



Missouri  
Department of  
Natural Resources

Use Attainability Analysis

for

WBID 0755 Moniteau Creek

Submitted by

MEC Water Resources

To

Missouri Department of Natural Resources

Water Protection Program

On

October 17, 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):	Moniteau Cr.
Missouri Water Body Identification (WBID) Number:	0755
8-digit HUC:	10300102
County(ies), Listed Upstream to Downstream:	Randolph, Howard
Upstream Legal Description (from Table H):	16, 52 N, 14 W
Downstream Legal Description (from Table H):	Hwy. 124
Number of sites evaluated:	9
List all site numbers, consecutively upstream to downstream:	site 1: R+B Crossing site 2: 50m downstream of site 1 site 3: CRD 136 crossing site 4: CRD 138 crossing site 5: CRD 129 crossing site 6: CRD 126 crossing site 7: CRD 110 crossing site 8: 50m downstream of site 7 site 9: upstream MO 124 crossing
Include a Site Location Map(s). The map must include all requirements detailed in the Missouri Recreational Use Attainability Analyses: Water Body Survey and Assessment Protocol (Section IV.D.8.a).	

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

Facility Name(s) and Permit Number(s):
Coyote Hill Christian Children's Home
MO 0126373

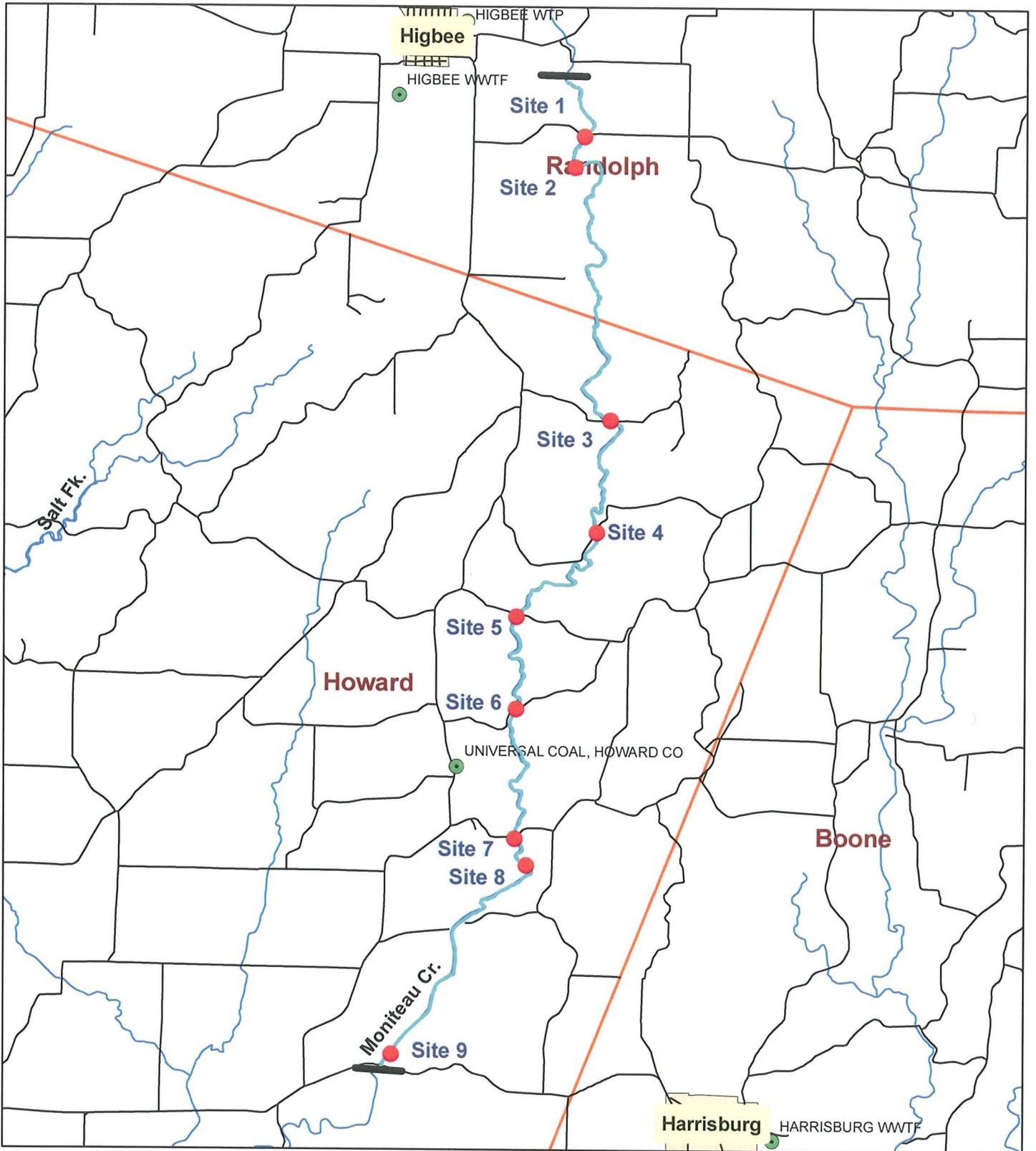
**III. UAA Surveyor** (please PRINT legibly)

Name of Surveyor: Renee Martin	Telephone Number: 573-443-4100
Organization/Employer: MEC Water Resources/AE Solutions	

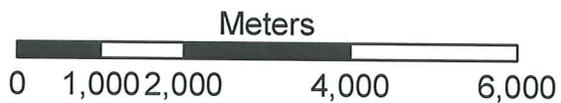
Please verify that you have completed all sections of all data sheets, checked all applicable boxes, provided a map (that includes all requirements listed in the Missouri Recreational Use Attainability Analyses: Water Body Survey and Assessment Protocol) and that this form is complete.

Signed: Renee Martin Date: 10/15/08

AUG 10-15-08



**Moniteau Creek  
WBID 0755  
Randolph County**



WBID # 0755

Site # 01

**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>8/25/08</u> <u>1120</u>	Location Description (e.g., road crossing):
Stream Name: <u>Moniteau Cr</u>	<u>Rt B Crossing</u>
Current Weather Conditions: <u>Sunny, clear</u>	Facility Name(s): <u>Coyote Hill Christian Children's Home</u>
Weather Conditions for Past 10 days: <u>0.79" rain</u>	Permit Number(s): <u>MO 0126373</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>0544661</u>	Northing (UTM Y): <u>4349016</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>15</u> Meters <sup>74</sup> <u>FT</u>		
Site 11	Easting (UTM X): <u>0544519</u>	Northing (UTM Y): <u>4348825</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>18</u> Meters <sup>74</sup> <u>FT</u>		

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>144</u>	<u>upstream</u>	<u>145</u>	<u>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 <i>Data Sheet D- Recreational Use Interview</i> when conducting interviews.)				

Stream Name & WBID # Moniteau Cr. #0755

Date of Survey 8/25/08

Site # 01

**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 checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments: <u>private property</u>				

**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%.)

<u>5</u> % Cobble	<u>10</u> % Gravel	<u>65</u> % Sand	<u>—</u> % Silt	<u>—</u> % Mud/Clay	<u>20</u> % Bedrock
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**Aquatic Vegetation\*:** (Note amount of vegetation or algal growth at the assessment site.)

<u>Willow</u>	<u>Honey locust</u>	<u>black locust</u>	} all abundant
<u>Benthic algae</u>	<u>Sycamore</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.

