

Use Attainability Analysis

for

WBID 3188 North Fork Spring River

Submitted by
SES Inc.

to

Missouri Department of Natural Resources
Water Protection Program

Date received: October 26, 2007

Field Data Sheets for Recreation 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):	North FK. Spring R.
Missouri Water Body Identification (WBID) Number:	3188
8 digit HUC code: 11070207	County: Jasper, Barton, Dade
Upstream Legal Description (from Table H):	T30N R28W 20
Downstream Legal Description (from Table H):	T29N R32W 1
Number of sites evaluated:	31
List all site numbers, listed consequently upstream to downstream: 31, 28, 27, 26, 25, 24, 30, 29, 22, 23, 18, 21, 17, 16, 20, 15, 14, 13, 12, 11, 10, 19, 9, 8, 7, 4, 3, 6, 5, 2, 1	

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

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

Facility Name(s) and Permit Number(s): William Emmerling Jr. MO0124028
--

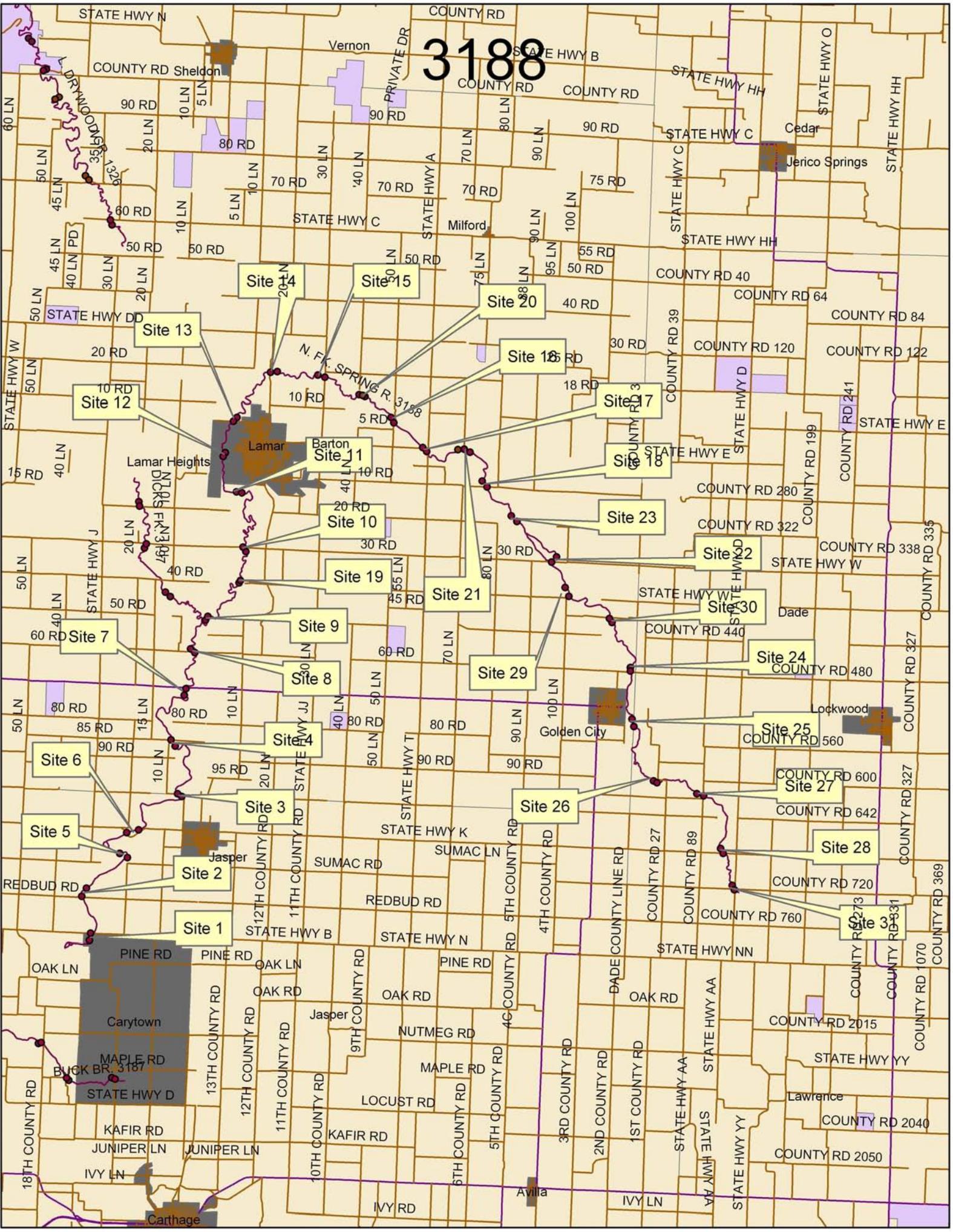
III. UAA Surveyor (please print legibly)

Name of Surveyor: Aaron Ball	Telephone Number: 913-307-0046
Organization/Employer: SES, Inc	

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

Signed: Aaron Ball **Date:** 10/23/2007

3188



WBID # 3188
 Site # 31

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9/28/07 9:00 am	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown, Aaron Ball	182 Road crossing
Current Weather Conditions: clear	Facility Name: William Emmerling Jr.
Weather conditions for the past 10 days: 4 in.	Permit Number: MO0124028
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):	Northing (UTM Y):	Horizontal Accuracy:
	0408924	4130688	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0408822	4130895	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
79	upstream	80	downstream		
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:

<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:				

WBID # 3188
 Site # 31

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<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/walkways
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:

Comments:

Evidence of Human Use:

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

comments/other:

none

Substrate:

40 % Cobble	60 % Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
-------------	-------------	--------	--------	------------	-----------

Aquatic Vegetation:

rooted vegetation 10%

Water Characteristics:

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 type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 3188
Site # 31

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.)

None

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

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3188</u> Site #: <u>31</u> Estimated Channel Incision: <u>1</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0408924</u> UTM Y: <u>4142861</u> +/- _____ (meters) 11 UTM X: <u>0408822</u> UTM Y: <u>4130895</u> +/- _____ (meters) Average Stream Width: <u>8</u> (meters) Length of Survey Segment: <u>160</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Larissa Brown, Aaron Ball</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>9/28/07</u> Time: <u>9:00am</u> Dissolved Oxygen: _____ (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: _____ (°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	0.8	0.4	0	0.8	0.7	0.1	0.7	0.75	0.9	0.15	1.1	0.4	0.7	0.35	0.1	0.1	0.1	0.05	0.4	0.2	0.1	0.05
2	1.6	1	0	0.95	1.4	0	1.4	0.8	1.8	0.2	2.2	0.5	1.4	0.45	0.2	0.1	0.2	0.05	0.8	0.2	0.2	0.05
3	2.4	1	0	1	2.1	0.05	2.1	0.8	2.7	0.5	3.3	1	2.1	0.65	0.3	0.1	0.3	0.1	1.2	0.2	0.3	0.05
4	3.2	1	0	1	2.8	0.15	2.8	0.85	3.6	0.8	4.4	1	2.8	0.7	0.4	0.05	0.4	0.1	1.6	0.25	0.4	0.1
5	4	1	0.7	1	3.5	1	3.5	0.95	4.5	1	5.5	1	3.5	0.7	0.5	0.05	0.5	0.1	2	0.3	0.5	0.1
6	4.8	1	0	1	4.2	1	4.2	0.95	5.4	1	6.6	1	4.2	0.8	0.6	0.05	0.6	0.1	2.4	0.25	0.6	0.1
7	5.6	1	0	1	4.9	1	4.9	0.9	6.3	0.95	7.7	1	4.9	0.85	0.7	0.05	0.7	0.05	2.8	0.3	0.7	0.05
8	6.4	0.95	0	0.95	5.6	1	5.6	0.9	7.2	0.1	8.8	1	5.6	0.8	0.8	0.05	0.8	0.05	3.2	0.3	0.8	0.05
9	7.2	0.65	0	0.85	6.3	0.85	6.3	0.7	8.1	0.1	9.9	1	6.3	0.75	0.9	0.05	0.9	0.05	3.6	0.2	0.9	0.05
Right Bank	8	0	7	0	7	0	7	0	9	0	11	0	7	0	1	0	1	0	4	0	1	0
Feature Type <small>(riffle, run, or pool)</small>	pool		riffle		riffle		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 0.01 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Signed: _____ Date: _____

