



Missouri  
Department of  
Natural Resources

## Use Attainability Analysis

for

WBID 1282 East Fork Tebo Creek

Submitted by

MEC Water Resources

To

Missouri Department of Natural Resources

Water Protection Program

On

December 1, 2007

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet A – Water Body Identification**

**I. Water Body Information** (For water body being surveyed)

Water Body Name (from USGS 7.5' quad):	East Fork Tebo Creek
Missouri Water Body Identification (WBID) Number:	1282
8-digit HUC: 10290108	County: Henry
Upstream Legal Description (from Table H):	35, 44N, 24W
Downstream Legal Description (from Table H):	31, 43N, 24W
Number of sites evaluated:	7
List all sites numbers, listed consequently upstream to downstream:	1, 2, 3, 4, 5, 6, + 7

**Site Locations Map(s):** Attach a map of the entire segment with assessment sites clearly labeled. Mark any other items that may be of interest.

**II. Facility Information** (list all permitted discharges to the water body segment)

Facility Name(s) and Permit Number(s):
Windsor SW Lagoon M00047325 Sunmerset Park M00120162

**III. UAA Surveyor** (please print legibly)

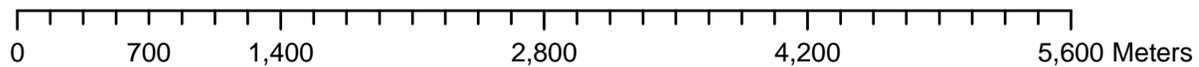
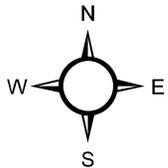
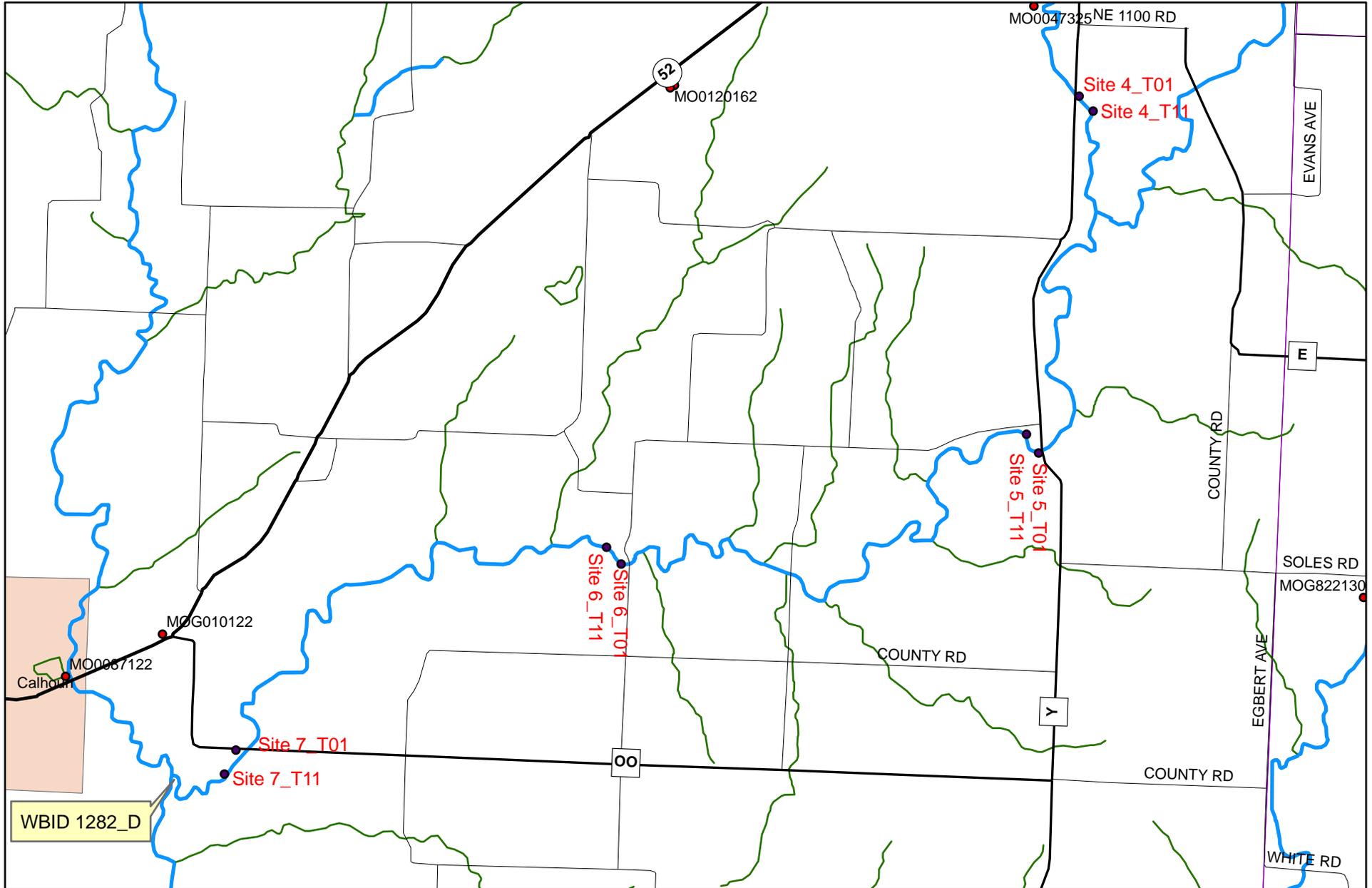
Name of Surveyor	Abigail Welschmayer	Telephone Number:	(573) 634-7078
Organization/Employer:	ERC		

**Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.**

Signed: Abigail Welschmayer Date: 10/24/07



# WBID 1282 East Fork Tebo Creek - Henry County



## Weather Conditions

Weather conditions ten days previous to stream assessment are listed in the tables below. The date(s) that the stream was assessed are shaded.