*JK*

Stream Name & WBID # Moniteau Cr # 0755

Date of Survey 8/25/08

Site # 01

**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)
		N A R C			

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

N A R C

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

Printed Names of Personnel Collecting Data: Tiffanie Hamilton, Jennifer Hrabik

Surveyor's Signature: Tiffanie A. Hamilton Date of Survey: 8/25/08

Organization: AE Solutions Position: Field Technician

R v C 10 - 15 - 08

## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet C - Field Survey Results

Stream Name: <u>Moniteau Creek</u> Waterbody ID: <u>0755</u> Site #: <u>0755 01</u>  Estimated Channel Incision: <u>0.20</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>544661</u> UTM Y: <u>4349016</u> +/- <u>15</u> (feet) <b>11</b> UTM X: <u>544519</u> UTM Y: <u>4348825</u> +/- <u>18</u> (feet)  Average Stream Width: <u>10.6</u> (meters)      Length of Survey Segment: <u>213</u> (meters) (To determine Length of Reach)      (20x average stream width)  Field Staff: <u>JRH, TAH</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>8/25/2008</u> Time: <u>11:20</u>  Dissolved Oxygen: <u>3.71</u> (mg/L)  Dissolved Oxygen: <u>41.9</u> (% sat)  Specific Cond: <u>427</u> (µS/cm)  Water Temperature: <u>21.3</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)																				
<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	
	<b>1</b>	1.00	0.26	0.92	0.33	0.98	0.19	1.26	0.30	1.10	0.38	1.12	0.66	1.02	0.77	1.10	0.35	1.05	0.60	1.11	>1.00	1.05	0.65
	<b>2</b>	2.00	0.50	1.84	0.35	1.96	0.26	2.52	0.45	2.20	0.63	2.24	0.59	2.04	0.63	2.20	0.42	2.10	0.36	2.22	0.94	2.10	0.72
	<b>3</b>	3.00	0.50	2.76	0.37	2.94	0.33	3.78	0.49	3.30	0.62	3.36	0.58	3.06	0.53	3.30	0.24	3.15	0.33	3.33	0.70	3.15	0.65
	<b>4</b>	4.00	0.44	3.68	0.36	3.92	0.47	5.04	0.50	4.40	0.67	4.48	0.64	4.08	0.46	4.40	0.22	4.20	0.40	4.44	0.50	4.20	0.44
	<b>5</b>	5.00	0.49	4.60	0.44	4.90	0.54	6.30	0.44	5.50	0.80	5.60	0.72	5.10	0.42	5.50	0.41	5.25	0.51	5.55	0.40	5.25	0.38
	<b>6</b>	6.00	0.50	5.52	0.50	5.88	0.54	7.56	0.46	6.60	0.93	6.72	0.75	6.12	0.44	6.60	0.54	6.30	0.60	6.66	0.35	6.30	0.33
	<b>7</b>	7.00	0.56	6.44	0.50	6.86	0.54	8.82	0.45	7.70	>1.00	7.84	0.64	7.14	0.48	7.70	0.69	7.35	0.65	7.77	0.31	7.35	0.25
	<b>8</b>	8.00	0.50	7.36	0.42	7.84	0.64	10.08	0.50	8.80	0.67	8.96	0.49	8.16	0.54	8.80	0.80	8.40	0.79	8.88	0.29	8.40	0.28
	<b>9</b>	9.00	0.26	8.28	0.35	8.82	0.62	11.34	0.74	9.90	0.62	10.08	0.21	9.18	0.59	9.90	0.94	9.45	0.94	9.99	0.34	9.45	0.30
	<b>Right Bank</b>	10.00	0.00	9.20	0.00	9.80	0.00	12.60	0.00	11.00	0.00	11.20	0.00	10.20	0.00	11.00	0.00	10.50	0.00	11.10	0.00	10.45	0.00
Feature Type		Pool		Pool		Pool		Pool		Pool		Pool		Pool		Pool		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: \_\_\_\_\_ Date: 8/25/2008

WBID # 0755

Site # 02

**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>8/25/08</u> <u>11:49</u>	Location Description (e.g., road crossing): <u>50m downstream of site 1</u>
Stream Name: <u>Moniteau Cr.</u>	
Current Weather Conditions: <u>Sunny/clear</u>	Facility Name(s): <u>Coyote Hill Christian Children's Home</u>
Weather Conditions for Past 10 days: <u>0.79" rain</u>	Permit Number(s): <u>MO 0126373</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>0544517</u>	Northing (UTM Y): <u>4348778</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>14</u> <sup>ft</sup> Meters <u>ft</u>
Site 11	Easting (UTM X): <u>0544452</u>	Northing (UTM Y): <u>4348809</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>18</u> <sup>ft</sup> Meters <u>ft</u>

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>146</u>	<u>upstream</u>	<u>147</u>	<u>downstream</u>	<u>148, 149</u>	<u>2-track crossing Transect 6</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 # Moniteau Cr #0755

Date of Survey 8/25/08

Site # 02

**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 checked="" 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:			

*2 track crossing at Transect 6*

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

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

*Benthic + filamentous algae - abundant*

**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 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.

*WCS*

Stream Name & WBID # Moniteau Cr. #0755

Date of Survey 8/25/08

Site # 02

**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)
		NA	anc		

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

Powerlines across transect 06

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

Printed Names of Personnel Collecting Data: Tiffanie Hamilton, Jennifer Hrabik

Surveyor's Signature: Tiffanie A. Hamilton Date of Survey: 8/25/08

Organization: AE Solutions Position: Field Technician

anc 10-15=08

Handwritten initials

## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet C - Field Survey Results

Stream Name: <u>Moniteau Creek</u> Waterbody ID: <u>0755</u> Site #: <u>0755 02</u> Estimated Channel Incision: <u>0.20</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>544517</u> UTM Y: <u>4348778</u> +/- <u>14</u> (feet) <b>11</b> UTM X: <u>544452</u> UTM Y: <u>4348509</u> +/- <u>18</u> (feet) Average Stream Width: <u>10.5</u> (meters)      Length of Survey Segment: <u>211</u> (meters) (To determine Length of Reach)      (20x average stream width) Field Staff: <u>JRH, TAH</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>8/25/2008</u> Time: <u>11:49</u> Dissolved Oxygen: <u>2.31</u> (mg/L) Dissolved Oxygen: <u>26.6</u> (% sat) Specific Cond: <u>299</u> (µS/cm) Water Temperature: <u>22.2</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	1.16	0.40	1.12	0.51	1.11	0.24	1.11	>1.00	0.95	0.76	0.52	0.06	1.13	0.63	1.31	0.43	1.05	0.53	1.10	0.43	1.04	0.23
2	2.32	0.40	2.24	0.56	2.22	0.35	2.22	>1.00	1.90	>1.00	1.04	0.02	2.26	0.70	2.62	0.57	2.10	0.35	2.20	0.36	2.08	0.10
3	3.48	0.31	3.36	0.45	3.33	0.35	3.33	0.80	2.85	>1.00	1.56	0.09	3.39	0.70	3.93	0.55	3.15	0.21	3.30	0.34	3.12	0.28
4	4.64	0.51	4.48	0.43	4.44	0.45	4.44	0.59	3.80	>1.00	2.08	0.05	4.52	0.70	5.24	0.55	4.20	0.31	4.40	0.40	4.16	0.44
5	5.80	0.66	5.60	0.46	5.55	0.56	5.55	0.47	4.75	>1.00	2.60	0.06	5.65	0.68	6.55	0.70	5.25	0.41	5.50	0.55	5.20	0.41
6	6.96	0.78	6.72	0.44	6.66	0.60	6.66	0.43	5.70	0.87	3.12	0.04	6.78	0.65	7.86	0.65	6.30	0.50	6.60	0.72	6.24	0.61
7	8.12	0.86	7.84	0.50	7.77	0.65	7.77	0.36	6.65	0.65	3.64	0.02	7.91	0.55	9.17	0.61	7.35	0.60	7.70	0.74	7.28	0.87
8	9.28	0.90	8.96	0.60	8.88	0.55	8.88	0.41	7.60	0.59	4.16	0.02	9.04	0.36	10.48	0.61	8.40	0.60	8.80	0.65	8.32	>1.00
9	10.44	0.80	10.08	0.63	9.99	0.51	9.99	0.35	8.55	0.54	4.68	0.02	10.17	0.28	11.79	0.60	9.45	0.45	9.90	0.45	9.36	>1.00
<b>Right Bank</b>	11.60	0.00	11.20	0.00	11.10	0.00	11.10	0.00	9.50	0.00	5.20	0.00	11.30	0.00	13.10	0.00	10.50	0.00	11.00	0.00	10.40	0.00
<b>Feature Type</b> <small>(riffle, run, or pool)</small>	Pool		Riffle		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: \_\_\_\_\_ Date: 8/25/2008

