



Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 3037 Old Channel Little River

Submitted by
MEC/ERC

To
Missouri Department of Natural Resources
Water Protection Program

On

October 24, 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):	Old Channel Little River
Missouri Water Body Identification (WBID) Number:	5037
8-digit HUC:	0820204 - Little River Ditches
County(ies), Listed Upstream to Downstream:	Pemiscot
Upstream Legal Description (from Table H):	3, 20N, 12E
Downstream Legal Description (from Table H):	33, 20N, 11E
Number of sites evaluated:	7
List all site numbers, <u>consecutively</u> upstream to downstream:	1.) Upstream off Hwy 44 2.) Upstream off Co Rd 208 3.) Downstream off Co Rd 208 4.) Downstream off Co Rd 217 5.) Downstream off Co Rd 249 6.) Downstream off Co Rd 221 7.) Downstream off Co Rd 223
Include a Site Location Map(s). 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):	
Portageville WWTF M00025275	St. Jude Indust Park M00098418
Plastene Supply Company M00001186	Marston Concrete Products M06490686
AECI, New Madrid Power PL M00001171	
Marston WWTF M00036200	

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

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

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 Analyses: Water Body Survey and Assessment Protocol*) and that this form is complete.

Signed: Abigail Lynn Date: 10/2/08

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 WeatherUnderground.com
Delta Center, Portageville, MO

Date	Precipitation (Inches)	Min. Temp (°F)	Max. Temp (°F)	Avg. Temp (°F)
9/22/2008	0.00	64.0	81.0	71.0
9/23/2008	0.00	62.0	87.0	73.0
9/24/2008	0.00	61.0	87.0	74.0
9/25/2008	0.00	64.0	85.0	74.0
9/26/2008	0.00	58.0	85.0	71.0
9/27/2008	0.00	56.0	82.0	69.0
9/28/2008	0.00	56.0	83.0	69.0
9/29/2008	0.00	55.0	86.0	70.0
9/30/2008	0.00	58.0	87.0	72.0
10/1/2008	0.00	62.0	75.0	68.0
10/2/2008	0.00	46.0	70.0	58.0

WBID # 3037

Site # 1

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)

(must be completed for each site)

Date & Time: <u>10-2-08 13:25</u>	Location Description (e.g., road crossing): <u>upstream of Hwy 44</u>
Stream Name: <u>old channel little river</u>	
Current Weather Conditions: <u>clr 75°</u>	Facility Name(s): <u>see Data Sheet A</u>
Weather Conditions for Past 10 days: <u>attached</u>	Permit Number(s): <u>see Data sheet A</u>
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"/>	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): <u>1650259460</u>	Northing (UTM Y): <u>4031409</u>	Horizontal Accuracy: <u>5</u> Meters (EPE / FOM / PDOP)
Site 11	Easting (UTM X): <u>1650253401</u>	Northing (UTM Y): <u>4031110</u>	Horizontal Accuracy: <u>5</u> Meters (EPE / FOM / PDOP)

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>254</u>	<u>transect 11 upstream</u>	<u>255</u>	<u>Transect 1 downstream</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 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 Data Sheet D- Recreational Use Interview when conducting interviews.)				

Stream Name & WBID # old channel little river 3037

Date of Survey 3037

Site # 1

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: <u>Farm Fields</u>				

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

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

% Cobble	% Gravel	<u>70</u> % Sand	<u>20</u> % Silt	<u>60</u> % Mud/Clay	% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

50% emergent plants

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input checked="" type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input 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 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 checked="" type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input 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.

Stream Name & WBID # Abraham Little River

Date of Survey 10-2-08

Site # 3032

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.)