WBID # 3188
 Site # 28

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9/28/07 8:45am	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown, Aaron Ball	Poute A crossing
Current Weather Conditions: clear	Facility Name: William Emmerling Jr.
Weather conditions for the past 10 days: 4 in.	Permit Number: MO0124028
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):	Northing (UTM Y):	Horizontal Accuracy:
	0408408	4132355	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0408290	4132577	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
73	upstream	78	downstream		
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:

<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:				

WBID # 3188
 Site # 27

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<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/walkways
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:
Comments:				

Evidence of Human Use:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/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:

% Cobble	50	% Gravel	% Sand	% Silt	% Mud/Clay	50	% Bedrock
----------	----	----------	--------	--------	------------	----	-----------

Aquatic Vegetation:

Algae along bottom rocks

Water Characteristics:

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 type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 3188
Site # 28

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.)

None

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

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3188</u> Site #: <u>28</u> Estimated Channel Incision: <u>2.5</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0408408</u> UTM Y: <u>4132355</u> +/- _____ (meters) 11 UTM X: <u>0408290</u> UTM Y: <u>4132577</u> +/- _____ (meters) Average Stream Width: <u>6</u> (meters) Length of Survey Segment: <u>120</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Larissa Brown, Aaron Ball</u>	Dissolved Oxygen Date: <u>9/28/07</u> Time: <u>8:45am</u> Dissolved Oxygen: _____ (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: _____ (°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	0
1	0.6	0.1	0	0.1	0.8	0.1	0.8	0.1	0.9	0.4	1	0.45	1.1	0.5	1	0.6	0.9	0.2	1.2	0.25	0.6	0.2	
2	1.2	0.2	0	0.05	1.6	0.1	1.6	0.1	1.8	0.4	2	0.3	2.2	0.4	2	0.7	1.8	0.25	2.4	0.5	1.2	0.35	
3	1.8	0.15	0	0.05	2.4	0.2	2.4	0.15	2.7	0.5	3	0.5	3.3	0.45	3	0.65	2.7	0.4	3.6	0.6	1.8	0.6	
4	2.4	0.2	0	0.05	3.2	0.15	3.2	0.05	3.6	0.45	4	0.45	4.4	0.6	4	0.8	3.6	0.35	4.8	0.7	2.4	0.7	
5	3	0.2	0.6	0.1	4	0.2	4	0.4	4.5	0.45	5	0.45	5.5	0.6	5	0.7	4.5	0.5	6	0.8	3	0.7	
6	3.6	0.5	0	0	4.8	0.2	4.8	0.3	5.4	0.25	6	0.5	6.6	0.6	6	0.7	5.4	0.7	7.2	0.75	3.6	0.75	
7	4.2	0.5	0	0	5.6	0.2	5.6	0.3	6.3	0.3	7	0.4	7.7	0.45	7	0.7	6.3	0.6	8.4	0.8	4.2	0.7	
8	4.8	0.1	0	0.05	6.4	0.4	6.4	0.25	7.2	0.2	8	0.3	8.8	0.4	8	0.65	7.2	0.5	9.6	0.65	4.8	0.7	
9	5.4	0.1	0	0.05	7.2	0.4	7.2	0.3	8.1	0.2	9	0.35	9.9	0.25	9	0.45	8.1	0.5	10.8	0.35	5.4	0.65	
Right Bank	6	0	6	0	8	0	8	0	9	0	10	0	11	0	10	0	9	0	12	0	6	0	
Feature Type <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 0.01 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Signed: _____ Date: _____

WBID # 3188
 Site # 27

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9/27/07 4:15pm	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown, Aaron Ball	Road 21 crossing
Current Weather Conditions: clear	Facility Name: William Emmerling Jr.
Weather conditions for the past 10 days: 4 in.	Permit Number: MO0124028
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):	Northing (UTM Y):	Horizontal Accuracy:
	0407520	4134965	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	4135058	0407217	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
71	upstream	72	downstream		
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:

<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:				

WBID # 3188
 Site # 27

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<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/walkways
<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: None				

Evidence of Human Use:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: none				

Substrate:

% Cobble	80	% Gravel	% Sand	% Silt	% Mud/Clay	20	% Bedrock
----------	----	----------	--------	--------	------------	----	-----------

Aquatic Vegetation:

Algae along water column on bottom 80%
--

Water Characteristics:

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 type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 3188
Site # 27

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.)

None

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

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3188</u> Site #: <u>27</u> Estimated Channel Incision: <u>2</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0407520</u> UTM Y: <u>4134965</u> +/- _____ (meters) 11 UTM X: <u>0407217</u> UTM Y: <u>4135058</u> +/- _____ (meters) Average Stream Width: <u>12</u> (meters) Length of Survey Segment: _____ (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Larissa Brown, Aaron Ball</u>	Dissolved Oxygen Date: <u>9/27/07</u> Time: <u>4:15pm</u> Dissolved Oxygen: <u>9.7</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>21.9</u> (°C)
---	--

