



Missouri  
Department of  
Natural Resources

## Use Attainability Analysis

for

WBID 0098 South Spencer Creek

Submitted by

MEC Water Resources

To

Missouri Department of Natural Resources  
Water Protection Program

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): S. Spencer CR	
Missouri Water Body Identification (WBID) Number: 0098	
8-digit HUC: 20090318	County: Pike
Upstream Legal Description (from Table H): 6,53N,4W	
Downstream Legal Description (from Table H): Mouth	
Number of sites evaluated 5	
List all sites numbers, listed consecutively upstream to downstream: site 01: 150 m upstream of Hwy C Bridge      site 04: County Rd 1 site 02: Hwy C Bridge                              site 05: 100 m downstream of site 04 site 03: 100 m downstream of site 02	

**II. Discharger Facility Information** (list all permitted dischargers on the stream)

Discharger Facility Name(s): Curryville WWTF
Discharger Permit Number(s): mo 0040801

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

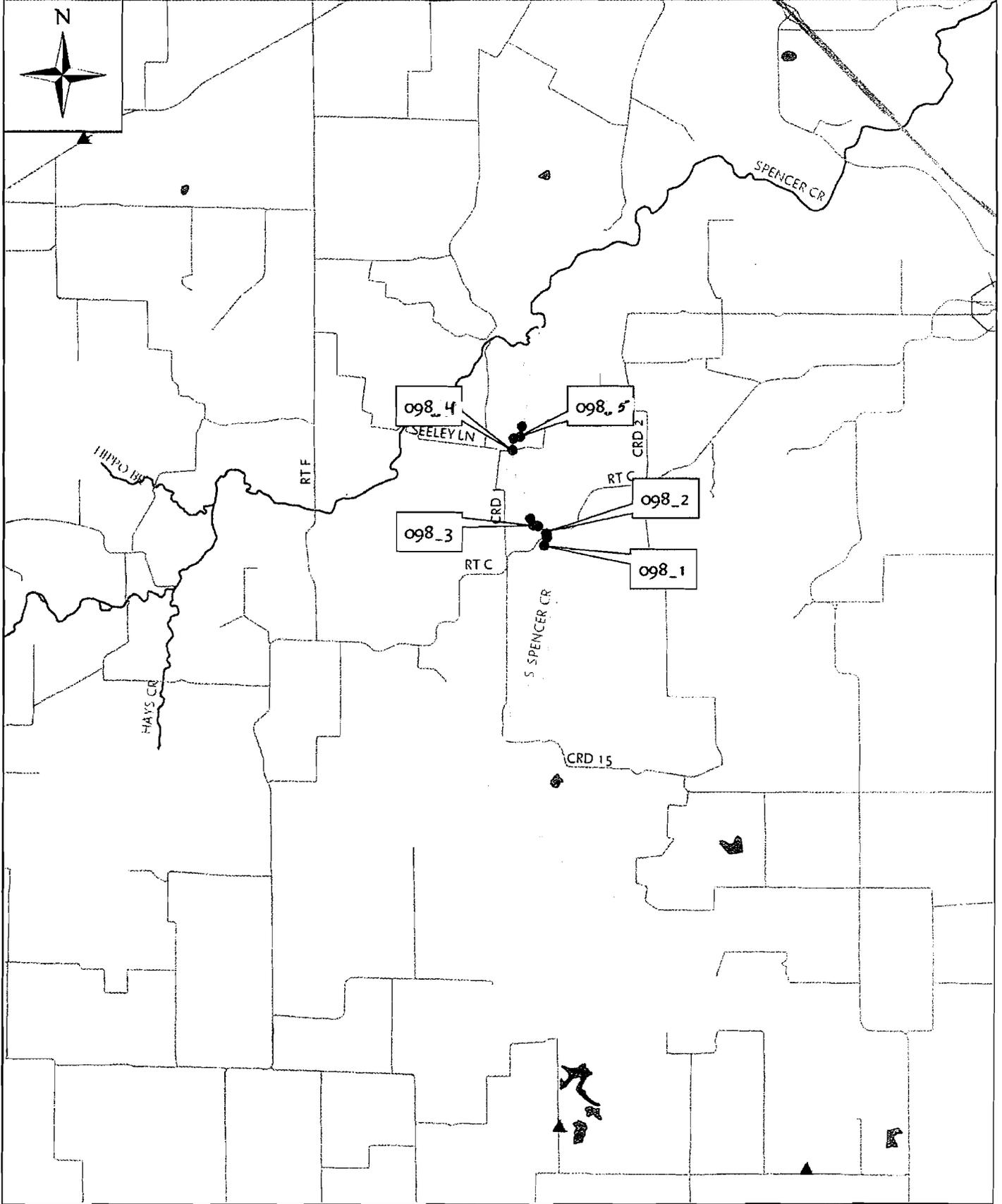
Name of Surveyor Renee Martin	Telephone Number: 573-875-7844
Organization/Employer: AESolutions	
Position: Env. Specialist	