None

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

Printed Names of Personnel Collecting Data: Abby Lynn & Travis R. Howell

Surveyor's Signature: Travis R. Howell Date of Survey: 10-2-08

Organization: ERC Position: Field Crew

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Old Channel Little River</u> Waterbody ID: <u>3037</u> Site #: <u>1</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 (<u>EPE</u> / PDOP / FOM) 01 UTM X <u>16S0259460</u> UTM Y: <u>4031409</u> +/- <u>5</u> (meters) 11 UTM X <u>16S0253401</u> UTM Y: <u>4031110</u> +/- <u>5</u> (meters) Average Stream Width: <u>16</u> (meters) Length of Survey Segment: <u>300</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Abby Lynn and Travis Howell (AL & TH)</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>10/2/2008</u> Time: <u>13:25</u> Dissolved Oxygen: <u>11.71</u> (mg/L) Dissolved Oxygen: <u>132.5</u> (% sat) Specific Cond: <u>282.2</u> (µS/cm) Water Temperature: <u>21.4</u> (°C)
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Transect Cross-Section

		01		02		03		04		05		06		07		08		09		10		11	
Station		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	1.88	0.37	1.9	0.31	1.78	0.23	1.85	0.31	1.81	0.27	1.64	0.25	1.71	0.2	1.95	0.28	1.98	0.17	0.72	0.14	0.31	0.23
	2	3.76	0.46	3.8	0.47	3.56	0.45	3.7	0.49	3.62	0.44	3.28	0.47	3.42	0.42	3.9	0.32	3.96	0.24	1.44	0.19	0.62	0.23
	3	5.64	0.49	5.7	0.56	5.34	0.59	5.55	0.47	5.43	0.56	4.92	0.56	5.13	0.47	5.85	0.41	5.94	0.27	2.16	0.24	0.93	0.25
	4	7.52	0.51	7.6	0.58	7.12	0.58	7.4	0.5	7.24	0.56	6.56	0.67	6.84	0.63	7.8	0.55	7.92	0.3	2.88	0.23	1.24	0.29
	5	9.4	0.56	9.5	0.61	8.9	0.63	9.25	0.61	9.05	0.59	8.2	0.6	8.55	0.64	9.75	0.61	9.9	0.33	3.6	0.25	1.55	0.22
	6	11.28	0.5	11.4	0.55	10.68	0.54	11.1	0.58	10.86	0.65	9.84	0.57	10.26	0.51	11.7	0.55	11.88	0.36	4.32	0.23	1.86	0.22
	7	13.16	0.52	13.3	0.57	12.46	0.51	12.95	0.56	12.67	0.52	11.48	0.49	11.97	0.46	13.65	0.48	13.86	0.39	5.04	0.25	2.17	0.23
	8	15.04	0.51	15.2	0.53	14.24	0.43	14.8	0.45	14.48	0.47	13.12	0.44	13.68	0.38	15.6	0.42	15.84	0.38	5.76	0.26	2.48	0.18
	9	16.92	0.34	17.1	0.4	16.02	0.37	16.65	0.42	16.29	0.32	14.76	0.35	15.39	0.21	17.55	0.3	17.82	0.28	6.48	0.24	2.79	0.09
Right Bank		18.8	0	19	0	17.8	0	18.5	0	18.1	0	16.4	0	17.1	0	19.5	0	19.8	0	7.2	0	3.1	0
Feature Type		Run		Run		Run		Run		Run		Run		Run		Run		Run		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 0.1 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: Abigail L. Lynn Date: 10/2/2008

WBID # 3037

Site # 2

Field Data Sheets for Recreational Use Stream Surveys

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

Date & Time: <u>10/2/08 12:15</u>	Location Description (e.g., road crossing): <u>upstream off Co Rd 208</u>
Stream Name: <u>Old Channel Little River</u>	
Current Weather Conditions: <u>73° clear</u>	Facility Name(s): <u>See Data Sheet A</u>
Weather Conditions for Past 10 days: <u>attached</u>	Permit Number(s): <u>See Data Sheet A</u>
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"/>	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)					
Site 01	Easting (UTM X): <u>1650252028</u>	Northing (UTM Y): <u>4029669</u>	Horizontal Accuracy: <u>4</u> Meters (EPE / FOM / PDOP)		
Site 11	Easting (UTM X): <u>1650252314</u>	Northing (UTM Y): <u>4029618</u>	Horizontal Accuracy: <u>4</u> Meters (EPE / FOM / PDOP)		

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>250</u>	<u>Transect II Upstream</u>	<u>253</u>	<u>Transect I Downstream</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 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 Data Sheet D- Recreational Use Interview when conducting interviews.)				