WBID # 0755

Site # 03

**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>8/25/08</u> <u>1039</u>	Location Description (e.g., road crossing):
Stream Name: <u>Moniteau Cr.</u>	<u>County Rd 136 Crossing</u>
Current Weather Conditions: <u>sunny &amp; clear</u>	Facility Name(s): <u>Coyote Hill Christian Children's Home</u>
Weather Conditions for Past 10 days: <u>0.79" rain</u>	Permit Number(s): <u>MO 8126373</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>0545171</u>	Northing (UTM Y): <u>4344234</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>21</u> <sup>20M</sup> Meters <u>FT</u>		
Site 11	Easting (UTM X): <u>0545269</u>	Northing (UTM Y): <u>4344095</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>26</u> <sup>20M</sup> Meters <u>FT</u>		

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>141</u>	<u>upstream</u>	<u>142</u>	<u>downstream</u>	<u>143</u>	<u>footprints at Transect 7</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 <i>Data Sheet D- Recreational Use Interview</i> when conducting interviews.)				

*JEB*

Stream Name & WBID # Moniteau Cr. #0755

Date of Survey 8/25/08

Site # 03

**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 checked="" 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 checked="" 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:

*Footprints at Transects 6, 7*

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

<u>—</u> % Cobble	<u>15</u> % Gravel	<u>85</u> % Sand	<u>—</u> % Silt	<u>—</u> % Mud/Clay	<u>—</u> % Bedrock
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**Aquatic Vegetation\*:** (Note amount of vegetation or algal growth at the assessment site.)

<i>Willows</i>		<i>} all abundant</i>
<i>beathic algae, diatoms</i>		

**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.

*SLW*

Stream Name & WBID # Moniteau Cr. #0755

Date of Survey 8/25/08

Site # 03

**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)
			NA due		

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

Small woody debris jam at Transect 1  
 Trees in water at Transects 3 + 5

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

Printed Names of Personnel Collecting Data: Tiffanie Hamilton, Jennifer Hrabik

Surveyor's Signature: Tiffanie A. Hamilton Date of Survey: 8/25/08

Organization: AE Solutions Position: Field Technician

due 10-15-08



## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet C - Field Survey Results

Stream Name: <u>Moniteau Creek</u> Waterbody ID: <u>0755</u> Site #: <u>0755 03</u> Estimated Channel Incision: <u>0.20</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>545171</u> UTM Y: <u>4344234</u> +/- <u>21</u> (feet) <b>11</b> UTM X: <u>545269</u> UTM Y: <u>4344095</u> +/- <u>26</u> (feet) Average Stream Width: <u>6.7</u> (meters)      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)      (20x average stream width) Field Staff: <u>JRH, TAH</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>8/25/2008</u> Time: <u>10:39</u> Dissolved Oxygen: <u>4.75</u> (mg/L) Dissolved Oxygen: <u>54.7</u> (% sat) Specific Cond: <u>372</u> (µS/cm) Water Temperature: <u>22.4</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)																				
<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	
	<b>1</b>	0.34	0.01	0.88	0.15	1.06	0.10	1.06	0.26	0.78	0.13	0.32	0.05	0.92	0.35	0.72	0.09	0.44	0.13	0.70	0.04	0.15	0.01
	<b>2</b>	0.68	0.02	1.76	0.34	2.12	0.18	2.12	0.35	1.56	0.18	0.64	0.08	1.84	0.51	1.44	0.09	0.88	0.19	1.40	0.06	0.30	0.04
	<b>3</b>	1.02	0.05	2.64	0.49	3.18	0.32	3.18	0.25	2.34	0.20	0.96	0.07	2.76	0.87	2.16	0.35	1.32	0.25	2.10	0.25	0.45	0.05
	<b>4</b>	1.36	0.01	3.52	0.60	4.24	0.30	4.24	0.19	3.12	0.19	1.28	0.06	3.68	>1.00	2.88	0.41	1.76	0.25	2.80	0.50	0.60	0.09
	<b>5</b>	1.70	0.02	4.40	0.61	5.30	0.45	5.30	0.15	3.90	0.25	1.60	0.03	4.60	>1.00	3.60	0.33	2.20	0.25	3.50	0.57	0.75	0.12
	<b>6</b>	2.04	0.14	5.28	0.46	6.36	0.65	6.36	0.15	4.68	0.33	1.92	0.02	5.52	>1.00	4.32	0.24	2.64	0.34	4.20	0.37	0.90	0.17
	<b>7</b>	2.38	0.18	6.16	0.40	7.42	0.66	7.42	0.16	5.46	0.44	2.24	0.03	6.44	0.93	5.04	0.20	3.08	0.30	4.90	0.31	1.05	0.16
	<b>8</b>	2.72	0.18	7.04	0.44	8.48	0.93	8.48	0.29	6.24	0.37	2.56	0.01	7.36	0.57	5.76	0.12	3.52	0.27	5.60	0.21	1.20	0.19
	<b>9</b>	3.06	0.18	7.92	0.38	9.54	0.52	9.54	0.30	7.02	0.29	2.88	0.01	8.28	0.42	6.48	0.09	3.96	0.22	6.30	0.10	1.35	0.16
<b>Right Bank</b>		3.40	0.00	8.80	0.00	10.60	0.00	10.60	0.00	7.75	0.00	3.15	0.00	9.20	0.00	7.20	0.00	4.35	0.00	7.00	0.00	1.45	0.00
<b>Feature Type</b>		Riffle		Pool		Pool		Pool		Pool		Riffle		Pool		Pool		Pool		Pool		Riffle	

**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: 8/25/2008

WBID # 0755

Site # 04

**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>8/25/08 1001</u>	Location Description (e.g., road crossing): <u>County Rd 138 crossing</u>
Stream Name: <u>Moniteau Cr.</u>	Facility Name(s): <u>Coyote Hill Christian Children's Home</u>
Current Weather Conditions: <u>Sunny ; clear</u>	Permit Number(s): <u>MO 0126373</u>
Weather Conditions for Past 10 days: <u>0.79" rain</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>0544912</u>	Northing (UTM Y): <u>4342372</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>23</u>	<u>200</u> Meters <u>FT</u>	
Site 11	Easting (UTM X): <u>0544856</u>	Northing (UTM Y): <u>4342188</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>22</u>	<u>200</u> Meters <u>FT</u>	

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>136, 137</u>	<u>upstream</u>	<u>138</u>	<u>downstream</u>	<u>139, 140</u>	<u>2-track crossing</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.)				