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

Signed: Renee Martin Date: 10/02/07

RUC 10-18-07

# S. Spencer Creek (WBID 098)



- Upstream Boundary
- Downstream Boundary

0 0.375 0.75 1.5 2.25 3 Miles

WBID # 0098  
 Site # 01A

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

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

Date & Time: <u>9/28/07 1010</u>	Site Location Description (e.g., road crossing): <u>City Rd 15</u>
Personnel (Data Collectors): <u>JH/JF</u>	Facility Name: <u>Curryville WWTF</u>
Current Weather Conditions: <u>Clear</u>	Permit Number: <u>MO 0040801</u>
Weather Conditions for Past 10 days: <u>rain/clear</u>	
Drought Conditions?: No drought <input checked="" type="checkbox"/> Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

**Site Location:**

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): <u>4365433</u>	Northing (UTM Y): <u>0635707</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>16</u> <sup>JRH</sup> Meters <u>f+</u>
Site 11	Easting (UTM X): <u>Ⓢ</u>	Northing (UTM Y): <u>Ⓢ</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>Ⓢ</u> <sup>JRH</sup> Meters <u>f+</u>

Ⓢ Site inaccessible, moved site to different location.

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>101-270</u>	<u>Upstream</u>	<u>101-271</u>	<u>downstream - fence - livestock watering</u>		

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

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input 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.)

Did not survey here.

WBID # 0098  
 Site # 01A

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

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

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

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

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

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

**Substrate\*:** (These values should add up to 100%.) *Did not survey here*

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

<i>Water primrose</i> <i>arrowhead</i>
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**Water Characteristics\*:** (Mark all that apply.) *Did not survey here*

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Other: <i>dry</i>
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: <i>dry</i>
Bottom Deposit:	<input type="checkbox"/> Sludge	<input checked="" type="checkbox"/> Solids	<input 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 type="checkbox"/> None	<input checked="" 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 effect another use.

WBID # 0098

Site # 01A

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

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

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

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

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

no access due to high fence & trespassing issues.  
moved site to different location.

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

Surveyor's Signature: Jennifer Drabik Date of Survey: 9/28/07  
Organization: AE Solutions Position: Env. Specialist

AUC 10-15-07

## Recreational Use Attainability Analysis Field Survey Sheet

Waterbody ID: 0098 Site #: 0098-01A  
(WBID\_Site#)

Estimated Channel Incision: 2 (m) (height between low bank width and water)

GPS Location (taken at transect 1):  
 UTM X: 4365433 UTM Y: 0635707  
 Horizontal Accuracy Estimate (GPS Data Quality): +/- 16 (feet)

GPS Location (taken at transect 11):  
 UTM X: \_\_\_\_\_ UTM Y: \_\_\_\_\_  
 Horizontal Accuracy Estimate (GPS Data Quality): +/- (feet)

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

Field Staff: JH/JF

Dissolved Oxygen	
Date: <u>9/28/07</u>	Time: <u>1010</u>
Dissolved Oxygen: _____	(mg/L)
Dissolved Oxygen: _____	(% sat)
Specific Cond: _____	(µS/cm)
Water Temp.: _____	(°C)
DRY	

		Transect Cross Section																					
		01		02		03		04		05		06		07		08		09		10		11	
Station		Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	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																						
	2																						
	3																						
	4																						
	5																						
	6																						
	7																						
	8																						
	9																						
Right Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Feature Type (riffle, run, or 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 location corresponds to Transect 01 and Transect 11. Transects ordered in upstream to downstream order.  
 Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten).  
 Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1).  
 All measurements to be taken to the nearest 0.01 meter.