Transect Cross-Section

Station		01		02		03		04		05		06		07		08		09		10		11	
		Distance (m)	Depth (m)																				
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	1	0.1	0	0.1	1	0.25	1.8	0.1	2.1	0.15	1	0.05	0.3	0.05	1.9	0.3	1.8	0.7	0.2	0.05	2	0.3	
2	2	0.25	0	0.2	2	0.45	3.6	0.1	4.2	0.05	2	0	0.6	0.1	3.8	0.4	3.6	0.7	0.4	0.1	4	0.5	
3	3	0.5	0	0.25	3	0.6	5.4	0.3	6.3	0.2	3	0	0.9	0.05	5.7	0.4	5.4	0.8	0.6	0.1	6	0.55	
4	4	0.7	0	0.2	4	0.8	7.2	0.6	8.4	0.4	4	0	1.2	0.1	7.6	0.55	7.2	0.8	0.8	0.1	8	0.55	
5	5	0.8	1	0.2	5	1	9	1	10.5	0.5	5	0.05	1.5	0.1	9.5	0.5	9	0.7	1	0.1	10	0.9	
6	6	0.7	0	0.2	6	1	10.8	1	12.6	0.5	6	0.05	1.8	0.1	11.4	0.65	10.8	0.7	1.2	0.1	12	0.9	
7	7	0.65	0	0.25	7	1	12.6	1	14.7	0.6	7	0.1	2.1	0.1	13.3	0.9	12.6	0.75	1.4	0.05	14	0.9	
8	8	0.6	0	0.2	8	1	14.4	0.9	16.8	0.8	8	0.1	2.4	0.1	15.2	0.95	14.4	0.8	1.6	0.05	16	0.1	
9	9	0.5	0	0.1	9	1	16.2	0.65	18.9	0.9	9	0.05	2.7	0.05	17.1	0.85	16.2	0.75	1.8	0.05	18	0.9	
Right Bank	10	0	10	0	10	0	18	0	21	0	10	0	3	0	19	0	18	0	2	0	20	0	
Feature Type <small>(riffle, run, or pool)</small>	pool		pool		pool		pool		pool		riffle		riffle		pool		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 0.01 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Signed: _____ Date: _____

WBID # 3188
 Site # 26

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9/27/07 3:30pm	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown, Aaron Ball	Route 11 crossing
Current Weather Conditions: clear	Facility Name: William Emmerling Jr.
Weather conditions for the past 10 days: 4 in.	Permit Number: MO0124028
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):	Northing (UTM Y):	Horizontal Accuracy:
	0405401	4135571	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0405246	4135650	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
69	upstream	70	downstream		
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:

<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:				

WBID # 3188
 Site # 26

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<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/walkways
<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:
 None

Evidence of Human Use:

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

comments/other:
 none

Substrate:

% Cobble	50	% Gravel	% Sand	% Silt	50	% Mud/Clay	% Bedrock
----------	----	----------	--------	--------	----	------------	-----------

Aquatic Vegetation:

None

Water Characteristics:

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 type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 3188
Site # 26

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.)

None

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

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3188</u> Site #: <u>26</u> Estimated Channel Incision: <u>2</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0405401</u> UTM Y: <u>4135571</u> +/- _____ (meters) 11 UTM X: <u>0405246</u> UTM Y: <u>4135650</u> +/- _____ (meters) Average Stream Width: <u>5</u> (meters) Length of Survey Segment: <u>100</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Larissa Brown, Aaron Ball</u>	Dissolved Oxygen Date: <u>9/27/07</u> Time: <u>3:30pm</u> Dissolved Oxygen: <u>3.4</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>20.9</u> (°C)
---	--

Transect Cross-Section

Station		01		02		03		04		05		06		07		08		09		10		11	
		Distance (m)	Depth (m)																				
Left Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1	0.2	0.1	0	0	0.2	0	0.2	0	0.2	0	0.3	0.05	0.2	0	0.1	0.05	0.3	0.05	0.1	0.1	0.1	0.05
	2	0.4	0.1	0	0	0.4	0	0.4	0	0.4	0	0.6	0.1	0.4	0	0.2	0.05	0.6	0.1	0.2	0.15	0.2	0.05
	3	0.6	0.2	0	0	0.6	0	0.6	0	0.6	0	0.9	0.1	0.6	0	0.3	0.05	0.9	0.2	0.3	0.2	0.3	0.1
	4	0.8	0.15	0	0	0.8	0	0.8	0	0.8	0	1.2	0.1	0.8	0	0.4	0.05	1.2	0.25	0.4	0.2	0.4	0.1
	5	1	0.1	0.2	0	1	0	1	0	1	0	1.5	0.05	1	0	0.5	0.05	1.5	0.3	0.5	0.2	0.5	0.1
	6	1.2	0.1	0	0	1.2	0	1.2	0	1.2	0	1.8	0.1	1.2	0	0.6	0.05	1.8	0.3	0.6	0.1	0.6	0.1
	7	1.4	0.1	0	0	1.4	0	1.4	0	1.4	0	2.1	0.1	1.4	0	0.7	0.05	2.1	0.3	0.7	0.1	0.7	0.05
	8	1.6	0.1	0	0	1.6	0	1.6	0	1.6	0	2.4	0.1	1.6	0	0.8	0.05	2.4	0.3	0.8	0.1	0.8	0.05
	9	1.8	0.05	0	0	1.8	0	1.8	0	1.8	0	2.7	0.1	1.8	0	0.9	0.05	2.7	0.15	0.9	0.1	0.9	0.05
Right Bank		2	0	2	0	2	0	2	0	2	0	3	0	2	0	1	0	3	0	1	0	1	0
Feature Type <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 0.01 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Signed: _____ Date: _____

WBID # 3188
 Site # 25

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9/27/07 2:15pm	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown, Aaron Ball	site off of SE 75 Rd
Current Weather Conditions: clear	Facility Name: William Emmerling Jr.
Weather conditions for the past 10 days: 4 in.	Permit Number: MO0124028
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):	Northing (UTM Y):	Horizontal Accuracy:
	0404359	4138124	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0404270	4138459	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
67	downstream	68	upstream		
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:

<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:				

WBID # 3188
 Site # 25

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<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/walkways
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:

Comments:

Evidence of Human Use:

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

comments/other:

none

Substrate:

% Cobble	40	% Gravel	% Sand	10	% Silt	% Mud/Clay	50	% Bedrock
----------	----	----------	--------	----	--------	------------	----	-----------

Aquatic Vegetation:

Water Characteristics:

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 type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 3188
Site # 25

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.)

None

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

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3188</u> Site #: <u>25</u> Estimated Channel Incision: <u>3</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0404359</u> UTM Y: <u>4138124</u> +/- _____ (meters) 11 UTM X: <u>0404270</u> UTM Y: <u>4138459</u> +/- _____ (meters) Average Stream Width: <u>10</u> (meters) Length of Survey Segment: <u>200</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Larissa Brown, Aaron Ball</u>	Dissolved Oxygen Date: <u>9/27/07</u> Time: <u>2:15pm</u> Dissolved Oxygen: <u>6.3</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>23.4</u> (°C)
--	--