Data from the Midwest Regional Climate Center  
Clinton, Missouri - Station ID: 231711

<b>Date</b>	<b>Precipitation (Inches)</b>	<b>Min. Temp (°F)</b>	<b>Max. Temp (°F)</b>	<b>Avg. Temp (°F)</b>
10/14/2007	2.9	54	68	61
10/15/2007	0.2	54	77	66
10/16/2007	0	46	67	57
10/17/2007	0.8	45	70	58
10/18/2007	2	45	77	61
10/19/2007	0	49	74	62
10/20/2007	0	45	66	56
10/21/2007	-	52	78	65
10/22/2007	0.2	47	80	64
10/23/2007	0.9	38	48	43
10/24/2007	0	38	61	50

WBID # 1282

Site # 1

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization**

(must be completed for each site)

Date & Time: <u>10/24/07 11:03</u>	Site Location Description (e.g., road crossing): <u>Hwy 2 upstream @ bridge</u>
Personnel (Data Collectors): <u>AW &amp; TH</u>	
Current Weather Conditions: <u>64° sunny + clear</u>	Facility Name: <u>Sunset Park Windsor SW Lagoon</u>
Weather Conditions for Past 10 days:	Permit Number: <u>MO 0120162 MO 0047325</u>
Drought Conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

**Site Location:**

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): <u>195049244</u>	Northing (UTM Y): <u>4266364</u>	Horizontal Accuracy: (EPE) FOM / PDOP Meters <u>8</u>
Site 11	Easting (UTM X): <u>1950492578</u>	Northing (UTM Y): <u>4266209</u>	Horizontal Accuracy: (EPE) FOM / PDOP Meters <u>8</u>

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>L-001</u>	<u>Downstream T-1</u>	<u>L-002</u>	<u>upstream T-1</u>		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

**Uses Observed\*:** (Uses actually observed at time of survey.)

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use Data Sheet D- Recreational Use Interview when conducting interviews.)				

WBID # 1282

Site # 1

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization (continued)**

**Surrounding Conditions\*:** (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:

Comments:

Pasture

**Evidence of Human Use\*:** (Attach photos and reference in "Photos" section)

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV / ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input checked="" type="checkbox"/> Livestock Watering

Comments / Other:

possible cattle watering

**Substrate\*:** (These values should add up to 100%.)

% Cobble	80 % Gravel	10 % Sand	% Silt	10 % Mud/Clay	% Bedrock
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**Aquatic Vegetation\*:** (Note amount of vegetation or algal growth at the assessment site)

None

**Water Characteristics\*:** (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input checked="" type="checkbox"/> Milky	<input type="checkbox"/> Other: turbid
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

\*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

WBID # 1282

Site # 1

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization (continued)**

**Additional Stream Morphology:** (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

**Comments:** (Please record any additional comments here.)

**Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.**

Surveyor's Signature: *[Signature]* Date of Survey: 10/24/07  
Organization: ARC Position: Field Manager

L-001 down T-1  
L-002 up T-1

### Field Data Sheets for Recreational Use Stream Surveys

#### Data Sheet C - Field Survey Results

Waterbody ID: <u>1282</u> Site #: <u>1</u> Estimated Channel Incision: <u>10</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE) PDOP / FOM <b>01</b> UTM X: <u>1550452614</u> UTM Y: <u>4266364</u> +/- <u>8</u> (meters) <u>105</u> <b>11</b> UTM X: <u>1550452578</u> UTM Y: <u>4266209</u> +/- <u>8</u> (meters) <u>106</u> Average Stream Width: <u>2.5</u> (meters)      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)      (20x average stream width) Field Staff: <u>AWJTH</u>	<b>Dissolved Oxygen</b>
	Date: <u>10/24/07</u> Time: <u>11:03</u> Dissolved Oxygen: <u>7.24</u> (mg/L) Dissolved Oxygen: <u>70.7</u> (% sat) Specific Cond: <u>352</u> (µS/cm) Water Temperature: <u>14.29</u> (°C)

#### Transect Cross-Section

Station		01		02		03		04		05		06		07		08		09		10		11	
		Distance (m)	Depth (m)																				
<b>Left Bank</b>		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1		.22	.03	.16	.10	.23	.42	.28	.08	.41	.07	.04	.01	.25	.07	.14	.07	.38	.10	.70	.19	.19	.04
2		.44	.09	.32	.18	.46	.48	.56	.16	.82	.06	.08	.01	.5	.14	.28	.12	.76	.24	1.4	.12	.38	.06
3		.66	.07	.48	.16	.69	.45	.84	.21	1.23	.07	.12	.01	.75	.12	.42	.11	1.14	.30	2.1	.20	.57	.07
4		.88	.09	.64	.16	.92	.39	1.12	.20	1.64	.10	.16	.03	1	.14	.56	.10	1.52	.42	.28	.33	.76	.10
5		1.1	.13	.8	.17	1.15	.31	1.4	.24	2.05	.17	.2	.03	1.25	.15	.7	.09	1.9	.35	3.5	.28	.95	.12
6		1.32	.17	.96	.13	1.38	.28	1.68	.22	2.46	.24	.24	.02	1.5	.14	.84	.07	2.28	.29	4.2	.19	1.14	.12
7		1.54	.21	1.12	.10	1.61	.24	1.96	.26	2.87	.27	.28	.03	1.75	.10	.98	.07	2.66	.24	4.9	.04	1.33	.11
8		1.76	.22	1.28	.07	1.84	.16	2.24	.26	3.28	.32	.32	.02	2	.09	1.12	.05	3.04	.19	5.6	.0	1.52	.08
9		1.98	.21	1.44	.03	2.07	.19	2.52	.22	3.69	.31	.36	.01	2.25	.09	1.26	.02	3.42	.09	6.3	.06	1.71	.05
<b>Right Bank</b>		2.2	0	1.6	0	2.3	0	2.8	0	4.1	0	.4	0	2.5	0	1.4	0	3.8	0	7.0	0	1.9	0
<b>Feature Type</b> (riffle, run, or pool)		run		run		pool		run		pool		run		run									

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width  
 GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.  
 Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)  
 Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)  
 All measurements to be taken to the nearest 0.01 meter.

