



Use Attainability Analysis

for

WBID 0180 Big Lead Creek

Submitted by

MEC Water Resources

To

Missouri Department of Natural Resources  
Water Protection Program

On

May 29, 2008

**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): Big Lead Cr.
Missouri Water Body Identification (WBID) Number: 0180
8-digit HUC: 07110008
County(ies), Listed Upstream to Downstream: Lincoln
Upstream Legal Description (from Table H): 18, 50N, 2W
Downstream Legal Description (from Table H): 27, 50N, 2W
Number of sites evaluated: 3
List all site numbers, <u>consecutively upstream to downstream</u> : Site 1: Rt. E crossing Site 2: Norton Rd. crossing Site 3: Mary Jo Rd.& Stanek Rd. crossing
<b>Include a Site Location Map(s).</b> The map must include all requirements detailed in the <i>Missouri Recreational Use Attainability Analyses: Water Body Survey and Assessment Protocol</i> (Section IV.D.8.a).

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

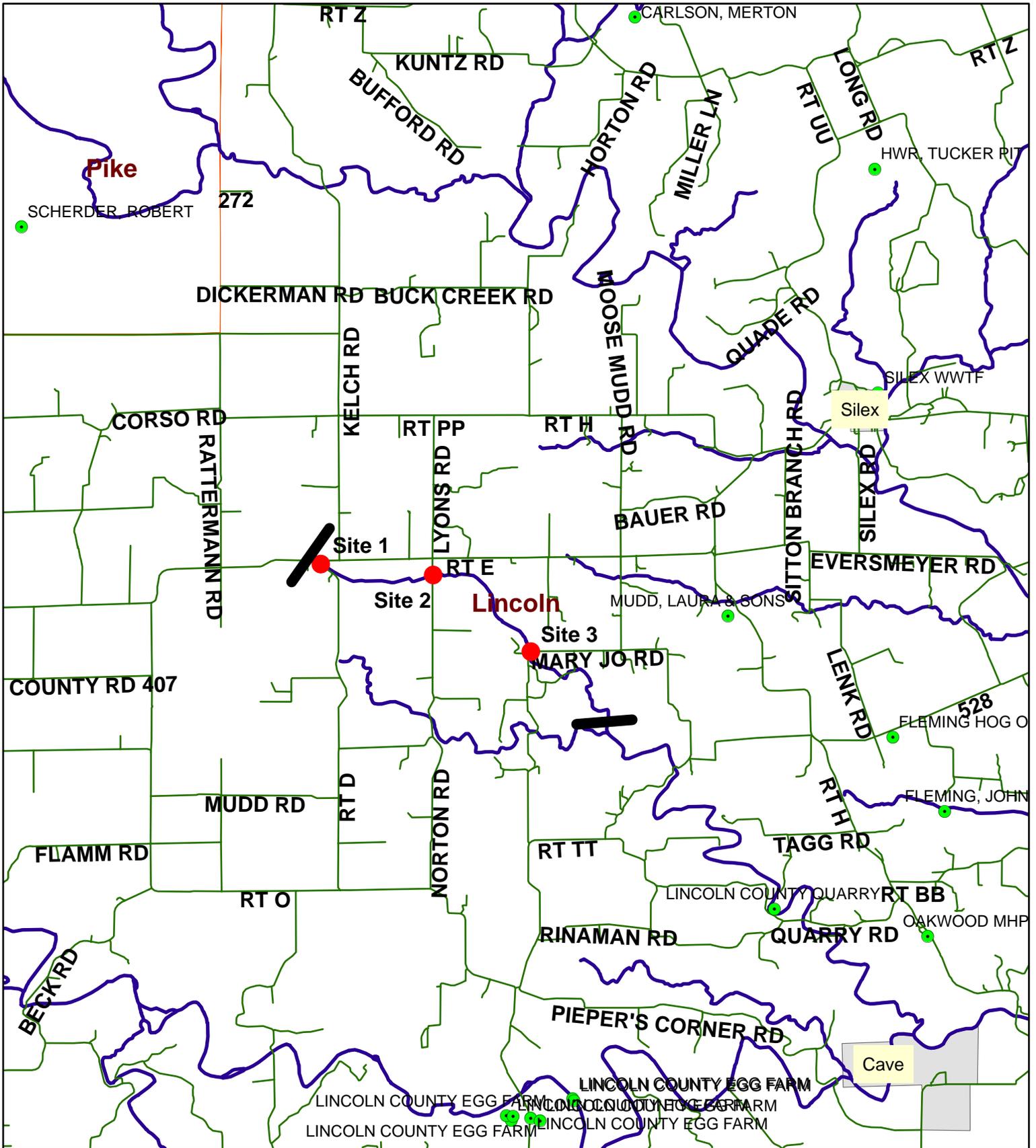
Facility Name(s) and Permit Number(s): <b>Lincoln County Egg Farm</b> <b>MO 0107026</b>
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**III. UAA Surveyor** (please **PRINT** legibly)