Did not survey here - moved  
 to different location

Buc 10-18-07

Signed: Jennifer Trumbo Date: 9/28/07

WBID # 0098

Site # 01

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

**Data Sheet B – Site Characterization**

(must be completed for each site)

Date & Time: <u>9/28/07 1040</u>	Site Location Description (e.g., road crossing): <u>150m upstream of Hwy C Bridge</u>
Personnel (Data Collectors): <u>JH/JF</u>	Facility Name: <u>Curryville WWTF</u>
Current Weather Conditions: <u>Clear</u>	Permit Number: <u>MO 0040801</u>
Weather Conditions for Past 10 days: <u>rain/clear</u>	
Drought Conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

**Site Location:**

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): <u>4368732</u>	Northing (UTM Y): <u>0636376</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>18</u> <sup>JRH</sup> <del>Meters</del> <u>ft</u>
Site 11	Easting (UTM X): <u>4368861</u>	Northing (UTM Y): <u>0636426</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>23</u> <sup>JRH</sup> <del>Meters</del> <u>ft</u>

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>101-272</u>	<u>upstream</u>	<u>101-273</u>	<u>downstream</u>		

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

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

WBID # 0098  
 Site # 01

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

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

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

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

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

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

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

<i>20</i> % Cobble	<i>40</i> % Gravel	<i>10</i> % Sand	% Silt	<i>10</i> % Mud/Clay	<i>20</i> % Bedrock
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**Aquatic Vegetation\*:** (Note amount of vegetation or algal growth at the assessment site)

<i>algae</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 checked="" 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 effect another use.

WBID # 0098

Site # 01

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

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

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

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

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

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

Surveyor's Signature: Jennifer Hrabik Date of Survey: 9/28/07

Organization: AE Solutions Position: Env. Specialist

RUC 10-15-07

## Recreational Use Attainability Analysis Field Survey Sheet

Waterbody ID: <u>0098</u> Site #: <u>0098_01</u> (WBID_Site#) Estimated Channel Incision: <u>2</u> (m) (height between low bank width and water) GPS Location (taken at transect 1): UTM X: <u>4368732</u> UTM Y: <u>0636376</u> Horizontal Accuracy Estimate (GPS Data Quality): +/- <u>18</u> (feet)  GPS Location (taken at transect 11): UTM X: <u>4368861</u> UTM Y: <u>0636426</u> Horizontal Accuracy Estimate (GPS Data Quality): +/- <u>23</u> (feet)  Average Stream Width: <u>6.0</u> (meters)      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)      (20x average stream width)  Field Staff: <u>JH/JF</u>	Dissolved Oxygen Date: <u>9/28/07</u> Time: <u>1040</u> Dissolved Oxygen: <u>4.17</u> (mg/L) Dissolved Oxygen: <u>45.0</u> (% sat) Specific Cond: <u>406.0</u> (µS/cm) Water Temp.: <u>18.8</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)																					
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	0.37	0.04	0.25	0.00	0.57	0.25	0.62	0.14	0.55	0.00	0.92	0.10	0.64	0.10	0.74	0.15	0.71	0.14	0.33	0.09	1.00	0.06	
2	0.74	0.14	0.50		1.14	0.34	1.24	0.20	1.10		1.04		1.28	0.21	1.48	0.33	1.42	0.34	0.66	0.07	2.00	0.10	
3	1.11	0.14	0.75		1.71	0.49	1.86	0.21	1.65		1.96		1.92	0.28	2.22	0.35	2.13	0.50	0.99	0.13	3.00	0.14	
4	1.48	0.23	1.00		2.28	0.57	2.48	0.19	2.20		2.08		2.56	0.34	2.96	0.36	2.64	0.46	1.32	0.15	4.00	0.15	
5	1.85	0.25	1.25		2.85	0.53	3.10	0.26	2.75		2.60		3.20	0.40	3.70	0.39	3.55	0.51	1.65	0.14	5.00	0.19	
6	2.22	0.19	1.50		3.42	0.36	3.72	0.26	3.30		3.12		3.84	0.37	4.44	0.35	4.26	0.50	1.98	0.12	6.00	0.05	
7	2.59	0.15	1.75		3.99	0.14	4.34	0.24	3.85		3.64		4.48	0.25	5.18	0.37	4.97	0.15	2.31	0.13	7.00	0.08	
8	2.96	0.14	2.00		4.56	0.08	4.96	0.21	4.40		4.16		5.12	0.16	5.92	0.35	5.68	0.09	2.64	0.14	8.00	0.09	
9	3.33	0.11	2.25		5.13	0.01	5.58	0.12	4.95		4.68		5.76	0.11	6.66	0.20	6.39	0.20	2.97	0.10	9.00	0.02	
Right Bank	3.77	0	2.50	0	5.75	0	6.20	0	5.55	0	5.20	0	6.40	0	7.40	0	7.10	0	3.35	0	10.0	0	
Feature Type (riffle, run, or pool)	pool		dry		pool		pool		dry		dry		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 location corresponds to Transect 01 and Transect 11. Transects ordered in upstream to downstream order.  
 Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten).  
 Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1).  
 All measurements to be taken to the nearest 0.01 meter.