Transect Cross-Section

Station		01		02		03		04		05		06		07		08		09		10		11	
		Distance (m)	Depth (m)																				
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.5	0.15	1.8	0.5	1.8	0.5	2.5	0.6	2.4	0.6	1.2	0.45	1.5	0.1	1.2	0.15	0.7	0.05	0.7	0.1	0.7	0.05	
2	1	0.25	3.6	0.55	3.6	0.8	5	0.7	4.8	0.65	2.4	0.5	3	0.2	2.4	0.25	1.4	0.05	1.4	0.1	1.4	0.05	
3	1.5	0.4	5.4	0.6	5.4	0.7	7.5	0.75	7.2	0.9	3.6	0.5	4.5	0.4	3.6	0.3	2.1	0.1	2.1	0.1	2.1	0.05	
4	2	0.4	7.2	0.6	7.2	1	10	0.75	9.6	0.95	4.8	0.5	6	0.4	4.8	0.3	2.8	0.1	2.8	0.1	2.8	0.1	
5	2.5	0.45	9	0.6	9	0.85	12.5	0.7	12	0.9	6	0.35	7.5	0.45	6	0.3	3.5	0.1	3.5	0.15	3.5	0.1	
6	3	0.5	10.8	0.6	10.8	0.8	15	0.8	14.4	1	7.2	0.5	9	0.4	7.2	0.15	4.2	0.1	4.2	0.2	4.2	0.05	
7	3.5	0.5	12.6	0.5	12.6	0.6	17.5	0.8	16.8	1	8.4	0.45	10.5	0.4	8.4	0.2	4.9	0.1	4.9	0.2	4.9	0.1	
8	4	0.4	14.4	0.5	14.4	0.6	20	0.65	19.2	1	9.6	0.4	12	0.35	9.6	0.1	5.6	0.15	5.6	0.2	5.6	0.05	
9	4.5	0.3	16.2	0.4	16.2	0.6	22.5	0.45	21.6	0.95	10.8	0.35	13.5	0.25	10.8	0	6.3	0.1	6.3	0.15	6.3	0.05	
Right Bank	5	0	18	0	18	0	25	0	24	0	12	0	15	0	12	0	7	0	7	0	7	0	
Feature Type <small>(riffle, run, or pool)</small>	pool		pool		pool		pool		pool		pool		pool		pool		riffle		riffle		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 0.01 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Signed: _____ Date: _____

WBID # 3188
 Site # 24

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9/27/07 1:30pm	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown, Aaron Ball	SE 60 rd crossing
Current Weather Conditions: clear	Facility Name: William Emmerling Jr.
Weather conditions for the past 10 days: 4 in.	Permit Number: MO0124028
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):	Northing (UTM Y):	Horizontal Accuracy:
	0404202	4140647	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0404194	4140807	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
65	upstream	64	downstream		
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:

<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:				

WBID # 3188
 Site # 24

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<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/walkways
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:

Comments:

Evidence of Human Use:

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

comments/other:

none

Substrate:

20 % Cobble	50 % Gravel	% Sand	% Silt	% Mud/Clay	30 % Bedrock
-------------	-------------	--------	--------	------------	--------------

Aquatic Vegetation:

Rooted aquatic vegetation along banks and riffle areas

Water Characteristics:

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

WBID # 3188
Site # 24

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.)

None

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

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3188</u> Site #: <u>24</u> Estimated Channel Incision: <u>3</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0404202</u> UTM Y: <u>4140647</u> +/- _____ (meters) 11 UTM X: <u>0404194</u> UTM Y: <u>4140807</u> +/- _____ (meters) Average Stream Width: <u>6</u> (meters) Length of Survey Segment: <u>120</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Larissa Brown, Aaron Ball</u>	Dissolved Oxygen Date: <u>9/27/07</u> Time: <u>1:30pm</u> Dissolved Oxygen: <u>5.3</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>21.3</u> (°C)
---	--

Transect Cross-Section

Station		01		02		03		04		05		06		07		08		09		10		11	
		Distance (m)	Depth (m)																				
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.3	0.1	0.6	0.1	1	0.5	0.5	0.1	1.5	0.7	0.8	0.1	1.5	0.1	0.8	0.05	0.7	0.1	0.5	0.1	0.9	0.2	
2	0.6	0.1	1.2	0.1	2	0.45	1	0.15	3	0.8	1.6	0.1	3	0.05	1.6	0.1	1.4	0.4	1	0.1	1.8	0.25	
3	0.9	0.2	1.8	0.3	3	0.3	1.5	0.2	4.5	0.55	2.4	0.1	4.5	0.05	2.4	0.1	2.1	0.4	1.5	0.1	2.7	0.3	
4	1.2	0.2	2.4	0.55	4	0.1	2	0.3	6	0.4	3.2	0.1	6	0.35	3.2	0.1	2.8	0.4	2	0.1	3.6	0.25	
5	1.5	0.2	3	0.7	5	0.05	2.5	0.45	7.5	0.35	4	0.1	7.5	0.65	4	0.25	3.5	0.4	2.5	0.05	4.5	0.2	
6	1.8	0.2	3.6	0.8	6	0.15	3	0.6	9	0.6	4.8	0.15	9	0.8	4.8	0.2	4.2	0.4	3	0.05	5.4	0.15	
7	2.1	0.1	4.2	0.7	7	0.15	3.5	0.55	10.5	0.6	5.6	0.15	10.5	0.75	5.6	0.2	4.9	0.15	3.5	0	6.3	0.15	
8	2.4	0.1	4.8	0.7	8	0.1	4	0.55	12	0.4	6.4	0.1	12	0.5	6.4	0.3	5.6	0.15	4	0.1	7.2	0.15	
9	2.7	0.05	5.4	0.5	9	0.1	4.5	0.55	13.5	0.2	7.2	0.1	13.5	0.35	7.2	0.3	6.3	0.2	4.5	0.1	8.1	0.1	
Right Bank	3	0	6	0	10	0	5	0	15	0	8	0	15	0	8	0	7	0	5	0	9	0	
Feature Type <small>(riffle, run, or pool)</small>	riffle		pool		riffle		pool		pool		pool		riffle		riffle		pool		riffle		run		

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

Signed: _____ Date: _____

WBID # 3188
 Site # 30

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9/28/07 7:20am	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown, Aaron Ball	Road crossing 45 Rd
Current Weather Conditions: clear	Facility Name: William Emmerling Jr.
Weather conditions for the past 10 days: 4 in.	Permit Number: MO0124028
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):	Northing (UTM Y):	Horizontal Accuracy:
	0403359	4142861	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0403244	4143047	

Photos:

Photo ID#	Photo Purpose	Photo ID#:	Photo Purpose	Photo ID#:	Photo Purpose
76	downstream	77	upstream		
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:

<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:				

WBID # 3188
 Site # 30

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<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/walkways
<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: None				

Evidence of Human Use:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: none				

Substrate:

% Cobble	90	% Gravel	% Sand	10	% Silt	% Mud/Clay	30	% Bedrock
----------	----	----------	--------	----	--------	------------	----	-----------

Aquatic Vegetation:

none

Water Characteristics:

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 checked="" type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 3188
Site # 30

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.)