Signed: [Signature]      Date: 10/24/07

WBID # 1282  
 Site # 2

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization**  
 (must be completed for each site)

Date & Time: <u>10-24-07 11:30</u>	Site Location Description (e.g., road crossing):
Personnel (Data Collectors): <u>AW + T1+</u>	<u> Hwy 2 downstream @ bridge</u>
Current Weather Conditions: <u>64° sunny</u>	Facility Name: <u>Summerset Park Windsor SW Lagoon</u>
Weather Conditions for Past 10 days:	Permit Number: <u>MO 0120162 MO 0047325</u>
Drought Conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

**Site Location:**

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): <u>1530452500</u>	Northing (UTM Y): <u>4266106</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>6</u> Meters
Site 11	Easting (UTM X): <u>1530452503</u>	Northing (UTM Y): <u>4265954</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>6</u> Meters

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>L-003</u>	<u>upstream T-1</u>	<u>L-004</u>	<u>downstream T-1</u>		

**Uses Observed\*:** (Uses actually observed at time of survey.)

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use Data Sheet D- Recreational Use Interview when conducting interviews.)				

WBID # 1282

Site # 2

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization (continued)**

**Surrounding Conditions\*:** (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:

Comments:

*Pasture*

**Evidence of Human Use\*:** (Attach photos and reference in "Photos" section)

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV / ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input checked="" type="checkbox"/> Livestock Watering

Comments / Other:

**Substrate\*:** (These values should add up to 100%.)

<u>0</u> % Cobble	<u>80</u> % Gravel	<u>10</u> % Sand	<u>0</u> % Silt	<u>10</u> % Mud/Clay	<u>0</u> % Bedrock
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**Aquatic Vegetation\*:** (Note amount of vegetation or algal growth at the assessment site)

*NONE*

**Water Characteristics\*:** (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: <i>Turbid</i>
Bottom Deposit:	<input type="checkbox"/> Sludge	<input checked="" type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

\*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

WBID # 1282

Site # 2

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization (continued)**

**Additional Stream Morphology:** (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

**Comments:** (Please record any additional comments here.)

**Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.**

Surveyor's Signature: Alvin L. Welser Date of Survey: 10-24-07

Organization: ERC Position: Field Manager

# Field Data Sheets for Recreational Use Stream Surveys

L UP - 003 T-1  
L down - 004 T-11

## Data Sheet C - Field Survey Results

Waterbody ID: <u>1282</u> Site #: <u>2</u> Estimated Channel Incision: <u>0</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE) / PDOP / FOM 01 UTM X: <u>155 0452506</u> UTM Y: <u>4266106</u> +/- <u>6</u> (meters) <u>107</u> 11 UTM X: <u>155 0452503</u> UTM Y: <u>4268984</u> +/- <u>6</u> (meters) <u>108</u> Average Stream Width: <u>4.9</u> (meters)      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)      (20x average stream width) Field Staff: <u>AWOTH</u>	<b>Dissolved Oxygen</b>
	Date: <u>10/24/07</u> Time: <u>11:30</u> Dissolved Oxygen: <u>6.32</u> (mg/L) Dissolved Oxygen: <u>60.4</u> (% sat) Specific Cond: <u>461</u> (µS/cm) Water Temperature: <u>13.14</u> (°C)

### Transect Cross-Section

Station		01		02		03		04		05		06		07		08		09		10		11	
		Distance (m)	Depth (m)																				
<b>Left Bank</b>		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1		1.68	.10	.16	.06	.2	.06	.79	.22	.81	.16	.09	.01	.38	.09	.4	.16	.57	.07	.12	.06	.38	.17
2		1.36	.10	.32	.09	.4	.13	1.58	.22	1.62	.15	.18	.02	.76	.28	.8	.26	1.14	.17	.24	.09	.76	.34
3		2.04	.20	.48	.14	.6	.14	2.37	.20	2.43	.13	.27	.04	1.14	.26	1.2	.32	1.71	.23	.36	.14	1.04	.40
4		2.72	.24	.64	.11	.8	.12	3.16	.20	3.24	.10	.36	.03	1.52	.25	1.6	.35	2.28	.20	.48	.18	1.52	.56
5		3.4	.23	.8	.09	1.0	.12	3.95	.22	4.05	.10	.45	.04	1.9	.22	2.0	.43	2.85	.16	.6	.20	1.9	.46
6		4.08	.17	.96	.08	1.2	.09	4.74	.17	4.86	.08	.54	.04	2.28	.20	2.4	.34	3.42	.14	.72	.15	2.28	.35
7		4.76	.12	1.12	.07	1.4	.07	5.53	.24	5.67	.09	.63	.02	2.66	.15	2.8	.30	3.99	.16	.84	.14	2.66	.24
8		5.44	.13	1.28	.04	1.6	.06	6.32	.25	6.48	.09	.72	.01	3.04	.12	3.2	.31	4.56	.10	.96	.05	3.04	.16
9		6.12	.16	1.44	.02	1.8	.02	7.11	.27	7.29	.07	.81	.01	3.42	.05	3.6	.18	5.13	.06	1.08	.02	3.42	.16
<b>Right Bank</b>		6.8	0	1.6	0	2.0	0	7.9	0	8.3	0	.9	0	3.8	0	4.0	0	5.7	0	1.2	0	3.8	0
<b>Feature Type</b> (riffle, run, or pool)		pool		run		run		pool		run		run		pool		pool		pool		run		pool	

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width  
 GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.  
 Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)  
 Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)  
 All measurements to be taken to the nearest 0.01 meter.