*2008*

Stream Name & WBID # Moniteau Creek #0755

Date of Survey 8/25/08

Site # 04

**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 checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments: <u>private property</u>				

**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 checked="" 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>RV/ATV tracks at Transect 1</u>			

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

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

<u>Benthic algae</u>	<u>Diatoms</u>	} <u>all abundant</u>
<u>willows</u>	<u>Filamentous algae</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 checked="" type="checkbox"/> Oil	<input 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 # Monitau Creek #0755

Date of Survey 8/25/08

Site # 04

**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)
			NA Arc		

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

NA Arc

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

Printed Names of Personnel Collecting Data: Tiffanie Hamilton, Jennifer Hrabik

Surveyor's Signature: Tiffanie A. Hamilton Date of Survey: 8/25/08

Organization: AE Solutions Position: Field Technician

Buc 10-15-08

TRW

## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet C - Field Survey Results

Stream Name: <u>Moniteau Creek</u> Waterbody ID: <u>0755</u> Site #: <u>0755 04</u>  Estimated Channel Incision: <u>0.20</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>544912</u> UTM Y: <u>4342372</u> +/- <u>23</u> (feet) <b>11</b> UTM X: <u>544856</u> UTM Y: <u>4342188</u> +/- <u>22</u> (feet)  Average Stream Width: <u>6.1</u> (meters)      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)      (20x average stream width)  Field Staff: <u>JRH, TAH</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>8/25/2008</u> Time: <u>10:01</u>  Dissolved Oxygen: <u>6.62</u> (mg/L)  Dissolved Oxygen: <u>76.6</u> (% sat)  Specific Cond: <u>359</u> (µS/cm)  Water Temperature: <u>22.3</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)																				
<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	
	<b>1</b>	0.43	0.07	0.86	0.13	0.62	0.10	0.77	0.25	0.85	0.14	0.44	0.11	0.46	0.05	0.62	0.10	0.45	0.16	0.70	0.07	0.53	0.03
	<b>2</b>	0.86	0.07	1.72	0.14	1.24	0.18	1.54	0.25	1.70	0.15	0.88	0.13	0.92	0.08	1.24	0.17	0.90	0.18	1.40	0.07	1.06	0.05
	<b>3</b>	1.29	0.08	2.58	0.15	1.86	0.17	2.31	0.27	2.55	0.14	1.32	0.08	1.38	0.14	1.86	0.01	1.35	0.15	2.10	0.08	1.59	0.03
	<b>4</b>	1.72	0.05	3.44	0.15	2.48	0.18	3.08	0.30	3.40	0.17	1.76	0.14	1.84	0.20	2.48	0.00	1.80	0.15	2.80	0.10	2.12	0.10
	<b>5</b>	2.15	0.01	4.30	0.16	3.10	0.20	3.85	0.25	4.25	0.15	2.20	0.10	2.30	0.20	3.10	0.00	2.25	0.14	3.50	0.15	2.65	0.05
	<b>6</b>	2.58	0.01	5.16	0.16	3.72	0.24	4.62	0.24	5.10	0.15	2.64	0.14	2.76	0.26	3.72	0.00	2.70	0.15	4.20	0.00	3.18	0.08
	<b>7</b>	3.01	0.12	6.02	0.15	4.34	0.19	5.39	0.24	5.95	0.10	3.08	0.08	3.22	0.29	4.34	0.02	3.15	0.15	4.90	0.06	3.71	0.08
	<b>8</b>	3.44	0.04	6.88	0.17	4.96	0.05	6.16	0.24	6.80	0.15	3.52	0.13	3.68	0.15	4.96	0.03	3.60	0.15	5.60	0.09	4.24	0.03
	<b>9</b>	3.87	0.01	7.74	0.10	5.58	0.01	6.93	0.19	7.65	0.20	3.96	0.15	4.14	0.15	5.58	0.04	4.05	0.08	6.30	0.05	4.77	0.04
<b>Right Bank</b>		4.30	0.00	8.55	0.00	6.20	0.00	7.70	0.00	8.50	0.00	4.40	0.00	4.60	0.00	6.20	0.00	4.45	0.00	6.95	0.00	5.25	0.00
<b>Feature Type</b>		Riffle		Run		Pool		Pool		Run		Run		Run		Riffle		Run		Run		Riffle	

**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: 8/25/2008

WBID # 0755

Site # 05

**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>8/25/08 0927</u>	Location Description (e.g., road crossing): <u>County Rd 128 crossing</u>
Stream Name: <u>Moniteau Cr.</u>	Facility Name(s): <u>Coyote Hill Christian Children's Home</u>
Current Weather Conditions: <u>Sunny, Clear</u>	Permit Number(s): <u>MO 0126373</u>
Weather Conditions for Past 10 days: <u>0.79" rain</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>0543636</u>	Northing (UTM Y): <u>4341033</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>25</u> Meters <sup>2x</sup> FT		
Site 11	Easting (UTM X): <u>0543576</u>	Northing (UTM Y): <u>4340935</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>26</u> Meters <sup>2x</sup> FT		

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>132</u>	<u>upstream</u>	<u>133, 134</u>	<u>downstream</u>	<u>135</u>	<u>footprints at Transect 4</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.)				

JAC

Stream Name & WBID # Moniteau Cr #0755

Date of Survey 8/25/08

Site # 05

**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>private property</u>				

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

<input checked="" type="checkbox"/> Roads	<input checked="" 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>Footprints at Transects 4, 7, 8, 10, 11</u>			

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

<u>-</u> % Cobble	<u>5</u> % Gravel	<u>85</u> % Sand	<u>-</u> % Silt	<u>10</u> % Mud/Clay	<u>-</u> % Bedrock
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**Aquatic Vegetation\*:** (Note amount of vegetation or algal growth at the assessment site.)

<u>Benthic algae - abundant</u>
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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.

*Handwritten mark*

Stream Name & WBID # Moniteau Cr #0755

Date of Survey 8/25/08

Site # 05

**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)
		NA	0.4		

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

① bank at Transect 5 undercut 0.4m.

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

Printed Names of Personnel Collecting Data: Tiffanie Hamilton, Jennifer Hrabik

Surveyor's Signature: Tiffanie A. Hamilton Date of Survey: 8/25/08

Organization: AE Solutions Position: Field Technician

0.4 10-15-08

## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet C - Field Survey Results

Stream Name: <u>Moniteau Creek</u> Waterbody ID: <u>0755</u> Site #: <u>0755 05</u> Estimated Channel Incision: <u>0.20</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>543636</u> UTM Y: <u>4341033</u> +/- <u>25</u> (feet) <b>11</b> UTM X: <u>543516</u> UTM Y: <u>4340935</u> +/- <u>26</u> (feet) Average Stream Width: <u>5.0</u> (meters)      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)      (20x average stream width) Field Staff: <u>JRH, TAH</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>8/25/2008</u> Time: <u>9:27</u> Dissolved Oxygen: <u>6.35</u> (mg/L) Dissolved Oxygen: <u>69.5</u> (% sat) Specific Cond: <u>402</u> (µS/cm) Water Temperature: <u>19.7</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)																				
<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	
	<b>1</b>	0.29	0.15	0.48	0.30	0.45	0.36	0.45	0.28	0.47	0.20	0.74	0.36	0.54	0.15	0.38	0.04	0.70	0.01	0.38	0.06	0.59	0.11
	<b>2</b>	0.58	0.22	0.96	0.44	0.90	0.36	0.90	0.30	0.94	0.23	1.48	0.20	1.08	0.35	0.76	0.10	1.40	0.05	0.76	0.11	1.18	0.19
	<b>3</b>	0.87	0.16	1.44	0.36	1.35	0.34	1.35	0.26	1.41	0.34	2.22	0.01	1.62	0.43	1.14	0.14	2.10	0.05	1.14	0.14	1.77	0.20
	<b>4</b>	1.16	0.15	1.92	0.31	1.80	0.30	1.80	0.31	1.88	0.38	2.96	0.10	2.16	0.46	1.52	0.19	2.80	0.10	1.52	0.24	2.36	0.20
	<b>5</b>	1.45	0.15	2.40	0.30	2.25	0.24	2.25	0.36	2.35	0.48	3.70	0.50	2.70	0.53	1.90	0.20	3.50	0.23	1.90	0.35	2.95	0.18
	<b>6</b>	1.74	0.14	2.88	0.24	2.70	0.14	2.70	0.40	2.82	0.60	4.44	0.84	3.24	0.64	2.28	0.23	4.20	0.24	2.28	0.39	3.54	0.18
	<b>7</b>	2.03	0.10	3.36	0.16	3.15	0.08	3.15	0.32	3.29	0.60	5.18	0.94	3.78	0.58	2.66	0.24	4.90	0.09	2.66	0.35	4.13	0.16
	<b>8</b>	2.32	0.09	3.84	0.13	3.60	0.05	3.60	0.28	3.76	0.55	5.92	0.78	4.32	0.45	3.04	0.20	5.60	0.00	3.04	0.28	4.72	0.15
	<b>9</b>	2.61	0.05	4.32	0.10	4.05	0.02	4.05	0.20	4.23	0.40	6.66	0.45	4.86	0.20	3.42	0.13	6.30	0.13	3.42	0.20	5.31	0.13
<b>Right Bank</b>		2.90	0.00	4.80	0.00	4.45	0.00	4.45	0.00	4.70	0.00	7.40	0.00	5.40	0.00	3.75	0.00	7.00	0.00	3.80	0.00	5.85	0.00
<b>Feature Type</b>		Run		Run		Run		Run		Run		Pool		Pool		Run		Riffle		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: \_\_\_\_\_ Date: 8/25/2008