None

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

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3188</u> Site #: <u>30</u> Estimated Channel Incision: <u>3</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0403359</u> UTM Y: <u>4142861</u> +/- _____ (meters) 11 UTM X: <u>0403244</u> UTM Y: <u>4143047</u> +/- _____ (meters) Average Stream Width: <u>6</u> (meters) Length of Survey Segment: <u>120</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Larissa Brown, Aaron Ball</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>9/28/07</u> Time: <u>7:20</u> Dissolved Oxygen: _____ (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: _____ (°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	0.3	0.25	0	0.3	0.6	0.1	0.9	0.3	0.6	0.1	0.7	0.05	0.2	0.1	1.2	0.1	0.3	0.1	0.1	0.1	1.3	0.5
2	0.6	0.35	0	0.3	1.2	0.3	1.8	0.4	1.2	0.2	1.4	0.1	0.4	0.15	2.4	0.1	0.6	0.1	0.2	0.2	2.6	0.75
3	0.9	0.4	0	0.25	1.8	0.3	2.7	0.6	1.8	0.3	2.1	0.1	0.6	0.2	3.6	0.1	0.9	0.1	0.3	0.2	3.9	0.9
4	1.2	0.4	0	0.2	2.4	0.4	3.6	0.7	2.4	0.3	2.8	0.15	0.8	0.25	4.8	0	1.2	0.1	0.4	0.2	5.2	0.95
5	1.5	0.4	0.4	0.15	3	0.35	4.5	0.7	3	0.3	3.5	0.3	1	0.25	6	0.1	1.5	0.15	0.5	0.1	6.5	0.85
6	1.8	0.4	0	0.15	3.6	0.3	5.4	0.7	3.6	0.1	4.2	0.4	1.2	0.2	7.2	0.2	1.8	0.2	0.6	0.1	7.8	0.65
7	2.1	0.35	0	0.15	4.2	0.35	6.3	0.65	4.2	0.1	4.9	0.25	1.4	0.1	8.4	0.2	2.1	0.15	0.7	0.05	9.1	0.45
8	2.4	0.35	0	0.1	4.8	0.2	7.2	0.6	4.8	0.1	5.6	0.1	1.6	0.1	9.6	0.25	2.4	0.1	0.8	0.05	10.4	0.3
9	2.7	0.2	0	0.1	5.4	0.1	8.1	0.5	5.4	0.1	6.3	0.1	1.8	0.05	10.8	0.15	2.7	0.1	0.9	0.05	11.7	0.25
Right Bank	3	0	4	0	6	0	9	0	6	0	7	0	2	0	12	0	3	0	1	0	13	0
Feature Type <small>(riffle, run, or pool)</small>	pool		riffle		pool		riffle		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 0.01 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Signed: _____ Date: _____

WBID # 3188
 Site # 29

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9/27/07 5:45 pm	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown, Aaron Ball	Route W
Current Weather Conditions: clear	Facility Name: William Emmerling Jr.
Weather conditions for the past 10 days: 4 in.	Permit Number: MO0124028
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):	Northing (UTM Y):	Horizontal Accuracy:
	0401231	4144456	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0401407	4144052	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
74	downstream	75	upstream		
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:

<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:				

WBID # 3188
 Site # 29

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input checked="" type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<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:				

Evidence of Human Use:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/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:

10 % Cobble	60 % Gravel	% Sand	% Silt	% Mud/Clay	30 % Bedrock
-------------	-------------	--------	--------	------------	--------------

Aquatic Vegetation:

none

Water Characteristics:

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 type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 3188
Site # 29

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.)

None

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

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3188</u> Site #: <u>29</u> Estimated Channel Incision: <u>4</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0401231</u> UTM Y: <u>4144456</u> +/- _____ (meters) 11 UTM X: <u>0401407</u> UTM Y: <u>4144052</u> +/- _____ (meters) Average Stream Width: <u>15</u> (meters) Length of Survey Segment: <u>300</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Larissa Brown, Aaron Ball</u>	Dissolved Oxygen Date: <u>9/27/07</u> Time: <u>5:30</u> Dissolved Oxygen: _____ (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: _____ (°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	0
1	1.5	0.2	0	0.4	2.1	0.25	1.7	0.1	2.2	0.3	2.2	0.65	2.3	0.8	2.5	0.7	2.2	0.8	2.3	0.45	2.3	0.7	
2	3	0.45	0	0.5	4.2	0.25	3.4	0.1	4.4	0	4.4	0.65	4.6	1	5	0.8	4.4	0.7	4.6	0.7	4.6	0.6	
3	4.5	0.6	0	0.5	6.3	0.5	5.1	0	6.6	0.4	6.6	0.6	6.9	1	7.5	0.9	6.6	0.75	6.9	0.7	6.9	0.6	
4	6	0.6	0	0.5	8.4	0.55	6.8	0	8.8	0.6	8.8	0.7	9.2	0.8	10	0.9	8.8	0.9	9.2	0.7	9.2	0.7	
5	7.5	0.6	1.9	0.55	10.5	0.6	8.5	0	11	0.7	11	0.7	11.5	0.8	12.5	1	11	0.95	11.5	0.75	11.5	0.8	
6	9	0.6	0	0.5	12.6	0.5	10.2	0.1	13.2	0.8	13.2	0.8	13.8	0.7	15	1	13.2	0.9	13.8	0.65	13.8	0.8	
7	10.5	0.55	0	0.4	14.7	0.5	11.9	0.3	15.4	0.8	15.4	0.85	16.1	0.75	17.5	1	15.4	1	16.1	0.65	16.1	0.8	
8	12	0.45	0	0.4	16.8	0.5	13.6	0.2	17.6	0.8	17.6	0.8	18.4	0.7	20	0.9	17.6	1	18.4	0.7	18.4	0.7	
9	13.5	0.4	0	0.4	18.9	0.5	15.3	0.4	19.8	0.7	19.8	0.6	20.7	0.65	22.5	0.95	19.8	0.9	20.7	0.6	20.7	0.6	
Right Bank	15	0	19	0	21	0	17	0	22	0	22	0	23	0	25	0	22	0	23	0	23	0	
Feature Type <small>(riffle, run, or pool)</small>	pool		pool		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 0.01 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Signed: _____ Date: _____

WBID # 3188
 Site # 22

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9/27/07 10:30am	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown, Aaron Ball	SE 30 rd damed
Current Weather Conditions: overcast	Facility Name: William Emmerling Jr.
Weather conditions for the past 10 days: 4 in.	Permit Number: MO0124028
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):	Northing (UTM Y):	Horizontal Accuracy:
	0400614	4145602	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0400845	4145851	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
61	upstream	62	downstream		
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:

<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:				

WBID # 3188
 Site # 22

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input checked="" type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<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:
 ■□■m

Evidence of Human Use:

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

comments/other:
 none

Substrate:

% Cobble	20	% Gravel	20	% Sand	10	% Silt	50	% Mud/Clay	% Bedrock
----------	----	----------	----	--------	----	--------	----	------------	-----------

Aquatic Vegetation:

None

Water Characteristics:

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

WBID # 3188
Site # 22

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.)

