline ID	Photo filename (begins with _____)	Comment and Photo Caption

General observations and comments:

East side of pond steep limestone bank vegetated with *Saxifraga* *serotina*, *nightsshade* sp. and *honeyuckle*. No aquatic vegetation observed other than *algae* *boom* on surface of water. Some callitris to north of pond on bank. West bank of pond low slope, has been manicured (mowed lawn close to edge). Vegetated primarily with grasses & forbs (*gaura* *leucoloba*) & some *coronilla* & *serotina* & *apple* sp. No species observed. some eggs laying into water for breeding potential. Close proximity to roadside for turtle nesting habitat.

Data Sheet QA/QC (initials)

SUNNY 20-30km/hr winds W

30% Cloud cover

Date: 29 June 2016	Project #: 10-1151-0035	Weather Conditions: 100% Cloud cover
Collectors: LASHA & AMBER SABOURN	Time started: 10:32	Time Finished:
Watercourse Name		
Reach ID	- TURBINE 23 ID# 55	TURBINE 23 ID# 56
UTM easting and northing (CL of crossing)	WAYPOINT# 014 580799 4747349	WAYPOINT# 015 580992 4746946
Flow regime (permanent, intermittent, ephemeral)	intermittent	intermittent
Mean Bankfull width (m)	6.0 m	5
Mean Bankfull depth (cm)	200.0	2.0
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	80% CL 10% SI 10% GR	20% MU 5% CO 5% GR 70% CL
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	- pool - channelized & meandering	- channelized & meandering
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB): Slightly stable Right upstream bank (RUB): slightly stable	LUB: unstable RUB: unstable
Flow conditions (dry, stagnant, low/moderate/high flow)	low	dry-low (some puddles from last night's heavy rain)
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	- fair - poop - some grass (reed canary) & shrub cover (hawthorn sp) - 10% cover	- poor - dissected out field - some forbs, such as common plantain, rugulosa, dandelion
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- some under cut banks due to vegetation root mass some grasses overhanging into channel otherwise open	- none - some vegetation & small cobble in channel otherwise open
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	- no evidence	- no evidence
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	- not a through channel (dry downstream) so low possible fish habitat	- not sig. habitat
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle)	- some fish observed (crayfish night before, today) adjacent to - cold pasture & farming practices & road building sites	- no sig. observations - highly disturbed
Photo Numbers	Upstream 280 Downstream 281	Upstream 282 Downstream 283

AIR TEMP: 18.1 °C
INSTREAM TEMP: 18.1

AIR TEMP: 18.2 °C
INSTREAM TEMP: N/A

Date: 29 June 2010	Project #: 10-451-0035	Weather Conditions: Sunny wind 15-20 km/hr W 10% cloud
Collectors: Lasha Amber Sabourin	Time started: 4:20	Time Finished: 5:30
Watercourse Name		
Reach ID	TURBINE ALT 3 1d# 10	TURBINE ALT 3 1d# 68b
UTM easting and northing (CL of crossing)	WAYPOINT 025 577340 4747295	WAYPOINT # 026 577419 4747154
Flow regime (permanent, intermittent, ephemeral)		
Mean Bankfull width (m)	10.0	6.0
Mean Bankfull depth (cm)	150.0	1.0 (no defined channel)
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	20% CO 30% SA 20% SI 30% CL	30% SE 30% MU 40% CL
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	riffles, runs + pools meandering	flat throughout reach slight slope slightly meandering to straight
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) unstable (no bank)	LUB unstable (no bank)
	Right upstream bank (RUB) stable (steep bank)	RUB unstable (no bank)
Flow conditions (dry, stagnant, low/moderate/high flow)	moderate	very dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	- good - wooded & vegetated - 40% shading - sagittaria latifolia in stream - giant ragweed riparian - reed canary - willows	- poor - umbrella sedge sp. → invasive? check - sedges (Cyperus sp.) - common ragweed & crab grass in swale - bordered by wheat field
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- cobble - small woody debris (10%) - overhanging branches & some logs	- no cover other than low vegetation in swale
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	- no major evidence	- none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	- possible spawning habitat (variety of runs, riffles & pools along reach)	- not fish habitat
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farma lane), cattle)	- no fish observed but highly possible - water opaque for cover	- highly disturbed by agricultural practices
Photo Numbers	UPSTREAM DOWNSTREAM AT POINT 304 305 306	UPSTREAM DOWNSTREAM AT CROSSING 310 311 312

LASHA'S CAMERA
 AIR 23.5°C
 instream 24.6°C
 - Gray catbird - Song sparrow
 - blackbird

11 JUNE 2010
 FIELD CREW LEADER: LASHA MILNE
 CREW: BARRY PATCHARD
 10:25 AM
 COORD: 5-10 km NW
 CLOUD COVER: 60%
 POINT 142
 WC + ELC

Parked off Reichold rd, south of Dover
 Dunsmuir rd. Accessing site through
 adjacent woodlot to east of tuband
 proposed location T54, site C5-A.

WATER CROSSING

Through centre of cultural woodlot
 WAYPOINT: 0595400 474132
 Seasonal intermittent drainage, water
 rarely only due to rainfall
 Channel width: 2m
 Wetted width: 0.75m
 Depth: 0-5cm
 Fish habitat value: none, no fish observed
 Substrate: Clay-sand (typical of agriculture)
 OHC: none

Upstream cover: none
 Land use: agricultural downstream, cultural
 woodlot upstream.

11 JUNE 2010

Site

WATER CROSSING #2

WCC-1A 595319 4744185

BAM

CHANNEL WIDTH: 2-4m

WETTED WIDTH: 1-2m

Fish habitat value: low

Upstream cover: none

Overhead cover: high & tight to bank

no aquatic macrophytes.

no fish observed

bottom substrate is organic - cultural

pasture soils

water levels unrepresented due to recent

heavy rainfall

Overall habitat flat - R3 classification

Brief assessing site, landowner

talked to us & there were no

major issues with accessing site.

The crew ask about the affects on

willow & that some leads were

concerned about impact on brooding

opportunities. We walked from

TD 12:20 pm.

Summerhaven

Date: 10 Sept 2010	Project #: 10-1151-0085	Weather Conditions: Sunny, wind 0-5 km/hr, 18°C, 40% cloud cover
Collectors: Lasha Milne & Kurt	Time: 29	Time: 29
Watercourse Name: <i>Summit</i>	33	29
Reach ID	013	014
UTM easting and northing <i>Lehas</i>	0587537 4746405 <i>REA waterbody</i>	0591096 4745745 <i>not an REA waterbody</i>
Flow regime (permanent, intermittent, ephemeral)	<i>not a field swale - plowed over & alfalfa field</i>	<i>not an REA waterbody</i>
Mean Bank width (m)	wet: N/A Full: N/A	wet: N/A Full: <i>600 cm</i>
Mean Bank depth (cm)	wet: N/A Full: N/A	wet: N/A Full: 50 cm
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MUM-muck, DE-detritus)	CL SI <i>organic</i>	CL SI <i>Org.</i>
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	<i>meandering field swale</i>	<i>meandering field swale</i>
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) <i>unstable</i> Right upstream bank (RUB) <i>unstable</i>	LUB <i>unstable</i> RUB <i>unstable</i>
Flow conditions (dry, stagnant, low/moderate/high flow)	<i>dry</i>	<i>dry</i>
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	<i>poor - 100% vegetated over w/ alfalfa field</i>	<i>poor - 100% vegetated w/ forbs, grasses & soy</i> - some cattails - bidens sp. - smartweed sp. - reed canary - pigweed
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	<i>↓</i>	<i>↓</i>
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	<i>none</i>	<i>none</i>
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	<i>none observed, however does lead into Stony Creek</i>	<i>none</i>
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	<i>none observed 100 disturbed by alfalfa pasture</i>	<i>none</i> - highly disturbed - runs through soy field, pasture & likely disturbed w/ nothing the year by plowing & cultivation
Photo Numbers <i>Lehas.</i>	29	Upstream 31 Downstream 32
Temperature (°C)	water: N/A Air: 18.1°C	water: N/A Air: 18.1°C

Sommerhagen

Date: 10 Sept 2010	Project #: 10-1151-0085	Weather Conditions: Sunny, wind 0-5 km/hr 18°C 40% cloud cover
Collectors: Lasha's & Kurt Stumm	Time: 12:30 - 12:55	Time:
Watercourse Name	303	330
Reach ID Lasha's	009	012
UTM easting and northing (CL of crossing)	05874857 4747118	0587487 4746905
Flow regime (permanent, intermittent, ephemeral)	intermittent - not a waterbody	Permanent
Mean Bank width (m)	wet: N/A Full: 2m	wet: 5m Full: 6m
Mean Bank depth (cm)	wet: N/A Full: 30cm	wet: 50cm Full: 100cm
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	DE SI CL	CO SI BO CL
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	meandering field swale	flat throughout some areas of exposed, flat bedrock
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) unstable	LUB slightly variable
	Right upstream bank (RUB) unstable	RUB slightly variable
Flow conditions (dry, stagnant, low/moderate/high flow)	dry	low
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	poor - hay grasses - queen anne - timothy etc.	- some steep to undercut banks - some boulders & cobble at edge - some overhanging vegetation (20% riparian cover) = cottonwood = broad leaved arbutus = rusks
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	none - cut hay grasses throughout swale	Some instream boulders & floating vegetation/algae for cover (10% cover)
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	None	None observed, however bedrock exposed
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	None	- High potential for fish - GBH (did not observe, too opaque in area.)
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	None - crosses through cut hay pasture - cultivated perhaps plowed in some areas	- majority of stream both upstream & down used by cattle
Photo Numbers	upstream 23 downstream 24	upstream 27 27 downstream 28 28
Temperature (°C)	water: N/A. Air: 18.1°C	water: 18.3°C Air: 18.1°C

- red-tailed hawk

- GBH
- painted turtle (in water)
- Swallow nests under bridge.

Nestor Nanticoke

Date: 30 AUG 2010	Project #: 10-1151-0035	Weather Conditions: Sunny, humid, 07% cloud cover wind 0-5 km/hr
Collectors: Lasha Mims & Curt Stovall	Time: 14:00	Time:
Watercourse Name	285	286
Reach ID	# 285	# 286
UTM easting and northing Lasha's GPS	0590691 4748494	0591764 4748751
Flow regime (permanent, intermittent, ephemeral)	may flood at times & not a (REA) waterbody	intermittent
Mean Bank width (m)	wet: not defined Full: not defined	wet: 1.5m Full: 5m
Mean Bank depth (cm)	wet: not defined Full: not defined	wet: 30cm Full: 1m
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MUMuck, DE-detritus)	70% CL 30% SI	MU CL SI
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	meandering to braided field swale	meandering field swale upstream, low flow stream downstream
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) unstable Right upstream bank (RUB) unstable	LUB unstable (slightly) RUB unstable (slightly)
Flow conditions (dry, stagnant, low/moderate/high flow)	very low & some water today around culvert otherwise dry	dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	poor - runs through cultural meadow, soy & plowed field (downstream) & plowed field (upstream) - need canopy etc.	fair - full of narrow-leaved cattails, upstream & lrg. Ashed golf course downstream
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	none upstream in plowed field, downstream only cover is cultural meadow vegetation	fair w/ reed canopy, buttonbush & water plantain
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	100% instream cover & riparian cover
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	low flow refuge pools for fish
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	culvert approx 1m x 1.5m square - obstructed & plowed over in large portions of stretch	none - fish observed under 5m x 2m culvert - possible refuge areas - green frog
Photo Numbers Lasha's Camera	UPSTREAM 45 DOWNSTREAM 46	47 48
Temperature (°C)	water: 19.4°C Air: 29.5°C - Gray catbird - Green frogs - A. goldfinch	water: 19.6°C Air: 29.5°C - green frogs - cyprinids

Date: June 28, 2010	Project #: 10-11570035	Weather Conditions: Overcast, breezy, no precip, post storm
Collectors: DM/MK	Time started:	Time finished: 12:00 pm
Watercourse Name		
Reach ID	25	26A
UTM easting and northing (CL of crossing)	(380) 580 907 4749 203	(382) 580 516 474 9324
Flow regime (permanent, intermittent, ephemeral)	E	I
Mean Bankfull width (m)	0.9 m	0.9 m
Mean Bankfull depth (cm)	~20 cm	~40 cm
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	MU	MU
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	Field Swale	meandering channel
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) N/A	LUB slightly stable
	Right upstream bank (RUB) N/A	RUB slightly stable
Flow conditions (dry, stagnant, low/moderate/high flow)	Dry	stagnant
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	Crop	Herbaceous
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	None	- mixed of terrestrial & aquatic veg. - Scirpus sp. sp. - Carex sp. - Solidago sp.
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	None	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	None	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	None	Air temp = 24.8°C water temp = 23.4°C - no fish observed
Photo Numbers	West (up) 0031 East (down) 0032	Southeast (upstream) 0037 west (downstream) 0038

Date: <i>Sept-10-2010</i>	Project #: <i>10-11514-0035</i>	Weather Conditions: <i>Co. cloud, 19.0°C wind 5-10 km/hr</i>
Collectors: <i>Kasha Kula & Kurt Stum</i>	Time: <i>8:17:23</i>	Time:
Watercourse Name	<i>319</i>	<i>324</i>
Reach ID	<i>015</i>	<i>016</i>
UTM easting and northing (CL of crossing)	<i>0591104 4747177</i>	<i>0591182 4747889</i>
Flow regime (permanent, intermittent, ephemeral)	<i>not a waterbody as defined by REA</i>	<i>not a waterbody as defined by REA</i>
Mean Bank width (m)	wet: <i>N/A</i> Full: <i>not defined</i>	wet: <i>N/A</i> Full: <i>1.5m</i>
Mean Bank depth (cm)	wet: <i>N/A</i> Full: <i>not defined</i>	wet: <i>N/A</i> Full: <i>30 cm</i>
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MUM-muck, DE-detritus)	<i>Si org. CL</i>	<i>Si org. CL</i>
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	<i>meandering field swale</i>	<i>meandering field swale</i>
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB)	LUB
	<i>unstable</i>	<i>unstable</i>
	Right upstream bank (RUB)	RUB
	<i>unstable</i>	<i>unstable</i>
Flow conditions (dry, stagnant, low/moderate/high flow)	<i>dry</i>	
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	<i>poor - runs through mowed lawn & soy fields</i>	<i>poor - runs through soy & grazed pasture</i>
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	<i>no</i> ↓	↓
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	<i>none</i>	<i>none</i>
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	<i>none</i>	<i>none</i>
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	<i>none - 100' disturbed & cut/tracked over</i>	<i>none - 100' disturbed & cultivated on top</i>
Photo Numbers	<i>upstream 38 downstream 34</i>	<i>upstream 34 downstream 35</i>
Temperature (oC)	water: <i>N/A</i> Air: <i>19.0°C</i>	water: Air:

post-rain

Date: August 11, 2010	Project #: W-1151-0035	Weather Conditions: Warm, Dry, Calm
Collectors: DM/JW	Time: 08:02	Time: 09:45
Watercourse Name	ID # 170	ID # 207
Reach ID		
UTM easting and northing (CL of crossing)	128 573604 4746030	132 580678 4746534
Flow regime (permanent, intermittent, ephemeral)	Ephemeral	Intermittent
Mean Bank width (m)	wet: N/A Full: N/A	wet: 1.90 cm Full: ~4.5 m
Mean Bank depth (cm)	wet: N/A Full: N/A	wet: 17 Full: ~1 m
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	MU	Clay - Muck
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	No definable channel ↳ Field Swale	Meandering
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB)	LUB Stable
	Right upstream bank (RUB)	RUB Stable
Flow conditions (dry, stagnant, low/moderate/high flow)	Dry	Low flow E → W
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	Poor - Crops	Poor Heavily disturbed by Cattle.
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	Crops	Cattail, Smartweed Bladderwort, Bulrush
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	None	None
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	None	Nursery
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	None	Cattle in stream Minnows Clear water Cypripids
Photo Numbers	West (up) - 0291 East (downstream) - 0292	East (up) - 0294 West (down) - 0295
Temperature (°C)	water: Air:	water: 23.6 °C Air:

Key

Instream - 0296

Nevada Nuthatch

Date: 06 Aug 2010	Project #: 10-1151-0035	Weather Conditions: Sunny ^{cloud} 5-10% cover 40% cloud cover
Collectors: Kasha Miller & Amber Sabrum	Time: 12:38 to 12:53	Time: 14 27
Watercourse Name	POND	
Reach ID	#012 281	177a
UTM easting and northing (CL of crossing)	#012 0594668 4745122	WPT#013 579802 4746338
Flow regime (permanent, intermittent, ephemeral)	Permanent	ephemeral
Mean Bank width (m)	wet: 10x10 Full: 20x20	wet: N/A Full:
Mean Bank depth (cm)	wet: >1m Full: 7.1m	wet: N/A Full:
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	CL MU SI	CL Mu.
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	pool / pond → lentic	- meandering field swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) stable	LUB poor
	Right upstream bank (RUB) stable	RUB poor
Flow conditions (dry, stagnant, low/moderate/high flow)	moderate	dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	Good 100% Arrowhead sp. (arrowhead). See pics 100% Shading at edge	- poor - plowed (mixed hay & alfalfa field)
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	NO COVER at centre, some standing around in water for cover some cover due to high capacity of water	- terrestrial grasses - 100% cover (w/ vegetation)
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none → may connect via field swale to river	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	Yes, potential for small cyprinids & amphibians	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	- Green frogs (several) - leopard frogs Some disturbance (low) → adjacent to hay field & residence	none
Photo Numbers	21 & 22	upstream 24 downstream 25
Date:	Project #:	Weather Conditions:

temp 28.0°C

AIR TEMP 28.0°C
Water temp. 25.5 (at edge)

Date: 05 AUG 2010	Project #: 10-1151-0035	Weather Conditions: SUNNY, HUMID. 0% CLOUD COVER WIND 5-10 km/hr
Collectors: Lasha Milne & Amber Sabouni	Time started: 10:14 to 10:30	Time finished: 10:41 to 10:48
Watercourse Name		
Reach ID	18L	18R
UTM easting and northing (CL of crossing) (Lushas)	006 0590457 4748453	007 0593947 4747830
Flow regime (permanent, intermittent, ephemeral)	Intermittent (except pond downstream of swale)	Intermittent
Mean Bankfull width (m)	5m swale / 7m in pond	no bank
Mean Bankfull depth (cm)	Banked	no bank
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	SI 40 CL 40 MU 20	20 MU 40 CL 40 SI
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	channelized, runs through manicured lawn.	unknown, could not find channel or evidence of path of water
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) Slightly stable	LUB unstable
	Right upstream bank (RUB) Slightly stable	RUB unstable
Flow conditions (dry, stagnant, low/moderate/high flow)	Dry in swale, Low in pond	Dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	POOR - manicured lawn around swale, soy Fair - some vegetation, however manicured lawn around pond.	Very poor Soy, one clump of cattail & weed canopy at road ditch.
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	none other than grass, soy in swale	none other than soy
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	Some may be supported in pond but not swale	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle)	none High disturbance from manicured lawn soy field upstream	none disturbed → soy
Photo Numbers	UPSTREAM 12 DOWNSTREAM 13	UPSTREAM 14 DOWNSTREAM 15

Water temp - could not access but 28.7° AIR TEM 28.7° C
 likely warmwater classification
 (no flow, at least in water & surface).
 WATER TEMP N/A

BIOGPS 03

Date: June 30/10	Project #: 10T151-0035	Weather Conditions: Sunny/Windy 20°C
Collectors: Lasha & KYLE BARNUM	Time started: 11:00/11:30	Time Finished: 11:45
Watercourse Name		
Reach ID	# 84A	84B
UTM easting and northing (CL of crossing) BIOGPS 03	WPT # 31 586983 4747045	WPT # 32 587249 4747055
Flow regime (permanent, intermittent, ephemeral)	Intermittent	Intermittent
Mean Bankfull width (m)	1.5m	0.75m
Mean Bankfull depth (cm)	0.5m	0.10m
Substrates (% BE=bedrock, BO=boulder, CO=cobble, GR=gravel, SA=sand, SI=silt, CL=clay, MU=muck, DE=detritus)	silt/clay sand ORGANICS	Ag field silt/clay ORGANICS
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	Run meandering	field Swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) Unstable	LUB Unstable
	Right upstream bank (RUB) Unstable	RUB Unstable
Flow conditions (dry, stagnant, low/moderate/high flow)	dry	dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc; % stream shading, average riparian zone width, example plant species)	Wooded-fair herbaceous (80% shaded) Jewelweed, Raspberry Blue Beech	CORN
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	NONE	NONE
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	NONE	NONE
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	NONE	NONE
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle)	Water temp 15.7°C Small 2m open water patch	NONE
Photo Numbers Lasha's Camera	# 320 N/S (3) D/S	# 322 N/S 323 D/S

BIOGPS 03

Date: 30 JUNE 2010	Project #: 10-1151-0035	Weather Conditions: SUNNY WIND 25-20 km/hr NE 10% CLOUD COVER
Collectors: LASHA & RICIC BALDWIN	Time started: 9:45	Time Finished: 10:35
Watercourse Name		
Reach ID	ALT 6 / TURBINE 27830	ALT 6 10 81
UTM easting and northing (CL of crossing) BIOGPS 03	WPT 35 586969 EPT 83 4746752 ✓	WPT 34 587090 ✓ 4746747
Flow regime (permanent, intermittent, ephemeral)	Intermittent	Intermittent
Mean Bankfull width (m)	WETTED	WETTED
Mean Bankfull depth (cm)		no defined bank
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, S-silt, CL-clay, MU-muck, DE-detritus)	Ag field silty sand CLAY	Agricultural soil silt
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	field swale	field swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB)	LUB
	Right upstream bank (RUB)	RUB
Flow conditions (dry, stagnant, low/moderate/high flow)	dry	dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc; % stream shading, average riparian zone width, example plant species)	GRASS ALFALFA	ALFALFA
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	NONE	NONE
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farma lane), cattle)	NONE	NONE
Photo Numbers Lasha's camera	328 W/S 1329 0/5	326 W/S 1327 0/5

AIR TEMP 23.6 °C
INSTREAM:

AIR TEMP 23.6
INSTREAM:

Date: 30 June 2010	Project #: 10-1151-0035	Weather Conditions: sunny, 20% cloud cover, wind 20-30 km/h (gusty)
Collectors: DM/AS	Time started: 11:53	Time Finished: 12:08
Watercourse Name		
Reach ID	Turbine #32 ID# 97B	Turbine #38 ID# 96a
UTM easting and northing (Cl. of crossing)	WPT# 405 590546 4747106	WPT# 406 594476 4747945
Flow regime (permanent, intermittent, ephemeral)	Inter I	E
Mean Bankfull width (m)	~2.0	N/A
Mean Bankfull depth (cm)	~40 cm	N/A
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, S-silt, CL-clay, MU-muck, DE-détritius)	- ? (not visible)	- MU
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	- field swale	- field swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) stable	LUB N/A
	Right upstream bank (RUB) stable	RUB N/A
Flow conditions (dry, stagnant, low/moderate/high flow)	low/none	dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	- herbaceous	- herbaceous - crop
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- terrestrial grasses - reed canary grass - ice pye weed - Scirpus sp.	- reed canary grass
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	- none	- none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	- none	- none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle)	- drains into pond - AMWO	- ditch - monarch - can't find channel to north
Photo Numbers	upstream (W) 0083	Downstream (E) 0084
		upstream (E) 0085
		Downstream (W) 0086