RUC 10-18-07

Signed: Jennifer Hrabik      Date: 10/10/07

WBID # 0098

Site # 02

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

**Data Sheet B – Site Characterization**

(must be completed for each site)

Date & Time: <u>9/28/07 1102</u>	Site Location Description (e.g., road crossing): <u>Hwy C Bridge</u>
Personnel (Data Collectors): <u>JH/JF</u>	
Current Weather Conditions: <u>Clear</u>	Facility Name: <u>Curryville WWTF</u>
Weather Conditions for Past 10 days: <u>rain/clear</u>	Permit Number: <u>MO 0040801</u>
Drought Conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

**Site Location:**

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): <u>4368930</u>	Northing (UTM Y): <u>0636409</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>22</u> <u>JH</u> Meters <u>ft</u>
Site 11	Easting (UTM X): <u>4369059</u>	Northing (UTM Y): <u>0636274</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>20</u> <u>JH</u> Meters <u>ft</u>

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>101-274</u>	<u>electric company trimming trees</u>	<u>101-275</u>	<u>Upstream</u>	<u>101-276</u>	<u>downstream</u>

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

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use Data Sheet D- Recreational Use Interview when conducting interviews.)

electric company trimming trees @ Trans 1

WBID # 0098

Site # 02

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

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

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

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

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

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

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

10 % Cobble	10 % Gravel	40 % Sand	% Silt	40 % Mud/Clay	% Bedrock
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**Aquatic Vegetation\*:** (Note amount of vegetation or algal growth at the assessment site)

algae water penny duckweed
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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 checked="" type="checkbox"/> Sludge	<input checked="" type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input 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 effect another use.

WBID # 0098

Site # 02

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

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

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

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

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

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

Surveyor's Signature: Jennifer Arabus Date of Survey: 9/28/07

Organization: AE Solutions Position: Env. Specialist

AWC 10-15-07

## Recreational Use Attainability Analysis Field Survey Sheet

Waterbody ID: <u>0098</u>	Site #: <u>0098_02</u> (WBID_Site#)	<b>Dissolved Oxygen</b>	
Estimated Channel Incision: <u>2</u> (m) (height between low bank width and water)		Date: <u>9/18/07</u>	Time: <u>1102</u>
GPS Location (taken at transect 1):		Dissolved Oxygen: <u>6.42</u> (mg/L)	
UTM X: <u>4308930</u> UTM Y: <u>0636409</u>		Dissolved Oxygen: <u>68.2</u> (% sat)	
Horizontal Accuracy Estimate (GPS Data Quality): +/- <u>22</u> (feet)		Specific Cond: <u>431.0</u> (µS/cm)	
GPS Location (taken at transect 11):		Water Temp.: <u>18.4</u> (°C)	
UTM X: <u>4309059</u> UTM Y: <u>0636274</u>			
Horizontal Accuracy Estimate (GPS Data Quality): +/- <u>20</u> (feet)			
Average Stream Width: <u>4.5</u> (meters)	Length of Survey Segment: <u>150</u> (meters)		
(To determine Length of Reach) (20x average stream width)			
Field Staff: <u>JH/JF</u>			