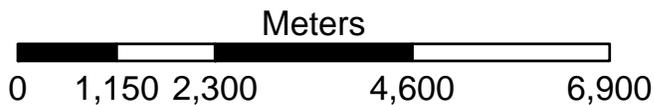
Name of Surveyor: Renee Martin	Telephone Number: 573-875-7844
Organization/Employer: AE Solutions	

**Please verify that you have completed all sections of all data sheets, checked all applicable boxes, provided a map (that includes all requirements listed in the *Missouri Recreational Use Attainability Analysis: Water Body Survey and Assessment Protocol*) and that this form is complete.**

**Signed: \_\_\_\_\_ Date: \_\_\_\_\_**



**Big Lead Creek  
WBID 0180  
Lincoln County**



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

**Data Sheet B – Site Characterization** (Page 1 of 3)  
(must be completed for each site)

<b>Date &amp; Time:</b> 4/22/2008 11:30	Location Description (e.g., road crossing):
<b>Stream Name:</b> Big Lead Creek.	Rt. E Crossing
Current Weather Conditions: overcast	Facility Name(s): Lincoln County Egg Farm
Weather Conditions for Past 10 days: rain on and off	Permit Number(s): MO 0107026
Official Drought Conditions at time of this survey (search DNR home page for “drought”): 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"/>	

.76" rain past 10 days RM/4/22/2008

**Site Location:**

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): 0658564	Northing (UTM Y): 4329839	Horizontal Accuracy: (EPE / FOM / PDOP) 29 Feet
Site 11	Easting (UTM X): 0658655	Northing (UTM Y): 4329722	Horizontal Accuracy: (EPE / FOM / PDOP) 16 Feet

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
2944	Upstream site 1	2945	Dnstream site 1		
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 the 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.)				

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

**Data Sheet B – Site Characterization** (Page 2 of 3)

**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 type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments: Private property				

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

<input checked="" 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
<input type="checkbox"/> None of the above	Comments / Other:			
Trash @ trans 10-11 fenced in man-made riprap				

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

10% Cobble	65% Gravel	25% Sand	% Silt	% Mud/Clay	% Bedrock
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**Aquatic Vegetation\*:** (Note amount of vegetation or algal growth at the assessment site.)

Benthic Algae
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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 checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
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 affect another use.

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

**Data Sheet B – Site Characterization** (Page 3 of 3)

**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.**

Printed Names of Personnel Collecting Data: \_\_\_\_\_ Jennifer Hrabik & Renee Martin \_\_\_\_\_

Surveyor's Signature: \_\_\_\_\_ Date of Survey: \_\_\_\_\_

Organization: \_\_\_\_\_ Position: \_\_\_\_\_

## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet C - Field Survey Results