Stream Name & WBID # Old Channel Little River 3037

Date of Survey 10/2/08

Site # 2

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:

Farm fields

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

None of the above Comments / Other:

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

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

20% emergent plants

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input checked="" type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input 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 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.

Stream Name & WBID # Old channel Little River 3037 Date of Survey 10/2/08
 Site # 2

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.)

None

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

Printed Names of Personnel Collecting Data: Abley Lynn & Travis Howell
 Surveyor's Signature: *Abley Lynn* Date of Survey: 10/2/08
 Organization: ERC Position: Field Manager

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Old Channel Little River</u> Waterbody ID: <u>3037</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 (<u>EPE</u> / PDOP / FOM) 01 UTM X <u>15S0252088</u> UTM Y: <u>4029669</u> +/- <u>4</u> (meters) 11 UTM X <u>15S0252314</u> UTM Y: <u>4029518</u> +/- <u>4</u> (meters) Average Stream Width: <u>12</u> (meters) Length of Survey Segment: <u>250</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Abby Lynn and Travis Howell (AL & TH)</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>10/2/2008</u> Time: <u>12:15</u> Dissolved Oxygen: <u>10.06</u> (mg/L) Dissolved Oxygen: <u>102.6</u> (% sat) Specific Cond: <u>433</u> (µS/cm) Water Temperature: <u>16.4</u> (°C)
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Transect Cross-Section

		01		02		03		04		05		06		07		08		09		10		11	
Station		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	
1		1.21	0.2	1.21	0.17	1.34	0.2	1.21	0.23	1.17	0.24	1.05	0.23	1.37	0.28	1.13	0.21	1.2	0.19	1.15	0.22	1.12	0.12
2		2.42	0.48	2.42	0.24	2.68	0.37	2.42	0.25	2.34	0.34	2.1	0.4	2.74	0.44	2.26	0.39	2.4	0.32	2.3	0.47	2.24	0.33
3		3.63	0.57	3.63	0.41	4.02	0.49	3.63	0.34	3.51	0.37	3.15	0.51	4.11	0.59	3.39	0.51	3.6	0.48	3.45	0.54	3.36	0.52
4		4.84	0.62	4.84	0.54	5.36	0.52	4.84	0.48	4.68	0.49	4.2	0.6	5.48	0.63	4.52	0.55	4.8	0.6	4.6	0.6	4.48	0.63
5		6.05	0.65	6.05	0.61	6.7	0.53	6.05	0.56	5.85	0.55	5.25	0.63	6.85	0.69	5.65	0.62	6	0.63	5.75	0.65	5.6	0.66
6		7.26	0.66	7.26	0.64	8.04	0.56	7.26	0.62	7.02	0.61	6.3	0.64	8.22	0.67	6.78	0.64	7.2	0.65	6.9	0.67	6.72	0.7
7		8.47	0.72	8.47	0.65	9.38	0.5	8.47	0.65	8.19	0.58	7.35	0.6	9.59	0.56	7.91	0.58	8.4	0.59	8.05	0.62	7.84	0.58
8		9.68	0.65	9.68	0.47	10.72	0.64	9.68	0.69	9.36	0.51	8.4	0.48	10.96	0.43	9.04	0.46	9.6	0.4	9.2	0.56	8.96	0.55
9		10.89	0.32	10.89	0.52	12.06	0.51	10.89	0.5	10.53	0.34	9.45	0.33	12.33	0.28	10.17	0.23	10.8	0.21	10.35	0.44	10.08	0.51
Right Bank		12.1	0	12.1	0	13.4	0	12.1	0	11.7	0	10.5	0	13.7	0	11.3	0	12	0	11.5	0	11.2	0
Feature Type <small>(riffle, run, or pool)</small>		Run		Run		Run		Run		Run		Run		Run		Run		Run		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 0.1 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: Abigail L. Lynn Date: 10/2/2008

WBID # 3037
 Site # 3

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)

(must be completed for each site)