Date: <i>June 29, 200</i>	Project #: <i>10-1154-0035</i>	Weather Conditions: <i>cloudy, drizzle, windy</i>
Collectors: <i>DM/MK</i>	Time started: <i>11:35</i>	Time Finished: <i>11:45</i>
Watershed Name		
Reach ID	<i>45</i>	<i>46</i>
UTM easting and northing (CL of crossing)	<i>391 586 084 474 7273</i>	<i>392 583 965 474 47207</i>
Flow regime (permanent, intermittent, ephemeral)	<i>E</i>	<i>E</i>
Mean Bankfull width (m)	<i>1.4m</i>	<i>1.6m</i>
Mean Bankfull depth (cm)	<i>~140 cm</i>	<i>50cm</i>
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	<i>MU</i>	<i>SI/SA</i>
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	<i>Meandering channel</i>	<i>Meandering channel</i>
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) <i>Slightly stable</i>	LUB: <i>slightly unstable</i>
	Right upstream bank (RUB) <i>Slightly stable</i>	RUB: <i>slightly unstable</i>
Flow conditions (dry, stagnant, low/moderate/high flow)	<i>dry</i>	<i>dry</i>
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	<i>herbaceous</i>	<i>herbaceous</i>
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	<i>widely cattail watercress watercress</i>	<i>upland veg.</i>
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	<i>Some cress (cress)</i>	<i>none</i>
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	<i>none</i>	<i>none</i>
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle)	<i>LEFR - froglet</i>	
Photo Numbers	<i>West (upstream) 0044 East (downstream) 0050</i>	<i>West (upstream) 0051 East (downstream) 0052</i>

Date: June 29 2010	Project #: 10-1151-0035	Weather Conditions: windy, some clouds, dry
Collectors: DM/MK	Time started: 1:30 pm	Time Finished: 1:35
Watercourse Name		
Reach ID	48	49
UTM easting and northing (CL of crossing)	394 583 165 474 719.7	395 583 072 474 739.8
Flow regime (permanent, intermittent, ephemeral)	E	E
Mean Bankfull width (m)	N/A	~2.5 m
Mean Bankfull depth (cm)	N/A	less than 30 cm
Substrates (% BE=bedrock, BO=boulder, CO=cobble, GR=gravel, SA=sand, SI=silt, CL=clay, MU=muck, DE=détritius)	CL	CL
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	N/A field swale	field swale
Bank Stability (stable, slightly stable; unstable; slightly unstable)	Left upstream bank (LUB)	LUB:
	Right upstream bank (RUB)	RUB:
Flow conditions (dry, stagnant, low/moderate/high flow)	dry	dry
Riparian conditions (quality: good/fair/poor; wooded, plowed, herbaceous, etc. % stream shading, average riparian zone width, example plant species)	N/A	N/A
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	terrestrial veg	terrestrial veg
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farma lane), cattle)	PUMA	NEWS drains from CCA
Photo Numbers	east (downstream) 001 → east (upstream) 002 west (upstream) 003 → west (downstream) 003 → upstream	east (downstream) 002 west (upstream) 003

Date: June 28 2010	Project #: 10-1151-0035	Weather Conditions: Cloudy, dry, nice
Collectors: DM/MK	Time started: 8:55 am	Time Finished: 9:00 am
Watercourse Name		
Reach ID	Point 20A	Point 20B
UTM easting and northing (CL of crossing)	372 577 096 474 8021	373 577 0052 474 8207
Flow regime (permanent, intermittent, ephemeral)	ephemeral	E.
Mean Bankfull width (m)	1 m	0.8 m
Mean Bankfull depth (cm)	14 cm	less than 10 cm
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	MU	Mu
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	field swale	field swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) N/A	LUB N/A
	Right upstream bank (RUB) N/A	RUB N/A
Flow conditions (dry, stagnant, low/moderate/high flow)	dry	dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	crop	crop
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	none	none
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle		
Photo Numbers	west (downstream) 0021 east (upstream) 0022	East (upstream) 0023 west (downstream) 0024

Date: 28 JUNE 2010	Project #: 10-1151-0035	Weather Conditions: 100% Cloud WIND 10-15 km/hr W.
Collectors: LAHA & AMBER SABOURIN	Time started: 9:50	Time Finished:
Watercourse Name		
Reach ID	TURBINE #6 10 36	TURBINE ALT 1 10 33
UTM easting and northing (CL of crossing)	#005 0578522 4748790	#006 0579190 4748689
Flow regime (permanent, intermittent, ephemeral)	Intermittent	Intermittent
Mean Bankfull width (m)	2.0m	2.0
Mean Bankfull depth (cm)	5.0	2.0
Substrates (% BE=bedrock, BO=boulder, CO=cobble, GR=gravel, SA=sand, SI=silt, CL=clay, MU=muck, DE=detritus)	40% MU 40% CL 10% CO 10% GR	50% MU 50% CL
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	- Act to sloping - field swale - meandering	- flat throughout reach - field swale - straight to meandering
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB)	LUB:
	Right upstream bank (RUB)	RUB:
Flow conditions (dry, stagnant, low/moderate/high flow)	dry	dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc.; % stream shading, average riparian zone width, example plant species)	- poor - bordered by agricultural field (winter wheat) - some low grasses & forbs in channel (small low smartweed - crabgrass)	- poor - sl. shading - no vegetation - newly planted bean field (overly corn)
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- low to none	none
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	- none	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	- none	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farma lane), cattle	- none	- none - crosses through agricultural field - 100% cover through forested woodlot.
Photo Numbers	UPSTREAM 262 DOWNSTREAM 263	UPSTREAM 264 DOWNSTREAM 265

LAHA's camera

Date: 28 JUNE 2010	Project #: 10-1151-0035	Weather Conditions: SUNNY BREAKS 60% cloud cover	
Collectors: LASHA E AMBER SABOURIN	Time started: 12:45	Time Finished: 2:00	
Watercourse Name			
Reach ID	TURBINE #7 10#29	TURBINE #7 10#28	
UTM easting and northing (CL of crossing)	# 010 579702 4749123	# 011 579984 4749215	
Flow regime (permanent, intermittent, ephemeral)	intermittent	intermittent	
Mean Bankfull width (m)	1.0 / wetted N/A	1.0 / wetted N/A	
Mean Bankfull depth (cm)	2.0 / N/A	1.0 / N/A	
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, S-silt, CL-clay, MU-muck, DE-detritus)	70% MU 30% CL	70% MU 20% CL 10% SA	
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	- flat throughout - meandering of minimal - field swale braiding	- flat throughout - slight slope - meandering - field swale	
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) unstable	LUB: unstable	
	Right upstream bank (RUB) unstable	RUB: unstable	
Flow conditions (dry, stagnant, low/moderate/high flow)	dry	dry	
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc; % stream shading, average riparian zone width, example plant species)	- poor - 0% shading - soy field	- poor - 0% shading - soy field w some forbs & grasses at edge	
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- no cover, some soy growing in channel	- smartweed sp - golden rod - none, some soy growing in channel	
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	- none	- none	
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	- none	- none	
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	- none - high disturbance	- none - high disturbance	
Photo Numbers	UPSTREAM 272	DOWNSTREAM 273	UPSTREAM 276
			DOWNSTREAM 277

HPNT. "NEST" Pic# 274 + 275 Ground nest
579940 4749200 w eggs, pushed aside

Date: 28 JUNE 2010	Project #: 10-1151-0085	Weather Conditions: Sunny 100% Cloudy 10-15 km/hr W
Collectors: Lasha & Amber S.	Time started: 8:15	Time Finished: 9:50
Watercourse Name		
Reach ID	TURBINE 1, ID# 16	TURBINE 1, ID# 17
UTM easting and northing (CL of crossing)	WAYPOINT-001 576491 4749173	WAYPOINT #002 576119 4749761
Flow regime (permanent, intermittent, ephemeral)	Intermittent	Intermittent
Mean Bankfull width (m)	30cm ^{no major banks} ^{wetted} .4	.75 ^{wetted} N/A no water
Mean Bankfull depth (cm)	0.0 5.0	2.0 N/A no water
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	70% SI 20% CL 10% GR	60% Muck (organic) 40% CL
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	- flat throughout reach - field swale - meandering	- flat throughout - field swale - meandering minimal channel
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB)	LUB: unstable
	Right upstream bank (RUB)	RUB: unstable
Flow conditions (dry, stagnant, low/moderate/high flow)	stagnant, low - no flow	dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc; % stream shading, average riparian zone width, example plant species)	fair - poor vegetation on edge of in stream channel - narrow-leaved cattail - grasses & sedges & forbs - reed, goldenrod	poor 1% shading adjacent agricultural fields (soy to w, winter wheat E)
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	low instream cover some vegetation debris & garbage - some plants at edge of in channel	
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	no evidence of groundwater	no evidence of groundwater, runoff mostly
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	no evidence of fish habitat - one green frog observed	no potential habitat
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	- highly disturbed (at roadside adjacent to agricultural field)	agricultural crop land monarch butterfly
Photo Numbers Lasha's Camera	UPSTREAM 254 DOWNSTREAM 255	UPSTREAM 256 DOWNSTREAM 257

Air Temp: 23.8°C

Instream: 21.8°C

AIR TEMP 23.0°C

INSTREAM N/A

Amber Sabarin &

Nextera Nanticoke

5 AUG 2010
SUNNY, HUMID

28.2°C

Collectors: <u>Lasha Mims</u>	Time: <u>08:48</u>	Time:
Watercourse Name	<u>-210</u>	<u>209</u>
Reach ID	<u>001: 058471</u> <u>4749165</u>	<u>002: 0585342</u> <u>4749547</u>
UTM easting and northing (Lasha's GPS)	<u>Intermittent</u>	
Flow regime (permanent, intermittent, ephemeral)	<u>Intermittent</u>	<u>Intermittent</u>
Mean Bank width (m)	wet: <u>0-.5m</u> Full: <u>2m</u>	wet: <u>1.0m</u> Full: <u>5m</u>
Mean Bank depth (cm)	wet: <u>0-10cm</u> Full: <u>10cm</u>	wet: <u>30cm</u> Full: <u>100cm</u>
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MUMuck, DE-detritus)	<u>60 CL</u> <u>30 MU</u> <u>10 SI</u>	<u>50 CL</u> <u>40 MU</u> <u>10 SI</u>
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	<u>Field Swale, no defined bank</u> <u>meandering</u>	<u>Field Swale,</u> <u>straight to meandering,</u> <u>(divided between two fields).</u>
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) <u>unstable</u>	LUB <u>slightly stable</u>
	Right upstream bank (RUB) <u>unstable</u>	RUB <u>slightly stable</u>
Flow conditions (dry, stagnant, low/moderate/high flow)	<u>Dry in most portions,</u> <u>wet pool at culvert</u>	<u>low flow</u>
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	<u>Poor, vegetation</u> <u>in swale</u> <u>- soy - some narrow-</u> <u>- crabgrass 1-leaved cattails</u> <u>at culvert</u>	<u>Poor-fair</u> <u>almost 100% vegetated in</u> <u>swale, primarily</u> <u>narrow-leaved cattail</u> <u>- one weeping willow in swale.</u>
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	<u>none other than</u> <u>culvert & vegetation</u> <u>growing in swale</u>	<u>none other than</u> <u>cattails which provide</u> <u>100% shade & cover</u>
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	<u>none</u>	<u>none</u>
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	<u>none</u>	<u>may support minimal</u> <u>fish species, likely</u> <u>supports frog habitat</u>
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	<u>- Green frogs</u> <u>in pool by culvert</u> <u>- runs through agricultural</u> <u>field (soy) & under</u> <u>road therefore high</u> <u>disturbance.</u>	<u>Some disturbance due</u> <u>to adjacent farm</u> <u>fields (soy & wheat).</u> <u>not likely plowed or planted</u> <u>in swale, only ground banks.</u>
Photo Numbers (Lasha's camera)	UPSTREAM <u>1</u> DOWNSTREAM <u>2</u>	UPSTREAM <u>3</u> DOWNSTREAM <u>4</u>

AIR TEMP : 28.2°C
INSTREAM
TEMP : 21.8°C
(at culvert)
in shade

AIR TEMP : 28.2°C
INSTREAM TEMP : 21.5
(by culvert in
shade)

Date: 29 JUNE 2010	Project #: 10-1181-0035	Weather Conditions: SUNNY 17.1°C WIND 15-20 km/hr
Collectors: Lasha & Amber Sabvan	Time started: 9:50	Time Finished: 10:30
Reach ID	TURBINE 17 10#52	TURBINE 17 10#53
UTM easting and northing (CL of crossing)	WAYPOINT 012 582666 4747802	WAYPOINT 013 582593 4747801
Flow regime (permanent, intermittent, ephemeral)	intermittent	intermittent
Mean Bankfull width (m)	1.5m / N/A	1.5m / NA
Mean Bankfull depth (cm)	20.0 / NA	5.0 / NA
Substrates (% BE=bedrock, BO=boulder, CO=cobble, GR=gravel, SA=sand, SI=silt, CL=clay, MU=muck, DE=detritus)	50% MU 20% SA 20% CL 10% SI	50% MU 20% SA 20% CL 10% SI
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	- Flat Adds wide to west, more channelized to the east. - meandering somewhat	Flat field swale no defined channel somewhat meandering (minimal)
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) unstable Right upstream bank (RUB) unstable	LUB: unstable RUB: unstable
Flow conditions (dry, stagnant, low/moderate/high flow)	dry	dm
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	- poor - disturbed & surrounded by agricultural field (soy to W, wheat to E)	- poor - highly disturbed - no cover - crosses through soy field
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging-vascular plants)	none	→ same as #52
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	→ same as #52
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	→ same as #52
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle)	- highly disturbed - Red winged black bird - wild turkeys (x5) - northern barrier	→ same as #52
Photo Numbers Lasha's Camera	UPSTREAM 278 DOWNSTREAM 279	

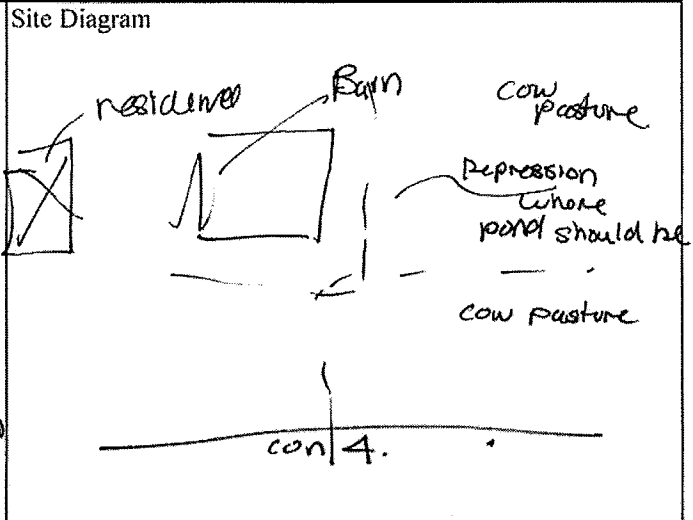
AIR TEMP 17.1 °C
INSTREAM TEMP: N/A

Sept. 10, 2010

POND SURVEY DATASHEET

Project: 10-1151-0035

Polygon ID: 317 Visit #
 NAD: # 27 (83) Grid Zone:
 UTM: E 0588587 N 4746650
 *Waterbody: Lake/Pond Creek (<5m) Ditch,
 River (>5m) Cutline Standing Water man-made pond
 Disturbed: (Yes) No
 Dist. Across: <5 m 5-20 m 20-100 m >100m unknown
 Substrate: Bedrock Boulder Cobble .rest
 Gravel Sand (Mud) Peat unknown
 Date(dd/mm/yy): Observers: Laura Milne
 Start Time (24h) 1:30 End Time (24h):
 Air Temp (°C): 18.1°C Water Temp (°C): unknown
 Digital Photo: 26 Flow: None Slow Fast
 Sky: 0 (1) 2 3 4 5 Wind: 0 (1) 2 3 4 5



Sky: 0 = clear/few clouds; 1 = partly cloudy; 2 = cloudy/overcast; 3 = fog; 4 = drizzle; 5 = showers
 Wind: 0 = vertical smoke; 1 = smoke drifts; 2 = wind felt on face, leaves rustle;
 3 = leaves/twigs in constant motion; 4 = raises dust, small branches sway; 5 = trees sway.

Turtle Nesting Habitat (within 100m of pond)

Waypoint/Track: None, farm yard Approximate distance from pond: none
 Photos: None, farm yard, may nest in gravel or manure areas?
 Soil type: silt, clay overcast

Evidence of nesting activity: dug depression predated nest/egg shells active nest scraped surface
 other none

Comments: could not locate exact area due to land access constraints & cattle in field but where pond should be, very disturbed by cattle.

Species Observation Data (from turtle basking/nesting and visual encounter surveys)

**Species	Number individuals	Distance (m) /UTM	Bearing	*Micro Habitat	Emergent Veg (Y/N)	Disturbed (Y/N)	Notes
<u>E. Starling</u>							
<u>7 May Vulture</u>							

** Species: SNTU (Snapping Turtle); STIN (Sinkpot); PATU (Painted Turtle); NMTU (Northern Map Turtle); BLAN (Blanding's Turtle); SPTU (Spotted Turtle); WOTU (Wood Turtle); SPSP (Spiny Softshell); Green Frog (GRFR); American Toad (AMTO); Wood Frog (WOFR); Bullfrog (BUFR); Leopard Frog (LEFR); Chorus Frog (CHFR); Spring Peeper (SPPE); Gray Tree Frog (GRTR)

Data Sheet QA/QC (initials)

Can 7
lot 29

POND AND LENTIC AREA SURVEY DATASHEET

Project Code: 10-1151-0035 Project name: *Summaharen* Field Crew: *Lasha Milko & Kurt Steiner*

FIELD MAP #: *Figure 1* ELC Polygon ID (MAP): *55c* Site Diagram: (Include scale and N arrow)

FIELD MAP PROJECTION: NAD 27 NAD *83*

GRID ZONE: *00A 0580813 4747205*

Date (dd/mm/yy): *10/09/10* Observers: *Lasha Milko & Kurt Steiner*

Start Time (24h) *10:15* End Time (24h): *10:35*

Air Temp (°C): *18.0°C* Water Temp (°C): *17.0°C*

Sky: *1* 2 3 4 5 Wind: *0* 1 2 3 4 5

Lentic area type: Lake *Pond* Standing Ephemeral pool

Lotic area types: River (>5m) Stream (<5m) Ditch Cutline

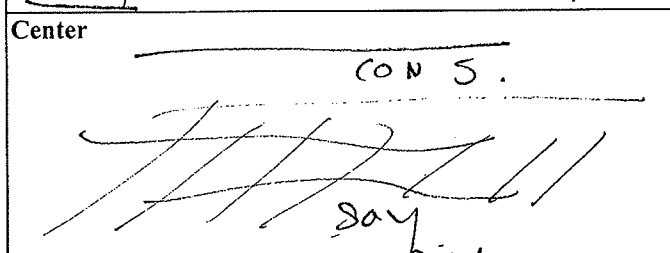
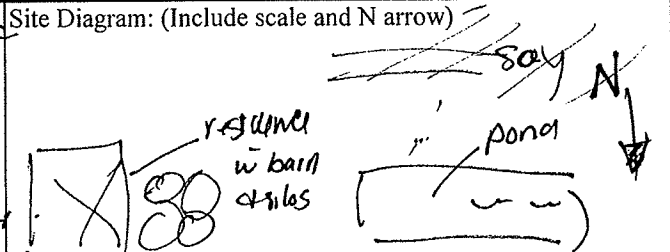
Water flow: Dry Intermittent ___ m/s estimate measured

Disturbed: *Yes* No

Length (long axis): *25* m Width (short axis): *10* m

Dominant Substrate: Bedrock Boulder Cobble

Gravel Sand *Mud* Peat



Center
CON 5.
Nearest Sandy Soil: *road, soy field* metres *10*

Dominant Habitat Types Surrounding Feature

Community Description:				
	Spec 1	%	Spec 2	%
Tree	<i>Silver maple</i>	<i>90</i>	<i>ht. spruce</i>	<i>10</i>
Shrub	<i>none</i>		<i>none</i>	
Herb	<i>Narrow leaved cattail</i>	<i>50</i>	<i>phragmites</i>	<i>50</i>

Community Description:				
	Spec 1	%	Spec 2	%
Tree				
Shrub				
Herb				

Bearing	from plot (deg)	Distance	from plot (m)

- by 55b
- pic #8.

Turtle Basking/Nesting, Visual Encounter and Other Species Observation Data

Species	Number individuals	Distance (m) / UTM	Bearing	Micro Habitat	Emergent Veg (Y/N)	Disturbed (Y/N)	Notes
							<i>riparian will vegetation w/ phragmites, cattail, reed, common, willow herb sp., birch sp, few shrubs & trees (LWI). - cover only due to over-nutritication - algae & some covering WDI.</i>
							<i>- looks like main mass of weed for agricultural / livestock winter source.</i>

Sky: 0 = clear/few clouds; 1 = partly cloudy; 2 = cloudy/overcast; 3 = fog; 4 = drizzle; 5 = showers

Wind: 0 = vertical smoke; 1 = smoke drifts; 2 = wind felt on face, leaves rustle;

3 = leaves/twigs in constant motion; 4 = raises dust, small branches sway; 5 = trees sway.

Species: SNTU (Snapping Turtle); STIN (Stinkpot); PATU (Painted Turtle); NMTU (Northern Map Turtle); BLAN (Blanding's Turtle); SPTU (Spotted Turtle); WOTU (Wood Turtle); SPSP (Spiny Softshell); Green Frog (GRFR); American Toad (AMTO); Wood Frog (WOFR); Bullfrog (BUFR); Leopard Frog (LEFR); Chorus Frog (CHFR); Spring Peeper (SPPE); Gray Tree Frog (GRTR)

* note, may

2 PONDS ↓

Date: 10 Sept 2010	Project #: 10-1151-0035	Weather Conditions: Sunny, 100% Cloud, 19.0°C, 5-10 km/hr
Collectors: Kasha & Kurt	Time: 17:40	Time:
Watercourse Name	321	320
Reach ID	321 017	018
UTM easting and northing (CL of crossing)	0593156 4748747	0592880 474899
Flow regime (permanent, intermittent, ephemeral)	not a waterbody as defined by RFA	not a waterbody as defined by RFA
Mean Bank width (m)	wet: N/A Full: N/A	wet: N/A Full:
Mean Bank depth (cm)	wet: N/A Full: N/A	wet: Full:
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MUMuck, DE-detritus)	SI M (no defined bank) CL Org.	SI Org CL
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	meandering field swale	meandering field swale → two (man-made) ponds, one on each side of road beside field swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB)	LUB
	Right upstream bank (RUB)	RUB
Flow conditions (dry, stagnant, low/moderate/high flow)	dry	dry (part)
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	poor - runs through timber, wheat, soy, & pasture field	poor, runs through & cultivated over by soy & grasses & folks of hay pastures
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	↓	↓
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	LWD: disturbed by cultivation, plowed within the year	100% cultivated
Photo Numbers	upstream 37 downstream 38	39 - 42 (includes ponds)
Temperature (°C)	water: Air:	water: N/A Air: 19.0°C

ponds have stagnant water in each & surrounded by long grasses & folks → low fish. potential
→ ponds to south may support frogs.