Signed: Allyssa A. Johnson      Date: 10/24/07

WBID # 1282

Site # 3

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization**

(must be completed for each site)

Date & Time: <u>10/24/07 12:10</u>	Site Location Description (e.g., road crossing): <u>Hwy 52 @ bridge downstream</u>
Personnel (Data Collectors): <u>FW &amp; TH</u>	
Current Weather Conditions: <u>65° sunny &amp; clear</u>	Facility Name: <u>Summerset Park Windsor SW Lagoon</u>
Weather Conditions for Past 10 days:	Permit Number: <u>M00120162 M00047325</u>
Drought Conditions?: No drought <input type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

**Site Location:**

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)					
Site 01	Easting (UTM X): <u>1550493237</u>	Northing (UTM Y): <u>4263969</u>	Horizontal Accuracy: (EPE) / FOM / PDOP	Meters	
Site 11	Easting (UTM X): <u>1550493277</u>	Northing (UTM Y): <u>4263813</u>	Horizontal Accuracy: (EPE) / FOM / PDOP	Meters	

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>L-005</u>	<u>downstream T-1</u>	<u>L-006</u>	<u>upstream T-11</u>		

**Uses Observed\*:** (Uses actually observed at time of survey.)

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use Data Sheet D- Recreational Use Interview when conducting interviews.)				

WBID # 1282

Site # 3

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization (continued)**

**Surrounding Conditions\*:** (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:

Comments:  
Pasture

**Evidence of Human Use\*:** (Attach photos and reference in "Photos" section)

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV / ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock Watering

Comments / Other:  
NONE

**Substrate\*:** (These values should add up to 100%.)

% Cobble	% Gravel	% Sand	<u>10</u> % Silt	% Mud/Clay	<u>90</u> % Bedrock
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**Aquatic Vegetation\*:** (Note amount of vegetation or algal growth at the assessment site)

30% algae cover on bedrock

**Water Characteristics\*:** (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: <u>turbid</u>
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

\*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

WBID # 1282  
Site # 3

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization (continued)**

**Additional Stream Morphology:** (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

**Comments:** (Please record any additional comments here.)

**Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.**

Surveyor's Signature: *Allyson H. Huley* Date of Survey: 10/24/07  
Organization: ERC Position: Field Manager

# Field Data Sheets for Recreational Use Stream Surveys

## Data Sheet C - Field Survey Results

5 down  
6 up T-11

Waterbody ID: <u>1282</u> Site #: <u>3</u> Estimated Channel Incision: <u>1</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>1550453237</u> UTM Y: <u>4263965</u> +/- <u>7</u> (meters) <u>109</u> 11 UTM X: <u>1550493277</u> UTM Y: <u>4263813</u> +/- <u>60</u> (meters) <u>110</u> Average Stream Width: <u>6.0</u> (meters)      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)      (20x average stream width) Field Staff: <u>AWT-14</u>	<b>Dissolved Oxygen</b> Date: <u>10-24-07</u> Time: <u>12:10</u> Dissolved Oxygen: <u>6.65</u> (mg/L) Dissolved Oxygen: <u>56.4</u> (% sat) Specific Cond: <u>373</u> (µS/cm) Water Temperature: <u>12.15</u> (°C)
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### Transect Cross-Section

Station		01		02		03		04		05		06		07		08		09		10		11	
		Distance (m)	Depth (m)																				
<b>Left Bank</b>		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1		.72	.17	.81	.12	.88	.03	1.03	.01	1.08	.02	1.54	.01	1.56	.04	1.4	.01	1.57	.06	1.57	.20	1.59	.10
2		1.44	.22	1.62	.18	1.76	.06	1.26	.02	1.36	.06	1.08	.01	1.12	.06	.8	.01	1.14	.04	1.14	.27	1.18	.24
3		2.16	.29	2.43	.20	2.64	.07	1.89	.02	2.04	.04	1.62	.01	1.68	.10	1.2	.01	1.71	.12	1.71	.39	1.77	.25
4		2.88	.28	3.24	.14	3.52	.09	2.52	.02	2.72	.02	2.16	.01	2.24	.09	1.6	.04	2.28	.11	2.28	.38	2.36	.31
5		3.6	.30	4.05	.25	4.4	.09	3.15	.02	3.4	.02	2.7	.03	2.8	.06	2	.05	2.85	.09	2.85	.40	2.95	.28
6		4.32	.30	4.86	.25	5.28	.07	3.78	.01	4.08	.02	3.24	.02	3.36	.02	2.4	.06	3.42	.09	3.42	.16	3.54	.26
7		5.04	.27	5.67	.24	6.16	.05	4.41	.01	4.76	.01	3.78	.02	3.92	.02	2.8	.03	3.99	.10	3.99	.17	4.13	.32
8		5.76	.20	6.48	.25	7.04	.10	5.04	.02	5.44	.02	4.32	.01	4.48	.02	3.2	.06	4.56	.15	4.56	.14	4.72	.22
9		6.48	.24	7.29	.23	7.92	.13	5.67	.02	6.12	.01	4.86	.01	5.04	.01	3.6	.07	5.13	.07	5.13	.12	5.31	.14
<b>Right Bank</b>		7.2	0	8.1	0	8.8	0	6.3	0	6.8	0	5.4	0	5.6	0	4.0	0	5.7	0	5.7	0	5.9	0
<b>Feature Type</b> (riffle, run, or pool)		pool		pool		run																	

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width  
 GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.  
 Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)  
 Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)  
 All measurements to be taken to the nearest 0.01 meter.