WBID # 0755

Site # 06

**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>8/25/08 08:50</u>	Location Description (e.g., road crossing): <u>County Rd 126 Crossing</u>
Stream Name: <u>Moniteau Cr</u>	Facility Name(s): <u>Coyote Hill Christian Children's Home</u>
Current Weather Conditions: <u>Sunny, clear</u>	Permit Number(s): <u>MO 0126373</u>
Weather Conditions for Past 10 days: <u>0.79" rain</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>0543550</u>	Northing (UTM Y): <u>4339453</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>20</u> Meters <sup>54</sup> <del>ft</del>
Site 11	Easting (UTM X): <u>0543462</u>	Northing (UTM Y): <u>4339310</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>17</u> Meters <sup>54</sup> <del>ft</del>

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>128</u>	<u>upstream</u>	<u>129</u>	<u>downstream</u>	<u>130</u>	<u>Footprints at T-intersect</u>

**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 # Moniteau Creek # 0755

Date of Survey 8/25/08

Site # 06

**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 checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments: <u>Private Property</u>				

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

<input checked="" type="checkbox"/> Roads	<input checked="" 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>Footprints at Transects 3, 4, 7, 8, 9, 10, 11</u>			

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

<u>—</u> % Cobble	<u>5</u> % Gravel	<u>90</u> % Sand	<u>—</u> % Silt	<u>5</u> % Mud/Clay	<u>—</u> % Bedrock
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**Aquatic Vegetation\*:** (Note amount of vegetation or algal growth at the assessment site.)

Benthic algae - abundant

**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 # Moniteau Creek # 0755

Date of Survey 8/25/08

Site # 06

**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)

*NA*

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

*Woody debris at Transect 1*

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

Printed Names of Personnel Collecting Data: Tiffany Hamilton, Jennifer Arabik

Surveyor's Signature: Tiffany A. Hamilton Date of Survey: 8/25/08

Organization: AE Solutions Position: Field Technician

*AWC 10-15-08*

*2/24*

## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet C - Field Survey Results

Stream Name: <u>Moniteau Creek</u> Waterbody ID: <u>0755</u> Site #: <u>0755 06</u> Estimated Channel Incision: <u>0.20</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>543550</u> UTM Y: <u>4339453</u> +/- <u>20</u> (feet) <b>11</b> UTM X: <u>543462</u> UTM Y: <u>4339310</u> +/- <u>17</u> (feet) Average Stream Width: <u>6.4</u> (meters)      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)      (20x average stream width) Field Staff: <u>JRH, TAH</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>8/25/2008</u> Time: <u>8:50</u> Dissolved Oxygen: <u>4.60</u> (mg/L) Dissolved Oxygen: <u>50.5</u> (% sat) Specific Cond: <u>440</u> (µS/cm) Water Temperature: <u>19.5</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)																				
<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	
	<b>1</b>	0.88	0.20	0.78	0.30	0.69	0.05	0.40	0.05	0.39	0.03	0.67	0.08	1.00	0.22	0.48	0.10	0.28	0.11	0.57	0.02	0.96	0.10
	<b>2</b>	1.76	0.60	1.56	0.30	1.38	0.10	0.80	0.05	0.78	0.05	1.34	0.15	2.00	0.20	0.96	0.15	0.56	0.14	1.14	0.10	1.92	0.10
	<b>3</b>	2.64	0.56	2.34	0.26	2.07	0.10	1.20	0.10	1.17	0.05	2.01	0.23	3.00	0.20	1.44	0.11	0.84	0.12	1.71	0.13	2.88	0.15
	<b>4</b>	3.52	0.48	3.12	0.24	2.76	0.15	1.60	0.06	1.56	0.08	2.68	0.25	4.00	0.13	1.92	0.15	1.12	0.13	2.28	0.16	3.84	0.05
	<b>5</b>	4.40	0.44	3.90	0.20	3.45	0.13	2.00	0.07	1.95	0.09	3.35	0.31	5.00	0.18	2.40	0.26	1.40	0.15	2.85	0.15	4.80	0.01
	<b>6</b>	5.28	0.38	4.68	0.16	4.14	0.15	2.40	0.01	2.34	0.09	4.02	0.38	6.00	0.20	2.88	0.28	1.68	0.18	3.42	0.25	5.76	0.00
	<b>7</b>	6.16	0.40	5.46	0.15	4.83	0.21	2.80	0.01	2.73	0.09	4.69	0.42	7.00	0.26	3.36	0.35	1.96	0.34	3.99	0.31	6.72	0.01
	<b>8</b>	7.04	0.40	6.24	0.13	5.52	0.28	3.20	0.02	3.12	0.08	5.36	0.50	8.00	0.30	3.84	0.35	2.24	0.50	4.56	0.33	7.68	0.18
	<b>9</b>	7.92	0.25	7.02	0.15	6.21	0.07	3.60	0.02	3.51	0.09	6.03	0.55	9.00	0.35	4.32	0.08	2.52	0.55	5.13	0.14	8.64	0.22
<b>Right Bank</b>		8.80	0.00	7.80	0.00	6.85	0.00	3.95	0.00	3.90	0.00	6.65	0.00	10.00	0.00	4.75	0.00	2.80	0.00	5.65	0.00	9.55	0.00
<b>Feature Type</b>		Pool		Run		Run		Riffle		Run													
<small>(riffle, run, or pool)</small>																							

**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: 8/25/2008

WBID # 0755  
 Site # 07

**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>8/25/08 07:42</u>	Location Description (e.g., road crossing): <u>County Rd 110 crossing</u>
Stream Name: <u>Moniteau Cr.</u>	
Current Weather Conditions: <u>clear, sunny</u>	Facility Name(s): <u>Coyote Hill Christian Children's Home</u>
Weather Conditions for Past 10 days: <u>0.79" rain</u>	Permit Number(s): <u>MO 0126373</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>0543559</u>	Northing (UTM Y): <u>4337304</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>16</u>	Meters <sup>3A</sup> <u>F7</u>	
Site 11	Easting (UTM X): <u>0543668</u>	Northing (UTM Y): <u>4337163</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>19</u>	Meters <sup>3A</sup> <u>F7</u>	

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>120</u>	<u>upstream</u>	<sup>3A</sup> <u>121, 122</u>	<u>downstream</u>	<u>123</u>	<u>footprints at Transect 4</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.)

*3A*

Stream Name & WBID # Moniteau Creek #0755

Date of Survey 8/25/08

Site # 07

**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 checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments: <u>Private Property</u>				

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

<input checked="" type="checkbox"/> Roads	<input checked="" 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>Footprints at Transects 4, 5, 6, 7</u>			

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

<u>5</u> % Cobble	<u>10</u> % Gravel	<u>85</u> % Sand	<u>—</u> % Silt	<u>—</u> % Mud/Clay	<u>—</u> % Bedrock
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**Aquatic Vegetation\*:** (Note amount of vegetation or algal growth at the assessment site.)

<u>Diatoms</u> <u>Filamentous algae; Benthic algae</u>	} all abundant
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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.