Date: 10 Sept 2010	Project #: 10-1151-0035	Weather Conditions: Sunny, 60% Cloud cover,
Collectors: Joshua Miller & Kurt Sanner	Time:	Time:
Watercourse Name	289	322
Reach ID	019	020
UTM easting and northing	0593373 4748009	0593526 4747548
Flow regime (permanent, intermittent, ephemeral)	not a waterbody as defined by REA	not a waterbody as defined by REA
Mean Bank width (m)	wet: N/A Full: no defined	wet: N/A Full: no defined
Mean Bank depth (cm)	wet: N/A Full: bank	wet: N/A Full: bank
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MUM-muck, DE-detritus)	Si org. CL	Si org. CL
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	meandering field swale	meandering field swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) unstable	LUB unstable
	Right upstream bank (RUB) unstable	RUB unstable
Flow conditions (dry, stagnant, low/moderate/high flow)	dry	dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	poor - 100% vegetated throughout by soy, corn & plowed field	poor - 100% vegetated by soy & hay field (plowed in last year)
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	↓ none	↓ none
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	100% disturbed	100% disturbed
Photo Numbers	upstream 43 downstream 44	upstream? 45 downstream?
Temperature (°C)	water: N/A Air: 19.0°C	water: N/A Air: 19.0°C

wd
net

Date: 10 SEP 2010	Project #: 10-1151-0085
Collectors: Lorna Milne & Kurt Stamm	Time: 8:30
Watercourse Name: Stamm	
Reach ID	297
UTM easting and northing	001 05746607 4747775
Flow regime (permanent, intermittent, ephemeral)	Not a waterbody as defined by R60
Mean Bank width (m)	wet: N/A Full: 2m
Mean Bank depth (cm)	wet: N/A Full: 30cm
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MUM-muck, DE-detritus)	GR SA BE CL SI
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	meandering field Swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) unstable Right upstream bank (RUB) unstable
Flow conditions (dry, stagnant, low/moderate/high flow)	dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	poor - in SDY
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	poor - in SDY
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	none, no potential 100% disturbance - plowed within the year downstream
Photo Numbers	UPstream 1 2
Temperature (oC)	water: N/A Air: 12°C

Date: <i>Sept-10-2010</i>	Project #: <i>10-1151-0035</i>
Collectors: <i>Lasha Milne & Kurt Stamm</i>	Time started: <i>18:05</i>
Watercourse Name: <i>923</i>	
Reach ID	<i>021 3</i>
UTM easting and northing (CL of crossing)	<i>0593720 4746906</i>
Flow regime (permanent, intermittent, ephemeral)	<i>not a waterbody as defined by RFP</i>
Mean Bankfull width (m)	<i>N/A dry d. no defined bank</i>
Mean Bankfull depth (cm)	
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	<i>SI CL dry</i>
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	<i>meandering field swale</i>
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) <i>unstable</i>
	Right upstream bank (RUB) <i>unstable</i>
Flow conditions (dry, stagnant, low/moderate/high flow)	<i>dry</i>
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	<i>poor - 100% vegetated by soy & plowed fields</i>
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	<i>none</i> ↓
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	<i>none</i>
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	<i>none</i>
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	<i>100% disturbed</i>
Photo Numbers	<i>upstream 46 downstream 47</i>

10 Sept 2010
Date:
Collectors: <i>Lisha Mine & Kurt Hamlin</i>
Watercourse Name
Reach ID
UTM easting and northing
Flow regime (permanent, intermittent, ephemeral)
Mean Bank width (m)
Mean Bank depth (cm)
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MUMuck, DE-detritus)
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)
Bank Stability (stable, slightly stable, unstable, slightly unstable)
Flow conditions (dry, stagnant, low/moderate/high flow)
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)
Evidence of groundwater inputs (e.g. watercress, seeps, springs)
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)
Photo Numbers

Summerhaven
Project #: 10-1151-0035

17°C, wind 0-5km/hr Summer w (60). cloud cover
Weather Conditions:
Time: 296
008
0575536 4748523
not a waterbody as defined by R.E.A.
wet: N/A Full: 6cm
wet: N/A Full: 200cm
CL - LOAM MU ST Silty clay loam
meandering field swale
LUB unstable (slightly)
RUB unstable (slightly)
dm
fair - narrow leaved cattail - Canada goldenrod
100% vegetated & therefore covered.
instream none observed
none observed perhaps downstream
low potential
disturbance from soy coop farming - farm trail for vehicles crosses swale with no culvert or bridge for water flow therefore would obstruct any possible fish passage
Upstream 19 Downstream 21

→ not plowed but plowed at edges runs to cultural woodlot to East which appears to open up to a pond (from air photos)

Air: 422 (shows farm road crossing)

Naska Nantucke

Date: 31 AUG 2010	Project #: W-1181-0085	Weather Conditions:
Collectors: Lasha Milne	Time:	Time:
Watercourse Name	2600b	
Reach ID	2600b	
UTM easting and northing (CL of crossing)	0577398 4744935	
Flow regime (permanent, intermittent, ephemeral)	not a waterbody as defined by EPA	
Mean Bank width (m)	wet: N/A Full: 2.5m	wet: Full:
Mean Bank depth (cm)	wet: N/A Full: 50cm	wet: Full:
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	CL SI	
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	meandering field swale	
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) unstable	LUB
	Right upstream bank (RUB) unstable	RUB
Flow conditions (dry, stagnant, low/moderate/high flow)	dry	
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	poor - 100% shaded throughout swale dull	
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	only to - rice cut grass - soy - invasive umbrella/nutsedge - ragweed	
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	- sign of none	
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	100% disturbed	
Photo Numbers	upstream 87 Downstream 88	
Temperature (oC)	water: N/A Air: 25.1°C	water: Air:

Novena Nanticoke

Date: 31 AUG 2010	Project #: 10-1151-0035	Weather Conditions: sunny, 0% cover wind 0-5k mph
Collectors: Lusha Plina & Kurtis Green	Time:	
Watercourse Name	2600	2600a
Reach ID	# 260	2601
UTM easting and northing	0576765 4744348	0577459 4744659
Flow regime (permanent, intermittent, ephemeral)	not a waterbody as defined by REA	not a waterbody as defined by REA
Mean Bank width (m)	wet: NA Full: not defined	wet: N/A Full: 2.0m
Mean Bank depth (cm)	wet: NA Full: bank	wet: N/A Full: 100
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MUM-muck, DE-detritus)	SI CL MD	SI CL
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	Meandering to braided no defined channel	meandering field swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) unstable Right upstream bank (RUB) unstable	LUB unstable RUB unstable
Flow conditions (dry, stagnant, low/moderate/high flow)	dry	dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	poor 100% vegetation throughout swale - barnyard grass	poor some open dry areas otherwise non-native
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- invasive umbrella seeds - curly dock - smartweed - bicolor sp. - comm up - soy	forbs & grasses & soy.
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	- rice cut grass none	- cockle bur - common - reed canary - reed canary
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	none - disturbed - adjacent to & dissected by soy field.	none - disturbed dissected by soy field
Photo Numbers	upstream 83 downstream 84	upstream 85 downstream 86
Temperature (°C)	water: N/A Air: 26.3°C	water: N/A Air: 26.3°C

Yellowlegs
(in settling ponds)
- garter snake

Nexera Northcote

Date: 31 AUG 2010	Project #: 10-1151-0035	Weather Conditions: Sunny, humid, 60% cloud cover, wind 5-10km/hr
Collectors: Lasha Milk	Time: 11	Time: 11
Watercourse Name		265
Reach ID		# 265
UTM easting and northing Lasha's GPS		0585452 4749166
Flow regime (permanent, intermittent, ephemeral)		not a waterbody as defined by R&A
Mean Bank width (m)	wet: N/A	Full: Not defined bank
Mean Bank depth (cm)	wet: N/A	Full: Not defined bank
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MUMuck, DE-detritus)		SI CL organic
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)		meandering field swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	LUB	unstable
Flow conditions (dry, stagnant, low/moderate/high flow)	RUB	unstable
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)		DIY
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)		poor - erosion cut pasture grasses throughout swales (100% covered by) some cattails at road side
Evidence of groundwater inputs (e.g. watercress, seeps, springs)		11
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)		none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)		none
Photo Numbers Lasha's Album Camera		100% disturbance cultivated or plowed at some point → cut cut recently
Temperature (oC)	Upstream	Downstream
	62	63
	water: N/A	Air: 32.4°C

NexTera Natick

Date: 27 AUG 2010	Project #: F0-1151-0035
Collectors: Lasha Mijno & Derek Morrisstar	Time started: 12:35 12:50
Watercourse Name	
Reach ID	259
UTM easting and northing (CL of crossing) BID GPS 03	578024 4746674 WAYPOINT # 259.
Flow regime (permanent, intermittent, ephemeral)	not a ^{real} waterbody, field swale, wetted
Mean Bankfull width (m)	2.0 N/A
Mean Bankfull depth (cm)	40 cm N/A
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	SI 30 CL 40 } approx MU 30
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	field swale, meandering
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) unstable
	Right upstream bank (RUB) unstable
Flow conditions (dry, stagnant, low/moderate/high flow)	dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	poor, dissects through agricultural field of soy - soy - Queen Anne's lace - backyard grass - cocklebur - common ragwort - velvetleaf
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	NA. - Soy & non native vegetation throughout channel
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	- natural gas pipeline raised culvert (40cm di) crosses near culvert & over swale completely disturbed
Photo Numbers	UPSTREAM 1015 DOWNSTREAM 4014

AIR TEMP 24°C
WATER TEMP N/A

at
'out

the

0cm

Date: Aug 11, 2010	Project #: 10-1151-0	Weather Conditions: Hot, Dry, Calm
Collectors: DM/JW	Time: 13:45	Time: 13:50
Watercourse Name		
Reach ID	ID# 248	ID# 247
UTM easting and northing (CL of crossing)	(14E) 693093 4748103	(14U) 5973084 4749099
Flow regime (permanent, intermittent, ephemeral)	Ephemeral	Ephemeral
Mean Bank width (m)	wet: / Full: 200cm	wet: 30cm Full: SAME
Mean Bank depth (cm)	wet: / Full: ~50	wet: 5cm Full: SAME
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	MU,	Muck
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	Dry - Field Swale	Field Swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) Stable	LUB Stable
	Right upstream bank (RUB) Stable	RUB stable
Flow conditions (dry, stagnant, low/moderate/high flow)	Dry	Very low flow - Dry (puddle @ culvert)
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	Poor - Crop	- same as Instream.
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	Poor - Crop Terr. Veg	eat tails Crops
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	None	None
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	None	None
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	GRFR	Culvert
Photo Numbers	East - 0319 West - 0320	East (up) - 0321 West (down) - 0322
Temperature (°C)	water: / Air: 30°C	water: 20.7°C Air: 30°C

POND AND LENTIC AREA SURVEY DATASHEET

Project Code: 10-1151-0035 Project name: Nanticoke Field Crew: _____

FIELD MAP #: 2 ELC Polygon ID (MAP): 244 Site Diagram: (Include scale and N arrow)

FIELD MAP PROJECTION: NAD 27 NAD 83

GRID ZONE: (14U) 589479, 4743585

Date (dd/mon/yy): 11/08/10 Observers: DM/SW

Start Time (24h): 12:35 End Time (24h): _____

Air Temp (°C): 29 Water Temp (°C): 30

Sky: 0 1 2 3 4 5 Wind: 0 1 2 3 4 5

Lentic area type: Lake Pond Standing Ephemeral pool

Lotic area types: River (>5m) Stream (<5m) Ditch Cutline

Water flow: Dry Intermittent 0 m/s estimate measured

Disturbed: Yes No

Length (long axis): 27 m Width (short axis): 19 m

Dominant Substrate: Bedrock Boulder Cobble

Gravel Sand Mud Peat

Center

pic-0306
0307

Dominant Habitat Types Surrounding Feature

Community Description:

	Spec 1	%	Spec 2	%
Tree	<u>hw cedar</u>	<u>10</u>		
Shrub				
Herb	<u>Cattail</u>	<u>5</u>	<u>Grasses</u>	

Nearest Sandy Soil:

metres

Community Description:

	Spec 1	%	Spec 2	%
Tree				
Shrub				
Herb				

Bearing from plot (deg) Distance from plot (m)

Turtle Basking/Nesting, Visual Encounter and Other Species Observation Data

Species	Number individuals	Distance (m) /UTM	Bearing	Micro Habitat	Emergent Veg (Y/N)	Disturbed (Y/N)	Notes
<u>Gold fish</u>						<u>Y</u>	
<u>Green Frog</u>	<u>1</u>	<u><10m</u>				<u>Y</u>	<u>Heard</u>

Sky: 0 = clear/few clouds; 1 = partly cloudy; 2 = cloudy/overcast; 3 = fog; 4 = drizzle; 5 = showers
 Wind: 0 = vertical smoke; 1 = smoke drifts; 2 = wind felt on face, leaves rustle;
 3 = leaves/twigs in constant motion; 4 = raises dust, small branches sway; 5 = trees sway.
 Species: SNTU (Snapping Turtle); STIN (Stinkpot); PATU (Painted Turtle); NMTU (Northern Map Turtle); BLAN (Blanding's Turtle);
 SPTU (Spotted Turtle); WOTU (Wood Turtle); SPSP (Spiny Softshell); Green Frog (GRFR); American Toad (AMTO); Wood Frog (WOFR);
 Bullfrog (BUFR); Leopard Frog (LEFR); Chorus Frog (CHFR); Spring Peeper (SPPE); Gray Tree Frog (GRTR)

Nevada Nuntroblee 10-1151-0085 WIND 5-10km/hr 75% CLOUD COVER WE SUNNY BREEZES 26.1 °C

Collectors: <u>Lasha Amber</u>	Time: 11:20 to 11:31	Time: 11:30
Watercourse Name <u>PLINE 52802N</u>		
Reach ID <u>H08-6-2010</u>	<u>228 POND</u>	<u>229</u>
UTM easting and northing <u>Lasha GTS</u>	<u>#007 0595772 4744945</u>	<u>#008 0596008 4745026</u>
Flow regime (permanent, intermittent, ephemeral)	<u>Permanent</u>	<u>Intermittent</u>
Mean Bank width (m)	wet: <u>15x15</u> Full: <u>17x17</u>	wet: <u>N/A</u> Full: <u>1.0 m</u>
Mean Bank depth (cm)	wet: <u>71m</u> Full: <u>71m</u>	wet: <u>N/A</u> Full: <u>30cm</u>
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MUMuck, DE-detritus)	<u>MV SI CL</u>	<u>SO SI SO CL</u>
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	<u>pool - pond Lentic</u>	<u>meandering field swale</u>
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) <u>stable</u> Right upstream bank (RUB) <u>stable</u>	LUB <u>unstable</u> RUB <u>unstable</u>
Flow conditions (dry, stagnant, low/moderate/high flow)	<u>moderate → Lentic</u>	<u>dry</u>
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	<u>good 100% Narrow-leaved Cattails 100% shading at edge</u>	<u>poor - soy, pasture grasses throughout swale (100% covered by vegetation)</u>
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	<u>none observed</u>	<u>none other than vegetation in swale</u>
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	<u>none</u>	<u>none</u>
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	<u>may support small cyprinids & good habitat for amphibians</u>	<u>none</u>
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	<u>Some disturbance (low) due to adjacent farms fields practices likely man-made</u>	<u>highly disturbed → agriculture (hay, soy) → runs under roadway</u>
Photo Numbers <u>Lasha camera</u>	<u>13</u>	<u>upstream 14 DOWNSTREAM 15</u>

- Red-winged blackbirds

Date: 06 Aug 2010	Project #: 10-1151-0055	Weather Conditions: sunny, 10% cloud cover; temp 17
Collectors: L. Milne & A. Sabourin	Time started: 10:04	Time Finished: 10:48
Watercourse Name:		
Reach ID	237	238
UTM easting and northing (CL of crossing)	WPT# 003 592983 4743559	WPT# 004 592307 4744015
Flow regime (permanent, intermittent, ephemeral)	ephemeral	ephemeral
Mean Bankfull width (m)	N/A	40 cm
Mean Bankfull depth (cm)	N/A	<10 cm
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	- 30% CL - 70% SI	- MU - 10% - CL - 60% - SI - 30%
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	- dry field swale (undefined channel - maybe hidden by soy)	- dry field swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) N/A	LUB poor
	Right upstream bank (RUB) N/A	RUB poor
Flow conditions (dry, stagnant, low/moderate/high flow)	- dry	- dry (bit of pooled water - recent heavy rains)
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	- plowed (soy) - poor - 100% shaded (by soy)	- plowed (hay-field) - poor
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- soy - none	- crab grass - smart weed - common ragweed
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	none - hardly distinguishable watercourse	none
Photo Numbers	upstream 5 downstream 6	upstream 7 downstream 8

Date: 06 Aug 2010	Project #: 10-1151-0035	Weather Conditions: Sunny, light wind - 20% cloud cover
Collectors: L. Milne & A. Sabourin	Time started: 10:58	Time Finished: 11:20
Watercourse Name:		
Reach ID	238a POND	226 POND
UTM easting and northing (CL of crossing)	WPT #005 592308 4744096	# 006 0595224 4744984
Flow regime (permanent, intermittent, ephemeral)	permanent	Permanent
Mean Bankfull width (m)	10 x 6 m (ovae)	20 x 10 (oval)
Mean Bankfull depth (cm)	> 1 m.	71 m
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	- surrounded by cobble - CL - si	- MU - CL - SI
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	pond.	POND - Lentic likely man-made
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) MU stable	LUB Stable
	Right upstream bank (RUB) Stable	RUB Stable
Flow conditions (dry, stagnant, low/moderate/high flow)	Stagnant pond	moderate - lentic
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	- poor - manicured lawn. - built up bank w rock - 10% riparian cover w cattails	fair 20% - manicured lawn - weeping willows - grasses overhanging soil of bank
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- none	none, some overhanging vegetation at edges.
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	none - may support fish Largemouth
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	- aerated w mechanical pump. - may support small fish - man made	on residence/business property, man-made
Photo Numbers Lush's Camera	11	12

Aug 6, 2010

10-1157-0035

partly cloudy, 25°C, dry, moderate wind.

Collectors: PC/DM	Time: 15:02	Time:
Watercourse Name	ID# 174b	
Reach ID		
UTM easting and northing	(123) 578166 4746086	
Flow regime (permanent, intermittent, ephemeral)	intermittent	
Mean Bank width (m)	wet: 60 cm Full: 5 m	wet: Full:
Mean Bank depth (cm)	wet: 2 cm Full: 105 cm	wet: Full:
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MUMuck, DE-detritus)	MU, some GR	
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	meandering,	
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB)	unstable LUB
	Right upstream bank (RUB)	unstable RUB
Flow conditions (dry, stagnant, low/moderate/high flow)	low	
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	good quality, wooded, fully shaded	
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	undercut banks, LWD, SWD, overhanging debris, overhanging vascular plants	
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	unlikely.	
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	raccoon tracks no fish observed deer tracks.	
Water/Air Temp	21°C / 20.5°C	
Photo Numbers	upstream (E) 0280 downstream (W) 0281	

Date: 05 Aug 2010	Project #: 10-1151-0035	Weather Conditions: cloudy/overcast with some sun	
Collectors: L. Milne & A. Sabourin	Time started: 17:00	Time Finished: 17:23	
Watercourse Name			
Reach ID	242a	246a	
UTM easting and northing (CL of crossing)	WPT # 026 591078 4742966	WPT # 027 591172 4742652	
Flow regime (permanent, intermittent, ephemeral)	intermittent	intermittent	
Mean Bankfull width (m)	~0.5m	~0.5m	wetted ~0.2m
Mean Bankfull depth (cm)	<10 cm	N/A	<5cm
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	- 50% CL - 50% SI	- 50% CL - 50% SI	
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	- meandering field swale	- meandering field swale	
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) poor	LUB poor	
	Right upstream bank (RUB) poor	RUB poor	
Flow conditions (dry, stagnant, low/moderate/high flow)	- some pooled water (recent rain)	- some stagnant water (recent rain) on upstream side	
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	- poor - plowed (soy) - shaded w/ vegetation	- poor - plowed (soy) -	
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- terrestrial grasses.	- Reed canary grass - terrestrial grass	
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	none	
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	none	
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	none	none	
Photo Numbers	upstream 47 downstream 48	upstream 49	downstream 50

Chl temp: 22.3

Date: 05 Aug 2010	Project #: 10-1151-0035	Weather Conditions: cloudy/overcast
Collectors: L. Milne & A. Sabourin	Time started: 17:27	Time Finished: 17:36
Watercourse Name:		
Reach ID	246	222a
UTM easting and northing (CL of crossing)	WPT# 028 591186 4742594	WPT# 029 591056 474378b
Flow regime (permanent, intermittent, ephemeral)	intermittent	intermittent
Mean Bankfull width (m)	~0.2 m wetter 0.75 m	1.0 m wetter ~0.4 m
Mean Bankfull depth (cm)	N/A < 5 cm	N/A < 5 cm
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	- 50% CL - 50% SI	- 50% CL - 50% SI
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	meandering field swale	meandering field swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) poor	LUB poor
	Right upstream bank (RUB) poor	RUB poor
Flow conditions (dry, stagnant, low/moderate/high flow)	- some pooled water on downstream side (recent rain) - low flow	- some stagnant water (recent rain)
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	- plowed (soy) - poor	- plowed (soy) - poor
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	none	- terrestrial grasses.
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle)	none	none
Photo Numbers	upstream 51 51 downstream 52 52	53

water temp: 23.7°C

POND AND LENTIC AREA SURVEY DATASHEET

Project Code: 10-1151-0035 Project name: Nanticoke

Field Crew: RC/DM

FIELD MAP #: 2 10#23 ELC Polygon ID (MAP): 231

Site Diagram: (Include scale and N arrow)

FIELD MAP PROJECTION: NAD 27 (NAD 83)

GRID ZONE: (110) 596663, 4745118

Date (dd/mm/yy): 05/08/2010 Observers: RC/DM

Start Time (24h) 17:43 End Time (24h):

Air Temp (°C): 24 Water Temp (°C): 27.1

Sky: 0 1 2 3 4 5 Wind: 0 1 2 3 4 5

Lentic area type: Lake (Pond) Standing Ephemeral pool

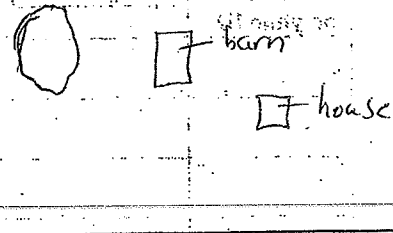
Lotic area types: River (>5m) Stream (<5m) Ditch Cutline

Water flow: Dry Intermittent 0 m/s estimate measured

Disturbed: (Yes) No

Length (long axis): 43 m Width (short axis): 24 m

Dominant Substrate: Bedrock Boulder Cobble
Gravel Sand (Mud) Peat



man-made? (managed garden pond)
no visible in/outflow
photo 0259 (to S)

Dominant Habitat Types Surrounding Feature

Nearest Sandy Soil: metres

Community Description:				
	Spec 1	%	Spec 2	%
Tree				
Shrub	hawthorn	15		
Herb	arrowweed			

Community Description:				
	Spec 1	%	Spec 2	%
Tree				
Shrub				
Herb				
Bearing from plot (deg)	Distance from plot (m)			

Encroaching on 50% of watered area

Turtle Basking/Nesting, Visual Encounter and Other Species Observation Data

Species	Number individuals	Distance (m)/UTM	Bearing	Micro Habitat	Emergent Veg (Y/N)	Disturbed (Y/N)	Notes
green frog							heard
GoFi							heard
EuSt							heard
CoFr	1						
BasW							
MoDo							heard
HoSp	1						

Sky: 0 = clear/few clouds; 1 = partly cloudy; 2 = cloudy/overcast; 3 = fog; 4 = drizzle; 5 = showers
 Wind: 0 = vertical smoke; 1 = smoke drifts; 2 = wind felt on face, leaves rustle;
 3 = leaves/twigs in constant motion; 4 = raises dust, small branches sway; 5 = trees sway.
 Species: SNTU (Snapping Turtle); STIN (Stinkpot); PATU (Painted Turtle); NMTU (Northern Map Turtle); BLAN (Blanding's Turtle);
 SPTU (Spotted Turtle); WOTU (Wood Turtle); SPSP (Spiny Softshell); Green Frog (GRFR); American Toad (AMTO); Wood Frog (WOFR),
 Bullfrog (BUFR); Leopard Frog (LEFR), Chorus Frog (CHFR), Spring Peeper (SPPE); Gray Tree Frog (GRTR)

Date: Aug 5, 2010	Project #: 10-1151-0035	Weather Conditions: cloudy, 23°C, dry, light wind.
Collectors: RC/DM	Time: 17:32	Time:
Watercourse Name	ID # 233	
Reach ID		
UTM easting and northing (CL of crossing)	(109) 596979 4745267	
Flow regime (permanent, intermittent, ephemeral)	ephemeral	
Mean Bank width (m)	wet: N/A Full: N/A	wet: Full:
Mean Bank depth (cm)	wet: N/A Full: N/A	wet: Full:
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	MU	
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	no definable channel/ ditch.	
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) N/A	LUB
	Right upstream bank (RUB) N/A	RUB
Flow conditions (dry, stagnant, low/moderate/high flow)	standing water from recent storm	
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	herbaceous (see below)	
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	terrestrial grass	
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	50cm culvert	
Photo Numbers	upstream (S) 0257 downstream (E) 0258	
Date:	Project #:	Weather Conditions:

Date: 05 Aug 2010	Project #: 10-1151-0035	Weather Conditions: overcast
Collectors: L. Hiller & A. Sabouni	Time started: 17.40	Time Finished: 17:55
Watercourse Name:		
Reach ID	222	223
UTM easting and northing (CL of crossing)	WP1#030 541379 4743865	031 0591828 4743974
Flow regime (permanent, intermittent, ephemeral)	intermittent	intermittent wetted
Mean Bankfull width (m)	~ 1.5 m wetted ~ 1.0 m	1.5 m 1.5 m
Mean Bankfull depth (cm)	< 10 cm < 5 cm	7.5 cm 40 cm
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	- 50% CL - 50% SI	50% CL 50% SI
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	meandering field swale	meandering field swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) poor	LUB Slightly stable ^{down} upstream
	Right upstream bank (RUB) poor	RUB Slightly stable ^{up} stream - unstable
Flow conditions (dry, stagnant, low/moderate/high flow)	some stagnant water (recent rain)	Low flow (recent rainfall)
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	- poor - plowed (soy) - 5% shading (vegetation)	Poor - manicured lawn < 10% shading from grass
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- terrestrial grasses	manicured lawn in swale
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	none	none
Photo Numbers	upstream 54 downstream 55	upstream 56 downstream 57

AIR 24.9 °C

instream 23.5 °C
AIR 24.8 °C

↓ POND ↓

Date: 05 AUG 2010	Project #: 10-1151-0035	Weather Conditions: SUNNY 23°C. 80% cloud wind 5-10km/hr
Collectors: Lasha Milne & Amadou Sobounni	Time started: 17:58	Time Finished:
Watercourse Name:		
Reach ID	239 (POND)	
UTM easting and northing (CL of crossing)	082 0592086 4744044	
Flow regime (permanent, intermittent, ephemeral)	Permanent	
Mean Bankfull width (m)	10 x 20 m rectangular	
Mean Bankfull depth (cm)	7200cm	
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	20 MU 40 CL 40 SI	
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	pond, lentic likely man-made	
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) stable	LUB
	Right upstream bank (RUB) stable	RUB
Flow conditions (dry, stagnant, low/moderate/high flow)	moderate	
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	reinforced w rock, manicured lawn, riparian area 0% shading	
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	0% cover some rocks at edge.	
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none could support fish & amphibians	
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	- none observed - disturbed - manicured lawn on residence lawn	
Photo Numbers	58	

cover recent rain & T storm

POND AND LENTIC AREA SURVEY DATASHEET

Project Code: 10-1151-0035 Project name: Nanticoke Field Crew: RC/DM

FIELD MAP #: 2 10#197 ELC Polygon ID (MAP): Site Diagram: (Include scale and N arrow)
 FIELD MAP PROJECTION: NAD 27 NAD 83
 GRID ZONE: 90m N of (093) 588892, 4746708
 Date (dd/mm/yyyy): 05/08/2010 Observers: RC/DM
 Start Time (24h) 11:05 End Time (24h):
 Air Temp (°C): Water Temp (°C):
 Sky: 0 ① 2 3 4 5 Wind: 0 1 2 ③ 4 5
 Lentic area type: Lake Pond Standing Ephemeral pool
 Lotic area types: River (>5m) Stream (<5m) Ditch Cutline
 Water flow: Dry Intermittent Q m/s estimate measured
 Disturbed: Yes No
 Length (long axis): m Width (short axis): m
 Dominant Substrate: Bedrock Boulder Cobble
 Gravel Sand Mud Peat

Not visible
no access

~~Notes~~ Comments
man-made
no access
tychus sp. around edge
view obstructed,
no inflow

Dominant Habitat Types Surrounding Feature

Community Description:				
	Spec 1	%	Spec 2	%
Tree				
Shrub				
Herb	tychus sp.			