Signed: Shirley C. Wilcox      Date: 10/24/07

WBID # 1282

Site # 4

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization**

(must be completed for each site)

Date & Time: <u>10/24/07 13:04</u>	Site Location Description (e.g., road crossing): <u>Hwy 4 bridge near town downstream</u>
Personnel (Data Collectors): <u>AW + TH</u>	
Current Weather Conditions: <u>60° sunny</u>	Facility Name: <u>Summerset Park Windsor SW Lagoon</u>
Weather Conditions for Past 10 days:	Permit Number: <u>MO 0120162 MO 0047325</u>
Drought Conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

**Site Location:**

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): <u>1550493680</u>	Northing (UTM Y): <u>4126234</u>	Horizontal Accuracy: (EPE/ FOM / PDOP) Meters <u>7</u>
Site 11	Easting (UTM X): <u>1550453784</u>	Northing (UTM Y): <u>41262230</u>	Horizontal Accuracy: (EPE/ FOM / PDOP) Meters <u>8</u>

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>L-007</u>	<u>downstream +1</u>	<u>L-008</u>	<u>upstream T-11</u>		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

**Uses Observed\*:** (Uses actually observed at time of survey.)

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use Data Sheet D- Recreational Use Interview when conducting interviews.)				

WBID # 1282  
 Site # 4

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization (continued)**

**Surrounding Conditions\*:** (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments: <i>Pasture</i>				

**Evidence of Human Use\*:** (Attach photos and reference in "Photos" section)

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV / ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock Watering
Comments / Other: <i>NONE</i>				

**Substrate\*:** (These values should add up to 100%.)

% Cobble	<i>70</i> % Gravel	<i>20</i> % Sand	<i>10</i> % Silt	% Mud/Clay	% Bedrock
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**Aquatic Vegetation\*:** (Note amount of vegetation or algal growth at the assessment site)

<i>NONE</i>
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**Water Characteristics\*:** (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input checked="" type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: <i>turbid</i>
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

\*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

WBID # 1282

Site # 21

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization (continued)**

**Additional Stream Morphology:** (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

**Comments:** (Please record any additional comments here.)

**Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.**

Surveyor's Signature: *Alvin C. Winters* Date of Survey: 10/24/07

Organization: ERC Position: Field Manager

down 007 LF1  
up 008 T-11

## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet C - Field Survey Results

Waterbody ID: <u>1282</u> Site #: <u>4</u> Estimated Channel Incision: <u>.3</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE) / PDOP / FOM <b>01</b> UTM X: <u>1550453680</u> UTM Y: <u>4262341</u> +/- <u>7</u> (meters) <u>111</u> <b>11</b> UTM X: <u>1550453784</u> UTM Y: <u>4262230</u> +/- <u>8</u> (meters) <u>112</u> Average Stream Width: <u>4.0</u> (meters)      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)      (20x average stream width) Field Staff: <u>AW &amp; TH</u>	<b>Dissolved Oxygen</b> Date: <u>10-24-07</u> Time: <u>13:04</u> Dissolved Oxygen: <u>9.05</u> (mg/L) Dissolved Oxygen: <u>85.5</u> (% sat) Specific Cond: <u>527</u> (µS/cm) Water Temperature: <u>12.71</u> (°C)
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#### Transect Cross-Section

Station		01		02		03		04		05		06		07		08		09		10		11	
		Distance (m)	Depth (m)																				
<b>Left Bank</b>		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1		.51	.26	.39	.07	.28	.06	.36	.85	.27	.02	.36	.02	.31	.03	.28	.05	.49	.06	.2	.03	.3	.12
2		1.02	.39	.78	.07	.56	.06	.72	.78	.54	.04	.72	.02	.62	.04	.56	.03	.98	.16	.4	.06	.6	.28
3		1.53	.39	1.17	.11	.84	.07	1.08	.59	.81	.07	1.08	.05	.93	.06	.84	.05	1.47	.22	.6	.07	.9	.36
4		2.04	.44	1.56	.18	1.12	.07	1.44	.43	1.08	.12	1.44	.10	1.24	.12	1.12	.05	1.96	.22	.8	.10	1.2	.28
5		2.55	.44	1.95	.24	1.4	.09	1.8	.33	1.35	.16	1.8	.15	1.55	.14	1.4	.06	2.45	.17	1.0	.09	1.5	.26
6		3.06	.32	2.34	.24	1.68	.09	2.16	.27	1.62	.23	2.16	.22	1.86	.14	1.68	.06	2.94	.14	1.2	.08	1.8	.27
7		3.57	.36	2.73	.19	1.96	.09	2.52	.22	1.89	.25	2.52	.27	2.17	.15	1.96	.07	3.43	.10	1.4	.11	2.1	.24
8		4.08	.23	3.12	.21	2.24	.10	2.88	.14	2.16	.22	2.88	.29	2.48	.15	2.24	.04	3.92	.09	1.6	.05	2.4	.23
9		4.59	.16	3.51	.13	2.52	.10	3.24	.08	2.43	.08	3.24	.23	2.79	.12	2.52	.02	4.41	.04	1.8	.05	2.7	.15
<b>Right Bank</b>		.51	0	3.9	0	2.8	0	3.6	0	2.7	0	3.6	0	3.1	0	2.8	0	4.9	0	2.0	0	3.0	0
<b>Feature Type</b> (riffle, run, or pool)		pool		run		run		pool		run													

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width  
 GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.  
 Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)  
 Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)  
 All measurements to be taken to the nearest 0.01 meter.