Stream Name: <u>Big Lead Creek</u> Waterbody ID: <u>0180</u> Site #: <u>0180 01</u>  Estimated Channel Incision: <u>0.2</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>658564</u> UTM Y: <u>4329839</u> +/- <u>29</u> (feet) <b>11</b> UTM X: <u>658655</u> UTM Y: <u>4329722</u> +/- <u>16</u> (feet)  Average Stream Width: <u>7.0</u> (meters)      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)      (20x average stream width)  Field Staff: <u>J. Hrabik &amp; R. Martin</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>4/22/200/</u> Time: <u>10:10</u>  Dissolved Oxygen: <u>9.78</u> (mg/L)  Dissolved Oxygen: <u>117</u> (% sat)  Specific Cond: <u>453.7</u> (µS/cm)  Water Temperature: <u>16.7</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	0.63	0.12	0.88	0.46	0.82	0.31	0.74	0.32	0.46	0.06	0.44	0.02	0.85	0.23	0.80	0.32	0.78	0.33	0.83	0.17	0.68	0.36
2	1.26	0.19	1.76	0.51	1.64	0.36	1.48	0.50	0.92	0.09	0.88	0.04	1.70	0.27	1.60	0.39	1.56	0.28	1.66	0.21	1.36	0.43
3	1.89	0.27	2.64	0.51	2.46	0.40	2.22	0.62	1.38	0.10	1.32	0.04	2.55	0.42	2.40	0.38	2.34	0.36	2.49	0.25	2.04	0.55
4	2.52	0.30	3.52	0.52	3.28	0.40	2.96	0.58	1.84	0.13	1.76	0.08	3.40	0.39	3.20	0.33	3.12	0.39	3.32	0.16	2.72	0.72
5	3.15	0.32	4.40	0.47	4.10	0.38	3.70	0.58	2.30	0.08	2.20	0.10	4.25	0.45	4.00	0.34	3.90	0.31	4.15	0.27	3.40	0.65
6	3.78	0.24	5.28	0.41	4.92	0.38	4.44	0.45	2.76	0.10	2.64	0.10	5.10	0.41	4.80	0.42	4.68	0.32	4.98	0.21	4.08	0.52
7	4.41	0.20	6.16	0.45	5.74	0.46	5.18	0.50	3.22	0.10	3.08	0.16	5.95	0.42	5.60	0.33	5.46	0.26	5.81	0.25	4.76	0.44
8	5.04	0.15	7.04	0.40	6.56	0.50	5.92	0.41	3.68	0.10	3.52	0.16	6.80	0.38	6.40	0.34	6.24	0.24	6.64	0.17	5.44	0.29
9	5.67	0.18	7.92	0.27	7.38	0.21	6.66	0.36	4.14	0.06	3.96	0.14	7.65	0.27	7.20	0.16	7.02	0.18	7.47	0.06	6.12	0.27
<b>Right Bank</b>	6.30	0.00	8.80	0.00	8.20	0.00	7.40	0.00	4.60	0.00	4.40	0.00	8.50	0.00	8.00	0.00	7.80	0.00	8.30	0.00	6.80	0.00
<b>Feature Type</b>	Run		Run		Run		Run		Riffle		Riffle		Run		Pool		Pool		Pool		Run	

TWC

**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 0.1 meter unless depth is too deep to measure (then record as > 1)  
 All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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

**Data Sheet B – Site Characterization** (Page 1 of 3)  
(must be completed for each site)

<b>Date &amp; Time:</b> 4/22/2008 11:30	Location Description (e.g., road crossing):
<b>Stream Name:</b> Big Lead Creek.	Norton Rd Crossing
Current Weather Conditions: light rain	Facility Name(s): Lincoln County Egg Farm
Weather Conditions for Past 10 days: rain on and off	Permit Number(s): MO 0107026
Official Drought Conditions at time of this survey (search DNR home page for “drought”): 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"/>	

.76" rain past 10 days RM/4/22/2008

**Site Location:**

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): 0660507	Northing (UTM Y): 4329624	Horizontal Accuracy: (EPE / FOM / PDOP) 27 Feet
Site 11	Easting (UTM X): 0660674	Northing (UTM Y): 44329616	Horizontal Accuracy: (EPE / FOM / PDOP) 25 Feet

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
2940	Upstream site 2	2941	Dnstream site 2		
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 the 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.)				

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

**Data Sheet B – Site Characterization** (Page 2 of 3)

**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 checked="" 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 type="checkbox"/> Fence	<input checked="" type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments: Private property				

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

<input checked="" 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
<input type="checkbox"/> None of the above	Comments / Other:			

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

10% Cobble	50% Gravel	10% Sand	% Silt	30% Mud/Clay	% Bedrock
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**Aquatic Vegetation\*:** (Note amount of vegetation or algal growth at the assessment site.)

Benthic Algae
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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 checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
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 affect another use.