Nearest Sandy Soil: metres

Community Description:				
	Spec 1	%	Spec 2	%
Tree				
Shrub				
Herb				
Bearing from plot (deg)		Distance from plot (m)		

Turtle Basking/Nesting, Visual Encounter and Other Species Observation Data

Species	Number individuals	Distance (m)/UTM	Bearing	Micro Habitat	Emergent Veg (Y/N)	Disturbed (Y/N)	Notes
Not visible							

Sky: 0 = clear/few clouds; 1 = partly cloudy; 2 = cloudy/overcast; 3 = fog; 4 = drizzle; 5 = showers

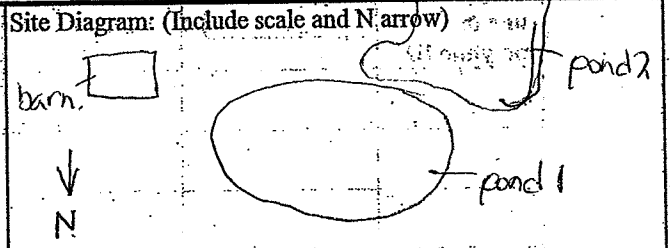
Wind: 0 = vertical smoke; 1 = smoke drifts; 2 = wind felt on face, leaves rustle; 3 = leaves/twigs in constant motion; 4 = raises dust, small branches sway; 5 = trees sway.

Species: SNTU (Snapping Turtle); STIN (Stinkpot); PATU (Painted Turtle); NMTU (Northern Map Turtle); BLAN (Blanding's Turtle); SPTU (Spotted Turtle); WOTU (Wood Turtle); SPSP (Spiny Softshell); Green Frog (GRFR); American Toad (AMTO); Wood Frog (WOFR); Bullfrog (BUFR); Leopard Frog (LEFR); Chorus Frog (CHFR); Spring Peeper (SPPE); Gray Tree Frog (GRTR)

POND AND LENTIC AREA SURVEY DATASHEET

Project Code: 10-1157-0035 Project name: Nanticoke Field Crew: RC/DM

FIELD MAP #: 2 ID# 1488 ELC Polygon ID (MAP):
 FIELD MAP PROJECTION: NAD 27 (NAD 83)
 GRID ZONE: (094) 588837, 4746590
 Date (dd/mm/yy): 05/08/2010 Observers: RC/DM
 Start Time (24h) 11:19 End Time (24h): 11:24
 Air Temp (°C): 26.4 Water Temp (°C): 30.3
 Sky: 0 (1) 2 3 4 5 Wind: 0 1 2 (3) 4 5
 Lentic area type: Lake (Pond) Standing Ephemeral pool
 Lotic area types: River (>5m) Stream (<5m) Ditch Cutline
 Water flow: Dry Intermittent 0 m/s estimate measured
 Disturbed: (Yes) No
 Length (long axis): 25 m Width (short axis): 20 m
 Dominant Substrate: Bedrock Boulder Cobble
 Gravel Sand (Mud) Peat



Comments
 man-made dredged channel to S of pond 2
 pond 2 no in/out flow
 pond 1

Dominant Habitat Types Surrounding Feature

Community Description:				
	Spec 1	%	Spec 2	%
Tree	shagbark hickory		ash sp.	
Shrub	staghorn sumac			
Herb	semi	95	goldenrod	
	terrestrial grasses			

Nearest Sandy Soil: metres

Community Description:				
	Spec 1	%	Spec 2	%
Tree				
Shrub				
Herb				
Bearing from plot (deg)	Distance from plot (m)			

Turtle Basking/Nesting, Visual Encounter and Other Species Observation Data

Species	Number individuals	Distance (m)/UTM	Bearing	Micro Habitat	Emergent Veg (Y/N)	Disturbed (Y/N)	Notes
BaSw	~20						
TuVa							
tadpole							amphibian breeding pond
green frogs	20+						
WBNU							
HoWf							
SoSp							
smartweed							around edges
black flycatcher							
monarch							

Sky: 0 = clear/few clouds; 1 = partly cloudy; 2 = cloudy/overcast; 3 = fog; 4 = drizzle; 5 = showers
 Wind: 0 = vertical smoke; 1 = smoke drifts; 2 = wind felt on face, leaves rustle;
 3 = leaves/twigs in constant motion; 4 = raises dust, small branches sway; 5 = trees sway.

Species: SNTU (Snapping Turtle); STIN (Stinkpot); PATU (Painted Turtle); NMTU (Northern Map Turtle); BLAN (Blanding's Turtle); SPTU (Spotted Turtle); WOTU (Wood Turtle); SPSP (Spiny Softshell); Green Frog (GRFR); American Toad (AMTO); Wood Frog (WOFR); Bullfrog (BUFR); Leopard Frog (LEFR); Chorus Frog (CHFR); Spring Peeper (SPPE); Gray Tree Frog (GRTR)

POND AND LENTIC AREA SURVEY DATASHEET

Project Code: 10-151-035 Project name: Nanticoke Field Crew: RC/DM

FIELD MAP #: 2 10/2006 ELC Polygon ID (MAP): Site Diagram: (Include scale and N arrow)

FIELD MAP PROJECTION: NAD 27 (NAD 83)

GRID ZONE: (100) 589977, 4746263

Date (dd/mm/yy): 05/08/2010 Observers: RC/DM

Start Time (24h) 14:44 End Time (24h):

Air Temp (°C): 30.5 Water Temp (°C):

Sky: 0-1 2 3 4 5 Wind: 0 1 2 3 4 5

Lentic area type: Lake Pond Standing Ephemeral pool

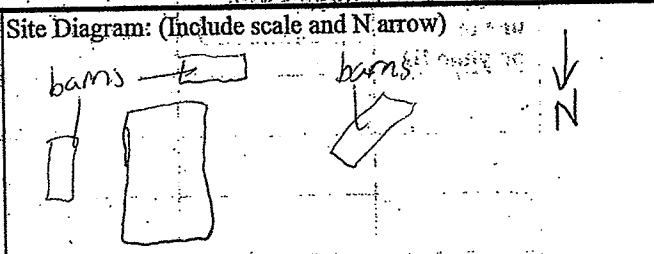
Lotic area types: River (>5m) Stream (<5m) Ditch Cutline

Water flow: Dry Intermittent 0 m/s estimate measured

Disturbed: (Yes) No

Length (long axis): 29 m Width (short axis): 17 m

Dominant Substrate: Bedrock Boulder Cobble
Gravel Sand (Mud) Peat



~~Enter~~ Comments
 man-made no in/outflow fenced (no access) surface ~ 75% covered w/ duckweed and residue (unknown) Photo 0244

Dominant Habitat Types Surrounding Feature

Community Description:

	Spec 1	%	Spec 2	%
Tree	N/A			
Shrub	N/A			
Herb	cattails	25	reeds grass, goldenrod	75

Nearest Sandy Soil: metres

Community Description:

	Spec 1	%	Spec 2	%
Tree				
Shrub				
Herb				

Bearing from plot (deg): Distance from plot (m):

Turtle Basking/Nesting, Visual Encounter and Other Species Observation Data

Species	Number individuals	Distance (m)/UTM	Bearing	Micro Habitat	Emergent Veg (Y/N)	Disturbed (Y/N)	Notes
Monarch green frog	1						heard call

Sky: 0 = clear/few clouds; 1 = partly cloudy; 2 = cloudy/overcast; 3 = fog; 4 = drizzle; 5 = showers

Wind: 0 = vertical smoke; 1 = smoke drifts; 2 = wind felt on face, leaves rustle; 3 = leaves/twigs in constant motion; 4 = raises dust, small branches sway; 5 = trees sway.

Species: SNTU (Snapping Turtle); STIN (Stinkpot); PATU (Painted Turtle); NMTU (Northern Map Turtle); BLAN (Blanding's Turtle); SPTU (Spotted Turtle); WOTU (Wood Turtle); SPSP (Spiny Softshell); Green Frog (GRFR); American Toad (AMTO); Wood Frog (WOFR); Bullfrog (BUFR); Leopard Frog (LEFR); Chorus Frog (CHFR); Spring Peeper (SPPE); Gray Tree Frog (GRTR)

Natura Naturalis

Date: 05/AUG/2010	Project #: 10-1151-0085	Weather Conditions: SUNNY 10-15 km/hr winds, Humid 29.0°C
Collectors: Lasha Milne & Anwar Sabouni	Time started: 14:09	Time Finished: 14:24
Watercourse Name:		
Reach ID	224	203b
UTM easting and northing (CL of crossing) (Lasha's)	016 0592751 04746137	017 0592288 4746038
Flow regime (permanent, intermittent, ephemeral)	intermittent	Intermittent
Mean Bankfull width (m)	7.5 m	.50 m (at road) otherwise undefined.
Mean Bankfull depth (cm)	8 cm	5 cm
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	10% GR 60% CL 30% SI	50% CL 50% SI
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	meandering field swale majority undefined	meandering field swale Banks
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) unstable	LUB unstable
	Right upstream bank (RUB) unstable	RUB unstable
Flow conditions (dry, stagnant, low/moderate/high flow)	Dry	Dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	Poor - vegetation growing throughout swale primarily soy otherwise no cover	Poor upstream cut pasture land, downstream plowed field no cover.
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	none other than vegetation - some reed canary, cattails at road edge.	none other than some vegetation - some reed canary, goldenrod at road culvert
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	none highly disturbed - agriculture; a few leopard frogs by culvert	none highly disturbed due to agriculture practices
Photo Numbers Lasha's camera	UPSTREAM 28 DOWNSTREAM 29	UPSTREAM 30 DOWNSTREAM 31

30% Cloud cover

Mexican Warble

↓ POND ↓

Date: 05 AUG 2010	Project #: 10-1181-0085	Weather Conditions: SUNNY, HUMID. 20% cloud cover wind 10-15 km/hr
Collectors: Lasha Milno & Amber Sakum	Time started: 11:20	Time Finished: 82.5°C
Watercourse Name		
Reach ID	203a	203d
UTM easting and northing (CL of crossing) (Lasha's)	018 0592036 4745979	019 0591751 4745919
Flow regime (permanent, intermittent, ephemeral)	Intermittent	Permanent
Mean Bankfull width (m)	1.5m	10x10m round
Mean Bankfull depth (cm)	5cm	>1m
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	10% GR 50% CL 40% SI	CL 40 MU 20 SI 40
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	meandering field swale	Round pond, likely man-made by roadwork
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) unstable	LUB Stable
	Right upstream bank (RUB) unstable	RUB Stable
Flow conditions (dry, stagnant, low/moderate/high flow)	DRY	moderate
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	POOR Soy growing at edges & in swale (60% cover)	Fair to Poor 10% shading - 75% manicured lawn - some red canary & yellow fleecy - small portion borders woodlot (20%)
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	none other than Soy & culvert	Low, some overhanging vegetation, otherwise poor cover
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle)	none high disturbance → Soy & pasture practices	none may support small population of byrrids & support frogs
Photo Numbers Lasha's	UPSTREAM 32 DOWNSSTREAM 33	34

Date: 05 Aug 2010	Project #: 10-1151-0035	Weather Conditions: rain/thunderstorms	
Collectors: L. Milne & A. Sabourin	Time started: 16:28	Time Finished: 16:50	
Watercourse Name:			
Reach ID	219	221	
UTM easting and northing (CL of crossing)	WPT# 023 590398 4745310	WPT# 025 590352	4743772
Flow regime (permanent, intermittent, ephemeral)	intermittent	intermittent	
Mean Bankfull width (m)	~1.5 m	0.3 ~ 0.5 m	wetted ~1 m
Mean Bankfull depth (cm)	<50 cm	N/A	<10 cm.
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	-50% CL -50% Si	-50% CL -50% Si	
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	Slightly meandering field Swale	Slight meandering field swale	
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) poor	LUB poor	
	Right upstream bank (RUB) poor	RUB poor	
Flow conditions (dry, stagnant, low/moderate/high flow)	-dry	-dry (some ^{pooled} water but due to recent rain) - detritus out of culvert.	
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	-poor -plowed (soy field) -cattails -common ragweed -goldenrod.	-poor -plowed (soy field) -no shading except for vegetation near culvert	
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	-cattails -grey dogwood.	-none	
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	none	
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	none	
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	none	none	
Photo Numbers	downstream 442 upstream 43.	upstream 45	downstream 46

Date: 05 Aug 2010	Project #: 10-1151-CO35	Weather Conditions: rain
Collectors: L. Milne & A. Sabourin	Time started: 15:46	Time Finished: 15:56
Watercourse Name		
Reach ID	202 b	202 a
UTM easting and northing (CL of crossing)	WPT#021 591282 4745807	WPT #022 591048 4745753
Flow regime (permanent, intermittent, ephemeral)	ephemeral	Intermittent
Mean Bankfull width (m)	~0.3m	2m
Mean Bankfull depth (cm)	N/A	<30. cm.
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	-50% CL -50% Si.	-50% CL -50% Si.
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	meandering field swale	meandering field swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) poor	LUB poor
	Right upstream bank (RUB) poor	RUB poor
Flow conditions (dry, stagnant, low/moderate/high flow)	dry	dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	-poor - 0% shaded only from vegetation	-poor - shading from cattails & vegetation.
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- terrestrial grasses	- cattails - dogwood (grey) - goldenrod - reed canary grass
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	- running through manicured lawn.	- through culm.
Photo Numbers	39	downstream pic #40 upstream pic #41

Aug 5, 2010

10-1151-0035

cloudy, 23°C, light wind, dry

Collectors: RC/DM	Time: 17:25	Time: 17:20
Watercourse Name	10# 235	10# 234
Reach ID		
UTM easting and northing	(107) 597498 4745534	(108) 597179 4745312
Flow regime (permanent, intermittent, ephemeral)	ephemeral	ephemeral
Mean Bank width (m)	wet: N/A Full: N/A	wet: N/A Full: N/A
Mean Bank depth (cm)	wet: N/A Full: N/A	wet: N/A Full: N/A
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MUMuck, DE-detritus)	MU	MU
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	no definable channel	no definable channel / ditch
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) N/A Right upstream bank (RUB) N/A	LUB N/A RUB N/A
Flow conditions (dry, stagnant, low/moderate/high flow)	dry.	water from recent storm
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	herbaceous (see below)	herbaceous
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	terrestrial grasses.	terrestrial grasses
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	none.
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	36" culvert Some standing water to SW (after heavy rain)	36" culvert leopard frog 70 cm culvert
Photo Numbers	upstream (NW) 0253 downstream (SW) 0254	upstream (S) 0255 downstream (E) 0256

for ID # 216
 ↗
 cloudy, raining,
 20.2°C, wet
 moderate wind
 ↘ for ID # 23

Date: Aug 5, 2010	Project #: 10-1151-0035	Weather Conditions: partly cloudy, 30°C
Collectors: RC/DM	Time: 15:25	Time:
Watercourse Name	ID # 216	ID # 236
Reach ID		
UTM easting and northing (CL of crossing)	(105) 590201 4745976	(106) 546978 47443571
Flow regime (permanent, intermittent, ephemeral)	permanent/intermittent	ephemeral
Mean Bank width (m)	wet: 13m Full: 20m	wet: N/A Full: N/A
Mean Bank depth (cm)	wet: can't measure Full:	wet: N/A Full: N/A
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MUMuck, DE-detritus)	MU	MU
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	meandering.	no definable channel
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) stable	LUB N/A
	Right upstream bank (RUB) stable	RUB N/A
Flow conditions (dry, stagnant, low/moderate/high flow)	low.	dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	reed canary grass	N/A
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	cattails. aquatic submerged veg. (yellow lily, weeds)	reed canary grass.
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none.	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	possible	none.
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	murky water (can't see fish)	murky water
Water/Air Temp	27.4°C / 24.8°C	30°C / N/A
Photo Numbers	upstream (W) 0248	upstream (E) 0251
Date:	downstream (E) 0249 Project #:	downstream (SW) 0252. Weather Conditions:

POND AND LENTIC AREA SURVEY DATASHEET

Lasha's Camera

Project Code: 10-1181-0085 Project name: Nextera Nanticoke Field Crew: Lasha Munn & Amber Sabourin

FIELD MAP #: ELC Polygon ID (MAP): 215 Site Diagram: (Include scale and N arrow) Lasha's Camera

FIELD MAP PROJECTION: NAD 27 NAD 83² See pic 5 + 6 + 7 OVERHEAD:

GRID ZONE: 77

Date (dd/mm/yyyy): 05/08/10 Observers: Lasha & Amber

Start Time (24h) 09:10 End Time (24h): 09:37

Air Temp (°C): 28.2°C Water Temp (°C): 26.7

Sky: 0 1 2 3 4 5 Wind: 0 1 2 3 4 5

Lentic area type: Lake Pond Standing Ephemeral pool

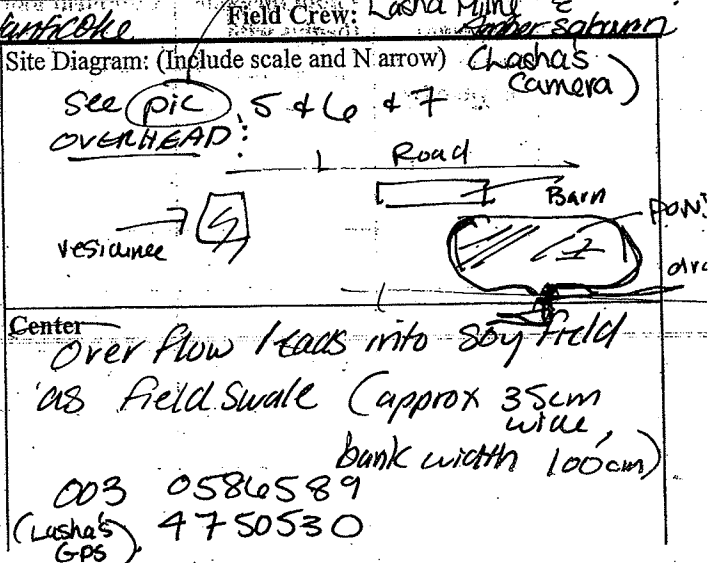
Lotic area types: River (>5m) Stream (<5m) Ditch Cutline

Water flow: Dry Intermittent 0 m/s estimate measured

Disturbed: Yes No

Length (long axis): m Width (short axis): m

Dominant Substrate: Bedrock Boulder Cobble
Gravel Sand Mud Peat clay-silt



Dominant Habitat Types Surrounding Feature

Community Description:				
	Spec 1	%	Spec 2	%
Tree	0	0	0	0
Shrub	none			
Herb	manicured lawn, no macrophytes			

Nearest Sandy Soil: metres

Community Description:				
	Spec 1	%	Spec 2	%
Tree				
Shrub				
Herb				
Bearing from plot (deg)	Distance from plot (m)			

re
xe
iron
y
7
re pic 6)

Turtle Basking/Nesting, Visual Encounter and Other Species Observation Data

Species	Number individuals	Distance (m)/UTM	Bearing	Micro Habitat	Emergent Veg (Y/N)	Disturbed (Y/N)	Notes
Barn Swallows	20-25	above water			none	Y	→ barn adjacent to pond
Green frog		at bank				"	jumped in water.
chimney crayfish							holes around banks
Fish observed (dead)							likely was emerald shiner or fathead minnow (pic 7)
caenata species							(bluets, skimmers)
Canada geese							roosting in adjacent field (20-30 flock)

Sky: 0 = clear/few clouds; 1 = partly cloudy; 2 = cloudy/overcast; 3 = fog; 4 = drizzle; 5 = showers
 Wind: 0 = vertical smoke; 1 = smoke drifts; 2 = wind felt on face, leaves rustle; 3 = leaves/twigs in constant motion; 4 = raises dust, small branches sway; 5 = trees sway.
 Species: SNTU (Snapping Turtle); STIN (Stinkpot); PATU (Painted Turtle); NMTU (Northern Map Turtle); BLAN (Blanding's Turtle); SPTU (Spotted Turtle); WOTU (Wood Turtle); SPSP (Spiny Softshell); Green Frog (GRFR); American Toad (AMTO); Wood Frog (WOFR); Bullfrog (BUFR); Leopard Frog (LEFR); Chorus Frog (CHFR); Spring Peeper (SPPE); Gray Tree Frog (GRTR)

GPS location data and photo observations: **FD 215**

GPS Waypoint, line or polyline ID	Photo filename (begins with _____)	Comment and Photo Caption

General observations and comments:

- landowner noted that they use water from pond
 to water their cows on other side of the road.
 - use crayfish from pond for bait
 - water level can drop "a couple of feet" in dry
 conditions
 -
 minimal macrophytes observed due to well-maintained
 bank of lawn grass. Did observe minimal amounts of:
 → rich grass
 - noddy bur marigold
 - sedges
 - reed canary
 - various grasses.