Date & Time: <u>10/2/08 11:17</u>	Location Description (e.g., road crossing): <u>Downstream off Co Rd 208</u>
Stream Name: <u>Old channel Little River</u>	
Current Weather Conditions: <u>73° clear</u>	Facility Name(s): <u>See Data sheet A</u>
Weather Conditions for Past 10 days: <u>attached</u>	Permit Number(s): <u>See Data sheet A</u>
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"/>	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): <u>1650252400</u>	Northing (UTM Y): <u>4029424</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>6</u> Meters
Site 11	Easting (UTM X): <u>1650252517</u>	Northing (UTM Y): <u>4029143</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>4</u> Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>248</u>	<u>Transect 1 Downstream</u>	<u>249</u>	<u>Transect 1 water flowing out of pipe</u>	<u>251</u>	<u>Transect 2 Access to stream fishing docks</u>
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>252</u>	<u>Transect 11 Upstream</u>				
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 Data Sheet D- Recreational Use Interview when conducting interviews.)				

Stream Name & WBID # Old Channel Little River 3037

Date of Survey 06/08

Site # 3

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: <u>Farm Fields</u>				

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
<input type="checkbox"/> None of the above	Comments / Other: <u>Possible fishing dock</u>			

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

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

40% emergent plants

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input checked="" type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input 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 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 checked="" type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input 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.

Stream Name & WBID # Old Channel Little River 3037

Date of Survey 10/2/08

Site # 3

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.)

- Site # 3 was placed just downstream of site # 2 because sites 4-7 were already completed and no other access was available

- one location where there was a path to the river and a platform - possibly for fishing

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

Printed Names of Personnel Collecting Data: Abby Lynn & Travis Howell

Surveyor's Signature: Abby Lynn Date of Survey: 10/2/08

Organization: ERC Position: Field Manager

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Old Channel Little River</u> Waterbody ID: <u>3037</u> Site #: <u>3</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 (<u>EPE</u> / PDOP / FOM) 01 UTM X <u>16S0252400</u> UTM Y: <u>4029424</u> +/- <u>6</u> (meters) 11 UTM X <u>16S0252517</u> UTM Y: <u>4029143</u> +/- <u>4</u> (meters) Average Stream Width: <u>16</u> (meters) Length of Survey Segment: <u>300</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Abby Lynn and Travis Howell (AL & TH)</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>10/2/2008</u> Time: <u>11:17</u> Dissolved Oxygen: <u>9.86</u> (mg/L) Dissolved Oxygen: <u>99.3</u> (% sat) Specific Cond: <u>429</u> (µS/cm) Water Temperature: <u>16.8</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)																				
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	1.66	0.83	1.68	0.8	1.76	0.75	1.72	0.76	1.62	0.25	1.58	0.27	1.66	0.21	1.51	0.19	1.48	0.26	1.52	0.24	1.74	0.47
2	3.32	0.85	3.36	0.91	3.52	0.82	3.44	0.81	3.24	0.27	3.16	0.29	3.32	0.38	3.02	0.25	2.96	0.19	3.04	0.38	3.48	0.49
3	4.98	0.84	5.04	0.92	5.28	0.92	5.16	0.93	4.86	0.55	4.74	0.47	4.98	0.41	4.53	0.34	4.44	0.28	4.56	0.42	5.22	0.48
4	6.64	0.95	6.72	0.88	7.04	0.9	6.88	0.86	6.48	0.56	6.32	0.54	6.64	0.48	6.04	0.35	5.92	0.37	6.08	0.61	6.96	0.42
5	8.3	0.84	8.4	0.89	8.8	0.88	8.6	0.88	8.1	0.7	7.9	0.68	8.3	0.57	7.55	0.39	7.4	0.34	7.6	0.72	8.7	0.69
6	9.96	0.77	10.08	0.81	10.56	0.84	10.32	0.79	9.72	0.75	9.48	0.83	9.96	0.61	9.06	0.41	8.88	0.41	9.12	0.67	10.44	0.71
7	11.62	0.7	11.76	0.72	12.32	0.73	12.04	0.72	11.34	0.68	11.06	0.71	11.62	0.46	10.57	0.45	10.36	0.46	10.64	0.55	12.18	0.72
8	13.28	0.67	13.44	0.63	14.08	0.65	13.76	0.55	12.96	0.53	12.64	0.55	13.28	0.32	12.08	0.38	11.84	0.42	12.16	0.51	13.92	0.6
9	14.94	0.61	15.12	0.59	15.84	0.5	15.48	0.57	14.58	0.28	14.22	0.34	14.94	0.18	13.59	0.25	13.32	0.29	13.68	0.22	15.66	0.38
Right Bank	16.6	0	16.8	0	17.6	0	17.2	0	16.2	0	15.8	0	16.6	0	15.1	0	14.8	0	15.2	0	17.4	0
Feature Type <small>(riffle, run, or pool)</small>	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 0.1 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: Abigail L. Lynn Date: 10/2/2008