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

**Data Sheet B – Site Characterization** (Page 3 of 3)

**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.**

Printed Names of Personnel Collecting Data: \_\_\_\_\_ Jennifer Hrabik & Renee Martin \_\_\_\_\_

Surveyor's Signature: \_\_\_\_\_ Date of Survey: \_\_\_\_\_

Organization: \_\_\_\_\_ Position: \_\_\_\_\_

## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet C - Field Survey Results

Stream Name: <u>Big Lead Creek</u> Waterbody ID: <u>0180</u> Site #: <u>0180 02</u>  Estimated Channel Incision: <u>0.1</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>660507</u> UTM Y: <u>4329624</u> +/- <u>27</u> (feet) <b>11</b> UTM X: <u>660674</u> UTM Y: <u>4329616</u> +/- <u>25</u> (feet)  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>J. Hrabik &amp; R. Martin</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>4/22/2008</u> Time: <u>8:30</u>  Dissolved Oxygen: <u>9.08</u> (mg/L)  Dissolved Oxygen: <u>93.3</u> (% sat)  Specific Cond: <u>467.1</u> (µS/cm)  Water Temperature: <u>16.5</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	0.72	0.07	0.84	0.33	0.82	0.28	0.82	0.42	0.93	0.24	1.10	0.60	0.87	0.12	0.65	0.12	0.85	0.39	0.80	0.55	0.68	0.32
2	1.44	0.05	1.68	0.41	1.64	0.37	1.64	0.61	1.86	0.31	2.20	0.54	1.74	0.27	1.30	0.19	1.70	0.55	1.60	0.90	1.36	0.36
3	2.16	0.12	2.52	0.42	2.46	0.36	2.46	0.77	2.79	0.37	3.30	0.52	2.61	0.32	1.95	0.26	2.55	0.50	2.40	>1	2.04	0.32
4	2.88	0.16	3.36	0.44	3.28	0.45	3.28	0.90	3.72	0.46	4.40	0.51	3.48	0.36	2.60	0.08	3.40	0.47	3.20	>1	2.72	0.40
5	3.60	0.12	4.20	0.44	4.10	0.55	4.10	0.97	4.65	0.56	5.50	0.53	4.35	0.28	3.25	0.01	4.25	0.43	4.00	>1	3.40	0.43
6	4.32	0.02	5.04	0.39	4.92	0.46	4.92	0.97	5.58	0.64	6.60	0.46	5.22	0.33	3.90	0.01	5.10	0.34	4.80	>1	4.08	0.55
7	5.04	0.04	5.88	0.41	5.74	0.43	5.74	0.75	6.51	0.77	7.70	0.36	6.09	0.28	4.55	0.01	5.95	0.16	5.60	>1	4.76	0.59
8	5.76	0.09	6.72	0.41	6.56	0.44	6.56	0.67	7.44	0.74	8.80	0.32	6.96	0.23	5.20	0.01	6.80	0.25	6.40	0.93	5.44	0.54
9	6.48	0.08	7.56	0.18	7.38	0.39	7.38	0.45	8.37	0.54	9.90	0.23	7.83	0.16	5.85	0.01	7.65	0.23	7.20	0.40	6.12	0.42
<b>Right Bank</b>	7.20	0.00	8.40	0.00	8.20	0.00	8.20	0.00	9.30	0.00	11.00	0.00	8.70	0.00	6.50	0.00	8.50	0.00	8.00	0.00	6.80	0.00
<b>Feature Type</b> <small>(riffle, run, or pool)</small>	Riffle		Run		Run		Pool		Pool		Pool		Run		Riffle		Run		Run		Run	

rwc

**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 0.1 meter unless depth is too deep to measure (then record as > 1)  
 All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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

**Data Sheet B – Site Characterization** (Page 1 of 3)  
(must be completed for each site)

<b>Date &amp; Time:</b> 4/22/2008 11:30	Location Description (e.g., road crossing):
<b>Stream Name:</b> Big Lead Creek.	Stanek Rd Crossing
Current Weather Conditions: overcast	Facility Name(s): Lincoln County Egg Farm
Weather Conditions for Past 10 days: rain on and off	Permit Number(s): MO 0107026
Official Drought Conditions at time of this survey (search DNR home page for “drought”): 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"/>	

.76" rain past 10 days RM/4/22/2008

**Site Location:**

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): 0662176	Northing (UTM Y): 4328283	Horizontal Accuracy: (EPE / FOM / PDOP) 21 Feet
Site 11	Easting (UTM X): 0662180	Northing (UTM Y): 4328104	Horizontal Accuracy: (EPE / FOM / PDOP) 24 Feet

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
2942	Upstream site 3	2943	Downstream site 3		
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 the 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.)				