### 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	0.91	0.25	0.26	0.00	0.45	0.00	1.02	0.00	0.40	0.04	0.46	0.00	0.13	0.00	0.21	0.00	0.20	0.00	0.65	0.04	0.23	0.05
2	1.82	0.40	0.52		0.90		2.04		0.80	0.05	0.92		0.26		0.42		0.40		1.30	0.10	0.46	0.05
3	2.73	0.45	0.78		1.35		3.06		1.70	0.10	1.38		0.39		0.63		0.60		1.95	0.16	0.69	0.02
4	3.64	0.55	1.04		1.80		4.08		1.60	0.11	1.84		0.52		0.84		0.80		2.60	0.27	0.92	0.06
5	4.55	0.60	1.30		2.25		5.10		2.00	0.14	2.30		0.65		1.05		1.00		3.25	0.31	1.15	0.05
6	5.46	0.73	1.56		2.70		6.12		2.40	0.15	2.76		0.78		1.26		1.20		3.90	0.32	1.38	0.04
7	6.37	0.75	1.82		3.15		7.14		2.80	0.19	3.22		0.91		1.47		1.40		4.55	0.25	1.61	0.04
8	7.28	0.80	2.08		3.60		8.16		3.20	0.21	3.68		1.04		1.68		1.60		5.20	0.24	1.84	0.03
9	8.19	0.40	2.34		4.05		9.18		3.60	0.15	4.14		1.17		1.89		1.80		5.85	0.19	2.07	0.05
Right Bank	1.10	0	2.60	0	4.50	0	10.20	0	4.00	0	4.60	0	1.30	0	2.10	0	2.00	0	6.50	0	2.30	0
Feature Type (riffle, run, or pool)	pool		dm		dm		dm		pool		dm		dm		dm		dm		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 location corresponds to Transect 01 and Transect 11, transects ordered in upstream to downstream order.

Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten).

Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

RUC 10-18-07

Signed: Jennifer Habib Date: 10/10/07

WBID # 0098

Site # 03

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

**Data Sheet B – Site Characterization**

(must be completed for each site)

Date & Time: <u>9/28/07 1120</u>	Site Location Description (e.g., road crossing): <u>100m downstream of site 02</u>
Personnel (Data Collectors): <u>JH/JF</u>	
Current Weather Conditions: <u>clear</u>	Facility Name: <u>Curryville WWTF</u>
Weather Conditions for Past 10 days: <u>rain clear</u>	Permit Number: <u>MO 0040801</u>
Drought Conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

**Site Location:**

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): <u>4369069</u>	Northing (UTM Y): <u>0636191</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>19</u> <sup>JRH</sup> Meters <u>f+</u>
Site 11	Easting (UTM X): <u>4369192</u>	Northing (UTM Y): <u>0636142</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>22</u> <sup>JRH</sup> Meters <u>f+</u>

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>101-277</u>	<u>upstream</u>	<u>101-278</u>	<u>downstream</u>		

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

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

WBID # 0098

Site # 03

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

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

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

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

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

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

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

5 % Cobble	10 % Gravel	5 % Sand	% Silt	80 % Mud/Clay	% Bedrock
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**Aquatic Vegetation\*:** (Note amount of vegetation or algal growth at the assessment site)

algae narrow leaved pond weed water primrose	cattails
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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 checked="" type="checkbox"/> Sludge	<input checked="" type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input 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 effect another use.

WBID # 0098

Site # 03

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

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

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

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

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

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

Surveyor's Signature: Jennifer Drabik Date of Survey: 9/28/07

Organization: AE Solutions Position: Env. Specialist

AUC 10-13-07

### Recreational Use Attainability Analysis Field Survey Sheet

Waterbody ID: 0098 Site #: 0098-03  
(WBID\_Site#)

Estimated Channel Incision: 2 (m) (height between low bank width and water)

GPS Location (taken at transect 1):  
 UTM X: 43691069 UTM Y: 0636191 19 (feet)  
 Horizontal Accuracy Estimate (GPS Data Quality): +/- 19 (feet)

GPS Location (taken at transect 11):  
 UTM X: 4369192 UTM Y: 0636142 22 (feet)  
 Horizontal Accuracy Estimate (GPS Data Quality): +/- 22 (feet)

Average Stream Width: 4.0 (meters) Length of Survey Segment: 150 (meters)  
(To determine Length of Reach) (20x average stream width)

Field Staff: JH/JF

**Dissolved Oxygen**

Date: 9/28/07 Time: 1120

Dissolved Oxygen: 8.35 (mg/L)

Dissolved Oxygen: 94.90 (% sat)

Specific Cond: 591.0 (µS/cm)

Water Temp.: 21.1 (°C)