WBID # 3037

Site # 4

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)

(must be completed for each site)

Date & Time: <u>10-2-09 9:50</u>	Location Description (e.g., road crossing):
Stream Name: <u>old channel little river</u>	<u>Down stream off Co Rd 217</u>
Current Weather Conditions: <u>cl. 70°</u>	Facility Name(s): <u>See Data Sheet A</u>
Weather Conditions for Past 10 days: <u>attached</u>	Permit Number(s): <u>See Data Sheet A</u>
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"/>	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)					
Site 01	Easting (UTM X): <u>1650251171</u>	Northing (UTM Y): <u>4028708</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>5</u> Meters		
Site 11	Easting (UTM X): <u>1650250869</u>	Northing (UTM Y): <u>4028711</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>4</u> Meters		

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>246</u>	<u>Transect I Downstream</u>	<u>247</u>	<u>Transect II Upstream</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 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 Data Sheet D- Recreational Use Interview when conducting interviews.)				

Stream Name & WBID # old channel little river 3037

Date of Survey 10-2-09

Site # 4

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

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

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

<i>90% emergent plants</i>

Water Characteristics*: (Mark all that apply.)

Odor:	<input checked="" type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input 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 checked="" type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input 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.

Stream Name & WBID # old channel little river 3037

Date of Survey 10-2-08

Site # 4

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.)