Signed: [Signature]      Date: 10/24/07

WBID # 1282  
 Site # 5

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization**  
 (must be completed for each site)

Date & Time: <u>10/24/07 13:43</u>	Site Location Description (e.g., road crossing): <u>at Swine</u>
Personnel (Data Collectors): <u>AW + TH</u>	
Current Weather Conditions: <u>60° sunny</u>	Facility Name: <u>Summerset Park Windsor-Swanton</u>
Weather Conditions for Past 10 days:	Permit Number: <u>M00120162 M0047325</u>
Drought Conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

**Site Location:**

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): <u>1550453379</u>	Northing (UTM Y): <u>4259679</u>	Horizontal Accuracy: <u>8</u> Meters (EPE / FOM / PDOP)
Site 11	Easting (UTM X): <u>1550453288</u>	Northing (UTM Y): <u>4259819</u>	Horizontal Accuracy: <u>6</u> Meters (EPE / FOM / PDOP)

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>L-110</u>	<u>Travis in deep pool</u>	<u>L-111</u>	<u>pool down stream T-7</u>	<u>L-112</u>	<u>pool up stream T-8</u>
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>L-113</u>	<u>upstream T-11</u>	<u>L-114</u>	<u>downstream T-1</u>		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

**Uses Observed\*:** (Uses actually observed at time of survey.)

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use Data Sheet D- Recreational Use Interview when conducting interviews.)				

WBID # 1282  
 Site # 5

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization (continued)**

**Surrounding Conditions\*:** (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:

Comments:  
*Pasture*

**Evidence of Human Use\*:** (Attach photos and reference in "Photos" section)

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV / ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input checked="" type="checkbox"/> Livestock Watering

Comments / Other:  
*cattle present*

**Substrate\*:** (These values should add up to 100%.)

% Cobble	<i>20</i> % Gravel	<i>20</i> % Sand	% Silt	<i>60</i> % Mud/Clay	% Bedrock
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**Aquatic Vegetation\*:** (Note amount of vegetation or algal growth at the assessment site)

*None*

**Water Characteristics\*:** (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input checked="" type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: <i>turbid</i>
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

\*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

WBID # 1282

Site # 5

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization (continued)**

**Additional Stream Morphology:** (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)
pool	150 from dish bridge	w 10 m	65 m	1 m	> 1.3 m

**Comments:** (Please record any additional comments here.)

pool was 65m long could not take another transect for 65m T7 + T8 are 65m+ apart

**Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.**

Surveyor's Signature: *Albert L. Walker* Date of Survey: 10/24/07

Organization: ERC Position: Field Manager

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

to get in 65m long 1.3 +  
10m wide

Dist 9 L.T.

L-010  
L-011

12 up  
pool  
13 up  
T-11

Waterbody ID: 1282 Site #: 5

Estimated Channel Incision: 13 (m) (height between low bank width and water)

GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE) / PDOP / FOM

01 UTM X: 1550453379 UTM Y: 4259679 +/- 8 (meters) / 13

11 UTM X: 1550453288 UTM Y: 4259819 +/- 6 (meters) / 114

Average Stream Width: 9.0 (meters) Length of Survey Segment: 180 (meters)  
(To determine Length of Reach) (20x average stream width)

Field Staff: AW & TH

**Dissolved Oxygen**

Date: 10-24-07 Time: 13:43

Dissolved Oxygen: 9.11 (mg/L)

Dissolved Oxygen: 86.2 (% sat)

Specific Cond: 566 (µS/cm)

Water Temperature: 12.76 (°C)

Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)																				
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	.9	.46	1.05	.25	1.07	.08	.57	.10	.46	.07	.31	.08	1		.91	.37	1.09	.26	.86	.48	1.08	.09
2	1.8	.65	2.1	.26	2.14	.22	1.14	.29	.92	.10	.62	.06	2		1.82	.62	2.18	.46	1.72	.62	2.16	.32
3	2.7	.68	3.15	.39	3.21	.44	1.71	.35	1.38	.39	.93	.13	3		2.73	.69	3.27	.51	2.58	.61	3.24	.67
4	3.6	.73	4.2	.59	4.28	.60	2.28	.42	1.84	.28	1.24	.11	4		3.64	.82	4.36	.60	3.44	.59	4.32	.72
5	4.5	.74	5.25	.60	5.35	.63	2.85	.36	2.3	.21	1.55	.15	5		4.55	.78	5.45	.61	4.3	.57	5.4	.84
6	5.4	.71	6.3	.64	6.42	.69	3.42	.27	2.76	.17	1.86	.13	6		5.46	.76	6.54	.64	5.16	.53	6.48	.97
7	6.3	.60	7.35	.63	7.49	.64	3.99	.21	3.22	.13	2.17	.10	7		6.37	.72	7.63	.70	6.02	.47	7.56	1.025
8	7.2	.38	8.4	.60	8.56	.58	4.56	.14	3.68	.06	2.48	.09	8		7.28	.76	8.72	.49	6.88	.36	8.64	.89
9	8.1	.26	9.45	.63	9.63	.42	5.13	.05	4.14	.02	2.79	.04	9		8.19	.66	9.81	.45	7.74	.27	9.72	.50
Right Bank	9.0	0	10.5	0	10.7	0	5.7	0	4.6	0	3.1	0	10.0	0	9.1	0	10.9	0	8.6	0	10.8	0
Feature Type (riffle, run, or pool)	pool		pool		pool		run		run		run		pool		pool		run		pool		pool	

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width  
GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.  
Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)  
Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)  
All measurements to be taken to the nearest 0.01 meter.