Data Sheet QA/QC (initials)

POND AND LENTIC AREA SURVEY DATASHEET

Project Code: 10-1151-0035 Project name: Nanticoke

Field Crew: RC/DM

FIELD MAP #: 2 10#213 ELC Polygon ID (MAP):

FIELD MAP PROJECTION: NAD 27 (NAD 83)

GRID ZONE: (1097) 589392, 4746865

Date (dd/mm/yy): 05/08/2010 Observers: RC/DM

Start Time (24h) 12:20 End Time (24h):

Air Temp (°C): 27 Water Temp (°C):

Sky: 0 (1) 2 3 4 5 Wind: 0 1 2 (3) 4 5

Lentic area type: Lake (Pond) Standing Ephemeral pool

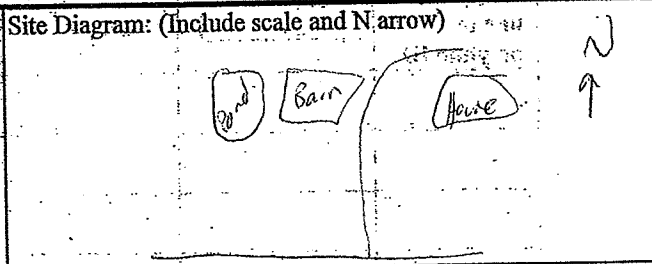
Lotic area types: River (>5m) Stream (<5m) Ditch Cutline

Water flow: Dry Intermittent 0 m/s estimate measured

Disturbed: (Yes) No

Length (long axis): 40 m Width (short axis): 25 m

Dominant Substrate: Bedrock Boulder Cobble
Gravel Sand (Mud) Peat



~~Notes~~ Comments:
fenced, man-made
no in/outflow
photo 0242

Dominant Habitat Types Surrounding Feature:

Community Description:				
	Spec 1	%	Spec 2	%
Tree				
Shrub				
Herb	<u>gobblers</u>			

Nearest Sandy Soil: metres

Community Description:				
	Spec 1	%	Spec 2	%
Tree				
Shrub				
Herb				
Bearing from plot (deg)	Distance from plot (m)			

Turtle Basking/Nesting, Visual Encounter and Other Species Observation Data

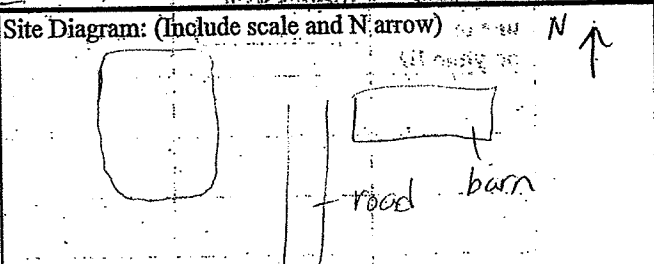
Species	Number individuals	Distance (m)/UTM	Bearing	Micro Habitat	Emergent Veg (Y/N)	Disturbed (Y/N)	Notes
<u>none observed</u>							

Sky: 0 = clear/few clouds; 1 = partly cloudy; 2 = cloudy/overcast; 3 = fog; 4 = drizzle; 5 = showers
 Wind: 0 = vertical smoke; 1 = smoke drifts; 2 = wind felt on face, leaves rustle;
 3 = leaves/twigs in constant motion; 4 = raises dust, small branches sway; 5 = trees sway.
 Species: SNTU (Snapping Turtle); STIN (Stinkpot); PATU (Painted Turtle); NMTU (Northern Map Turtle); BLAN (Blanding's Turtle);
 SPTU (Spotted Turtle); WOTU (Wood Turtle); SPSP (Spiny Softshell); Green Frog (GRFR); American Toad (AMTO); Wood Frog (WOFR);
 Bullfrog (BUFR); Leopard Frog (LEFR); Chorus Frog (CHFR); Spring Peeper (SPPE); Gray Tree Frog (GRTR)

POND AND LENTIC AREA SURVEY DATASHEET

Project Code: 10-1151-0035 Project name: Nanticoke Field Crew: RC/DM

FIELD MAP #: 2 ID# 212 ELC Polygon ID (MAP):
 FIELD MAP PROJECTION: NAD 27 (NAD 83)
 GRID ZONE: (1096) 589125, 4746860
 Date (dd/mm/yy): 05/08/2010 Observers: RC/DM
 Start Time (24h) 12:15 End Time (24h):
 Air Temp (°C): 25 Water Temp (°C):
 Sky: 0 (1) 2 3 4 5 Wind: 0 1 2 (3) 4 5
 Lentic area type: Lake (Pond) Standing Ephemeral pool
 Lotic area types: River (>5m) Stream (<5m) Ditch Cutline
 Water flow: Dry Intermittent 0 m/s estimate measured
 Disturbed: (Yes) No
 Length (long axis): 20 m Width (short axis): 15 m
 Dominant Substrate: Bedrock Boulder Cobble
 Gravel Sand (Mud) Peat



Comments
 choked by cattail
 surrounded by wooden fence
 man-made
 no in/out flow

Dominant Habitat Types Surrounding Feature

Community Description:				
	Spec 1	%	Spec 2	%
Tree				
Shrub				
Herb	black scirpus	99		

Nearest Sandy Soil: metres

Community Description:				
	Spec 1	%	Spec 2	%
Tree				
Shrub				
Herb				
Bearing from plot (deg)		Distance from plot (m)		

Turtle Basking/Nesting, Visual Encounter and Other Species Observation Data

Species	Number individuals	Distance (m)/UTM	Bearing	Micro Habitat	Emergent Veg (Y/N)	Disturbed (Y/N)	Notes
none observed							

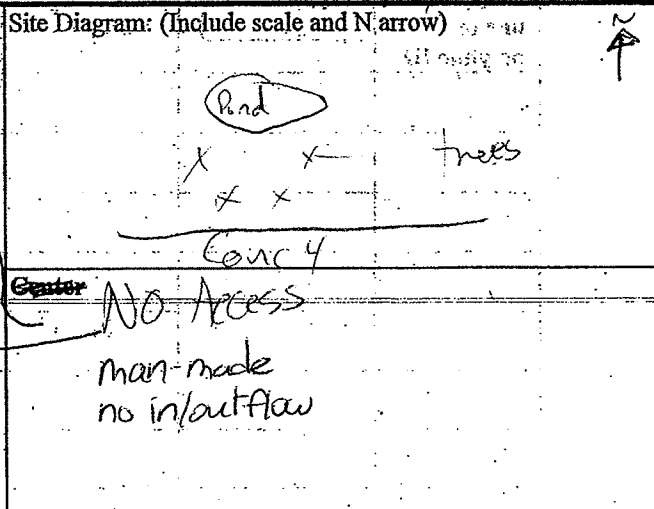
Sky: 0 = clear/few clouds; 1 = partly cloudy; 2 = cloudy/overcast; 3 = fog; 4 = drizzle; 5 = showers
 Wind: 0 = vertical smoke; 1 = smoke drifts; 2 = wind felt on face, leaves rustle;
 3 = leaves/twigs in constant motion; 4 = raises dust, small branches sway; 5 = trees sway.
 Species: SNTU (Snapping Turtle); STIN (Stinkpot); PATU (Painted Turtle); NMTU (Northern Map Turtle); BLAN (Blanding's Turtle);
 SPTU (Spotted Turtle); WOTU (Wood Turtle); SPSP (Spiny Softshell); Green Frog (GRFR); American Toad (AMTO); Wood Frog (WOFR);
 Bullfrog (BUFR); Leopard Frog (LEFR); Chorus Frog (CHFR); Spring Peeper (SPPE); Gray Tree Frog (GRTR)

POND AND LENTIC AREA SURVEY DATASHEET

Project Code: 10-1151-0035 Project name: Nanticoke Field Crew: RC/SM

FIELD MAP #: 2 ELC Polygon ID (MAP): #211b
 FIELD MAP PROJECTION: NAD 27 NAD 83
 GRID ZONE: 40m N of (08) 586833 4740253
 Date (dd/mm/yy): 05/08/10 Observers: DM/RC
 Start Time (24h) 10:23 End Time (24h):
 Air Temp (°C): ~25°C Water Temp (°C):
 Sky: (0) 1 2 3 4 5 Wind: 0 1 2 3 4 5

Lentic area type: Lake Pond Standing Ephemeral pool
 Lotic area types: River (>5m) Stream (<5m) Ditch Cutline
 Water flow: Dry Intermittent 0 m/s estimate measured
 Disturbed: (Yes) No
 Length (long axis): ~30 m Width (short axis): ~30 m
 Dominant Substrate: Bedrock Boulder Cobble
 Gravel Sand Mud Peat Unknown

Site Diagram: (Include scale and N arrow)


Dominant Habitat Types Surrounding Feature

Community Description:				
	Spec 1	%	Spec 2	%
Tree				
Shrub				
Herb				

Nearest Sandy Soil: metres

Community Description:				
	Spec 1	%	Spec 2	%
Tree				
Shrub				
Herb				
Bearing from plot (deg)			Distance from plot (m)	

Rock edge - no veg
 no access

Turtle Basking/Nesting, Visual Encounter and Other Species Observation Data

Species	Number individuals	Distance (m)/UTM	Bearing	Micro Habitat	Emergent Veg (Y/N)	Disturbed (Y/N)	Notes

Sky: 0 = clear/few clouds; 1 = partly cloudy; 2 = cloudy/overcast; 3 = fog; 4 = drizzle; 5 = showers
 Wind: 0 = vertical smoke; 1 = smoke drifts; 2 = wind felt on face, leaves rustle;
 3 = leaves/twigs in constant motion; 4 = raises dust, small branches sway; 5 = trees sway.
 Species: SNTU (Snapping Turtle); STIN (Stinkpot); PATU (Painted Turtle); NMTU (Northern Map Turtle); BLAN (Blanding's Turtle);
 SPTU (Spotted Turtle); WOTU (Wood Turtle); SPSP (Spiny Softshell); Green Frog (GRFR); American Toad (AMTO); Wood Frog (WOFR),
 Bullfrog (BUFR); Leopard Frog (LEFR), Chorus Frog (CHFR), Spring Peeper (SPPE); Gray Tree Frog (GRTR)

Aug 5, 2010

10-1151-0035

partly sunny, 30°C, light wind

Collectors: RC/DM	Time: 15:05 15:05	Time: 15:13
Watercourse Name	XXXXXXXXXX ID# 218	ID# 217
Reach ID		
UTM easting and northing	XXXXXXXXXX (102) 590025 XXXXXXXXXX 4746519	(103) 590069 4746445
Flow regime (permanent, intermittent, ephemeral)	ephemeral	ephemeral
Mean Bank width (m)	wet: N/A Full: 1-2 m	wet: N/A Full: 5 m
Mean Bank depth (cm)	wet: N/A Full: <50cm	wet: N/A Full: ~150m
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MUMuck, DE-detritus)	MU	MU
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	ditch.	deep ditch
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) stable	LUB slightly unstable
	Right upstream bank (RUB) stable	RUB slightly
Flow conditions (dry, stagnant, low/moderate/high flow)	dry	dry (damp from previous rain)
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	ditch (same as below) herbaceous	herbaceous
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	reced canary grass terrestrial veg	terrestrial veg.
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	Feathered debris	1.5 m culvert
Photo Numbers	? downstream (W) 0245 upstream (S) 0246	downstream (SE) 0247 XXXXXXXXXX

Date: Aug 5, 2010	Project #: 10-1157-0635	Weather Conditions: sunny, 30°C+, light wind
Collectors: RC/DM	Time: 10:27	Time: 10:32
Watercourse Name	10# 211c	10# 196 196
Reach ID		
UTM easting and northing (CL of crossing)	100m S of (090) 587804, 4746468	100m N of (091) 588133, 4746539
Flow regime (permanent, intermittent, ephemeral)	ephemeral	ephemeral
Mean Bank width (m)	wet: N/A Full: N/A	wet: N/A Full: N/A
Mean Bank depth (cm)	wet: N/A Full: N/A	wet: N/A Full: N/A
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	N/A (not visible)	N/A (not visible)
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	no definable channel	no definable channel
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) N/A (not visible)	LUB N/A
	Right upstream bank (RUB) N/A	RUB N/A
Flow conditions (dry, stagnant, low/moderate/high flow)	no visible water (viewed through binoculars)	no visible water.
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	N/A (not visible)	N/A.
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	N/A	crop
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	N/A	N/A
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	N/A	N/A
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	not on optioned land	didn't have permission - Capital Power lot.
Photo Numbers	no photo	no photo.
Date:	Project #:	Weather Conditions:

POND AND LENTIC AREA SURVEY DATASHEET

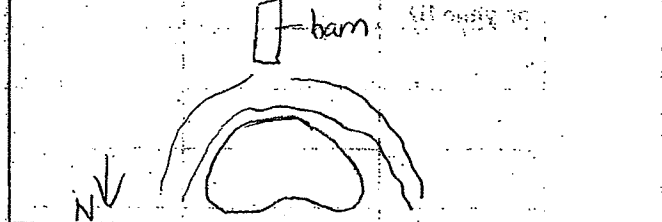
Project Code: 10-1151-0035 Project name: Nanticoke Field Crew: RC/DM

FIELD MAP #: ~~10-1151-0035~~ ELC Polygon ID (MAP): 14

Site Diagram: (Include scale and N arrow)

FIELD MAP PROJECTION: NAD 27 (NAD 83)

GRID ZONE: ~~18QUN3372000~~



Date (dd/month): 05/08/2010 Observers: RC/DM

Start Time (24h) ~~10:15~~ 10:15 End Time (24h):

Air Temp (°C): 25 Water Temp (°C): no access

Sky: 0 1 2 3 4 5 Wind: 0 1 2 3 4 5

Lentic area type: Lake (Pond) Standing Ephemeral pool

Lotic area types: River (>5m) Stream (<5m) Ditch Cutline

Water flow: Dry Intermittent 0 m/s estimate measured

Disturbed: (Yes) No

Length (long axis): 50 m Width (short axis): 50 m

Dominant Substrate: Bedrock Boulder Cobble Gravel Sand Mud Peat (unknown)

Comments:
no riparian vegetation (rocks)
no visible in/out flow
man-made
* 15m south of (088) 58.6660, 4746202
10 #21/a

Dominant Habitat Types Surrounding Feature

Community Description:				
	Spec 1	%	Spec 2	%
Tree				
Shrub				
Herb				

no riparian veg.

Nearest Sandy Soil: metres

Community Description:				
	Spec 1	%	Spec 2	%
Tree				
Shrub				
Herb				

Bearing from plot (deg): Distance from plot (m):

Turtle Basking/Nesting, Visual Encounter and Other Species Observation Data

Species	Number individuals	Distance (m)/UTM	Bearing	Micro Habitat	Emergent Veg (Y/N)	Disturbed (Y/N)	Notes
None							

Sky: 0 = clear/few clouds; 1 = partly cloudy; 2 = cloudy/overcast; 3 = fog; 4 = drizzle; 5 = showers
 Wind: 0 = vertical smoke; 1 = smoke drifts; 2 = wind felt on face, leaves rustle; 3 = leaves/twigs in constant motion; 4 = raises dust, small branches sway; 5 = trees sway.
 Species: SNTU (Snapping Turtle); STIN (Stinkpot); PATU (Painted Turtle); NMTU (Northern Map Turtle); BLAN (Blanding's Turtle); SPTU (Spotted Turtle); WOTU (Wood Turtle); SPSP (Spiny Softshell); Green Frog (GRFR); American Toad (AMTO); Wood Frog (WOFR); Bullfrog (BUFR); Leopard Frog (LEFR); Chorus Frog (CHFR); Spring Peeper (SPPE); Gray Tree Frog (GRTR)

Nevada Nanticola

10-1151-0035

SUNNY w/ cloud cover, humid 31.1°C
wind 5-10 km/hr

Amber Sabourin
Lasha Milne

↓ POND ↓

Collectors:	Time: 11:54	Time: 12:04
Watercourse Name	Aug-5-2010	
Reach ID	191	190
UTM easting and northing	014 0598428 4746303	015 0598282 4746268
Flow regime (permanent, intermittent, ephemeral)	Permanent	Intermittent
Mean Bank width (m)	wet: 10x5 m Full: 11x6 m	wet: N/A Full: 2.0 m
Mean Bank depth (cm)	wet: 1 m Full: 1.5 m	wet: N/A Full: 10 cm
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MUMuck, DE-detritus)	40 CL } approximately 40 SI } same to limited 20 MU } class	50% CL 50% SI
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	pond, lentic	meandering field swale to maybe braided or washed out toward road
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) Slightly stable Right upstream bank (RUB) slightly stable	LUB unstable RUB unstable
Flow conditions (dry, stagnant, low/moderate/high flow)	Moderate	Dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	poor - non native vegetation, manicured lawn & barn on edge.	poor - 100% vegetated w/ cut & uncut hay (alfalfa) field
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	low some overhanging vegetation, opaque silky water	none other than vegetation in swale
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none may support small cyprinidst frogs	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	none on farm yard, adjacent to livestock barns (observed chickens) & pasture field	none high disturbance due to agriculture (hay pasture)
Photo Numbers	27	26

could not get temp
(no access)

↓ POND ↓

Date: 05 AUG 2010	Project #: 10-1151-0035	Weather Conditions: sunny, humid 01. cloud cover wind 5-10 km/hr 28.7 °C.
Collectors: Laura Milne & Amber Sabarin	Time: 11:30	Time: 11:48
Watercourse Name	188d	110
Reach ID	1	
UTM easting and northing (CL of crossing)	012 0593819 9746595	013 0594033 4745911
Flow regime (permanent, intermittent, ephemeral)	Ephemeral to non-existent	Intermittent
Mean Bank width (m)	wet: N/A Full: 5x5m	wet: 1.0m Full: 2.0m
Mean Bank depth (cm)	wet: N/A Full: 10cm	wet: 10cm Full: 50cm
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	all of the above, no bedrock full of waste & organic debris	40% MUCK 20% CL 20% S
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	Pond (or used to be?)	Field swale meandering (upstream) braided/not defined (downstream)
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB)	LUB Slightly Stable
	Right upstream bank (RUB)	RUB Slush
Flow conditions (dry, stagnant, low/moderate/high flow)	Dry	Low flow to Dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	POOR - Some cattails & rushes in depression, sweet gum, 1 acid canary. otherwise alot of garbage in & near pond.	100% cover upstream due to cattails, water covered with duckweed. downstream only cover from the 50% in channel.
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	none other than vegetation & discarded waste (tree branches, shingles, metal)	none other than vegetation in channel & duckweed in wetted areas
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	none, may be suitable for frogs
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	none high disturbance as used as wasteland adjacent to pond waste storage area of private residence	none, disturbed especially downstream upstream due to agriculture (50% farm storage).
Photo Numbers	pic 22	DOWNSTREAM AT CULVERT 23 24 UPSTREAM 25

may be permanent at culvert
at culvert in cattails dry ~~downstream~~ upstream

AIR TEMP 31.2 °C Instream 25.8 °C
INSTREAM TEMP N/A AIR TEMP 31.2 °C

Aug 5, 2010

10-1151-0035

sunny, 30°C, very light wind.

Collectors: RC/DM	Time: 09:50	Time: 09:56
Watercourse Name	10#185d	10#185e
Reach ID		
UTM easting and northing	(084) 587417 4747771	(085) 587730 4747778
Flow regime (permanent, intermittent, ephemeral)	ephemeral	ephemeral
Mean Bank width (m)	wet: N/A Full: 2-3m	wet: N/A Full: N/A
Mean Bank depth (cm)	wet: N/A Full: < 1m	wet: N/A Full: N/A
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	MU, crop crop.	MU, crop.
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	field swale	field swale no definable channel
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) stable Right upstream bank (RUB) stable	LUB stable N/A RUB stable N/A
Flow conditions (dry, stagnant, low/moderate/high flow)	dry.	dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	crop.	crop
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	crop.	crop
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none.	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none.	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	none	none.
Photo Numbers	upstream (S) 0233	upstream (W) 0234 downstream (E) 0235

- POND -

Date: 05 AUG 2010	Project #: 10-1151-0085	Weather Conditions: SUNNY & CLOUD 28.7°C WIND 5-10 km/hr
Collectors: Lasha Milne & Amber Sabourin	Time: 10:55 to 11:05	Time: 11:06 to 11:11
Watercourse Name	188 (POND)	188c
Reach ID		
UTM easting and northing (CL of crossing) (Lomas)	008 0593520 4747610	009 0593577 4747386
Flow regime (permanent, intermittent, ephemeral)	Permanent	Intermittent?
Mean Bank width (m)	wet: 15x10 Full: 16x11	wet: N/A Full: could not
Mean Bank depth (cm)	wet: 100 >100 Full: 7200	wet: N/A Full: define channel
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MUMuck, DE-detritus)	SI 40 CL 40 MU 20	Could not see
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	POND - man made somewhat rectangular	see watercourse (from road)
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) stable	LUB if present is likely just a
	Right upstream bank (RUB) stable	RUB
Flow conditions (dry, stagnant, low/moderate/high flow)	LOW FLOW (Lentic System)	field swale & dry at present.
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	Fair 40% shading - nonnative grasses & forbs - Canada thistle - willow - buckeye - goldenrod - narrow-leaved catail	hay/pasture field & adjacent to soy field
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	none other than some overhanging vegetation a few boulders (5-10) - opaque silty water in whole pond.	soy field - Queen annas lace - alfalfa - red clover
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	may support small warmwater cyprinids & frogs	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	none observed - likely manmade adjacent to barnyard & corn field.	none
Photo Numbers	16	17
Date:	Project #:	Weather Conditions:

could not get water temperature (no access) but likely warmer 720°C.

Date: 14 JULY 2010	Project #: Nextera Nantucket	Weather Conditions: Sunny, 70% cloud cover wind 0-5 km/hr
Collectors: Lasha Milne & RUKI STAMM	Time started: 12:30 to 1:15	Time Finished: 2:55 - 2:45
Watercourse Name:		
Reach ID	TURBINE 28 10# 94	TURBINE 45 10# 15
UTM easting and northing (CL of crossing) BIUGPS 03	007 591075 4748294	008 596481 4745600
Flow regime (permanent, intermittent, ephemeral)	intermittent	intermittent
Mean Bankfull width (m)	No bank, 3m?	No bank, 1.35m
Mean Bankfull depth (cm)	Not defined	Not defined (ca 1cm)
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	50% CL 40% SI 10% MU	50% CL 40% SI 10% MU
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	field swale, depression between two slopes	field swale, depression
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) unstable	LUB unstable
	Right upstream bank (RUB) unstable	RUB unstable
Flow conditions (dry, stagnant, low/moderate/high flow)	dry	dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	poor 0% cover Soy planted through swale	poor 0% cover other than Soy planted in channel
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	none	none
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	none high disturbance, plowed w/ soy	non high disturbance, planted w/ soy
Photo Numbers	UPSTREAM 01 DOWNSTREAM 02	UPSTREAM 04 FOUNTAINSTREAM 05

JURILY VULTURE
MONARCH BUTTERFLY XII
(ALCOB) (PASA)

COYOTE (Scat & track)
AIR TEMP 31.0°C
WATER TEMP NA

EASTERN
BLUES BIRD & NEWLY
FLEDED YOUNG AT
ROADSIDE

MONARCH BUTTERFLY
- 2 mating

KILLDEER

wind 0-5 km/hr -

HUMID, 30.0°C, 70% cloud cover
Weather Conditions: sunny to overcast

Date: JULY 14, 2010

Project #: 10-1151-

Collectors: LABRA MILNE & KURT STAMM

Time Finished: 11:35 TO

Watercourse Name

TURBINE 19 10 92

Reach ID

WAYPOINT 05

UTM easting and northing (CL of crossing)
610 675 03

590795 4749296

Flow regime (permanent, intermittent, ephemeral)

Intermittent

Mean Bankfull width (m)

1.10 m

Mean Bankfull depth (cm)

.22 m

Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)

20 MU
40 CL
40 SI

Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)

field swale
meandering, splits off into it.