Dry none

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

Printed Names of Personnel Collecting Data: Abby Lynn + Travis R. Howell

Surveyor's Signature: Travis R. Howell Date of Survey: 10-2-08

Organization: ERC Position: Field Crew

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Old Channel Little River</u> Waterbody ID: <u>3037</u> Site #: <u>4</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 (<u>EPE</u> / PDOP / FOM) 01 UTM X <u>16S0251171</u> UTM Y: <u>4028708</u> +/- <u>5</u> (meters) 11 UTM X <u>16S0250869</u> UTM Y: <u>4028711</u> +/- <u>4</u> (meters) Average Stream Width: <u>15</u> (meters) Length of Survey Segment: <u>300</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Abby Lynn and Travis Howell (AL & TH)</u>	Dissolved Oxygen
	Date: <u>10/2/2008</u> Time: <u>9:50</u> Dissolved Oxygen: <u>2.16</u> (mg/L) Dissolved Oxygen: <u>22.3</u> (% sat) Specific Cond: <u>339.8</u> (µS/cm) Water Temperature: <u>17.2</u> (°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	1.53	0.29	1.46	0.07	1.53	0.3	1.42	0.1	1.47	0.12	1.49	0.1	1.35	0.15	1.48	0.22	1.43	0.21	1.39	0.19	1.48	0.22
2	3.06	0.38	2.92	0.19	3.06	0.4	2.84	0.14	2.94	0.35	2.98	0.28	2.7	0.26	2.96	0.19	2.86	0.25	2.78	0.25	2.96	0.24
3	4.59	0.34	4.38	0.25	4.59	0.4	4.26	0.3	4.41	0.47	4.47	0.32	4.05	0.31	4.44	0.34	4.29	0.25	4.17	0.29	4.44	0.21
4	6.12	0.39	5.84	0.29	6.12	0.39	5.68	0.38	5.88	0.47	5.96	0.33	5.4	0.34	5.92	0.38	5.72	0.32	5.56	0.38	5.92	0.37
5	7.65	0.31	7.3	0.34	7.65	0.39	7.1	0.36	7.35	0.41	7.45	0.47	6.75	0.42	7.4	0.41	7.15	0.38	6.95	0.34	7.4	0.33
6	9.18	0.27	8.76	0.38	9.18	0.29	8.52	0.42	8.82	0.3	8.94	0.32	8.1	0.39	8.88	0.38	8.58	0.42	8.34	0.31	8.88	0.33
7	10.71	0.25	10.22	0.4	10.71	0.3	9.94	0.44	10.29	0.25	10.43	0.16	9.45	0.38	10.36	0.19	10.01	0.22	9.73	0.34	10.36	0.33
8	12.24	0.16	11.68	0.31	12.24	0.14	11.36	0.35	11.76	0.14	11.92	0.12	10.8	0.3	11.84	0.12	11.44	0.14	11.12	0.2	11.84	0.15
9	13.77	0.16	13.14	0.16	13.77	0.15	12.78	0.07	13.23	0.08	13.41	0.06	12.15	0.17	13.32	0.08	12.87	0.1	12.51	0.14	13.32	0.17
Right Bank	15.3	0	14.6	0	15.3	0	14.2	0	14.7	0	14.9	0	13.5	0	14.8	0	14.3	0	13.9	0	14.8	0
Feature Type <small>(riffle, run, or pool)</small>	Run		Run		Run		Run		Pool		Pool		Run		Pool		Run		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 0.1 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: Abigail L. Lynn Date: 10/2/2008

WBID # 3037

Site # 5

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)

(must be completed for each site)

Date & Time: <u>10-2-08 9:10</u>	Location Description (e.g., road crossing):
Stream Name: <u>Oldchannel little river</u>	<u>Downstream off Co Rd 249</u>
Current Weather Conditions: <u>clr 65°</u>	Facility Name(s): <u>see Data sheet A</u>
Weather Conditions for Past 10 days: <u>Attached</u>	Permit Number(s): <u>see Data Sheet A</u>
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"/>	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): <u>1650247916</u>	Northing (UTM Y): <u>4026451</u>	Horizontal Accuracy: <u>4</u> Meters (EPE) / FOM / PDOP
Site 11	Easting (UTM X): <u>1650247742</u>	Northing (UTM Y): <u>4026392</u>	Horizontal Accuracy: <u>4</u> Meters (EPE) / FOM / PDOP

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>244</u>	<u>Transect 1 Downstream</u>	<u>245</u>	<u>Transect 1 Upstream</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 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 Data Sheet D- Recreational Use Interview when conducting interviews.)				

Stream Name & WBID # old channel little River

Date of Survey 10/2/09

Site # 5

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 checked="" type="checkbox"/> Other:
Comments: <u>Farm Fields</u>				

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

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

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

<u>90% emergent plants</u>

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.

Stream Name & WBID # Old Channel/Little River 3037 Date of Survey 10-2-08
Site # 5

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.)

None

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

Printed Names of Personnel Collecting Data: Abby Lynn & Travis R. Howell
Surveyor's Signature: Travis R. Howell Date of Survey: 10-2-08
Organization: ERC Position: Field Crew