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

**Data Sheet B – Site Characterization** (Page 2 of 3)

**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 checked="" 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 type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments: Private property				

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

<input checked="" 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
<input type="checkbox"/> None of the above	Comments / Other: Storm drain @ transect 3 + trash			

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

5% Cobble	60% Gravel	20% Sand	% Silt	15% Mud/Clay	% Bedrock
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**Aquatic Vegetation\*:** (Note amount of vegetation or algal growth at the assessment site.)

Benthic Algae
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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 checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
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 affect another use.

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

**Data Sheet B – Site Characterization** (Page 3 of 3)

**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.**

Printed Names of Personnel Collecting Data: \_\_\_\_\_ Jennifer Hrabik & Renee Martin \_\_\_\_\_

Surveyor's Signature: \_\_\_\_\_ Date of Survey: \_\_\_\_\_

Organization: \_\_\_\_\_ Position: \_\_\_\_\_

## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet C - Field Survey Results

Stream Name: <u>Big Lead Creek</u> Waterbody ID: <u>0180</u> Site #: <u>0180 03</u>  Estimated Channel Incision: <u>0.1</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>662176</u> UTM Y: <u>4328283</u> +/- <u>21</u> (feet) <b>11</b> UTM X: <u>662180</u> UTM Y: <u>4328104</u> +/- <u>24</u> (feet)  Average Stream Width: <u>8.5</u> (meters)      Length of Survey Segment: <u>170</u> (meters) (To determine Length of Reach)      (20x average stream width)  Field Staff: <u>J. Hrabik &amp; R. Martin</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>4/22/2008</u> Time: <u>9:15</u>  Dissolved Oxygen: <u>10.71</u> (mg/L)  Dissolved Oxygen: <u>109.2</u> (% sat)  Specific Cond: <u>444</u> (µS/cm)  Water Temperature: <u>16.2</u> (°C)
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#### Transect Cross-Section