Bank Stability (stable, slightly stable, unstable, slightly unstable)

LUB
unstable

Flow conditions (dry, stagnant, low/moderate/high flow)

RUB
unstable

Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)

dry

Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)

poor riparian quality due to agricultural disturbance (soy)
Some soy growing in channel
as well as some grasses & forbs (smartweed), common ragweed
stable
single forbs

Evidence of groundwater inputs (e.g. watercress, seeps, springs)

no cover other than some veg. growing in channel
0% shading

Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)

NONE

Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement

NONE

UPSTREAM 57 DOWNSTREAM 58

AIR TEMP 31.0°C

WATER TEMP N/A

Date: 14 July, 2010	Project #: 10-1151-0038	Weather Conditions: Overcast
Collectors: DM/AS	Time started: 10:41	Time Finished: 10:49
Watersource Name		
Reach ID	99	100
UTM easting and northing (CL of crossing)	#093 589610 4746317	#094 589642 4746135
Flow regime (permanent, intermittent, ephemeral)	E	N/A
Mean Bankfull width (m)	1m - 1.5m	N/A
Mean Bankfull depth (cm)	20 cm	N/A
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, S-silt, CL-clay, MU-muck, DE-détritus)	MU	N/A
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	field swale	N/A
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB)	LUB
	N/A	N/A
	Right upstream bank (RUB)	RUB
	N/A	N/A
Flow conditions (dry, stagnant, low/moderate/high flow)	dry	dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc. % stream shading, average riparian zone width, example plant species)	- none	- canopy grass - teasie
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- none	- terr. veg
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	- none	- none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	- none	- none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	- dredged - Leopard frog (obs)	no defined channel within CLM1
Photo Numbers	(W) upstream 0033 downstream (E) 0034	(N) upstream 0035 (S) downstream 0036

Date: June 29 2010	Project #: 10-1151-0035	Weather Conditions: hot, dry, windy
Collectors:	Time started: 5:00pm	Time Finished:
Watercourse Name		
Reach ID	68a	
UTM easting and northing (CL of crossing)	400 577 832 4747245	
Flow regime (permanent, intermittent, ephemeral)	E	
Mean Bankfull width (m)	0.65 m	
Mean Bankfull depth (cm)	less than 20cm	
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	CL	
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	Field Swale	
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB)	LUB
	slightly stable	
	Right upstream bank (RUB)	RUB
	slightly stable	
Flow conditions (dry, stagnant, low/moderate/high flow)	dry	
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc, % stream shading, average riparian zone width, example plant species)	CROP	
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	100% none	
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle		
Photo Numbers	South East (down) a73 North West (up) a74	

Date: 30 June 2010	Project #: 10-1151-0035	Weather Conditions:
Collectors: DMI, AS	Time started: 16:24	Time Finished:
Watercourse Name		
Reach ID	Turbine # ID# 109	Turbine # ID#
UTM easting and northing (CL of crossing)	WPT# 412 592865 4744923	
Flow regime (permanent, intermittent, ephemeral)	E	
Mean Bankfull width (m)	0.9 m	
Mean Bankfull depth (cm)	<10 cm	
Substrates (% BE=bedrock, BO=boulder, CO=cobble, GR=gravel, SA=sand, S=silt, CL=clay, MU=muck, DE=detritus)	-MU	
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	-field swale	
Bank Stability (stable, slightly stable; unstable, slightly unstable)	Left upstream bank (LUB)	LUB
	N/A	
	Right upstream bank (RUB)	RUB
	N/A	
Flow conditions (dry, stagnant, low/moderate/high flow)	-dry	
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc.; % stream shading, average riparian zone width, example plant species)	-crop (soy) As	
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	-crop (soy)	
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	-none	
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	-none	
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	-no fish observed	
Photo Numbers	upstream (NW) 93	downstream (SE) 94

BIOGFS03

Sunny, WPA 20°C @ 14:00

Date: 30 JUNE, 2010	Project #: 107151-0055	Weather Conditions: Sunny, WPA 20°C @ 14:00
Collectors: Lesha & R. C. Eklund	Time started: 14:00	Time Finished: 14:35
Watercourse Name		
Reach ID	#77 - Turbivore #30	#76
UTM easting and northing (CL of crossing)	*WPT #39 587288 4746309	WPT #40 587314 4746202
Flow regime (permanent, intermittent, ephemeral)	INT.	INT
Mean Bankfull width (m)	1.0m	No Bank defined
Mean Bankfull depth (cm)	0.20 - 0.30m	" " "
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	Soil / GRASSES Silt / CLAY Some Sand	Soil terrestrial GRASSES
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	Field Swale	Field Swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) Stable	LUB No banks
	Right upstream bank (RUB) Stable	RUB No Banks
Flow conditions (dry, stagnant, low/moderate/high flow)	dry	dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	GRASSES / curled dock Sedge sp 1m Buffer (grasses)	grasses / curled dock
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	Terrestrial GRASSES 90%	Terrestrial GRASSES
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	presny pond w/s ?? groundwater influence	NO
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	NO	NO
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	NO	NO
Photo Numbers Lesha & Camory	#334 u/s 335 D/s	#336 u/s 337 o/s

Date: 30 June 2010	Project #: 10-1181-0035
Collectors: DNJAS	Time started: 10:51
Watershed Name	
Reach ID	Turbine #9 ID# 90
UTM easting and northing (CL of crossing)	WPT # 403 585916 4749804
Flow regime (permanent, intermittent, ephemeral)	E
Mean Bankfull width (m)	> 30 cm
Mean Bankfull depth (cm)	> 10 cm
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	- foam
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	- field swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) N/A
	Right upstream bank (RUB) N/A
Flow conditions (dry, stagnant, low/moderate/high flow)	- Dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc; % stream shading, average riparian zone width, example plant species)	- crop (soy)
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- none
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	- none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	- none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	- northern hatter - monarch - horn lark - kill
Photo Numbers	upstream (E) 0079 downstream (W) 0080

Air temp: N/A
Water temp: N/A

Date: June 24 2010	Project #: 10-1151-0035	Weather Conditions: part cloudy, windy to dry
Collectors: DM/MK	Time started: 10:30 am	Time Finished: 10:45 am
Watercourse Name		
Reach ID	40 near turbine 26	41
UTM easting and northing (CL of crossing)	387 584 901 474 7179	388 584 508 474 7311
Flow regime (permanent, intermittent, ephemeral)	E	E
Mean Bankfull width (m)	N/A Grass over	~1.6 m
Mean Bankfull depth (cm)	N/A Grass over	~48 cm
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	CL	MU
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	field swale	field swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) N/A	LUB stable
	Right upstream bank (RUB) N/A	RUB stable
Flow conditions (dry, stagnant, low/moderate/high flow)	dry	dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	herbaceous upland field plant	Crop
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	↓	none
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle		
Photo Numbers	West (upstream) 0043 East (downstream) 0044	North (upstream) 0045 South (downstream) 0046

Sunny 30% cloud wind 15-20 km/hr W

Date: 28 JUNE 2016	Project #: 10-1151-0035	Weather Conditions: 3m HEAVY RAIN 100% CLOUD COVER
Collectors: LASHA & AMBER SABOURIN	Time started: 12:45	Time Finished: 2:00
Watercourse Name		
Reach ID	TURBINE 22 ID (6.1)	TURBINE 22 ID (6.2)
UTM easting and northing (CL of crossing)	WAYPOINT # 020 579644 4740543	WAYPOINT # 021 579670 4740469
Flow regime (permanent, intermittent, ephemeral)	intermittent	intermittent
Mean Bankfull width (m)	1.5	1.5
Mean Bankfull depth (cm)	5.0	10.0
Substrates (% BE=bedrock, BO=boulder, CO=cobble, GR=gravel, SA=sand, SI=silt, CL=clay, MU=muck, DE=detritus)	20% MU 70% CL 10% GR	20% MU 70% CL 10% GR
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	- flat to channelized - meandering - field swale	- flat to channelized - meandering - field swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) unstable	LUB: unstable
	Right upstream bank (RUB) unstable	RUB: unstable
Flow conditions (dry, stagnant, low/moderate/high flow)	dry	dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc.; % stream shading, average riparian zone width, example plant species)	poor dissects wheat field to E & alfalfa field to W - plant species growing in channel (common plum tree, red & aspen clone, common ragweed)	- poor Same as # Col
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- no major cover other than plants growing in channel	Same as # Col
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle)	- not fish habitat - highly disturbed by agriculture	- not fish habitat - highly disturbed by agriculture
Photo Numbers	UPSTREAM 294 DOWNSTREAM 295	UPSTREAM 296 DOWNSTREAM 297

AIR TEMP: 23.2
INSTREAM TEMP: N/A

SUNNY 30% cloud cover, wind 15-20 km/hr

Date: 29 JUNE 2010	Project #: 10-1151-0035	Weather Conditions: INTERMITTENT RAIN 100% CLOUD COVER
Collectors: LASIKA & AMBER SARGOVAN	Time started: 12:45	Time Finished: 2:00
Watercourse Name		
Reach ID	TURBINE #22 ID# 59	TURBINE #22 ID# 60
UTM easting and northing (CL of crossing)	Waypoint # 018 579604 4746834	Waypoint # 019 579607 4746672
Flow regime (permanent, intermittent, ephemeral)	intermittent	intermittent
Mean Bankfull width (m)	no bank	0.75
Mean Bankfull depth (cm)	3.0-0	3.0
Substrates (% BE=bedrock, BO=boulder, CO=cobble, GR=gravel, SA=sand, S=silt, CL=clay, MU=muck, DE=detritus)	80% CL 20% MU	80% CL 20% MU
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	- flat throughout - field swale - meandering - no channel	- flat, minimally channelized to meandering - field swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB): unstable, no bank Right upstream bank (RUB): unstable, no bank	LUB: unstable, no major bank RUB: unstable, no major bank
Flow conditions (dry, stagnant, low/moderate/high flow)	dry w one small stagnant depression in cattails	dry
Riparian conditions (quality good/fair/poor; wooded, plowed, herbaceous, etc, % stream shading, average riparian zone width, example plant species)	fair - poor cultural meadow grasses choking channel (no opened substrate through) some patches of reed canary & narrow leaved cattail	poor - no cover vegetation growing throughout channel boarded by wheat crop to E + alfalfa field to W (at site cover, common riparian plants)
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	otherwise reed clod, reed canary, ragweed, curly dock, fleabane sp. overhanging plants of channel	plants growing throughout channel otherwise open
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	- none	- none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	- none	- none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farma lane), cattle)	- not fish habitat - highly disturbed & dissects wheat field & cum.	- not fish habitat - highly disturbed
Photo Numbers	UPSTREAM: 289 DOWNSTREAM: 290 IN CHANNEL: 291	UPSTREAM: 292 DOWNSTREAM: 293

AIR TEMP: 22.5°C
INSTREAM TEMP: N/A

AIR TEMP: 22.5°C
INSTREAM TEMP: N/A

Date: 29 JUNE 2010	Project #: 10-1151-0085	Weather Conditions: Sunny 10% WIND 15-20km/hr cloud cover
Collectors: Lasha & Amber Saborn	Time started: 1:02 Finished 2:00	Time Finished: start 4:00 finish 4:20
Reach ID	TURBINE 24 ID # 50	TURBINE ALT 3 ID 71
UTM easting and northing (CL of crossing)	Waypoint # 022 582793 4747433	Waypoint # 023 577056 4747104
Flow regime (permanent, intermittent, ephemeral)	intermittent	intermittent
Mean Bankfull width (m)	1.5	1.0
Mean Bankfull depth (cm)	1.0	1.0
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	80% CL 20% MU	80% CL 20% MU
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	- flat throughout swale - straightened	- flat (no defined channel) meanders through rolling agricultural field (new soy)
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) unstable (no bank)	LUB unstable (no bank)
	Right upstream bank (RUB) unstable (no bank)	RUB unstable (no bank)
Flow conditions (dry, stagnant, low/moderate/high flow)	very dry	very dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc.; % stream shading, average riparian zone width, example plant species)	poor - dissected cultural meadow (alfalfa, crabgrass, red clover, grasses)	poor - plowed over to new soy
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- poor - vegetation growing throughout channel	no cover soy in channel
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	- none	- none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	- none	- none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle)	- not fish habitat - very disturbed due to agricultural practices - woodchuck - crow	- not fish habitat - runs toward creek - high disturbance
Photo Numbers Lasha & Amber	UPSTREAM 298 DOWNSTREAM 299	UPSTREAM 300 DOWNSTREAM 301

Air Temp 23.0 °C
Instream NA

Air Temperature 23.9 °C
Instream NA

Date: June 28 2010	Project #: 10-1157-0035	Weather Conditions: Overcast, breezy, no precip, post-storm
Collectors: DM/MK	Time started:	Time finished: 12:00 pm
Watercourse Name		
Reach ID	25	26A
UTM easting and northing (CL of crossing)	(280) 580907 4749203	(382) 580516 4749324
Flow regime (permanent, intermittent, ephemeral)	E	I
Mean Bankfull width (m)	0.9 m	0.9 m
Mean Bankfull depth (cm)	~20 cm	~40 cm
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	MU	MU
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	Field Swale	meandering channel
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) N/A	LUB slightly stable
	Right upstream bank (RUB) N/A	RUB slightly stable
Flow conditions (dry, stagnant, low/moderate/high flow)	Dry	Stagnant
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	Crop	Herbaceous
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	None	Mixed of terrestrial & aquatic veg. - Scirpus sp. Scirpus - Carex sp. - Solidago
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	None	None
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	None	None
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle)	None	Air temp = 24.8°C water temp = 23.4°C - No fish observed
Photo Numbers	West (up) 0031 East (down) 0032	Southeast (upstream) 0037 West (downstream) 0038

Date: June 28 2010	Project #: 10-1151-0035	Weather Conditions: cloudy, dry ~24°C
Collectors: DM/MK	Time started: 10:55 am	Time Finished:
Watercourse Name		
Reach ID	23	24
UTM easting and northing (CL of crossing)	378 581 340 474 9502	379 581 036 474 9413
Flow regime (permanent, intermittent, ephemeral)	E	I
Mean Bankfull width (m)	~0.8 m	wet = 0.7m bank = ~5m
Mean Bankfull depth (cm)	~20 cm	wet = 20cm bank = ~100cm
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	Mu	Mu
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	field swale	field swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) slightly unstable	LUB slightly unstable
	Right upstream bank (RUB) stable	RUB slightly unstable
Flow conditions (dry, stagnant, low/moderate/high flow)	Dry	stagnant
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	Herbaceous	Herbaceous
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	terrestrial Grasses, clover, golden-rods	Some veg. cover, willow herb, terrestrial grasses, Hairstie teasie
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle)	Some rain runoff present North of hedgerow.	air temp = 25.3°C water temp = 24.4°C tracks: racoon & white tailed deer
Photo Numbers	west (upstream) 0029 North (downstream) 0030	North (upstream) 0031 South (downstream) 0032

Date: June 28 2010	Project #: 10-1151-0035	Weather Conditions: cloudy, dry ~24°C	
Collectors: DM/MK	Time started: 9:10 am	Time Finished: 9:15 am	
Watercourse Name			
Reach ID	point 21	point 22	
UTM easting and northing (CL of crossing)	374 577 003 474 8383	375 576 880 474 8424	
Flow regime (permanent, intermittent, ephemeral)	E	N/A	
Mean Bankfull width (m)	0.92 m	↓	
Mean Bankfull depth (cm)	~18cm		
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	MU	Mu	
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	field swale	NA	
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) N/A	LUB	
	Right upstream bank (RUB) N/A	RUB	
Flow conditions (dry, stagnant, low/moderate/high flow)	dry	↓	
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	crop		
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	none		
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none		
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none		
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle			no definable stream
Photo Numbers	East (upstream) 0025 West (downstream) 0026		North 0027 South 0028

Date: 28 JUNE 2010	Project #: 10-1181-0035	Weather Conditions: SUNNY BREAKS 50% CLOUD COVER light rain wind 10-15 km/hr W.
Collectors: LASHA & AMBER SABOURN	Time started:	Time Finished:
Reach ID	TURBINE # ALT 1 ID# 32	TURBINE # ALT 1 ID# 30
UTM easting and northing (Cl. of crossing)	# 007 579151 4748810	# 009 579463 4749068
Flow regime (permanent, intermittent, ephemeral)	intermittent	intermittent
Mean Bankfull width (m)	2.0	3.5
Mean Bankfull depth (cm)	2.0	20.0
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	50% MO 50% CL	80% CL 20% SI
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	- flat throughout channel - meandering	- field swale where 3 meet at culvert - slight channel to flat - meandering
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) unstable Right upstream bank (RUB) unstable	LUB unstable RUB unstable
Flow conditions (dry, stagnant, low/moderate/high flow)	dry	wet only at erosion depression (had rain in 24hrs)
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	- poor - no vegetation - recently planted bean field (crenosity)	- poor - some grasses, spikegrass, in & along swale
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- none	poor cover, some vegetation in & along banks, otherwise none due to agricultural disturbance
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	- none	- none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	- none	- none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle)	- high agricultural disturbance	- none high agricultural disturbance
Photo Numbers	UPSTREAM 266 DOWNSTREAM 267	UPSTREAM 269 DOWNSTREAM 270 AT CROSSING 271

AIR TEMP: 32.5°C

WATER TEMP: NA

SUNNY 20-30 Km/hr W 30% cloud cover

Date: JUN 29 JUNE 2010	Project #: 10-1151-0035	Weather Conditions: HEAVY RAIN 100% CLOUD COVER
Collectors: LASHA & AMBER SAFORN	Time started:	Time Finished:
Reach ID		
UTM easting and northing (CL of crossing)	TURBINE # 22 ID 57 waypoint # 016 579535 4747079	TURBINE # 22 ID 58 waypoint # 017 579574 4746960
Flow regime (permanent, intermittent, ephemeral)	intermittent	intermittent
Mean Bankfull width (m)	2.0 wetted .5	2.0 wetted N/A
Mean Bankfull depth (cm)	2.0 1.0	1.0 N/A
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	80% CL 20% MU	80% CL 20% MU
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	- flat throughout - straightened	- flat & meandering field swale - braided (no defined channel)
Bank Stability (stable, slightly stable; unstable, slightly unstable)	Left upstream bank (LUB) unstable	LUB: unstable
	Right upstream bank (RUB) unstable	RUB: unstable
Flow conditions (dry, stagnant, low/moderate/high flow)	dry - low (some puddles from last night's heavy rain)	dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	- very poor - no shading - corn & smartweed sp.	- very poor - shady from wheat field & some forbs (milk thistle, curly dock, common ragweed)
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- no cover crosses corn field & manicured lawn through 1st drainage	- crosses winter wheat field - some plants in channel
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	- none	- none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	- NOT critical habitat for fish	- none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle)	no fish observed high disturbance from agricultural cropland killdeer	high disturbance from agricultural cropland
Photo Numbers	upstream 284 downstream 285	upstream 284 downstream 287 at channel 288

Lasha's Camera

AIR TEMP: 20.1 °C
INSTREAM TEMP: 25.7 °C

AIR TEMP: 20.1
INSTREAM TEMP: N/A

Date: June 28, 2010	Project #: 10-1151-0038	Weather Conditions: Cloudy, breezy, post-storm
Collectors: DM/MIC	Time started:	Time finished:
Watercourse Name		
Reach ID	27	
UTM easting and northing (CL of crossing)	113 m N of point @ 386-580287 4749281	
Flow regime (permanent, intermittent, ephemeral)	E	
Mean Bankfull width (m)	?	
Mean Bankfull depth (cm)	?	
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	MU	
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	Field Swale	
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) N/A	LUB
	Right upstream bank (RUB) N/A	RUB
Flow conditions (dry, stagnant, low/moderate/high flow)	Dry	
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	Crop	
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	None	
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	None	
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	None	
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle		
Photo Numbers	N/A	

Date: 28 JUNE 2010	Project #: 10-1151-0035	Weather Conditions: 100% CLOUD 10-15 km/hr W	
Collectors: LABHA & AMBER SABOLIN	Time started: 8:15 ^{8:50}	Time finished: START 9:50	
Watershed Name			
Reach ID	TURBINE*1, 10*18	TURBINE*6 10*35	
UTM easting and northing (Cl. of crossing)	WAYPOINT 003 576061 4749951	WAYP. 004 578527 4748923	
Flow regime (permanent, intermittent, ephemeral)	intermittent	intermittent	
Mean Bankfull width (m)	3.5 ^{wooded} 0-.5	2m ^{wooded} 0	
Mean Bankfull depth (cm)	5 0-3	3.0 0	
Substrates (% BE=bedrock, BO=boulder, CO=cobble, GR=gravel, SA=sand, SI=silt, CL=clay, MU=muck, DE=detritus)	40% MUCK 30% CL 30% SI	50% MUCK 50% CLAY	
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	- flat to low slope - field swale - meandering	- flat w some channelized soil - meandering	
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB)	LUB	
	Right upstream bank (RUB)	RUB	
Flow conditions (dry, stagnant, low/moderate/high flow)	dry - stagnant	dry	
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc.; % stream shading, average riparian zone width, example plant species)	- poor - dissects agricultural field (soy to W & winter wheat to E)	dissects winter wheat field to South & soy field to North	
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- none - some low grasses & forbs along ch channel	no instream cover - some grasses & forbs in channel (red clover smartweed sp, soybean)	
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	- none	none	
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	- none	none	
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	- none	none	
Photo Numbers	UPSTREAM 558	DOWNSTREAM 555	UPSTREAM 260 DOWNSTREAM 261

Instream: 23.9 °C
Air Temp: 23.0 °C

Instream temp NA
Air Temp 23.0 °C

Date: 04 Aug. 2010	Project #: 10-1151-0035	Weather Conditions: partly sunny & windy
Collectors: L. Milne & A.	Time: 13:50	Time: 15:04
Watercourse Name: Sabourn		
Reach ID	153 b	153 a
UTM easting and northing (CL of crossing)	WPT#013 574586 4747386	WPT#015 574425 4747536
Flow regime (permanent, intermittent, ephemeral)	E	A E I
Mean Bank width (m)	wet: N/A Full: ~1m	wet: ~20 cm. Full: ~1.5 m
Mean Bank depth (cm)	wet: N/A Full: ~0.5cm	wet: <5 cm Full: N/A
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MUMuck, DE-detritus)	Mu.	gravel, sand
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	- field swale	- field swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) N/A	LUB stable
	Right upstream bank (RUB) N/A	RUB stable
Flow conditions (dry, stagnant, low/moderate/high flow)	-dry	-dry (small bit of standing water)
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	-plowed (soy field)	-plowed (soy field)
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	-common ragweed.	-reed canopy grass
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	-none	-none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	-none	-none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	-none	-air temp: 31.2°C water temp: 24.8°C
Photo Numbers	upstream (N) 145	downstream(S) 146
		upstream 147
		downstream 148
Date:	Project #:	Weather Conditions:

Date: Aug 4, 2010	Project #: 10-1151-0035	Weather Conditions: part cloud, 30°C+, light wind
Collectors: CRC/DM	Time: 09:50	Time: 10:00
Watercourse Name	ID# 176	ID# 175
Reach ID	176	
UTM easting and northing	(057) 578780 474591	(058) 578663 4746148
Flow regime (permanent, intermittent, ephemeral)	ephemeral	ephemeral
Mean Bank width (m)	wet: N/A Full: 1.5 m	wet: N/A Full: ~ 1 m
Mean Bank depth (cm)	wet: N/A Full: < 20 cm	wet: N/A Full: ~ 20 cm
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	MU	Mu
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	field swale	field swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) N/A	LUB slightly unstable
	Right upstream bank (RUB) N/A	RUB slightly
Flow conditions (dry, stagnant, low/moderate/high flow)	dry	no flow/dry.
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	N/A	N/A
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	N/A	herbaceous (terrestrial grass & forbs)
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	N/A	N/A
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	N/A	N/A
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	N/A	raccoon tracks. 50 cm culvert several puma boxes.
Photo Numbers	upstream (NE) 0189 downstream (SW) 0190	upstream (E) 0191 downstream (W) 0192

1 AUGUST 2010, 50% CLOUD, HUMID. 28°C

Amber Sakboun

Collectors: <u>Lasha Mike</u>	Time: <u>12:50</u>	Time: <u>1:02</u>
Watercourse Name <u>1556</u>		
Reach ID	<u>1556</u>	<u>1559</u>
UTM easting and northing (<u>Lasha's</u>)	<u>011 0575168 4747505</u>	<u>012 0575119 4747483</u>
Flow regime (permanent, intermittent, ephemeral)	<u>intermittent</u>	<u>intermittent</u>
Mean Bank width (m)	wet: <u>N/A</u> Full: <u>N/A</u>	wet: <u>N/A</u> Full: <u>2m</u>
Mean Bank depth (cm)	wet: <u>N/A</u> Full: <u>N/A</u>	wet: <u>N/A</u> Full: <u>10cm</u>
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MUM-muck, DE-detritus)	<u>(no bank or channel observed)</u> <u>Si 40% CL 30% SA 20%</u>	<u>(no defined bank)</u> <u>Si 40% CL 30% SA 20%</u>
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	<u>only small depression by curb by road</u> <u>field swale, not defined</u>	<u>field swale, meandering</u>
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) <u>unstable</u> Right upstream bank (RUB) <u>unstable</u>	LUB <u>unstable</u> RUB <u>unstable</u>
Flow conditions (dry, stagnant, low/moderate/high flow)	<u>dry</u>	<u>dry</u>
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	<u>poor</u> <u>- no shading other than soy growing in swale</u>	<u>poor</u> ^{goldenrod} <u>- no shading other than nonnative grasses & forbs in swale</u>
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	<u>none other than soy in swale</u>	<u>none other than some vegetation</u>
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	<u>none</u>	<u>none</u>
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	<u>none</u>	<u>none</u>
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	<u>none</u> <u>100% disturbed due to agricultural practices (soy)</u>	<u>none</u> <u>highly disturbed: agriculture (soy, plowed)</u> <u>ATV tracks in swale near road</u>
Photo Numbers <u>Lasha's camera</u>	<u>UPSTREAM 141</u> <u>DOWNSTREAM 142</u>	<u>UPSTREAM 143</u> <u>DOWNSTREAM 144</u>

(some areas plowed) no cover.