*Handwritten initials*

Stream Name & WBID # Moniteau Creek #0755

Date of Survey 8/25/08

Site # 07

**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)
		NA	940		

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

Several trees / woody debris in water at Transect 4

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

Printed Names of Personnel Collecting Data: Tiffany Hamilton, Jennifer Hrabik

Surveyor's Signature: Tiffany A. Hamilton Date of Survey: 8/25/08

Organization: AE Solutions Position: Field Technician

10-15-08

## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet C - Field Survey Results

Stream Name: <u>Moniteau Creek</u> Waterbody ID: <u>0755</u> Site #: <u>0755 07</u>  Estimated Channel Incision: <u>0.20</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>543559</u> UTM Y: <u>4337304</u> +/- <u>16</u> (feet) <b>11</b> UTM X: <u>543668</u> UTM Y: <u>4337163</u> +/- <u>19</u> (feet)  Average Stream Width: <u>5.4</u> (meters)      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)      (20x average stream width)  Field Staff: <u>JRH, TAH</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>8/25/2008</u> Time: <u>7:42</u>  Dissolved Oxygen: <u>5.64</u> (mg/L)  Dissolved Oxygen: <u>61.9</u> (% sat)  Specific Cond: <u>436</u> (µS/cm)  Water Temperature: <u>19.9</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)																				
<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	
	<b>1</b>	0.25	0.35	0.67	0.20	0.80	0.15	0.40	0.05	0.30	0.16	0.58	0.06	0.57	0.08	0.45	0.15	0.61	0.08	0.44	0.27	0.86	0.21
	<b>2</b>	0.50	0.35	1.34	0.29	1.60	0.14	0.80	0.08	0.60	0.30	1.16	0.06	1.14	0.09	0.90	0.15	1.22	0.04	0.88	0.19	1.72	0.19
	<b>3</b>	0.75	0.39	2.01	0.30	2.40	0.10	1.20	0.10	0.90	0.45	1.74	0.08	1.71	0.13	1.35	0.14	1.83	0.03	1.32	0.16	2.58	0.15
	<b>4</b>	1.00	0.34	2.68	0.39	3.20	0.01	1.60	0.17	1.20	0.45	2.32	0.13	2.28	0.12	1.80	0.12	2.44	0.01	1.76	0.15	3.44	0.19
	<b>5</b>	1.25	0.39	3.35	0.32	4.00	0.00	2.00	0.30	1.50	0.43	2.90	0.14	2.85	0.11	2.25	0.08	3.05	0.01	2.20	0.15	4.30	0.15
	<b>6</b>	1.50	0.36	4.02	0.13	4.80	0.00	2.40	0.40	1.80	0.40	3.48	0.15	3.42	0.10	2.70	0.04	3.66	0.01	2.64	0.10	5.16	0.16
	<b>7</b>	1.75	0.35	4.69	0.26	5.60	0.00	2.80	0.26	2.10	0.35	4.06	0.15	3.99	0.10	3.15	0.06	4.27	0.02	3.08	0.12	6.02	0.18
	<b>8</b>	2.00	0.34	5.36	0.29	6.40	0.00	3.20	0.19	2.40	0.27	4.64	0.11	4.56	0.10	3.60	0.04	4.88	0.07	3.52	0.17	6.88	0.21
	<b>9</b>	2.25	0.29	6.03	0.26	7.20	0.07	3.60	0.15	2.70	0.19	5.22	0.10	5.13	0.04	4.05	0.05	5.49	0.08	3.96	0.20	7.74	0.22
<b>Right Bank</b>		2.45	0.00	6.65	0.00	8.00	0.00	4.00	0.00	2.95	0.00	5.80	0.00	5.70	0.00	4.50	0.00	6.05	0.00	4.35	0.00	8.60	0.00
<b>Feature Type</b> <small>(riffle, run, or pool)</small>		Run		Run		Run		Run		Pool		Run											

**Notes:** Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width  
 GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.  
 Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)  
 Mark dry depth measurements as 0; record actual measurements to 0.1 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: 8/25/2008

WBID # 0755

Site # 08

**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>8/25/08 8:05</u>	Location Description (e.g., road crossing): <u>50m downstream</u>
Stream Name: <u>Moriteau Cr.</u>	<del>County Rd. 104 crossing of site 7</del>
Current Weather Conditions: <u>Sunny, clear</u>	Facility Name(s): <u>Coyote Hill Christian Children's Home</u>
Weather Conditions for Past 10 days: <u>0.79" rain</u>	Permit Number(s): <u>MO 0126373</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>0543681</u>	Northing (UTM Y): <u>4337086</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>16</u> Meters <u>54</u> Ft		
Site 11	Easting (UTM X): <u>0543586</u>	Northing (UTM Y): <u>4336986</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>20</u> Meters <u>74</u> Ft		

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>125</u>	<u>upstream</u>	<u>126</u>	<u>downstream</u>	<u>127</u>	<u>Footprints at Transect 1</u>
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

**Uses Observed\*:** (Uses actually observed at 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 # Moniteau Cr. #0755

Date of Survey 8/25/08

Site # 08

**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 checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments: <u>private property</u>				

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

<input checked="" type="checkbox"/> Roads	<input checked="" 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>Footprints at Transect 1, 2, 3, 4, 5, 6, 7, 8, 9</u>			

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

<u>-</u> % Cobble	<u>5</u> % Gravel	<u>85</u> % Sand	<u>-</u> % Silt	<u>10</u> % Mud/Clay	<u>-</u> % Bedrock
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**Aquatic Vegetation\*:** (Note amount of vegetation or algal growth at the assessment site.)

Benthic algae - abundant

**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 checked="" type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input type="checkbox"/> None	<input type="checkbox"/> Other:

*only at log jam*  
\*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 # Moniteau Creek #0755

Date of Survey 8/25/08

Site # 08

**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)
		NA	9m		

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

Log jam at Transect 9/10 impeding most flow. → scum on water.

**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 + Tiffanie Hamilton

Surveyor's Signature: Tiffanie A. Hamilton Date of Survey: 8/25/08

Organization: AE Solutions Position: Field Technician

RUC 10-15-08

## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet C - Field Survey Results

Stream Name: <u>Moniteau Creek</u> Waterbody ID: <u>0755</u> Site #: <u>0755 08</u> Estimated Channel Incision: <u>0.40</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>543681</u> UTM Y: <u>4337086</u> +/- <u>16</u> (feet) <b>11</b> UTM X: <u>543586</u> UTM Y: <u>4336986</u> +/- <u>20</u> (feet) Average Stream Width: <u>7.2</u> (meters)      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)      (20x average stream width) Field Staff: <u>JRH, TAH</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>8/25/2008</u> Time: <u>8:05</u> Dissolved Oxygen: <u>4.30</u> (mg/L) Dissolved Oxygen: <u>44.1</u> (% sat) Specific Cond: <u>445</u> (µS/cm) Water Temperature: <u>19.8</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)																				
<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	
	<b>1</b>	0.52	0.66	0.55	0.49	0.61	0.24	0.65	0.28	0.53	0.30	0.91	0.12	0.54	0.10	0.86	0.24	0.90	0.50	1.05	0.11	0.78	0.06
	<b>2</b>	1.04	0.72	1.10	0.63	1.22	0.32	1.30	0.25	1.06	0.27	1.82	0.17	1.08	0.14	1.72	0.35	1.80	0.89	2.10	0.13	1.56	0.08
	<b>3</b>	1.56	0.70	1.65	0.60	1.83	0.22	1.95	0.10	1.59	0.24	2.73	0.15	1.62	0.16	2.58	0.55	2.70	>1.00	3.15	0.12	2.34	0.08
	<b>4</b>	2.08	0.69	2.20	0.50	2.44	0.18	2.60	0.09	2.12	0.19	3.64	0.08	2.16	0.16	3.44	>1.00	3.60	>1.00	4.20	0.15	3.12	0.13
	<b>5</b>	2.60	0.59	2.75	0.39	3.05	0.16	3.25	0.06	2.65	0.16	4.55	0.07	2.70	0.19	4.30	>1.00	4.50	>1.00	5.25	0.20	3.90	0.27
	<b>6</b>	3.12	0.45	3.30	0.33	3.66	0.15	3.90	0.09	3.18	0.14	5.46	0.04	3.24	0.17	5.16	>1.00	5.40	0.93	6.30	0.40	4.68	0.29
	<b>7</b>	3.64	0.28	3.85	0.25	4.27	0.12	4.55	0.11	3.71	0.10	6.37	0.01	3.78	0.15	6.02	>1.00	6.30	0.79	7.35	0.50	5.46	0.30
	<b>8</b>	4.16	0.24	4.40	0.15	4.88	0.04	5.20	0.07	4.24	0.05	7.28	0.01	4.32	0.34	6.88	0.84	7.20	0.66	8.40	0.49	6.24	0.28
	<b>9</b>	4.68	0.07	4.95	0.03	5.49	0.01	5.85	0.05	4.77	0.02	8.19	0.10	4.86	0.18	7.74	0.47	8.10	0.32	9.45	0.35	7.02	0.25
<b>Right Bank</b>		5.20	0.00	5.45	0.00	6.05	0.00	6.50	0.00	5.30	0.00	9.10	0.00	5.35	0.00	8.60	0.00	9.00	0.00	10.50	0.00	7.80	0.00
<b>Feature Type</b>		Pool		Pool		Run		Pool		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: \_\_\_\_\_ Date: 8/25/2008