		Transect Cross Section																					
		01		02		03		04		05		06		07		08		09		10		11	
Station		Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	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		0.51	0.17	0.38	0.00	0.39	0.00	0.42	0.31	0.48	0.05	0.41	0.18	0.46	0.12	0.44	0.00	0.14	0.00	0.63	0.30	0.11	0.01
2		1.02	0.23	0.76		0.78		0.84	0.45	0.96	0.10	0.82	0.20	0.92	0.21	0.88		0.28		1.26	0.35	0.22	0.04
3		1.53	0.24	1.14		1.17		1.26	0.70	1.44	0.16	1.23	0.23	1.38	0.29	1.32		0.42		1.89	0.42	0.33	0.04
4		2.04	0.25	1.52		1.56		1.68	0.80	1.92	0.30	1.64	0.25	1.84	0.33	1.76		0.56		2.52	0.46	0.44	0.02
5		2.55	0.25	1.90		1.95		2.10	0.70	2.40	0.40	2.05	0.29	2.30	0.25	2.20		0.70		3.15	0.40	0.55	0.05
6		3.06	0.21	2.28		2.34		2.52	0.48	2.88	0.40	2.46	0.24	2.76	0.23	2.64		0.84		3.78	0.36	0.66	0.04
7		3.57	0.15	2.66		2.73		2.94	0.31	3.36	0.35	2.87	0.16	3.22	0.16	3.08		0.98		4.41	0.26	0.77	0.01
8		4.08	0.14	3.04		3.12		3.36	0.20	3.84	0.25	3.28	0.14	3.68	0.12	3.52		1.12		5.04	0.13	0.88	0.04
9		4.59	0.08	3.42		3.51		3.78	0.09	4.32	0.14	3.69	0.07	4.14	0.06	3.96		1.26		5.67	0.12	0.99	0.01
Right Bank		5.10	0	3.80	0	3.90	0	4.25	0	4.80	0	4.10	0	4.62	0	4.40	0	1.40	0	6.30	0	1.10	0
Feature Type (riffle, run, or pool)		pool		dry		dry		pool		pool		pool		pool		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 location corresponds to Transect 01 and Transect 11. Transects ordered in upstream to downstream order.  
 Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)  
 Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)  
 All measurements to be taken to the nearest 0.01 meter.

dry 9/28/07  
 RUC 10-18-20

Signed: Jennifer Thabak Date: 10/10/07

WBID # 0098  
 Site # 04

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

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

Date & Time: <u>9/28/07 1200</u>	Site Location Description (e.g., road crossing): <u>city Rd 1</u>
Personnel (Data Collectors): <u>JH/JF</u>	
Current Weather Conditions: <u>clear</u>	Facility Name: <u>Curryville WWTF</u>
Weather Conditions for Past 10 days: <u>rain/clear</u>	Permit Number: <u>mo 0040801</u>
Drought Conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

**Site Location:**

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): <u>4370357</u>	Northing (UTM Y): <u>0635833</u>	Horizontal Accuracy: <u>20</u> <sup>JRH</sup> Meters <u>ft</u>
Site 11	Easting (UTM X): <u>4370556</u>	Northing (UTM Y): <u>0635851</u>	Horizontal Accuracy: <u>20</u> <sup>JRH</sup> Meters <u>ft</u>

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>101-279</u>	<u>upstream</u>	<u>101-280</u>	<u>downstream</u>		

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

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use *Data Sheet D- Recreational Use Interview* when conducting interviews.)

WBID # 0098

Site # 04

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

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

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

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

**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 checked="" type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock Watering
Comments / Other:				

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

% Cobble	30	% Gravel	40	% Sand	% Silt	30	% Mud/Clay	% Bedrock
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**Aquatic Vegetation\*:** (Note amount of vegetation or algal growth at the assessment site)

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

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: <u>Brown</u>
Bottom Deposit:	<input type="checkbox"/> Sludge	<input checked="" type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input checked="" 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 effect another use.