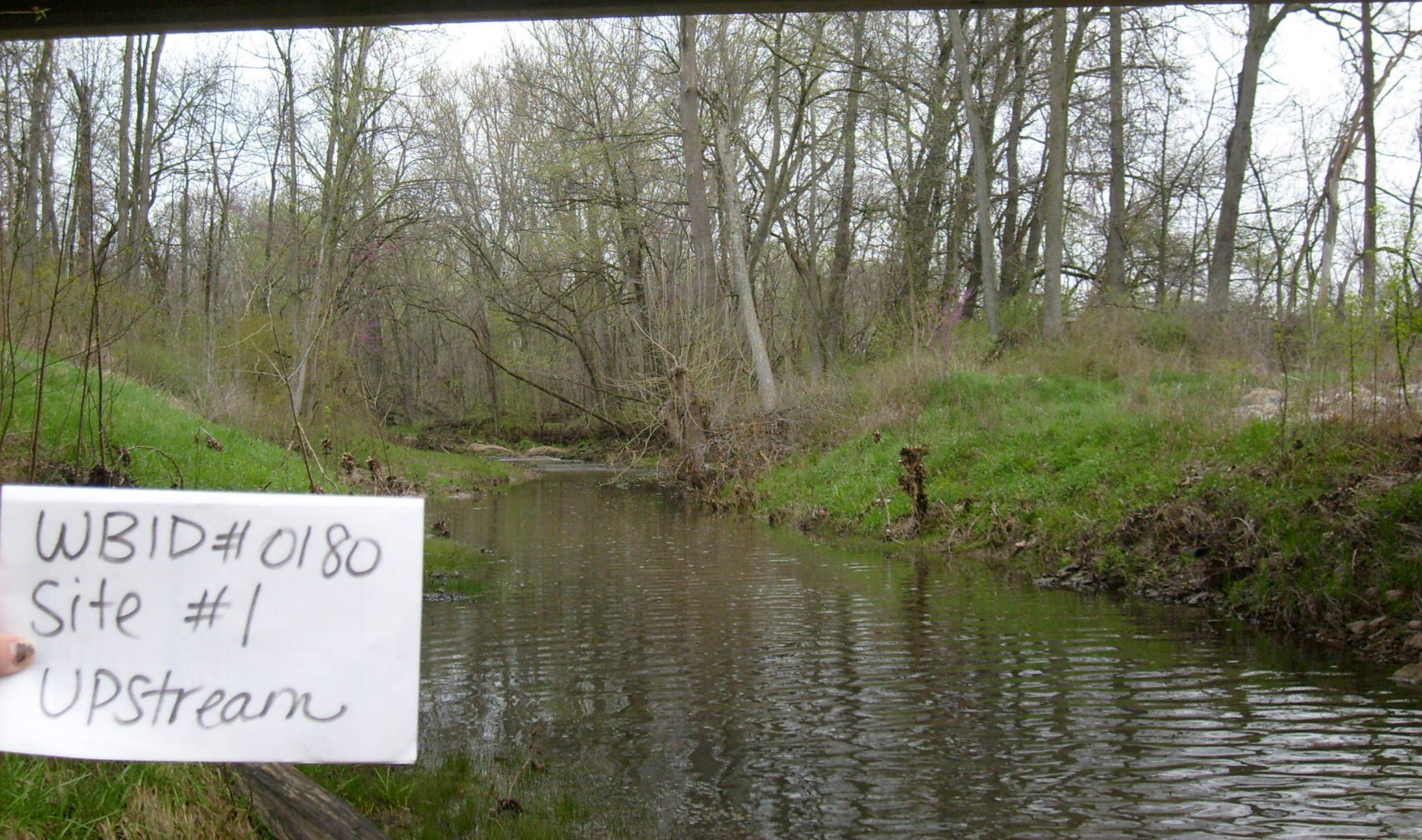
Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)																				
<b>Left Bank</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.35	0.12	0.70	0.38	0.99	0.17	0.94	0.16	0.67	0.08	0.87	0.21	0.94	0.18	0.98	0.37	0.87	0.60	1.00	0.80	0.84	0.26
2	0.70	0.21	1.40	0.71	1.98	0.09	1.88	0.19	1.34	0.12	1.74	0.26	1.88	0.42	1.96	0.48	1.74	0.70	2.00	0.95	1.68	0.38
3	1.05	0.21	2.10	0.90	2.97	0.00	2.82	0.17	2.01	0.15	2.61	0.24	2.82	0.47	2.94	0.40	2.61	0.64	3.00	>1	2.52	0.40
4	1.40	0.20	2.80	0.95	3.96	0.05	3.76	0.18	2.68	0.10	3.48	0.24	3.76	0.51	3.92	0.48	3.48	0.65	4.00	0.99	3.36	0.50
5	1.75	0.21	3.50	0.96	4.95	0.13	4.70	0.14	3.35	0.10	4.35	0.19	4.70	0.51	4.90	0.54	4.35	0.54	5.00	>1	4.20	0.55
6	2.10	0.18	4.20	0.95	5.94	0.10	5.64	0.15	4.02	0.12	5.22	0.18	5.64	0.53	5.88	0.56	5.22	0.46	6.00	>1	5.04	0.59
7	2.45	0.10	4.90	0.99	6.93	0.10	6.58	0.12	4.69	0.12	6.09	0.16	6.58	0.50	6.86	0.67	6.09	0.40	7.00	>1	5.88	0.64
8	2.80	0.05	5.60	0.96	7.92	0.15	7.52	0.08	5.36	0.12	6.96	0.20	7.52	0.43	7.84	0.53	6.96	0.30	8.00	0.99	6.72	0.68
9	3.15	0.05	6.30	0.27	8.91	0.27	8.46	0.08	6.03	0.09	7.83	0.30	8.46	0.34	8.82	0.32	7.83	0.30	9.00	0.64	7.56	0.34
<b>Right Bank</b>	3.50	0.00	7.00	0.00	9.90	0.00	9.40	0.00	6.70	0.00	8.70	0.00	9.40	0.00	9.80	0.00	8.70	0.00	10.00	0.00	8.40	0.00
<b>Feature Type</b> <small>(riffle, run, or pool)</small>	Riffle		Pool		Run		Run		Riffle		Run		Run		Pool		Pool		Pool		Pool	

rwc

**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 0.1 meter unless depth is too deep to measure (then record as > 1)  
 All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