WBID # 0755

Site # 09

**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>8/25/08 06:52</u>	Location Description (e.g., road crossing): <u>upstream of MW 124 crossing</u>
Stream Name: <u>Moniteau Cr.</u>	
Current Weather Conditions: <u>Clear</u>	Facility Name(s): <u>Coyote Hill Christian Children's Home</u>
Weather Conditions for Past 10 days: <u>0.79" rain</u>	Permit Number(s): <u>MD 0126373</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>0541440</u>	Northing (UTM Y): <u>4333648</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>18</u> Meters <sup>32</sup> Ft		
Site 11	Easting (UTM X): <u>0541310</u>	Northing (UTM Y): <u>4333511</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>21</u> Meters <sup>34</sup> Ft		

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>118</u>	<u>upstream</u>	<u>119</u>	<u>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 # 075<sup>2A</sup> Monticau Cr 0755

Date of Survey 8/25/08

Site # 09

**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 checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments: <i>private property</i>				

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

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

<u>—</u> % Cobble	<u>30</u> % Gravel	<u>70</u> % Sand	<u>—</u> % Silt	<u>—</u> % Mud/Clay	<u>—</u> % Bedrock
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**Aquatic Vegetation\*:** (Note amount of vegetation or algal growth at the assessment site.)

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

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input 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.

*JRH*

Stream Name & WBID # Moniteau Cr 0735

Date of Survey 8/25/08

Site # 09

**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.)

Eroded bank (~30m) between Transects 10+11

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

Printed Names of Personnel Collecting Data: Tiffany Hamilton, Jennifer Hrabik

Surveyor's Signature: Tiffany A. Hamilton Date of Survey: 8/25/08

Organization: AE Solutions Position: Field Technician

10 - 15 - 08

AE

## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet C - Field Survey Results

Stream Name: <u>Moniteau Creek</u> Waterbody ID: <u>0755</u> Site #: <u>0755 09</u> Estimated Channel Incision: <u>0.20</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>541440</u> UTM Y: <u>4333648</u> +/- <u>18</u> (feet) <b>11</b> UTM X: <u>541310</u> UTM Y: <u>4333511</u> +/- <u>21</u> (feet) Average Stream Width: <u>5.1</u> (meters)      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)      (20x average stream width) Field Staff: <u>JRH, TAH</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>8/25/2008</u> Time: <u>6:52</u> Dissolved Oxygen: <u>7.08</u> (mg/L) Dissolved Oxygen: <u>78.2</u> (% sat) Specific Cond: <u>398</u> (µS/cm) Water Temperature: <u>19.9</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)																				
<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	
	<b>1</b>	0.56	0.06	0.52	0.06	0.51	0.04	0.27	0.20	0.46	0.18	0.43	0.07	0.61	0.28	0.76	0.83	0.56	0.15	0.53	0.08	0.46	0.04
	<b>2</b>	1.12	0.04	1.04	0.10	1.02	0.10	0.54	0.18	0.92	0.26	0.86	0.08	1.22	0.24	1.52	0.54	1.12	0.21	1.06	0.14	0.92	0.05
	<b>3</b>	1.68	0.02	1.56	0.14	1.53	0.10	0.81	0.18	1.38	0.31	1.29	0.11	1.83	0.26	2.28	0.45	1.68	0.26	1.59	0.22	1.38	0.07
	<b>4</b>	2.24	0.12	2.08	0.16	2.04	0.08	1.08	0.17	1.84	0.35	1.72	0.04	2.44	0.21	3.04	0.40	2.24	0.29	2.12	0.25	1.84	0.10
	<b>5</b>	2.80	0.10	2.60	0.20	2.55	0.05	1.35	0.15	2.30	0.36	2.15	0.03	3.05	0.19	3.80	0.39	2.80	0.35	2.65	0.25	2.30	0.10
	<b>6</b>	3.36	0.09	3.12	0.20	3.06	0.04	1.62	0.16	2.76	0.38	2.58	0.07	3.66	0.20	4.56	0.33	3.36	0.44	3.18	0.25	2.76	0.11
	<b>7</b>	3.92	0.11	3.64	0.20	3.57	0.05	1.89	0.17	3.22	0.45	3.01	0.08	4.27	0.17	5.32	0.22	3.92	0.46	3.71	0.23	3.22	0.11
	<b>8</b>	4.48	0.11	4.16	0.18	4.08	0.08	2.16	0.14	3.68	0.48	3.44	0.03	4.88	0.18	6.08	0.14	4.48	0.55	4.24	0.21	3.68	0.14
	<b>9</b>	5.04	0.06	4.68	0.16	4.59	0.12	2.43	0.06	4.14	0.49	3.87	0.03	5.49	0.09	6.84	0.08	5.04	0.61	4.77	0.20	4.14	0.16
<b>Right Bank</b>		5.55	0.00	5.15	0.00	5.10	0.00	2.65	0.00	4.60	0.00	4.25	0.00	6.05	0.00	7.60	0.00	5.55	0.00	5.30	0.00	4.55	0.00
<b>Feature Type</b>		Riffle		Run		Riffle		Run		Run		Riffle		Run		Pool		Pool		Run		Run	

**Notes:** Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width  
 GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.  
 Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)  
 Mark dry depth measurements as 0; record actual measurements to 0.1 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: 8/25/2008