WBID # 0098

Site # 04

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

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

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

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

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

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

Surveyor's Signature: Jennifer Drabek Date of Survey: 9/28/07

Organization: AE Solutions Position: Env. Specialist

AUC 10-16-07

## Recreational Use Attainability Analysis Field Survey Sheet

Waterbody ID: 0098 Site #: 0098-04  
 (WBID\_Site#)

Estimated Channel Incision: 2.5 (m) (height between low bank width and water)

GPS Location (taken at transect 1):  
 UTM X: 4370357 UTM Y: 0635833 20  
 Horizontal Accuracy Estimate (GPS Data Quality): +/- 20 (feet)

GPS Location (taken at transect 11):  
 UTM X: 4370556 UTM Y: 0635851 20  
 Horizontal Accuracy Estimate (GPS Data Quality): +/- 20 (feet)

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

Field Staff: JH/JF

**Dissolved Oxygen**

Date: 9/28/07 Time: 1200

Dissolved Oxygen: 7.58 (mg/L)

Dissolved Oxygen: 82.5 (% sat)

Specific Cond: 507.0 (µS/cm)

Water Temp.: 19.7 (°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	0.90	0.51	0.87	0.65	0.85	0.14	1.40	0.08	1.60	0.00	1.10	0.60	0.26	0.00	0.48	0.11	0.11	0.02	0.50	0.09		
2	1.80	0.79	1.74	0.75	1.70	0.34	2.80	0.15	3.20		2.20	1.20	0.52		0.96	0.23	0.22	0.02	1.00	0.06		
3	2.70	0.74	2.61	0.62	2.55	0.55	4.20	0.14	4.80		3.30	1.80	0.78		1.44	0.27	0.33	0.02	1.50	0.14		
4	3.60	0.102	3.48	0.70	3.40	0.54	5.60	0.18	6.40		4.40	2.40	1.04		1.92	0.30	0.44	0.04	2.00	0.20		
5	4.50	0.60	4.35	0.46	4.25	0.40	7.00	0.19	8.00		5.50	3.00	1.30		2.40	0.32	0.55	0.06	2.50	0.25		
6	5.40	0.65	5.22	0.33	5.10	0.38	8.40	0.11	9.60		6.60	3.60	1.56		2.88	0.35	0.66	0.05	3.00	0.16		
7	6.30	0.61	6.09	0.24	5.95	0.29	9.80	0.12	11.20		7.70	4.20	1.82		3.36	0.30	0.77	0.01	3.50	0.09		
8	7.20	0.42	6.96	0.16	6.80	0.20	11.20	0.10	12.80		8.80	4.80	2.08		3.84	0.22	0.88	0.05	4.00	0.14		
9	8.10	0.18	7.83	0.12	7.65	0.13	12.60	0.04	14.40		9.90	5.40	2.34		4.32	0.15	0.99	0.02	4.50	0.17		
Right Bank	9.00	0	8.75	0	8.50	0	14.00	0	16.00	0	11.00	6.00	2.60	0	4.80	0	1.10	0	5.00	0		
Feature Type (riffle, run, or pool)	pool		pool		pool		pool		dry		dry		dry		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 location corresponds to Transect 01 and Transect 11. Transects ordered in upstream to downstream order. Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten). Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1). All measurements to be taken to the nearest 0.01 meter.

RUC = 10-16-07

Signed: Jennifer Drabek Date: 10/10/07

WBID # 0098

Site # 05

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

**Data Sheet B – Site Characterization**

(must be completed for each site)

Date & Time: <u>9/28/07 1230</u>	Site Location Description (e.g., road crossing): <u>100m downstream of site 04</u>
Personnel (Data Collectors): <u>JH/JF</u>	
Current Weather Conditions: <u>clear</u>	Facility Name: <u>Curryville WWTF</u>
Weather Conditions for Past 10 days: <u>rain/clear</u>	Permit Number: <u>MO 0040801</u>
Drought Conditions?: No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

**Site Location:**

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)					
Site 01	Easting (UTM X): <u>4370583</u>	Northing (UTM Y): <u>0635964</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>17</u>	<u>JRH</u>	<u>ft</u>
Site 11	Easting (UTM X): <u>4370759</u>	Northing (UTM Y): <u>0635996</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>21</u>	<u>JRH</u>	<u>ft</u>

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>101-251</u>	<u>upstream</u>	<u>101-252</u>	<u>downstream</u>		

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

<input type="checkbox"/> Swimming	<input type="checkbox"/> Skin diving	<input type="checkbox"/> SCUBA diving	<input type="checkbox"/> Tubing	<input type="checkbox"/> Water skiing
<input type="checkbox"/> Wind surfing	<input type="checkbox"/> Kayaking	<input type="checkbox"/> Boating	<input type="checkbox"/> Wading	<input type="checkbox"/> Rafting
<input type="checkbox"/> Hunting	<input type="checkbox"/> Trapping	<input type="checkbox"/> Fishing	<input checked="" type="checkbox"/> None of the above	<input type="checkbox"/> Other:

Describe: (Include number of individuals recreating, photo-documentation of evidence of recreational uses, etc. Use Data Sheet D- Recreational Use Interview when conducting interviews.)