None

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

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3188</u> Site #: <u>22</u> Estimated Channel Incision: <u>4</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0400614</u> UTM Y: <u>4145602</u> +/- _____ (meters) 11 UTM X: <u>0400845</u> UTM Y: <u>4145851</u> +/- _____ (meters) Average Stream Width: <u>10</u> (meters) Length of Survey Segment: <u>200</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Larissa Brown, Drew Dodson</u>	Dissolved Oxygen Date: <u>9/27/07</u> Time: <u>10:30</u> Dissolved Oxygen: <u>4</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>20.5</u> (°C)
---	---

Transect Cross-Section

Station		01		02		03		04		05		06		07		08		09		10		11	
		Distance (m)	Depth (m)																				
Left Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1		1.5	0.2	0	0.15	1.8	0.5	1.5	0.15	1.2	0.35	1.1	0.25	1.2	0.2	0.7	0.05	0.9	0.15	0.8	0.2	1.2	0.25
2		3	0.3	0	0.4	3.6	0.6	3	0.4	2.4	0.8	2.2	0.5	2.4	0.4	1.4	0.55	1.8	0.3	1.6	0.25	2.4	0.1
3		4.5	0.4	0	0	5.4	0.65	4.5	0.4	3.6	1	3.3	0.65	3.6	0.6	2.1	0.85	2.7	0.5	2.4	0.4	3.6	0
4		6	0.6	0	0.5	7.2	0.5	6	0.45	4.8	1	4.4	0.7	4.8	0.4	2.8	0.9	3.6	0.55	3.2	0.2	4.8	0
5		7.5	0.5	1.9	0.6	9	0.35	7.5	0.45	6	1	5.5	0.8	6	0.3	3.5	0.9	4.5	0.55	4	0.15	6	0
6		9	0.55	0	0.7	10.8	0.25	9	0.4	7.2	1	6.6	0.8	7.2	0.5	4.2	0.9	5.4	0.5	4.8	0	7.2	0.2
7		10.5	0.8	0	0.55	12.6	0	10.5	0.3	8.4	1	7.7	0.7	8.4	0.8	4.9	0.9	6.3	0.55	5.6	0.1	8.4	0
8		12	0.8	0	0.7	14.4	0	12	0.25	9.6	0.95	8.8	0.7	9.6	0.7	5.6	0.45	7.2	0.5	6.4	0.15	9.6	0.1
9		13.5	0.8	0	0.55	16.2	0.15	13.5	0.2	10.8	0.8	9.9	0.65	10.8	0.8	6.3	0.4	8.1	0.5	7.2	0.1	10.8	0.05
Right Bank		15	0	19	0	18	0	15	0	12	0	11	0	12	0	7	0	9	0	8	0	12	0
Feature Type <small>(riffle, run, or pool)</small>		pool		pool		pool		pool		pool		pool		pool		pool		riffle		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 0.01 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Signed: _____ Date: _____

WBID # 3188
 Site # 23

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9/27/07 11:30am	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown, Aaron Ball	SE 20 rd walk in
Current Weather Conditions: clear	Facility Name: William Emmerling Jr.
Weather conditions for the past 10 days: 4 in.	Permit Number: MO0124028
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):	Northing (UTM Y):	Horizontal Accuracy:
	03987788	4147715	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0399039	4147458	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
63	downstream	64	upstream		
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:

<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:				

WBID # 3188
 Site # 23

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<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/walkways
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:
Comments:				

Evidence of Human Use:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/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:

% Cobble	80	% Gravel	% Sand	20	% Silt	% Mud/Clay	% Bedrock
----------	----	----------	--------	----	--------	------------	-----------

Aquatic Vegetation:

Rooted aquatic vegetation	15%
---------------------------	-----

Water Characteristics:

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 checked="" type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 3188
Site # 23

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.)

None

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

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3188</u> Site #: <u>23</u> Estimated Channel Incision: <u>3</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0398788</u> UTM Y: <u>4147715</u> +/- _____ (meters) 11 UTM X: <u>0399039</u> UTM Y: <u>4147458</u> +/- _____ (meters) Average Stream Width: <u>12</u> (meters) Length of Survey Segment: <u>240</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Larissa Brown, Aaron Ball</u>	Dissolved Oxygen Date: <u>9/27/07</u> Time: <u>11:30</u> Dissolved Oxygen: <u>3.6</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>21.2</u> (°C)
--	---

Transect Cross-Section

Station		01		02		03		04		05		06		07		08		09		10		11	
		Distance (m)	Depth (m)																				
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	0.4	0.05	0	0.2	1.3	0.2	1.5	0.55	1.7	0.45	1.1	0.3	1.4	0.1	1.9	0.2	2	0.35	0.3	0.15	1.8	0.4	
2	0.8	0.15	0	0.5	2.6	0.35	3	0.8	3.4	0.6	2.2	0.65	2.8	0.35	3.8	0.45	4	1	0.6	0	3.6	0.5	
3	1.2	0.25	0	0.6	3.9	0.35	4.5	0.9	5.1	0.45	3.3	0.8	4.2	0.45	5.7	0.3	6	1	0.9	0.3	5.4	0.6	
4	1.6	0.3	0	0.4	5.2	0.35	6	0.8	6.8	0.5	4.4	0.8	5.6	0.6	7.6	0.2	8	0.8	1.2	0.45	7.2	0.9	
5	2	0.25	0.6	0	6.5	0.4	7.5	0.8	8.5	0.5	5.5	0.8	7	0.8	9.5	0.4	10	0.6	1.5	0.45	9	1	
6	2.4	0.25	0	0.2	7.8	0.35	9	0.8	10.2	0.6	6.6	0.7	8.4	0.8	11.4	0.5	12	0.5	1.8	0.1	10.8	1	
7	2.8	0.25	0	0.4	9.1	0.15	10.5	0.8	11.9	0.75	7.7	0.8	9.8	0.75	13.3	0.7	14	0.55	2.1	0.1	12.6	1	
8	3.2	0.15	0	0.5	10.4	0.25	12	0.7	13.6	0.6	8.8	0.7	11.2	0.6	15.2	0.5	16	0.4	2.4	0.1	14.4	0.9	
9	3.6	0.1	0	0.3	11.7	0.25	13.5	0.6	15.3	0.35	9.9	0.75	12.6	0.3	17.1	0.25	18	0.3	2.7	0	16.2	0.85	
Right Bank	4	0	6	0	13	0	15	0	17	0	11	0	14	0	19	0	20	0	3	0	18	0	
Feature Type <small>(riffle, run, or pool)</small>	pool		pool		pool		pool		pool		pool		pool		pool		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 0.01 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Signed: _____ Date: _____

WBID # 3188
 Site # 18

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9/26/07 3:45pm	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown, Aaron Ball	SE 10 Rd crossing
Current Weather Conditions: cloudy	Facility Name: William Emmerling Jr.
Weather conditions for the past 10 days: 4 in.	Permit Number: MO0124028
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):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0397682	4149026	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0397465	4149297	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
55	upstream	56	downstream		
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:

<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:				

WBID # 3188
 Site # 18

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<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/walkways
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:

Comments:

Evidence of Human Use:

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

comments/other:

none

Substrate:

25 % Cobble	25 % Gravel	% Sand	% Silt	% Mud/Clay	50 % Bedrock
-------------	-------------	--------	--------	------------	--------------

Aquatic Vegetation:

None

Water Characteristics:

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 checked="" type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 3188
Site # 18

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.)