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Old Channel Little River</u> Waterbody ID: <u>3037</u> Site #: <u>5</u> Estimated Channel Incision: <u>0.15</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (<u>EPE</u> / PDOP / FOM) 01 UTM X <u>16S0247916</u> UTM Y: <u>4026451</u> +/- <u>4</u> (meters) 11 UTM X <u>16S0247742</u> UTM Y: <u>4026392</u> +/- <u>4</u> (meters) Average Stream Width: <u>3.1</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Abby Lynn and Travis Howell (AL & TH)</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>10/2/2008</u> Time: <u>9:10</u> Dissolved Oxygen: <u>5.54</u> (mg/L) Dissolved Oxygen: <u>56</u> (% sat) Specific Cond: <u>23.9</u> (µS/cm) Water Temperature: <u>15.9</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)																				
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	0		0		0		0		0		0		0		0		0.22	0.02	0.49	0.15	0.23	0.04
2	0		0		0		0		0		0		0		0		0.44	0.05	0.98	0.24	0.46	0.06
3	0		0		0		0		0		0		0		0		0.66	0.08	1.47	0.24	0.69	0.05
4	0		0		0		0		0		0		0		0		0.88	0.11	1.96	0.3	0.92	0.08
5	0		0		0		0		0		0		0		0		1.1	0.12	2.45	0.3	1.15	0.13
6	0		0		0		0		0		0		0		0		1.32	0.17	2.94	0.25	1.38	0.11
7	0		0		0		0		0		0		0		0		1.54	0.17	3.43	0.22	1.61	0.11
8	0		0		0		0		0		0		0		0		1.76	0.12	3.92	0.16	1.84	0.09
9	0		0		0		0		0		0		0		0		1.98	0.08	4.41	0.13	2.07	0.04
Right Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.2	0	4.9	0	2.3	0
Feature Type <small>(riffle, run, or pool)</small>	Dry		Pool		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 0.1 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: Travis R. Howell Date: 10/2/2008

WBID # 3037

Site # 6

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)

(must be completed for each site)

Date & Time: <u>10-2-08</u> <u>8:45</u>	Location Description (e.g., road crossing):
Stream Name: <u>Old channel Little River</u>	<u>Down stream off Co Rd 221</u>
Current Weather Conditions: <u>clr 60°</u>	Facility Name(s): <u>See Data Sheet A</u>
Weather Conditions for Past 10 days: <u>Attached</u>	Permit Number(s): <u>See Data Sheet A</u>
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"/>	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)					
Site 01	Easting (UTM X): <u>1650244619</u>	Northing (UTM Y): <u>4025779</u>	Horizontal Accuracy: <u>6</u> Meters (EPE / FOM / PDOP)		
Site 11	Easting (UTM X): <u>1650244489</u>	Northing (UTM Y): <u>4025876</u>	Horizontal Accuracy: <u>4</u> Meters (EPE / FOM / PDOP)		

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>242</u>	<u>Transect 1 Downstream</u>	<u>243</u>	<u>Transect 11 Upstream</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 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 Data Sheet D- Recreational Use Interview when conducting interviews.)				

Stream Name & WBID # Oldham's Little River 3037

Date of Survey 10-7-08

Site # 6

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 checked="" type="checkbox"/> Other:
Comments: <u>Farm Fields</u>				

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

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

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

<u>70% emergent Plants</u>

Water Characteristics*: (Mark all that apply.)

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

*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.

Stream Name & WBID # old channel Little River 3037

Date of Survey 10-2-08

Site # 6

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.)

None Any

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

Printed Names of Personnel Collecting Data: Abby Lynn & Travis R. Howell

Surveyor's Signature: Travis R. Howell Date of Survey: 10-2-08

Organization: ERC Position: Field Crew

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Old Channel Little River</u> Waterbody ID: <u>3037</u> Site #: <u>6</u> Estimated Channel Incision: <u>Dry</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (<u>EPE</u> / PDOP / FOM) 01 UTM X <u>16S0244619</u> UTM Y: <u>4025779</u> +/- <u>6</u> (meters) 11 UTM X <u>16S0244489</u> UTM Y: <u>4025876</u> +/- <u>4</u> (meters) Average Stream Width: <u>Dry</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Abby Lynn and Travis Howell (AL & TH)</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>10/2/2008</u> Time: <u>8:45</u> Dissolved Oxygen: <u>Dry</u> (mg/L) Dissolved Oxygen: <u>Dry</u> (% sat) Specific Cond: <u>Dry</u> (µS/cm) Water Temperature: <u>Dry</u> (°C)
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Transect Cross-Section