WBID # 0098  
 Site # 05

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

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

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

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

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

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

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

% Cobble	<i>10</i>	% Gravel	<i>5</i>	% Sand		% Silt	<i>5</i>	% Mud/Clay	<i>80</i>	% Bedrock
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**Aquatic Vegetation\*:** (Note amount of vegetation or algal growth at the assessment site)

<i>algae</i>	<i>duckweed</i>
<i>water primrose</i>	
<i>narrow leaved pondweed</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 checked="" type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input checked="" type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input 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 effect another use.

WBID # 0098

Site # 05

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

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

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

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

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

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

Surveyor's Signature: Jennifer Thabert Date of Survey: 9/28/07

Organization: AE Solutions Position: Env. Specialist

*AUC 10-14-07*

## Recreational Use Attainability Analysis Field Survey Sheet

Waterbody ID: 0098 Site #: 0098-05  
(WBID\_Site#)

Estimated Channel Incision: 2 (m) (height between low bank width and water)

GPS Location (taken at transect 1):  
 UTM X: 4370583 UTM Y: 0635964  
 Horizontal Accuracy Estimate (GPS Data Quality): +/- 17 (feet)

GPS Location (taken at transect 11):  
 UTM X: 4370759 UTM Y: 0635996  
 Horizontal Accuracy Estimate (GPS Data Quality): +/- 21 (feet)

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

Field Staff: JA/JF

**Dissolved Oxygen**

Date: 9/28/07 Time: 12:30

Dissolved Oxygen: 6.73 (mg/L)

Dissolved Oxygen: 74.8 (% sat)

Specific Cond: 292.7 (µS/cm)

Water Temp.: 19.9 (°C)

### 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	1.80	0.12	0.89	0.24	0.21	0.01	0.40	0.09	0.45	0.00	0.30	0.00	0.37	0.00	0.50	0.46	0.54	0.40	0.59	0.08	1.00	0.07
	2	3.60	0.10	1.78	0.44	0.42	0.01	0.80	0.15	0.90		0.60		0.74		1.00	0.47	0.08	0.50	1.18	0.09	2.00	0.15
	3	5.40	0.24	2.67	0.48	0.63	0.00	1.20	0.23	1.35		0.90		1.11		1.50	0.50	1.62	0.59	1.77	0.27	3.00	0.21
	4	7.20	0.50	3.56	0.41	0.84	0.01	1.60	0.24	1.80		1.20		1.48		2.00	0.47	2.16	0.56	2.36	0.31	4.00	0.26
	5	9.00	0.55	4.45	0.40	1.05	0.00	2.00	0.22	2.25		1.50		1.85		2.50	0.47	2.70	0.55	2.95	0.25	5.00	0.25
	6	10.80	0.64	5.34	0.24	1.26	0.02	2.40	0.22	2.70		1.80		2.22		3.00	0.47	3.24	0.48	3.54	0.18	6.00	0.14
	7	12.60	0.73	6.23	0.26	1.47	0.01	2.80	0.18	3.15		2.10		2.59		3.50	0.42	3.78	0.39	4.13	0.19	7.00	0.12
	8	14.40	0.76	7.12	0.35	1.68	0.05	3.20	0.08	3.60		2.40		2.96		4.00	0.22	4.32	0.30	4.72	0.18	8.00	0.18
	9	16.20	0.52	8.01	0.10	1.89	0.03	3.60	0.06	4.05		2.70		3.33		4.50	0.09	4.86	0.12	5.31	0.10	9.00	0.20
Right Bank		18.0	0	8.90	0	2.10	0	4.00	0	4.50	0	3.05	0	3.70	0	5.00	0	5.40	0	5.95	0	10.00	0
Feature Type (riffle, run, or pool)		pool		pool		pool		pool		dry		dry		dry		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 location corresponds to Transect 01 and Transect 11. Transects ordered in upstream to downstream order.  
 Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten).  
 Mark dry depth measurements as 0; record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1).  
 All measurements to be taken to the nearest 0.01 meter.

RUC 10-15-07

Signed: Jennifer Drabek Date: 9/10/07

WBID# 0098 S. Spencer Cr



WBID# 0098 S. Spencer Cr



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