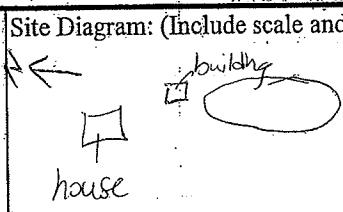
POND AND LENTIC AREA SURVEY DATASHEET

Project Code: 10-1151-0035 Project name: Nanticoke Field Crew: RC/DM

FIELD MAP #: 1D1205 ELC Polygon ID (MAP): _____ Site Diagram: (Include scale and N arrow)
 FIELD MAP PROJECTION: NAD 27 NAD 83
 GRID ZONE: 60m E of (070) 581823, 4748489
 Date(dd/mo/yy): 04/08/2010 Observers: RC/DM
 Start Time (24h) 14:05 End Time (24h): _____
 Air Temp (°C): 31.5°C Water Temp (°C): _____
 Sky: 0 (1) 2 3 4 5 Wind: 0 1 2 (3) 4 5

Lentic area type: Lake (Pond) Standing Ephemeral pool
 Lotic area types: River (>5m) Stream (<5m) Ditch Cutline
 Water flow: Dry Intermittent (?) m/s estimate measured
 Disturbed: (Yes) No
 Length (long axis): ~50 m Width (short axis): ~50m m
 Dominant Substrate: Bedrock Boulder Cobble
 Gravel Sand (Mud) Peat

Center Comments:
 Viewed from binoculars
 no open water visible from road
 all values are estimates.
 no visible inflow/outflow
NO ACCESS.



Dominant Habitat Types Surrounding Feature

Community Description:				
	Spec 1	%	Spec 2	%
Tree	<i>naufron sp.</i>			
Shrub				
Herb	<i>typha sp.</i>	90+		

Nearest Sandy Soil: _____ metres

Community Description:				
	Spec 1	%	Spec 2	%
Tree				
Shrub				
Herb				
Bearing from plot (deg)	Distance from plot (m)			

Turtle Basking/Nesting, Visual Encounter and Other Species Observation Data

Species	Number individuals	Distance (m) /UTM	Bearing	Micro Habitat	Emergent Veg (Y/N)	Disturbed (Y/N)	Notes

Sky: 0 = clear/few clouds; 1 = partly cloudy; 2 = cloudy/overcast; 3 = fog; 4 = drizzle; 5 = showers
 Wind: 0 = vertical smoke; 1 = smoke drifts; 2 = wind felt on face, leaves rustle;
 3 = leaves/twigs in constant motion; 4 = raises dust, small branches sway; 5 = trees sway.
 Species: SNTU (Snapping Turtle); STIN (Stinkpot); PATU (Painted Turtle); NMTU (Northern Map Turtle); BLAN (Blanding's Turtle);
 SPTU (Spotted Turtle); WOTU (Wood Turtle); SPSP (Spiny Softshell); Green Frog (GRFR); American Toad (AMTO); Wood Frog (WOFR);
 Bullfrog (BUFR); Leopard Frog (LEFR); Chorus Frog (CHFR); Spring Peeper (SPPE); Gray Tree Frog (GRTR)

Date: 4 AUG 2010	Project #: 10-1151-0035	Weather Conditions: SUNNY, HUMID, WINDY 10-15 km/hr (60) 29°C
Collectors: KASHA & Amber Sabourin	Time: 10:22 to 10:48	Time:
Watercourse Name		
Reach ID	182	
UTM easting and northing (CL of crossing)	023 0586249 4750370	
Flow regime (permanent, intermittent, ephemeral)	Intermittent	
Mean Bank width (m)	wet: 30m Full: 2m	wet: Full:
Mean Bank depth (cm)	wet: 2 cm Full: 20cm	wet: Full:
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MUMuck, DE-detritus)	50% Si 40% CL 10% CO	
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	Straightened fieldswale	
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) unstable Right upstream bank (RUB) unstable	LUB RUB
Flow conditions (dry, stagnant, low/moderate/high flow)	Dry to LOW	
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	POOR - non native grasses (SOY & SOY cover)	
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- not ^{much} cover, some boulders - some instream vegetation, otherwise none.	
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	none - high disturbance (soy field).	
Photo Numbers	UPSTREAM 161 DOWNSTREAM 162	
Date:	Project #:	Weather Conditions:

- VACCUM .
AIR TEMP 30.4°C
INSTREAM 33.0°C

wind 10-15 km/hr
 Sunny 40% cloud cover

Lasha Milne &
 Amber Sabourin

Nortex Nantracoley 10-1151-0035

Collectors: <i>Amber Sabourin</i>	Time: <i>14:40 to 15:10</i>	Time:
Watercourse Name <i>Aug 4, 2010</i>		
Reach ID <i>178</i>		
UTM easting and northing	<i>015 0580101 4740815</i>	
Flow regime (permanent, intermittent, ephemeral)	<i>intermittent</i>	
Mean Bank width (m)	wet: <i>NA</i> Full: <i>1m</i>	wet: Full:
Mean Bank depth (cm)	wet: <i>NA</i> Full: <i>30cm</i>	wet: Full:
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MUMuck, DE-detritus)	<i>50 CL 50 SI</i>	
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	<i>meandering field swale</i>	
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) <i>unstable</i> Right upstream bank (RUB) <i>unstable</i>	LUB RUB
Flow conditions (dry, stagnant, low/moderate/high flow)	<i>Dry</i>	
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	<i>poor in soy field -100% shaded by soy</i>	
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	<i>soy throughout soy</i>	
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	<i>none</i>	
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	<i>none</i>	
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	<i>none soy field totally disturbed</i>	
Photo Numbers <i>Lasha's</i>	UPSTREAM <i>27</i> DOWNSTREAM <i>28</i>	

Nextery Nantidde 10-1151-0035

60% cloud cover
humid 30.3°C

Collectors: ^{Amber} Lasha Mine & Sabon	Time: 15:39	Time: 16:21
Watercourse Name: AUG-4-2010	184e	184d
Reach ID		
UTM easting and northing (Lasha's)	021 0585634 4748572	022 0585610 4748676
Flow regime (permanent, intermittent, ephemeral)	Intermittent	Intermittent
Mean Bank width (m)	wet: N/A Full: not defined	wet: N/A 0.5m Full: not defined
Mean Bank depth (cm)	wet: N/A Full: not defined	wet: N/A 2.1cm Full: 10cm
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MUMuck, DE-detritus)	50% CL 50% SI	90% CL 50% SI 10% MU
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	Field swale	Field swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) unstable	LUB unstable
	Right upstream bank (RUB) unstable	RUB unstable
Flow conditions (dry, stagnant, low/moderate/high flow)	Dry	Dry - wet
Riparian conditions (quality good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	poor non native grasses & forbs in swale - winter wheat - pigweed - common ragweed - rice canary	poor - 100% vegetation in swale - winter wheat - timothy - smartweed - common ragweed - pigweed - curly dock
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	no cover other than vegetation growing in swale	no cover other than vegetation in stream channel.
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	none → some frog habitat in spring & under culvert #
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	none - high disturbance (cut wheat field). - runs toward road to culvert.	- none - runs through agricultural field & under road.
Photo Numbers (Lasha's)	UPSTREAM 157 DOWNSTREAM 158	UPSTREAM 156 DOWNSTREAM 160

could be several metres flood

some water plantain & narrow-leaved cattail by culvert.

- monarch butterfly adults observed.
AIR TEMP 30.3°C

- leopard frogs & green frogs in small pool at culvert (concentrated)

INSTREAM TEMP N/A

→ 25.3°C (at culvert, otherwise no water in swale)

DOND

Humid 31.1°C
 Sunny breaks
 65% cloud cover
 wind 10-15 km/hr

Date: 4 AUG 2010	Project #: 10-1151-0035	Weather Conditions: Sunny breaks 65% cloud cover
Collectors: Lasha Milne & Amber Samra	Time: 15:33	Time: 15:54
Watercourse Name		
Reach ID	184a	183
UTM easting and northing (CL of crossing) (Chasha's)	019 0584931 4748093	020 0584998 4748014
Flow regime (permanent, intermittent, ephemeral)	Intermittent	Permanent
Mean Bank width (m)	wet: N/A Full: undefined	wet: 25x15m Full: 26x11m
Mean Bank depth (cm)	wet: N/A Full: "	wet: >1m Full: >2.5m
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MUMuck, DE-detritus)	60% CL 40% SI	80% CL 30% SI 40% MU
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	meandering field swale, no defined channel	Pond, man made
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) unstable	LUB Slightly stable
	Right upstream bank (RUB) unstable	RUB Slightly stable
Flow conditions (dry, stagnant, low/moderate/high flow)	dry	low, no flow (pond)
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	poor 100% cover via vegetation (purple loosestrife, non native grasses, some scapes) otherwise 0% cover	poor - non native grasses & forbs - Green annulace - Canada waterweed - brome grass - reed clump
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	none other than vegetation	no cover other than some algal blooms & some Canada waterweed in water
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	could hold fish however unlikely (too Eutrophic) - Green frogs observed heard
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	none - highly disturbed: - agriculture (soy pastures) & farming practices & storage	- highly disturbed - evident is man-made - adjacent to factory-style pig operation & agriculture field
Photo Numbers (Chasha's)	UPSTREAM 154 DOWNSTREAM 155	SITE: 156
Date:	Project #:	Weather Conditions:

Date: Aug 4, 2010	Project #: 10-1151-0035	Weather Conditions: sunny/hazy, 30°C+, dry/hot
Collectors: RC/DM	Time: 12:15	Time: 12:20
Watercourse Name	ID # 180	ID # 179a
Reach ID		
UTM easting and northing (CL of crossing)	(064) 578200 4747223	(065) 578586 4746805
Flow regime (permanent, intermittent, ephemeral)	ephemeral	ephemeral
Mean Bank width (m)	wet: N/A Full: 2-3m	wet: N/A Full: 1-2m
Mean Bank depth (cm)	wet: N/A Full: ~1m	wet: N/A Full: <10cm
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	MU	MU
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	field swale	field swale.
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) slightly stable	LUB N/A
	Right upstream bank (RUB) slightly stable.	RUB N/A
Flow conditions (dry, stagnant, low/moderate/high flow)	stagnant	dry, N→S into 179c
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	same as below	crop.
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	herbaceous veg. chickory queen anne's lace.	none.
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	None	None.
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	None	None
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	125cm culvert	Monarch butterfly well 30m north of Cor 5 75cm culvert.
Photo Numbers	upstream (E) 0199 downstream (W) 0200	upstream (N) 0202.
Date:	Project #:	Weather Conditions: well (N) 0201

Aug 4, 2010

10-1151-0035

sunny/hazy, 30°C, dry/hot

Collectors: PC/DM	Time: 12:35	Time: 13:05
Watercourse Name	ID# 179b	ID# 206
Reach ID		
UTM easting and northing	75m south of (065) S78586, 4746805	(067) 580162 4747129
Flow regime (permanent, intermittent, ephemeral)	ephemeral	ephemeral, ditch
Mean Bank width (m)	wet: N/A Full: 1-2m	wet: N/A Full: N/A
Mean Bank depth (cm)	wet: N/A Full: <50cm	wet: N/A Full: N/A
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MUMuck, DE-detritus)	MU	MU
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	field swale.	field swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) 7 stable Right upstream bank (RUB) 11	LUB N/A RUB
Flow conditions (dry, stagnant, low/moderate/high flow)	dry.	dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	herbaceous veg.	crop.
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	same as above	same as above
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	None	None
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	None.	None.
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	viewed w/ binoculars	60cm culvert.
Photo Numbers	South. 0202	upstream (N) 0205 downstream (SE) 0206

POND AND LENTIC AREA SURVEY DATASHEET

Project Code: 10-151-0035 Project name: Nanticoke Field Crew: _____

FIELD MAP #: _____ ELC Polygon ID (MAP): _____ Site Diagram: (Include scale and N arrow)
10#576

FIELD MAP PROJECTION: NAD 27 NAD 83
 GRID ZONE: 060 579458 474 7104

Date (dd/mon/yy): 04/08/10 Observers: DM/RC

Start Time (24h) 12:45 End Time (24h): _____

Air Temp (°C): 30°C Water Temp (°C): _____

Sky: 0 1 2 3 4 5 Wind: 0 1 2 3 4 5

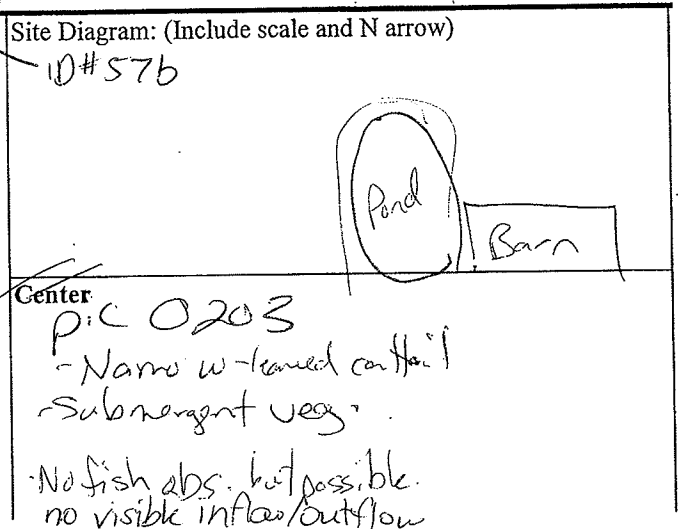
Lentic area type: Lake Pond Standing Ephemeral pool
 Lotic area types: River (>5m) Stream (<5m) Ditch Cutline

Water flow: Dry Intermittent 0 m/s estimate measured

Disturbed: Yes No

Length (long axis): 30 m Width (short axis): 22 m

Dominant Substrate: Bedrock Boulder Cobble
 Gravel Sand Mud Peat



Dominant Habitat Types Surrounding Feature

Community Description:				
	Spec 1	%	Spec 2	%
Tree	<u>Wh. Ash</u>	<u>1</u>	<u>Green. Aspen</u>	<u>1</u>
Shrub				
Herb	<u>Goldenrod</u>			

Nearest Sandy Soil: _____ metres

Community Description:				
	Spec 1	%	Spec 2	%
Tree				
Shrub				
Herb				
Bearing from plot (deg)		Distance from plot (m)		

Turtle Basking/Nesting, Visual Encounter and Other Species Observation Data

Species	Number individuals	Distance (m) /UTM	Bearing	Micro Habitat	Emergent Veg (Y/N)	Disturbed (Y/N)	Notes
<u>Green Frog</u> <u>NRW 3</u>	<u>1</u>					<u>Y</u>	<u>heard</u>

Sky: 0 = clear/few clouds; 1 = partly cloudy; 2 = cloudy/overcast; 3 = fog; 4 = drizzle; 5 = showers
 Wind: 0 = vertical smoke; 1 = smoke drifts; 2 = wind felt on face, leaves rustle;
 3 = leaves/twigs in constant motion; 4 = raises dust, small branches sway; 5 = trees sway.
 Species: SNTU (Snapping Turtle); STIN (Stinkpot); PATU (Painted Turtle); NMTU (Northern Map Turtle); BLAN (Blanding's Turtle);
 SPTU (Spotted Turtle); WOTU (Wood Turtle); SPSP (Spiny Softshell); Green Frog (GRFR); American Toad (AMTO); Wood Frog (WOFR);
 Bullfrog (BUFR); Leopard Frog (LEFR); Chorus Frog (CHFR); Spring Peeper (SPPE); Gray Tree Frog (GRTR)

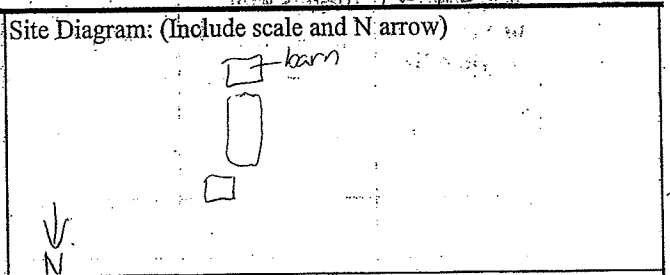
Date: Aug 4, 2010	Project #: 10-1151-0035	Weather Conditions: ^{partly} cloudy/mazy, 30°C+, light wind																		
Collectors: RC/DM	Time: 11:35	Time: 11:45																		
Watercourse Name	ID# 159b	ID# 160a+b																		
Reach ID																				
UTM easting and northing (CL of crossing)	(061) 576280 4748821	(062) 576415 4748760 + (063) 576487 474870																		
Flow regime (permanent, intermittent, ephemeral)	no definable stream	ephemeral																		
Mean Bank width (m)	wet: N/A Full: N/A	wet: N/A Full: 1-2 m																		
Mean Bank depth (cm)	wet: N/A Full: N/A	wet: N/A Full: 10-30 cm																		
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	crqo	BE, MU																		
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	field swale?	dry.																		
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) N/A	LUB N/A																		
	Right upstream bank (RUB) N/A	RUB N/A																		
Flow conditions (dry, stagnant, low/moderate/high flow)	N/A	dry																		
Riparian conditions (quality good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	N/A	<table border="0"> <tr> <td>queen anne's lace</td> <td>reed canary grass</td> </tr> <tr> <td>common St. John's wort</td> <td>stringing nettle</td> </tr> <tr> <td>Canada goldenrod</td> <td>Canada thistle</td> </tr> <tr> <td>burrach</td> <td>Mullein (common)</td> </tr> <tr> <td>teasle</td> <td>daisy fleabane</td> </tr> <tr> <td>sage</td> <td>sulphur cinquefoil</td> </tr> <tr> <td>terrestrial grasses</td> <td>milkweed</td> </tr> <tr> <td>white willow</td> <td></td> </tr> <tr> <td>hawthorn sp.</td> <td></td> </tr> </table>	queen anne's lace	reed canary grass	common St. John's wort	stringing nettle	Canada goldenrod	Canada thistle	burrach	Mullein (common)	teasle	daisy fleabane	sage	sulphur cinquefoil	terrestrial grasses	milkweed	white willow		hawthorn sp.	
queen anne's lace	reed canary grass																			
common St. John's wort	stringing nettle																			
Canada goldenrod	Canada thistle																			
burrach	Mullein (common)																			
teasle	daisy fleabane																			
sage	sulphur cinquefoil																			
terrestrial grasses	milkweed																			
white willow																				
hawthorn sp.																				
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	N/A	same as above																		
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	None	None																		
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	None	None.																		
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	N/A.	No CUM Exposed fossil bed. Monarch butterfly Amke (pair) Mold.																		
Photo Numbers	upstream (NW) 0195 downstream (SE) 0196	upstream (NW) 0197 downstream (SE) 0198																		

POND AND LENTIC AREA SURVEY DATASHEET

Project Code: 10-1151-0085 Project name: Nanticoke

Field Crew: RC/DM

FIELD MAP #: 10#4946 ELC Polygon ID (MAP): _____
 FIELD MAP PROJECTION: NAD 27 ~~NAD 83~~
 GRID ZONE: (076) 585334 4746689
 Date (dd/mm/yy): 04/08/2010 Observers: RC/DM
 Start Time (24h) 15:12 End Time (24h): _____
 Air Temp (°C): 28 Water Temp (°C): _____
 Sky: 0 (1) 2 3 4 5 Wind: 0 1 2 (3) 4 5
 Lentic area type: Lake (Pond) Standing Ephemeral pool
 Lotic area types: River (>5m) Stream (<5m) Ditch Cutline
 Water flow: Dry Intermittent (None) m/s estimate measured
 Disturbed: (Yes) No
 Length (long axis): 25 m Width (short axis): 20 m
 Dominant Substrate: Bedrock Boulder Cobble
 Gravel Sand (Mud) Peat



Center Comments
No ACCESS (fenced)
no visible inflow/outflow

Dominant Habitat Types Surrounding Feature

Community Description:				
	Spec 1	%	Spec 2	%
Tree	<u>silver maple</u>		<u>norway spruce</u>	
Shrub			<u>wicking willow</u>	
Herb	<u>common milkweed</u>		<u>goldenrod</u>	

Nearest Sandy Soil: _____ metres

Community Description:				
	Spec 1	%	Spec 2	%
Tree				
Shrub				
Herb				

Bearing from plot (deg): _____ Distance from plot (m): _____

Turtle Basking/Nesting, Visual Encounter and Other Species Observation Data

Species	Number individuals	Distance (m) /UTM	Bearing	Micro Habitat	Emergent Veg (Y/N)	Disturbed (Y/N)	Notes

Sky: 0 = clear/few clouds; 1 = partly cloudy; 2 = cloudy/overcast; 3 = fog; 4 = drizzle; 5 = showers
 Wind: 0 = vertical smoke; 1 = smoke drifts; 2 = wind felt on face, leaves rustle;
 3 = leaves/twigs in constant motion; 4 = raises dust, small branches sway; 5 = trees sway.
 Species: SNTU (Snapping Turtle); STIN (Stinkpot); PATU (Painted Turtle); NMTU (Northern Map Turtle); BLAN (Blanding's Turtle);
 SPTU (Spotted Turtle); WOTU (Wood Turtle); SPSP (Spiny Softshell); Green Frog (GRFR); American Toad (AMTO); Wood Frog (WOFR);
 Bullfrog (BUFR); Leopard Frog (LEFR), Chorus Frog (CHFR), Spring Peeper (SPPE); Gray Tree Frog (GRTR)

Date: Aug 4, 2010	Project #: 10-1157-0035	Weather Conditions: sunny/hazy 35°C, dry/hot
Collectors: RC/DM	Time: 13:55	Time: 14:12
Watercourse Name	ID #168	ID #204
Reach ID		
UTM easting and northing (CL of crossing)	(06A) 581222 4747333	(07I) 581771 4748616
Flow regime (permanent, intermittent, ephemeral)	ephemeral	ephemeral
Mean Bank width (m)	wet: N/A Full: ~50cm	wet: N/A Full: ~50cm
Mean Bank depth (cm)	wet: N/A Full: <20 cm	wet: N/A Full: <20 cm
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	MU	MU
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	field swale	field swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB)	LUB
	Right upstream bank (RUB)	RUB
Flow conditions (dry, stagnant, low/moderate/high flow)	dry	dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	crop	crop
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	same as above	same as above
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	None	None
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	None	None
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)	Monarch butterfly	25 cm culvert
Photo Numbers	upstream (E) 0208 downstream (W) 0209	upstream (E) 0211 downstream (W) 0212
Date:	Project #:	Weather Conditions:

Aug 4, 2010

10-1151-0035

partly cloudy/hazy, 30°C+, dry

Collectors: RC/DM	Time: 16:20	Time:
Watercourse Name	10#195c	
Reach ID		
UTM easting and northing	(080) 586313 4746266	
Flow regime (permanent, intermittent, ephemeral)	ephemeral	
Mean Bank width (m)	wet: N/A Full: N/A	wet: Full:
Mean Bank depth (cm)	wet: N/A Full: N/A	wet: Full:
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	MU	
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	ephemeral ditch. no definable channel	
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) N/A Right upstream bank (RUB) N/A	LUB RUB
Flow conditions (dry, stagnant, low/moderate/high flow)	dry	
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	ephemeral grasses	
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	grasses.	
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle access, etc.)		
Photo Numbers	Added culvert(w) 0224	