		01		02		03		04		05		06		07		08		09		10		11	
Station		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	
1		0		0		0		0		0		0		0		0		0		0		0	
2		0		0		0		0		0		0		0		0		0		0		0	
3		0		0		0		0		0		0		0		0		0		0		0	
4		0		0		0		0		0		0		0		0		0		0		0	
5		0		0		0		0		0		0		0		0		0		0		0	
6		0		0		0		0		0		0		0		0		0		0		0	
7		0		0		0		0		0		0		0		0		0		0		0	
8		0		0		0		0		0		0		0		0		0		0		0	
9		0		0		0		0		0		0		0		0		0		0		0	
Right Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Feature Type		Dry		Dry		Dry		Dry		Dry		Dry		Dry		Dry		Dry		Dry		Dry	

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: Abigail L. Lynn Date: 10/2/2008

WBID # 3037

Site # 7

Field Data Sheets for Recreational Use Stream Surveys

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

Date & Time: <u>10-2-08 8:26</u>	Location Description (e.g., road crossing): <u>Down Stream off Co Rd 223</u>
Stream Name: <u>Old Channel Little River</u>	
Current Weather Conditions: <u>clr 60°</u>	Facility Name(s): <u>See Data Sheet A</u>
Weather Conditions for Past 10 days: <u>attached</u>	Permit Number(s): <u>see Data Sheet A</u>
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"/>	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)					
Site 01	Easting (UTM X): <u>1650243091</u>	Northing (UTM Y): <u>4025122</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>4</u> Meters		
Site 11	Easting (UTM X): <u>1650242927</u>	Northing (UTM Y): <u>4025222</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>5</u> Meters		

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>240</u>	<u>Transect 1 Downstream</u>	<u>241</u>	<u>Transect 1 Upstream</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 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 Data Sheet D- Recreational Use Interview when conducting interviews.)				

Stream Name & WBID # Oldchannel Little River 3037 Date of Survey 10-2-09

Site # 7

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 checked="" type="checkbox"/> Other:
Comments: <i>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
<input type="checkbox"/> None of the above	Comments / Other: <i>Tractor Tracks + Tillage grooves</i>			

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

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

<i>None Tilled</i>

Water Characteristics*: (Mark all that apply.)

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

*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.

Stream Name & WBID # Old channel Little River 3037 Date of Survey 10-2-08

Site # 7

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.)

Dry

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

Printed Names of Personnel Collecting Data: Abby Lynn & Travis R. Howell

Surveyor's Signature: Travis R. Howell Date of Survey: 10-2-08

Organization: ERC Position: Field Crew

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Old Channel Little River</u> Waterbody ID: <u>3037</u> Site #: <u>7</u> Estimated Channel Incision: <u>Dry</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (<u>EPE</u> / PDOP / FOM) 01 UTM X <u>16S0243051</u> UTM Y: <u>4025122</u> +/- <u>4</u> (meters) 11 UTM X <u>16S0242927</u> UTM Y: <u>4025222</u> +/- <u>5</u> (meters) Average Stream Width: <u>Dry</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Abby Lynn and Travis Howell (AL & TH)</u>	Dissolved Oxygen Date: <u>10/2/2008</u> Time: <u>8:26</u> Dissolved Oxygen: <u>Dry</u> (mg/L) Dissolved Oxygen: <u>Dry</u> (% sat) Specific Cond: <u>Dry</u> (µS/cm) Water Temperature: <u>Dry</u> (°C)
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Transect Cross-Section

		01		02		03		04		05		06		07		08		09		10		11	
Station		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	
1		0		0		0		0		0		0		0		0		0		0		0	
2		0		0		0		0		0		0		0		0		0		0		0	
3		0		0		0		0		0		0		0		0		0		0		0	
4		0		0		0		0		0		0		0		0		0		0		0	
5		0		0		0		0		0		0		0		0		0		0		0	
6		0		0		0		0		0		0		0		0		0		0		0	
7		0		0		0		0		0		0		0		0		0		0		0	
8		0		0		0		0		0		0		0		0		0		0		0	
9		0		0		0		0		0		0		0		0		0		0		0	
Right Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Feature Type <small>(riffle, run, or pool)</small>		Dry		Dry		Dry		Dry		Dry		Dry		Dry		Dry		Dry		Dry		Dry	

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: Travis R. Howell Date: 10/2/2008