None

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

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3188</u> Site #: <u>18</u> Estimated Channel Incision: <u>4</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0397682</u> UTM Y: <u>4149026</u> +/- _____ (meters) 11 UTM X: <u>0397465</u> UTM Y: <u>4149297</u> +/- _____ (meters) Average Stream Width: <u>11</u> (meters) Length of Survey Segment: <u>220</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Larissa Brown, Aaron Ball</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>9/26/07</u> Time: <u>3:45</u> Dissolved Oxygen: <u>3.9</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>21.0</u> (°C)
--	--

Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)																				
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	1.4	0.2	1	0.4	1.3	0.35	1.9	0.55	2.1	0.1	2.2	0.3	0.3	0.2	0.8	1	0.6	0.2	1	0.1	0.6	0.3
2	2.8	0.3	2.8	0.6	2.6	0.35	3.8	0.6	4.2	0.15	4.4	0.2	0.6	0.35	1.6	1	1.2	0.4	2	0.2	1.2	0.6
3	4.2	0.2	4.6	0.7	3.9	0.4	5.7	0.6	6.3	0.2	6.6	0.3	0.9	0.6	2.4	1	1.8	0.5	3	0.25	1.8	0.65
4	5.6	0.25	6.4	0.7	5.2	0.4	7.6	0.7	8.4	0.3	8.8	0.4	1.2	0.6	3.2	1	2.4	0.55	4	0.25	2.4	0.5
5	7	0.25	8.2	0.7	6.5	0.4	9.5	0.65	10.5	0.4	11	0.5	1.5	0.4	4	1	3	0.55	5	0.2	3	0.5
6	8.4	0.4	10	0.7	7.8	0.4	11.4	0.6	12.6	0.4	13.2	0.7	1.8	0.05	4.8	1	3.6	0.55	6	0.3	3.6	0.3
7	9.8	0.45	11.8	0.65	9.1	0.45	13.3	0.6	14.7	0.45	15.4	0.85	2.1	0.05	5.6	0.95	4.2	0.4	7	0.4	4.2	0.3
8	11.2	0.35	13.6	0.6	10.4	0.4	15.2	0.4	16.8	0.5	17.6	1	2.4	0.05	6.4	0.95	4.8	0.3	8	0.5	4.8	0.3
9	12.6	0.3	15.4	0.4	11.7	0.1	17.1	0.2	18.9	0.6	19.8	1	2.7	0	7.2	0.7	5.4	0.2	9	0.35	5.4	0.2
Right Bank	14	0	18	0	13	0	19	0	21	0	22	0	3	0	8	0	6	0	10	0	6	0
Feature Type <small>(riffle, run, or pool)</small>	pool		run		pool		pool		pool		run											

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

Signed: _____ Date: _____

WBID # 3188
 Site # 21

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 10/8/07 10:36	Site Location Description (e.g. road crossing):
Personnel: Drew Dodson, Aaron Ball	100 rd crossing (dam damed
Current Weather Conditions: overcast	Facility Name: William Emmerling Jr.
Weather conditions for the past 10 days: 4 in.	Permit Number: MO0124028
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):	Northing (UTM Y):	Horizontal Accuracy: 18 feet
	0396652	4150751	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0396358	4150732	

Photos:

Photo ID#	Photo Purpose	Photo ID#:	Photo Purpose	Photo ID#:	Photo Purpose
3	dowsntream	4	upstream		
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:

<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:				

WBID # 3188
 Site # 21

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input checked="" type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<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:

Evidence of Human Use:

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

comments/other:

none

Substrate:

% Cobble	% Gravel	% Sand	10 % Silt	90 % Mud/Clay	% Bedrock
----------	----------	--------	-----------	---------------	-----------

Aquatic Vegetation:

None

Water Characteristics:

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

WBID # 3188
Site # 21

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization (continued)

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

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

Comments: (Please record any additional comments here.)

None

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

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3188</u> Site #: <u>21</u> Estimated Channel Incision: <u>4</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0396652</u> UTM Y: <u>4150751</u> +/- _____ (meters) 11 UTM X: <u>0396358</u> UTM Y: <u>4150732</u> +/- _____ (meters) Average Stream Width: <u>12</u> (meters) Length of Survey Segment: <u>240</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Drew Dodson, Aaron Ball</u>	Dissolved Oxygen Date: <u>10/8/07</u> Time: <u>11:26</u> DO Meter Dissolved Oxygen: <u>Not Working</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: _____ (°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	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	
2	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	
3	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	
4	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	
5	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	
6	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	
7	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	
8	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	
9	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	
Right Bank		0		0		0		0		0		0		0		0		0		0		0	
Feature Type <small>(riffle, run, or pool)</small>	pool																						

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

Signed: _____ Date: _____

WBID # 3188
 Site # 17

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9/26/07 3:00pm	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown, Aaron Ball	Hwy A crossing
Current Weather Conditions: cloudy	Facility Name: William Emmerling Jr.
Weather conditions for the past 10 days: 4 in.	Permit Number: MO0124028
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):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0394946	4150648	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0394759	4150826	

Photos:

Photo ID#	Photo Purpose	Photo ID#:	Photo Purpose	Photo ID#:	Photo Purpose
53	downstream	54	upstream		
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:

<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:				

WBID # 3188
 Site # 17

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<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/walkways
<input checked="" type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:
Comments:				

Evidence of Human Use:

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot path/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:				

Substrate:

% Cobble	% Gravel	% Sand	10	% Silt	90	% Mud/Clay	% Bedrock
----------	----------	--------	----	--------	----	------------	-----------

Aquatic Vegetation:

None

Water Characteristics:

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

WBID # 3188
Site # 17

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.)

None

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

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3188</u> Site #: <u>17</u> Estimated Channel Incision: <u>3</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0394946</u> UTM Y: <u>4150648</u> +/- _____ (meters) 11 UTM X: <u>0394759</u> UTM Y: <u>4150826</u> +/- _____ (meters) Average Stream Width: <u>24</u> (meters) Length of Survey Segment: <u>300</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Larissa Brown, Aaron Ball</u>	Dissolved Oxygen Date: <u>9/26/07</u> Time: <u>3:00</u> Dissolved Oxygen: <u>5.8</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>21.6</u> (°C)
--	--

Transect Cross-Section

Station		01		02		03		04		05		06		07		08		09		10		11	
		Distance (m)	Depth (m)																				
Left Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1		2.3	1	1	1	2.3	1	2.5	1	2.5	1	2.5	1	2.4	1	2.4	1	2.4	1	2.5	1	2.5	1
2		4.6	1	3.3	1	4.6	1	5	1	5	1	5	1	4.8	1	4.8	1	4.8	1	5	1	5	1
3		6.9	1	5.6	1	6.9	1	7.5	1	7.5	1	7.5	1	7.2	1	7.2	1	7.2	1	7.5	1	7.5	1
4		9.2	1	7.9	1	9.2	1	10	1	10	1	10	1	9.6	1	9.6	1	9.6	1	10	1	10	1
5		11.5	1	10.2	1	11.5	1	12.5	1	12.5	1	12.5	1	12	1	12	1	12	1	12.5	1	12.5	1
6		13.8	1	12.5	1	13.8	1	15	1	15	1	15	1	14.4	1	14.4	1	14.4	1	15	1	15	1
7		16.1	1	14.8	1	16.1	1	17.5	1	17.5	1	17.5	1	16.8	1	16.8	1	16.8	1	17.5	1	17.5	1
8		18.4	1	17.1	1	18.4	1	20	1	20	1	20	1	19.2	1	19.2	1	19.2	1	20	1	20	1
9		20.7	1	19.4	1	20.7	1	22.5	1	22.5	1	22.5	1	21.6	1	21.6	1	21.6	1	22.5	1	22.5	1
Right Bank		23	0	23	0	23	0	25	0	25	0	25	0	24	0	24	0	24	0	25	0	25	0
Feature Type <small>(riffle, run, or pool)</small>		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 0.01 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Signed: _____ Date: _____