Date: June 25, 2010	Project #: 10 1151-0035	Weather Conditions: Hot, dry, clear, light wind SW
Collectors: DW/AS	Time started: 16:10	Time Finished:
Watercourse Name		
Reach ID	13	14
UTM easting and northing (CL of crossing)	370 576054 4747459	looked for (371) 576182, 4747039
Flow regime (permanent, intermittent, ephemeral)	None	
Mean Bankfull width (m)	N/A	
Mean Bankfull depth (cm)	N/A	
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	MU	
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	Not even a swale	
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) N/A	LUB
	Right upstream bank (RUB) N/A	RUB
Flow conditions (dry, stagnant, low/moderate/high flow)	Dry	
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	N/A	
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	N/A	
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	N/A	
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	N/A	
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	↓	NO Access Appears DIY frozen-binoculars
Photo Numbers	West 0020 East 0021	West 0022

Date: June 15, 2010	Project #: 101151-0035	Weather Conditions: hot, dry, clear, light wind
Collectors: DM/AS	Time started: 15:50	Time finished: 16:06
Watercourse Name		
Reach ID	12a	12b
UTM easting and northing (CL of crossing)	(368) 576044 4747791	(369) 576894 4748064
Flow regime (permanent, intermittent, ephemeral)	Ephemeral - Dry	Dry
Mean Bankfull width (m)	5m (difficult to tell)	Same
Mean Bankfull depth (cm)	<10cm	Same
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	MU	MU
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	Swale	Swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) Stable (N/A)	LUB N/A
	Right upstream bank (RUB) Stable (N/A)	RUB N/A
Flow conditions (dry, stagnant, low/moderate/high flow)	Dry	Dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	Poor (Terrestrial grasses ragweed, plaintain)	Poor
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	↙	wheat
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	None	None
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	None	None
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle		
Photo Numbers	North 0016 South 0017	West 0018 East 0019

Date: 25 JUNE 2010	Project #: 10-1151-0035	Weather Conditions: Sunny, clear of cloud cover
Collectors: Jamil W & Lasha	Time started: 13:40	Time Finished: 15:12
Watercourse Name		
Reach ID	TURBINE #13, IP #11	
UTM easting and northing (CL of crossing)	#085 572729 4746313	
Flow regime (permanent, intermittent, ephemeral)	intermittent	
Mean Bankfull width (m)	3m 5m	wetted none } minimal
Mean Bankfull depth (cm)	0-5cm 5cm	wetted none } standing
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	60% clay 40% silt	
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	field swale	
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB)	LUB
	unstable	
	Right upstream bank (RUB)	RUB
	unstable	
Flow conditions (dry, stagnant, low/moderate/high flow)	dry / stagnant	
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	pool	willow herb & smartweed at crossing w teal, goldenrod otherwise: cultural grasses & forbs cultural (corn crop)
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	Some terrestrial grasses & forbs growing in & around channel	
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	Seep, however appears to be an abandoned test well pit holding water (rest of swale is dry)	
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle)	- raccoon - frogs in small puddle (young green frogs) PIC # 5885-5886	willow herb smartweed sp. at crossing so - otherwise cultural meadow & grasses & forbs
Photo Numbers	upstream 5883	downstream 5884

wind

minimal standing water in woodlot & some flow to NE width, 75r depth x 2e

PIC # 48588- at dawn 5885

WATERPOINT # 0860 573126 4746313

water temp 16.6 °C (well test pit)

pond (in forest) 33.6 °C

air # 5885 - 5886

seep 5882

AIR TEMP 30.4 °C

Date: June 25, 2016	Project #: 10-1151-0035	Weather Conditions: Clear, calm, hot, dry
Collectors: DM/AS	Time started: 13:10	Time Finished:
Watercourse Name		
Reach ID	Point # 4	Point # 5
UTM easting and northing (CL of crossing)	0573970, 4746943	574059, 4746632
Flow regime (permanent, intermittent, ephemeral)	Dry Ephemeral	Dry
Mean Bankfull width (m)	22.2 NO water	~ 1m
Mean Bankfull depth (cm)	10	< 10cm
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	Silty clay	silty clay
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	Swale	Swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) stable	LUB stable
	Right upstream bank (RUB) stable	RUB stable
Flow conditions (dry, stagnant, low/moderate/high flow)	Dry, dir'n unknown	Dry.
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	Corn/Soy No natural.	Corn/Soy
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	None	None
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	None	None
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	None	None
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle		
Photo Numbers	Up(W) - 100-0001 Down(E) - 0002	Up(W) - 100-0003 Down(E) - 0004

Date: 15 July 2010	Project #: 10-1151-0038	Weather Conditions: sunny	
Collectors: DM/AS	Time started: 11:30	Time Finished: 11:46	
Watercourse Name			
Reach ID	129	127c	
UTM easting and northing (CL of crossing)	# 118 591783 4742429	# 119 591324 4742358	
Flow regime (permanent, intermittent, ephemeral)	E	E	
Mean Bankfull width (m)	N/A N/A	N/A	
Mean Bankfull depth (cm)	N/A N/A	N/A	
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	- MU	- MU	
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	- field swale	- field swale	
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) N/A	LUB	N/A
	Right upstream bank (RUB) N/A	RUB	N/A
Flow conditions (dry, stagnant, low/moderate/high flow)	dry	dry	
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	plowed	plowed	
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	none	none	
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	none	
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	none	
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	none	none	
Photo Numbers	upstream (E) 0090 downstream (W) 0091	upstream (E) 0093	downstream (W) 0094

Date: 15 July 2010	Project #: 10-1151-0638	Weather Conditions: sunny
Collectors: DM/AS	Time started: 10:52	Time Finished: 11:18
Watercourse Name		
Reach ID	127 b	128
UTM easting and northing (CL of crossing)	#116 591260 4742402	#117 591688 4742606
Flow regime (permanent, intermittent, ephemeral)	E	E AS N/A
Mean Bankfull width (m)	N/A 1m	N/A
Mean Bankfull depth (cm)	AS N/A <10cm	N/A
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	MU	MU
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	- field swale	- no definable channel
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) N/A	LUB N/A
	Right upstream bank (RUB) N/A	RUB N/A
Flow conditions (dry, stagnant, low/moderate/high flow)	dry	dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	plowed	plowed
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	none	none
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle)	- runs into ditch	none
Photo Numbers	upstream (NE) 0086 downstream (SW) 0087	upstream (N) 0088 downstream (S) 0089

Date: 15 July 2010	Project #: 10-1151-0038	Weather Conditions:
Collectors: DMJ AS	Time started: 14:49	Time Finished: 14:55
Watercourse Name		
Reach ID	137a	137b
UTM easting and northing (CL of crossing)	#133 5936710 4743517	#134 593785 4743452
Flow regime (permanent, intermittent, ephemeral)	E	E
Mean Bankfull width (m)	N/A	N/A
Mean Bankfull depth (cm)	N/A	N/A
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	- Mu	- Mu
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	- field swale	- field swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) N/A	LUB N/A
	Right upstream bank (RUB) N/A	RUB N/A
Flow conditions (dry, stagnant, low/moderate/high flow)	- dry	dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	- plowed	plowed
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	none	none
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	- drains into reed canopy grass pocket	- drains into forest
Photo Numbers	upstream (N) 0112 downstream (S) 0113	upstream (E) 0114 downstream (W) 0115

Date: 15 July 2010	Project #: 10-151-0038	Weather Conditions: Sunny
Collectors: DMJAS	Time started: 15:33	Time finished: 17:42
Watercourse Name		
Reach ID	134	136
UTM easting and northing (CL of crossing)	#124 593186 4743285	#132 593504 4743486
Flow regime (permanent, intermittent, ephemeral)	E	E
Mean Bankfull width (m)	N/A	1m
Mean Bankfull depth (cm)	N/A	<20 cm
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	- Mu	- Mu
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	- field swale	- field swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) N/A	LUB stable
	Right upstream bank (RUB) N/A	RUB stable
Flow conditions (dry, stagnant, low/moderate/high flow)	- dry	- dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	- plowed	- plowed
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- none	- none
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	- none	- none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	- none	- none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle)	- none	- drains into small reed canopy grass pocket
Photo Numbers	upstream (N) 0103 downstream (S) 0104	upstream (N) 0110 downstream (S) 0111

Date: 15 July 2010	Project #: 10-151-0058	Weather Conditions: Sunny	
Collectors: DM/AS	Time started: 15:26	Time Finished: 15:30	
Watercourse Name			
Reach ID	132a	132b	
UTM easting and northing (CL of crossing)	#122 592921 4743770	#123 593036 4743393	
Flow regime (permanent, intermittent, ephemeral)	E	E	
Mean Bankfull width (m)	N/A	N/A	
Mean Bankfull depth (cm)	N/A	N/A	
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	- Mu	- Mu	
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	- field swale	- field swale	
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) N/A	LUB N/A	
	Right upstream bank (RUB) N/A	RUB N/A	
Flow conditions (dry, stagnant, low/moderate/high flow)	- dry	- dry	
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	- plowed	- plowed	
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- none	- none	
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	- none	- none	
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	- none	- none	
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	- none	- none	
Photo Numbers	upstream (E) 0099	downstream (W) 0100	upstream (E) downstream (W) 0101 0102

Date: 15 July 2010
Collectors: DMIA
Watercourse Name
Reach ID
UTM easting and northing (CL of crossing)
Flow regime (permanent, intermittent, ephemeral)
Mean Bankfull width (m)
Mean Bankfull depth (cm)
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)
Bank Stability (stable, slightly stable, unstable, slightly unstable)
Flow conditions (dry, stagnant, low/moderate/high flow)
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)
Evidence of groundwater inputs (e.g. watercress, seeps, springs)
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle
Photo Numbers

Weather Conditions:
Time Finished: 18:03
148 b
#144
597078 4744298
E
~1m
< 1.5m
-MU
meandering
LUB
stable
RUB
stable
dry
FCD
none
none
none
- Culvert - 25cm
N) upstream (S) down stream (N) G136 G135

Date: 15 July 2010
Collectors: DM/AS
Watercourse Name
Reach ID
UTM easting and northing (CL of crossing)
Flow regime (permanent, intermittent, ephemeral)
Mean Bankfull width (m)
Mean Bankfull depth (cm)
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)
Bank Stability (stable, slightly stable, unstable, slightly unstable)
Flow conditions (dry, stagnant, low/moderate/high flow)
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)
Evidence of groundwater inputs (e.g. watercress, seeps, springs)
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle
Photo Numbers

Weather Conditions: Sunny
Time Finished: 17:08
ISI
140 596888 4743846
E
N/A
N/A
- Mu
- field swale
LUB N/A
RUB N/A
dry
- plowed
none
none
none
none
upstream (E) 0127 downstream (W) 0128

Date: 15 July 2010	Project #: 10-1151-0058	Weather Conditions: Sunny, 16°C wind
Collectors: DM/AS	Time started: 9:45	Time Finished:
Watercourse Name		
Reach ID	125b	
UTM easting and northing (CL of crossing)	#112 590338 4742498	
Flow regime (permanent, intermittent, ephemeral)	E	
Mean Bankfull width (m)	N/A	
Mean Bankfull depth (cm)	N/A	
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	- MU	
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	- field swale	
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) N/A	LUB
	Right upstream bank (RUB) N/A	RUB
Flow conditions (dry, stagnant, low/moderate/high flow)	- dry	
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	- plowed	
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- none	
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	- none	
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	- none	
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	- none	
Photo Numbers	upstream (N) 0080 downstream (S) 0081	

Date: 15 July 2010	Project #: 10-1151-0038
Collectors: DM/AS	Time started: 9:13
Watercourse Name	
Reach ID	123
UTM easting and northing (CL of crossing)	#110 590075 4742274
Flow regime (permanent, intermittent, ephemeral)	E
Mean Bankfull width (m)	N/A
Mean Bankfull depth (cm)	N/A
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	- Mu
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	- field swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) N/A
	Right upstream bank (RUB) N/A
Flow conditions (dry, stagnant, low/moderate/high flow)	- dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	- plowed
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- none
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	- none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	- none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle)	- none
Photo Numbers	upstream (N) 0076 downstreams 0077

wind
: 0-5
: 1cm/h
W

Date: 14 July 2010	Project #: 10-1151-0038	Weather Conditions: Sunny, 30% cloud, wind 5-10 km/h	
Collectors: DM/AS	Time started: 15:54	Time Finished: 15:57	
Watercourse Name			
Reach ID	122c	125a	
UTM easting and northing (CL of crossing)	#107 590835 4742272	#108 590529 4742181	
Flow regime (permanent, intermittent, ephemeral)	E	I	
Mean Bankfull width (m)	N/A	1-2 m	
Mean Bankfull depth (cm)	N/A	<1 m	
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, S-silt, CL-clay, MU-muck, DE-detritus)	-mu	-mu	
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	-field swale	-field swale	
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB)	LUB	
	Right upstream bank (RUB)	RUB	
Flow conditions (dry, stagnant, low/moderate/high flow)	-dry	-low flow	
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc.; % stream shading, average riparian zone width, example plant species)	-plowed	-herbaceous/plowed -cattail -reed (cutting grass) -terr. veg.	
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	-none	-none	
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	-none	-none	
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	-none	-none	
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	-40 cm culvert	-60 cm culvert	
Photo Numbers	upstream (N) 0070 downstream (S) 0071	upstream (N) 0072 downstream (S) 0073	

Date: 14 July 2010	Project #: 10-1151-0038	Weather Conditions: sunny, 30% cloud	
Collectors: DM/AS	Time started: 15:46	Time finished: 15:51	
Watercourse Name			
Reach ID	122a	122b	
UTM easting and northing (CL of crossing)	#105 591029 4742299	#106 590936 4742279	
Flow regime (permanent, intermittent, ephemeral)	I	E	
Mean Bankfull width (m)	2m	<1m	
Mean Bankfull depth (cm)	12m	<1m	
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, S-silt, CL-clay, MU-muck, DE-detritus)	-MU	-MU	
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	-field swale	-field swale	
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB)	LUB	
	Right upstream bank (RUB)	RUB	
Flow conditions (dry, stagnant, low/moderate/high flow)	-low flow	-dry	
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc; % stream shading, average riparian zone width, example plant species)	-herbaceous -plowed	-plowed	
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	-none	-none	
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	-none	-none	
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	-none	-none	
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	-60 cm culvert	-45 cm culvert	
Photo Numbers	upstream (N) 0016	downstream (S) 0017	upstream (N) 0018 downstream (S) 0019

Date: 14 July 2010	Project #: 10-1151-0038	Weather Conditions:
Collectors: DMAS	Time started: 16:01	Time Finished:
Watercourse Name		
Reach ID	121	
UTM easting and northing (CL of crossing)	#109 590276 4742120	
Flow regime (permanent, intermittent, ephemeral)	I	
Mean Bankfull width (m)	wet bank 60 cm 1-2 m	
Mean Bankfull depth (cm)	10 cm 1 m	
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	- MU	- MU
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	- field swale	- field swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) Stable	LUB
	Right upstream bank (RUB) Stable	RUB
Flow conditions (dry, stagnant, low/moderate/high flow)	- low flow	
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	- herbaceous - cattail - reed canary grass - terr. veg.	
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- herbaceous - jewelweed - cattail - terr. veg.	
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	- none	
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	- none	
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	- 70 cm square culvert	
Photo Numbers	downstream upstream (N) downstream(S) 0074 0075	

Date: 14 July 2010	Project #: 10-1151-0038	Weather Conditions: sunny to some clouds
Collectors: DM/AS	Time started: 13:41	Time Finished: 13:47
Waterscourse Name		
Reach ID	105g	105e
UTM easting and northing (CL of crossing)	#101 590144 4743734	#102 590039 4743865
Flow regime (permanent, intermittent, ephemeral)	E	E
Mean Bankfull width (m)	N/A	N/A
Mean Bankfull depth (cm)	N/A	N/A
Substrates (% BE=bedrock, BO=boulder, CO=cobble, GR=gravel, SA=sand, SI=silt, CL=clay, MU=muck, DE=detritus)	-MU	-MU
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	-field swale	-field swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB)	LUB
	N/A	N/A
	Right upstream bank (RUB)	RUB
	N/A	N/A
Flow conditions (dry, stagnant, low/moderate/high flow)	-dry	-dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc; % stream shading, average riparian zone width, example plant species)	-plowed	-plowed
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, Instream/overhanging vascular plants)	-none	-none
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	none	-none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	none	none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	none	-none
Photo Numbers	upstream (E) 1056	downstream (E) 1057

Date: 17 July 2010	Project #: 10-1151-0038	Weather Conditions: sunny 40% cloud	
Collectors: DM/AS	Time started: 13:51	Time Finished: 13:57	
Watercourse Name			
Reach ID	105 d	105 c	
UTM easting and northing (CL of crossing)	#103 590022 4743930	#104 589987 4744055	
Flow regime (permanent, intermittent, ephemeral)	E	E	
Mean Bankfull width (m)	N/A	N/A	
Mean Bankfull depth (cm)	N/A	N/A	
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, S-silt, CL-clay, MU-muck, DE-detritus)	- MU	MU	
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channellized, meandering, braided channel)	field swale	field swale	
Bank Stability (stable, slightly stable; unstable, slightly unstable)	Left upstream bank (LUB)	LUB	
	N/A	N/A	
	Right upstream bank (RUB)	RUB	
	N/A	N/A	
Flow conditions (dry, stagnant, low/moderate/high flow)	- dry	- dry	
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc.; % stream shading, average riparian zone width, example plant species)	- plowed	- plowed	
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- none	- none	
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	- none	- none	
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	- none	- none	
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	- none	- none	
Photo Numbers	downstream (E) 0038	upstream (W) 0039	downstream (E) upstream (W) 0040 0041

POND AND LENTIC AREA SURVEY DATASHEET

Project Code: 10-1151-0038	Project name: Nanticoke	Field Crew: DM/AS
FIELD MAP #: 105F	ELC Polygon ID (MAP):	Site Diagram: (Include scale and N arrow) <div style="text-align: center; border: 1px solid black; width: 150px; height: 100px; margin: 0 auto;">Center</div>
FIELD MAP PROJECTION: NAD 27 (NAD 83)		
GRID ZONE: 17 (100) 590147, 4743690		
Date(dd/mon/yy): 14/07/10	Observers: DM/AS	
Start Time (24h) 13:36	End Time (24h):	
Air Temp (°C):	Water Temp (°C):	
Sky: 0 (1) 2 3 4 5	Wind: 0 (1) 2 3 4 5	
Lentic area type: Lake <input type="radio"/> Pond <input checked="" type="radio"/> Standing <input type="radio"/> Ephemeral pool <input type="radio"/>		
Lotic area types: River (>5m) Stream (<5m) Ditch Cutline		
Water flow: Dry Intermittent <input checked="" type="radio"/> m/s estimate measured		
Disturbed: Yes <input checked="" type="radio"/> No <input type="radio"/>		
Length (long axis): 30 m	Width (short axis): 20 m	
Dominant Substrate: Bedrock Boulder Cobble Gravel Sand Mud Peat ?		

Dominant Habitat Types Surrounding Feature

Community Description:				
	Spec 1	%	Spec 2	%
Tree				
Shrub				
Herb				

Nearest Sandy Soil:

metres

Community Description:				
	Spec 1	%	Spec 2	%
Tree	Willow			
Shrub	Willow			
Herb				
Bearing from plot (deg)		Distance from plot (m)		

Turtle Basking/Nesting, Visual Encounter and Other Species Observation Data

Species	Number individuals	Distance (m) /UTM	Bearing	Micro Habitat	Emergent Veg (Y/N)	Disturbed (Y/N)	Notes
TRSLW							
GAFS							

Sky: 0 = clear/few clouds; 1 = partly cloudy; 2 = cloudy/overcast; 3 = fog; 4 = drizzle; 5 = showers

Wind: 0 = vertical smoke; 1 = smoke drifts; 2 = wind felt on face, leaves rustle; 3 = leaves/twigs in constant motion; 4 = raises dust, small branches sway; 5 = trees sway.

Species: SNTU (Snapping Turtle); STIN (Stinkpot); PATU (Painted Turtle); NMTU (Northern Map Turtle); BLAN (Blanding's Turtle); SPTU (Spotted Turtle); WOTU (Wood Turtle); SPSP (Spiny Softshell); Green Frog (GRFR); American Toad (AMTO); Wood Frog (WOFR); Bullfrog (BUFR); Leopard Frog (LEFR); Chorus Frog (CHFR); Spring Peeper (SPPE); Gray Tree Frog (GRTR)

GPS location data and photo observations:

105f

GPS Waypoint, line or polyline ID	Photo filename (begins with _____)	Comment and Photo Caption
	0053	Pond

General observations and comments:

- Algae covered stagnant pond
- No inflow or outflow apparent on
- No fish or ~~wildlife~~ wildlife observed
- inflow from (dry) swale to N. (ID#105a)

Data Sheet QA/QC (initials)

Date: 14 July 2010	Project #: 10-1151-0038	Weather Conditions: Overcast, wind
Collectors: DM/AS	Time started: 11:20	Time finished: 11:24
Wade course Name		
Reach ID	103g	103g a/b
UTM easting and northing (CL of crossing)	#095 588523 4745890	#096 588480 4744042
Flow regime (permanent, intermittent, ephemeral)	E	E
Mean Bankfull width (m)	N/A	N/A
Mean Bankfull depth (cm)	N/A	N/A
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-detritus)	- MU	- MU
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	field swale	field swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB)	LUB
	N/A	N/A
	Right upstream bank (RUB)	RUB
	N/A	N/A
Flow conditions (dry, stagnant, low/moderate/high flow)	-dry	-dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	-none	-none
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	-terr. veg.	-terr. veg.
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	-none	-none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	-none	-none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	-50 cm culvert under road	-stagnant water inside 50 cm culvert
Photo Numbers	upstream (E) 0038	downstream (W) 0039
	upstream (E) 0039	downstream (W) 0040

Date: 14 July 2010	Project #: 10-1151-CO38	Weather Conditions: Overcast wind S 10 km N/NW
Collectors: DM/AS	Time started: 11:33	Time Finished: 12:31
Watercourse Name		
Reach ID	101	104
UTM easting and northing (CL of crossing)	#097 588353 4744507	#098 589122 4744266
Flow regime (permanent, intermittent, ephemeral)	E	E
Mean Bankfull width (m)	4 m	N/A
Mean Bankfull depth (cm)	1-2 m	N/A
Substrates (% BE-bedrock, BO-boulder, CO-cobble, GR-gravel, SA-sand, SI-silt, CL-clay, MU-muck, DE-debris)	- MU	- MU
Channel morphology (% riffle/run/pool/flat throughout the reach; field swale, straightened/channelized, meandering, braided channel)	- ephemeral - field swale	- field swale
Bank Stability (stable, slightly stable, unstable, slightly unstable)	Left upstream bank (LUB) stable	LUB N/A
	Right upstream bank (RUB) stable	RUB N/A
Flow conditions (dry, stagnant, low/moderate/high flow)	- dry	- dry
Riparian conditions (quality-good/fair/poor; wooded, plowed, herbaceous, etc., % stream shading, average riparian zone width, example plant species)	- herbaceous (E) - crop (W) - corn	- none
Instream Cover (undercut banks, boulders, cobble, large woody debris (LWD), small woody debris (SWD), overhanging debris, instream/overhanging vascular plants)	- reed catary grass	- none
Evidence of groundwater inputs (e.g. watercress, seeps, springs)	- none	- none
Potential Critical Habitat (e.g. spawning areas, nursery areas, low flow refuge pools)	- none	- none
Other observations: Fish observed, evidence of recreational fishing use, barriers to fish movement (permanent/seasonal), disturbances (e.g. old crossings (farm lane), cattle	- 6.5 cm culvert (collapsed)	- leopard frog (obs) - seasonal ponding - WTU
Photo Numbers	upstream (E) CO41 downstream (W) CO42	upstream CO43 downstream CO44