WBID# 0180  
Site #1  
UPstream





WBID #0180

Site # |

Downstream



WBID#0180  
Site #2  
UPstream



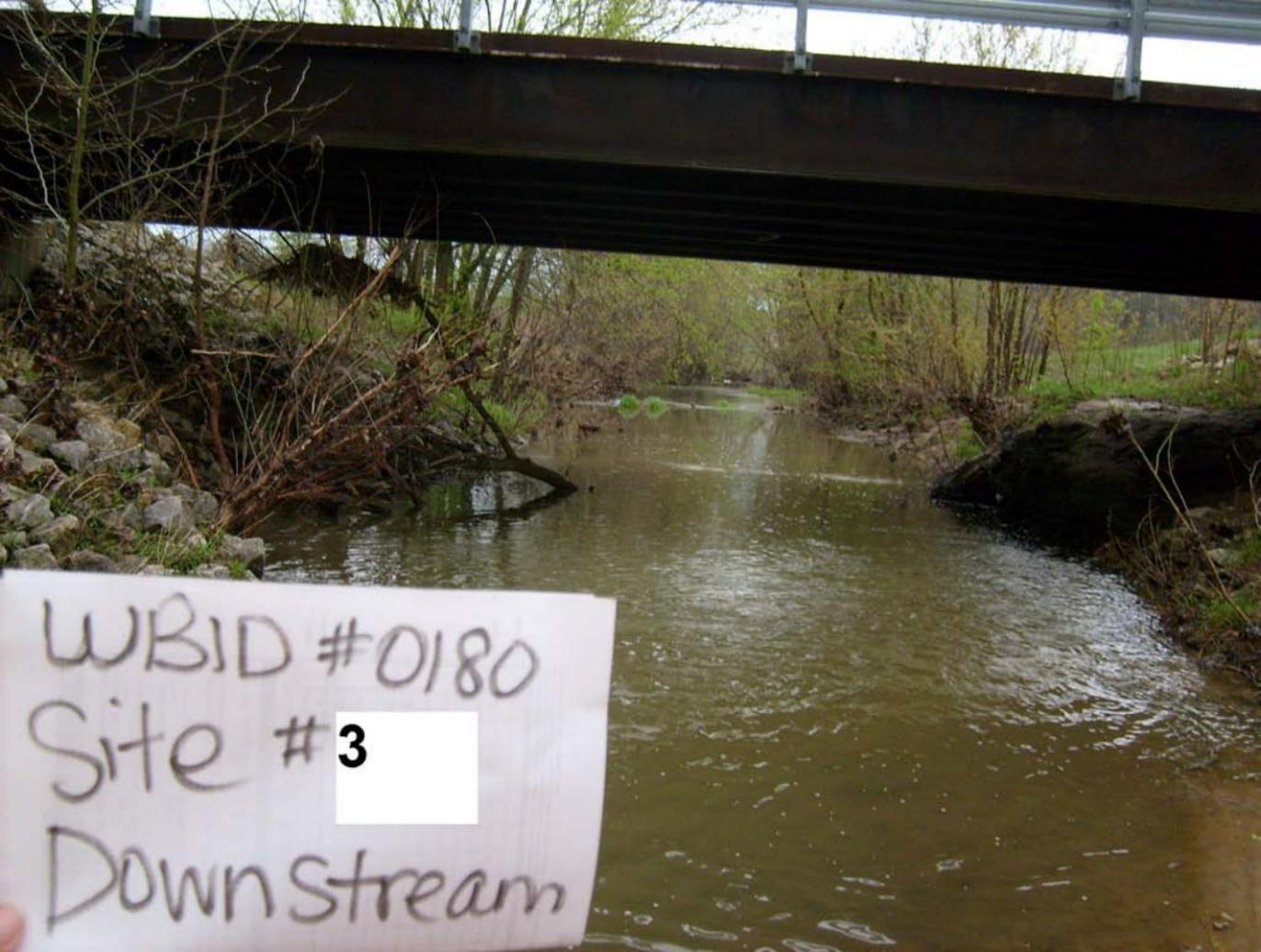
WBID # 0180  
Site # 2  
DownStream

A hand is holding a white rectangular sign in the foreground of a wooded stream. The stream flows through a dense forest of tall, thin trees with sparse green leaves. The streambed is covered with brown leaves and small rocks. The sky is overcast and grey.

WBID #0180

Site # 3

Upstream



WBID #0180  
Site # 3  
Downstream