Signed: Alvin H. Wadsworth Date: 10/24/07

WBID # 1282

Site # 6

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization**

(must be completed for each site)

Date & Time: <u>10/24/07 14:40</u>	Site Location Description (e.g., road crossing):
Personnel (Data Collectors): <u>AW+TH</u>	<u>CR NE1001 downstream @ bridge</u>
Current Weather Conditions: <u>58° sunny + clear</u>	Facility Name: <u>Sunset Park Windsor SW Tarpool</u>
Weather Conditions for Past 10 days:	Permit Number: <u>M00120162 M00047325</u>
Drought Conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

**Site Location:**

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): <u>155045026</u>	Northing (UTM Y): <u>4258851</u>	Horizontal Accuracy: (EPB / FOM / PDOP) Meters
Site 11	Easting (UTM X): <u>155045058</u>	Northing (UTM Y): <u>4258976</u>	Horizontal Accuracy: (EPB / FOM / PDOP) Meters <u>10</u>

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>L-014</u>	<u>downstream T-1</u>	<u>L-015</u>	<u>Travis in pool @ T-6</u>	<u>L-016</u>	<u>upstream T-11</u>
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

**Uses Observed\*:** (Uses actually observed at time of survey.)

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use Data Sheet D- Recreational Use Interview when conducting interviews.)				

WBID # 1282

Site # 6

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization (continued)**

**Surrounding Conditions\*:** (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:

Comments:

Pasture + Hay ground

**Evidence of Human Use\*:** (Attach photos and reference in "Photos" section)

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV / ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock Watering

Comments / Other:

NONE

**Substrate\*:** (These values should add up to 100%.)

<u>20</u> % Cobble	<u>20</u> % Gravel	% Sand	% Silt	<u>60</u> % Mud/Clay	% Bedrock
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**Aquatic Vegetation\*:** (Note amount of vegetation or algal growth at the assessment site)

NONE

**Water Characteristics\*:** (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input checked="" type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: <u>forbid</u>
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

\*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

WBID # 1282

Site # 6

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization (continued)**

**Additional Stream Morphology:** (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)
pool	~90m	8-10m	15	1m	> 1.4

**Comments:** (Please record any additional comments here.)

**Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.**

Surveyor's Signature: *August Wilgus* Date of Survey: 10/24/07  
Organization: ERC Position: Field Manager

15 m pool to  
8.5-10 wide  
+ 1.4 deep

L-014 down T-1  
15 pool  
16 up T-11

## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet C - Field Survey Results

Waterbody ID: <u>1282</u>	Site #: <u>6</u>	<b>Dissolved Oxygen</b>	
Estimated Channel Incision: <u>0</u> (m) (height between low bank width and water)		Date: <u>10-24-07</u>	Time: <u>14:40</u>
GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE) / PDOP / FOM		Dissolved Oxygen: <u>7.94</u> (mg/L)	
<b>01</b> UTM X: <u>1550430267</u>	UTM Y: <u>4258851</u>	Dissolved Oxygen: <u>77.5</u> (% sat)	
<b>11</b> UTM X: <u>1550430158</u>	UTM Y: <u>4258976</u>	Specific Cond: <u>270</u> (µS/cm)	
Average Stream Width: <u>9.0</u> (meters)		Water Temperature: <u>14.22</u> (°C)	
(To determine Length of Reach)		Length of Survey Segment: <u>160</u> (meters)	
Field Staff: <u>AW+TH</u>			

#### Transect Cross-Section

		01		02		03		04		05		06		07		08		09		10		11	
Station		Distance (m)	Depth (m)																				
<b>Left Bank</b>		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1		1.28	.42	.38	.10	.69	.07	.56	.49	.57	.12	.89		.90	.49	.70	.77	1.06	.28	.4	.14	.48	.03
2		2.54	.65	.76	.09	1.38	.34	1.12	.68	1.14	.17	1.7		1.8	.59	1.4	.55	2.12	.51	.8	.23	.96	.03
3		3.84	.67	1.14	.10	2.07	.51	1.68	.86	1.71	.09	2.55		2.7	.76	2.1	.39	3.18	.67	1.2	.25	1.44	.05
4		5.12	.54	1.52	.13	2.76	.50	2.24	.80	2.28	.08	3.4	pool	3.6	.87	2.8	.37	4.24	.70	1.6	.27	1.92	.09
5		6.4	.43	1.9	.14	3.45	.45	2.8	.63	2.85	.16	4.25	pool	4.5	.82	3.5	.22	5.3	.78	2.0	.15	2.4	.09
6		7.68	.41	2.28	.14	4.14	.38	3.36	.49	3.42	.20	5.1	pool	5.4	.58	4.2	.18	6.36	.53	2.4	.16	2.88	.21
7		8.96	.40	2.66	.13	4.83	.33	3.92	.36	3.99	.20	5.95	pool	6.3	.45	4.9	.26	7.42	.47	2.8	.12	3.36	.19
8		10.24	.35	3.04	.13	5.52	.24	4.48	.25	4.56	.19	6.8		7.2	.29	5.6	.25	8.48	.46	3.2	.13	3.84	.15
9		11.52	.20	3.42	.07	6.21	.15	5.04	.13	5.13	.05	7.65		8.1	.11	6.3	.17	9.54	.33	3.6	.05	4.32	.09
<b>Right Bank</b>		12.8	0	3.8	0	6.9	0	5.6	0	5.7	0	8.5	0	9.0	0	7.0	0	10.6	0	4.0	0	4.8	0
<b>Feature Type</b> (riffle, run, or pool)		pool		run		run		pool		run		pool		pool		run		pool		run		run	

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width  
GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.  
Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)  
Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)  
All measurements to be taken to the nearest 0.01 meter.