SITE #01  
DOWNSTREAM



SITE #02  
DOWNSTREAM



SITE #01  
UPSTREAM



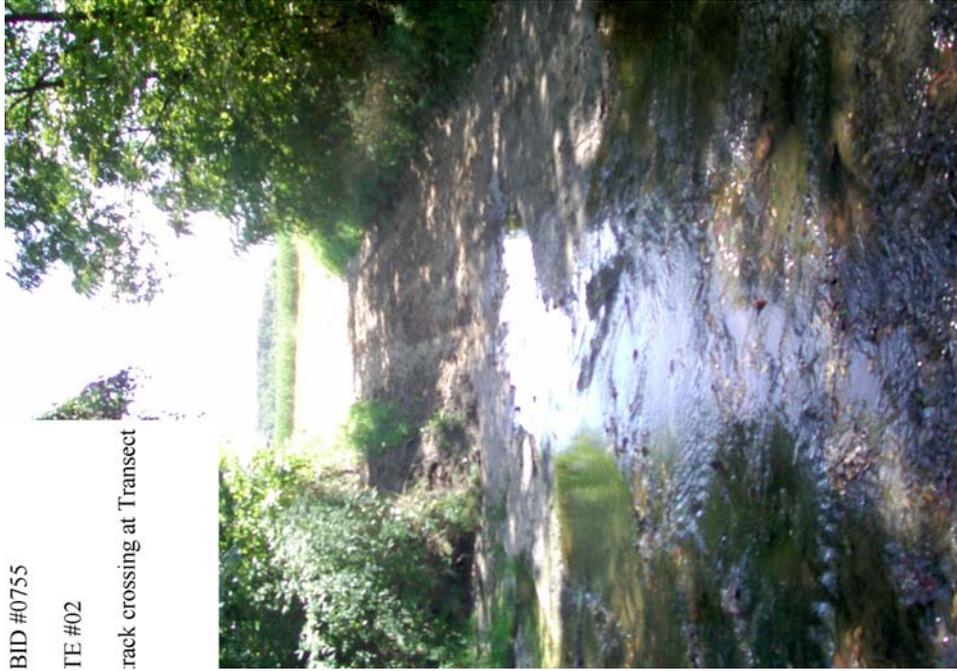
SITE #02  
UPSTREAM



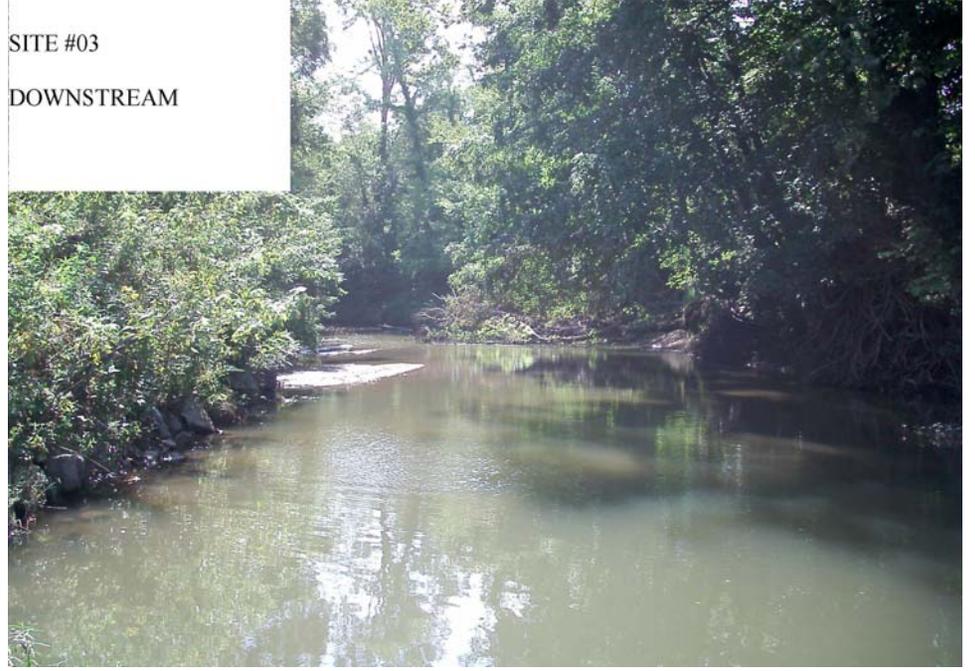
BID #0755  
TE #02  
rack crossing at  
ansect 6



BID #0755  
TE #02  
rack crossing at Transect



SITE #03  
DOWNSTREAM



SITE #03  
UPSTREAM



SITE #04

UPSTREAM



SITE #04

DOWNSTREAM



BID #0755

TE #03

Footprints at Transect 7

SITE #04

UPSTREAM



SITE #04

2-track crossing



SITE #05

DOWNSTREAM



SITE #04

2-track crossing



SITE #05

UPSTREAM



SITE #06

UPSTREAM



SITE #06

Footprints at Transect 3.



SITE #05

Footprints at Transect 4

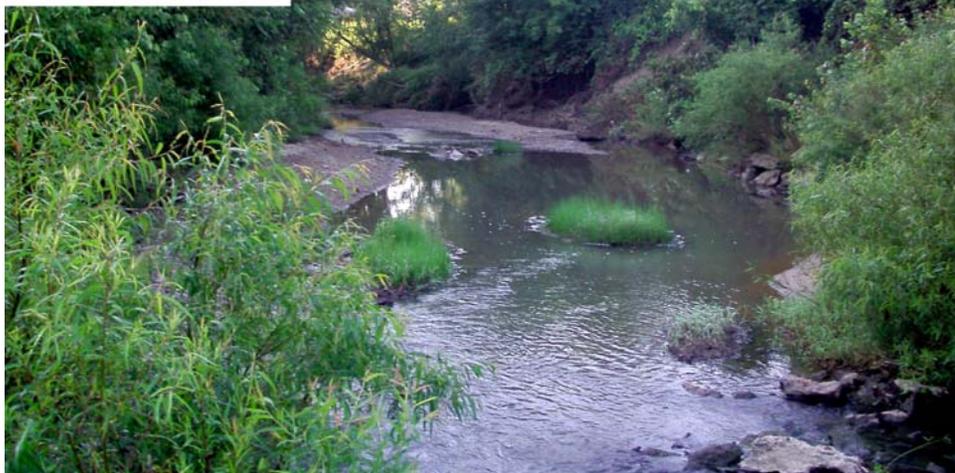


SITE #06

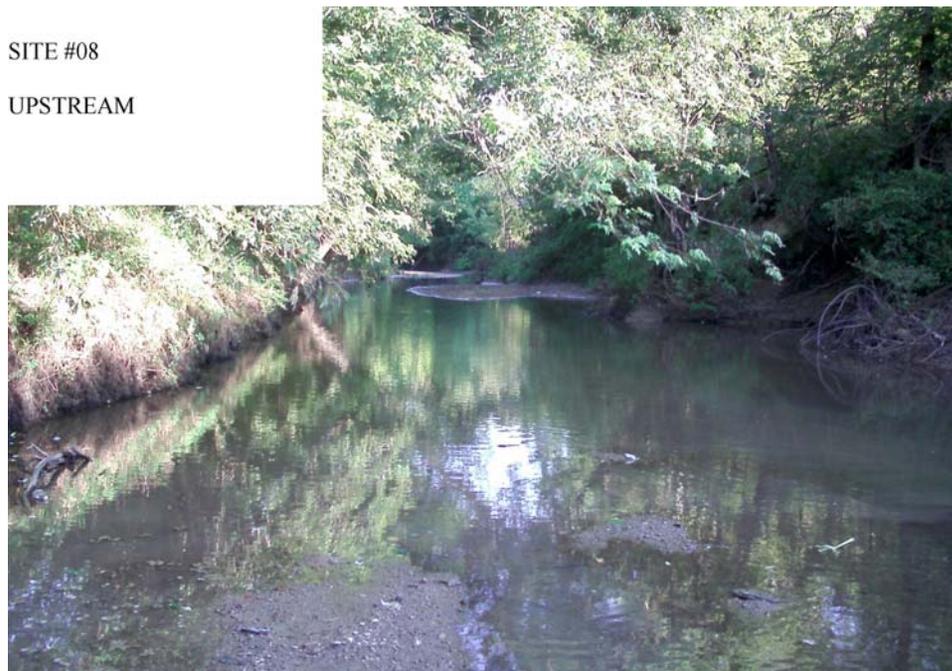
DOWNSTREAM



SITE #07  
DOWNSTREAM



SITE #08  
UPSTREAM



SITE #07  
UPSTREAM



SITE #07  
Footprints at Transect 4





BID #0755  
TE #08  
Footprints at Transect 1



SITE #09  
DOWNSTREAM



SITE #08  
DOWNSTREAM



SITE #09  
UPSTREAM