Signed: Alvaro L. Weinger Date: 10/24/07

WBID # 1282  
 Site # 7

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization**  
 (must be completed for each site)

Date & Time: <u>10/24/07 15:30</u>	Site Location Description (e.g., road crossing): <u>Hwy 00 @ bridge downstream</u>
Personnel (Data Collectors): <u>AW&amp;T1</u>	Facility Name: <u>Sunset Park/Windsor SW Lagoon</u>
Current Weather Conditions: <u>58° sunny &amp; clear</u>	Permit Number: <u>MO 0120162 MO 0047325</u>
Weather Conditions for Past 10 days:	
Drought Conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

**Site Location:**

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): <u>155044737</u>	Northing (UTM Y): <u>4257463</u>	Horizontal Accuracy: (EPE) FOM / PDOP <u>8</u> Meters
Site 11	Easting (UTM X): <u>1550447310</u>	Northing (UTM Y): <u>4257285</u>	Horizontal Accuracy: (EPE) FOM / PDOP <u>9</u> Meters

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>L-017</u>	<u>downstream T-1</u>	<u>L-018</u>	<u>upstream T-1</u>		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

**Uses Observed\*:** (Uses actually observed at time of survey.)

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use <i>Data Sheet D- Recreational Use Interview</i> when conducting interviews.)				

WBID # 1282

Site # 7

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization (continued)**

**Surrounding Conditions\*:** (Mark all that promote or impede recreational uses. Attach photos of evidence or unusual items of interest.)

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments: <i>wooded + farm fields</i>				

**Evidence of Human Use\*:** (Attach photos and reference in "Photos" section)

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV / ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock Watering
Comments / Other: <i>NONE</i>				

**Substrate\*:** (These values should add up to 100%.)

<i>5</i> % Cobble	<i>70</i> % Gravel	<i>15</i> % Sand	% Silt	<i>10</i> % Mud/Clay	% Bedrock
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**Aquatic Vegetation\*:** (Note amount of vegetation or algal growth at the assessment site)

<i>NONE</i>
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**Water Characteristics\*:** (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input checked="" type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: <i>turbid</i>
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

\*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that effect another use.

WBID # 1282  
Site # 7

**Field Data Sheets for Recreational Use Stream Surveys**

**Data Sheet B – Site Characterization (continued)**

**Additional Stream Morphology:** (Record isolated pools or other features identified during the survey that may support recreational uses)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

**Comments:** (Please record any additional comments here.)

**Please verify that you have completed all sections, checked all applicable boxes, and that the form is complete.**

Surveyor's Signature: *Allyson Walker* Date of Survey: 7/24/07  
Organization: ERC Position: Field Manager

L 17downT-1  
1 Sept-11

### Field Data Sheets for Recreational Use Stream Surveys

#### Data Sheet C - Field Survey Results

Waterbody ID: <u>1282</u> Site #: <u>7</u> Estimated Channel Incision: <u>0</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE) / PDOP / FOM <b>01</b> UTM X: <u>1550447397</u> UTM Y: <u>4257463</u> +/- <u>8</u> (meters) / <u>117</u> <b>11</b> UTM X: <u>1550447310</u> UTM Y: <u>4257285</u> +/- <u>9</u> (meters) / <u>118</u> Average Stream Width: <u>8</u> (meters)      Length of Survey Segment: <u>160</u> (meters) (To determine Length of Reach)      (20x average stream width) Field Staff: <u>AW &amp; TH</u>	<b>Dissolved Oxygen</b> Date: <u>10-24-07</u> Time: <u>15:30</u> Dissolved Oxygen: <u>8.53</u> (mg/L) Dissolved Oxygen: <u>83.3</u> (% sat) Specific Cond: <u>243</u> (µS/cm) Water Temperature: <u>14.29</u> (°C)
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#### Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)																				
<b>Left Bank</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	.99	.15	1.03	.29	1.68	.02	.3	.02	.81	.28	.48	.20	.47	.25	.58	.07	.79	.23	.8	.42	.61	.09
2	1.98	.64	2.06	.72	1.36	.08	.6	.04	1.62	.39	.96	.24	.94	.50	1.16	.14	1.58	.37	1.6	.69	1.22	.15
3	2.97	.70	3.09	.73	2.04	.15	.9	.07	2.43	.53	1.44	.25	1.41	.56	1.74	.19	2.37	.43	2.4	.89	1.83	.15
4	3.96	.74	4.12	.71	2.72	.22	1.2	.07	3.24	.52	1.92	.24	1.88	.44	2.32	.24	3.16	.46	3.2	.98	2.44	.22
5	4.95	.71	5.15	.65	3.4	.25	1.5	.09	4.05	.46	2.4	.22	2.35	.39	2.9	.30	3.95	.44	4.0	.74	3.05	.23
6	5.94	.80	6.18	.66	4.08	.20	1.8	.12	4.86	.28	2.88	.18	2.82	.32	3.48	.30	4.74	.35	4.8	.56	3.66	.25
7	6.93	.87	7.21	.58	4.76	.17	2.1	.11	5.67	.19	3.36	.15	3.29	.26	4.06	.32	5.53	.29	5.6	.46	4.27	.25
8	7.92	.70	8.24	.38	5.44	.12	2.4	.12	6.48	.15	3.84	.10	3.76	.19	4.64	.20	6.32	.23	6.4	.26	4.88	.25
9	8.91	.42	9.27	.11	6.12	.06	2.7	.02	7.29	.13	4.32	.06	4.23	.14	5.22	.13	7.11	.19	7.2	.12	5.49	.28
<b>Right Bank</b>	9.9	0	10.3	0	6.8	0	3.0	0	8.1	0	4.8	0	4.7	0	5.8	0	7.9	0	8.0	0	6.1	0
<b>Feature Type</b> (riffle, run, or pool)	pool		pool		run		riffle		run		run		run		run		pool		pool		run	

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width  
 GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.  
 Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)  
 Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)  
 All measurements to be taken to the nearest 0.01 meter.

Signed: Alvin W. W. W.      Date: 10/24/07