WBID # 3188
 Site # 16

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9/26/07 2:15pm	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown, Aaron Ball	50 Ln (dam)
Current Weather Conditions: cloudy	Facility Name: William Emmerling Jr.
Weather conditions for the past 10 days: 4 in.	Permit Number: MO0124028
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):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0393451	4151944	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0393323	4152193	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
51	upstream	52	downstream		
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:

<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:				

WBID # 3188
 Site # 16

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<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/walkways
<input checked="" type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:

Comments:

Municipal area

Evidence of Human Use:

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot path/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:

% Cobble	% Gravel	% Sand	% Silt	100 % Mud/Clay	% Bedrock
----------	----------	--------	--------	----------------	-----------

Aquatic Vegetation:

None

Water Characteristics:

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

WBID # 3188
Site # 16

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.)

None

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

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3188</u> Site #: <u>16</u> Estimated Channel Incision: <u>3</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0393451</u> UTM Y: <u>4151944</u> +/- _____ (meters) 11 UTM X: <u>0393323</u> UTM Y: <u>4152193</u> +/- _____ (meters) Average Stream Width: <u>27</u> (meters) Length of Survey Segment: <u>300</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Larissa Brown, Aaron Ball</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>9/26/07</u> Time: <u>2:15</u> Dissolved Oxygen: <u>4.5</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>21.9</u> (°C)
--	--

Transect Cross-Section

Station		01		02		03		04		05		06		07		08		09		10		11	
		Distance (m)	Depth (m)																				
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	2.7	1	1	1	2.7	1	2.7	1	2.7	1	2.7	1	2.6	1	2.6	1	2.7	1	2.7	1	2.7	1	
2	5.4	1	3.6	1	5.4	1	5.4	1	5.4	1	5.4	1	5.2	1	5.2	1	5.4	1	5.4	1	5.4	1	
3	8.1	1	6.2	1	8.1	1	8.1	1	8.1	1	8.1	1	7.8	1	7.8	1	8.1	1	8.1	1	8.1	1	
4	10.8	1	8.8	1	10.8	1	10.8	1	10.8	1	10.8	1	10.4	1	10.4	1	10.8	1	10.8	1	10.8	1	
5	13.5	1	11.4	1	13.5	1	13.5	1	13.5	1	13.5	1	13	1	13	1	13.5	1	13.5	1	13.5	1	
6	16.2	1	14	1	16.2	1	16.2	1	16.2	1	16.2	1	15.6	1	15.6	1	16.2	1	16.2	1	16.2	1	
7	18.9	1	16.6	1	18.9	1	18.9	1	18.9	1	18.9	1	18.2	1	18.2	1	18.9	1	18.9	1	18.9	1	
8	21.6	1	19.2	1	21.6	1	21.6	1	21.6	1	21.6	1	20.8	1	20.8	1	21.6	1	21.6	1	21.6	1	
9	24.3	1	21.8	1	24.3	1	24.3	1	24.3	1	24.3	1	23.4	1	23.4	1	24.3	1	24.3	1	24.3	1	
Right Bank	27	0	26	0	27	0	27	0	27	0	27	0	26	0	26	0	27	0	27	0	27	0	
Feature Type <small>(riffle, run, or pool)</small>	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 0.01 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Signed: _____ Date: _____

WBID # 3188
 Site # 20

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 10/8/07 10:36	Site Location Description (e.g. road crossing):
Personnel: Drew Dodson, Aaron Ball	W.J. Sprawls property damed
Current Weather Conditions: cloudy	Facility Name: William Emmerling Jr.
Weather conditions for the past 10 days: 4 in.	Permit Number: MO0124028
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):	Northing (UTM Y):	Horizontal Accuracy: 18 feet
	0392014	4153160	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0391877	4153208	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
1	downstream	2	upstream		
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:

<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 checked="" type="checkbox"/> Fishing	<input type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: <p align="center">Briefly talked with fisherman on his way out, no interview</p>				

WBID # 3188
 Site # 20

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input checked="" type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National Forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkways
<input checked="" type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:

Comments:

Evidence of Human Use:

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot path/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:

dirt access road

Substrate:

% Cobble	% Gravel	% Sand	20 % Silt	80 % Mud/Clay	% Bedrock
----------	----------	--------	-----------	---------------	-----------

Aquatic Vegetation:

None

Water Characteristics:

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

WBID # 3188
Site # 20

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.)

None

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

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3188</u> Site #: <u>20</u> Estimated Channel Incision: <u>5</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0392014</u> UTM Y: <u>4153160</u> +/- _____ (meters) 11 UTM X: <u>0391877</u> UTM Y: <u>4153208</u> +/- _____ (meters) Average Stream Width: <u>12</u> (meters) Length of Survey Segment: <u>240</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Drew Dodson, Aaron Ball</u>	Dissolved Oxygen Date: <u>10/8/07</u> Time: <u>10:36</u> DO Meter Dissolved Oxygen: <u>Not Working</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: _____ (°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	
1		0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
2		0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
3		0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
4		0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
5		0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
6		0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
7		0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
8		0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
9		0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
Right Bank			0		0		0		0		0		0		0		0		0		0		0
Feature Type <small>(riffle, run, or pool)</small>		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 0.01 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Signed: _____ Date: _____

WBID # 3188
 Site # 15

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9/26/07 1:30pm	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown, Aaron Ball	30 Ln (dam)
Current Weather Conditions: cloudy	Facility Name: William Emmerling Jr.
Weather conditions for the past 10 days: 4 in.	Permit Number: MO0124028
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):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0390314	4154001	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0389998	4154101	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
49	downstream	50	upstream		
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:

<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:				

WBID # 3188
 Site # 15

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<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/walkways
<input checked="" type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:
Comments: Municipal area				

Evidence of Human Use:

<input checked="" type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: None				

Substrate:

% Cobble	% Gravel	% Sand	% Silt	100 % Mud/Clay	% Bedrock
----------	----------	--------	--------	----------------	-----------

Aquatic Vegetation:

None

Water Characteristics:

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

WBID # 3188
Site # 15

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.)

None

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

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3188</u> Site #: <u>15</u> Estimated Channel Incision: <u>5</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0390314</u> UTM Y: <u>4154001</u> +/- _____ (meters) 11 UTM X: <u>0389998</u> UTM Y: <u>4154101</u> +/- _____ (meters) Average Stream Width: <u>24</u> (meters) Length of Survey Segment: <u>300</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Larissa Brown, Aaron Ball</u>	Dissolved Oxygen Date: <u>9/26/07</u> Time: <u>1:30</u> Dissolved Oxygen: <u>5.2</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>22</u> (°C)
--	--

Transect Cross-Section

Station		01		02		03		04		05		06		07		08		09		10		11	
		Distance (m)	Depth (m)																				
Left Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1		2.4	1	1	1	2.4	1	2.5	1	2.4	1	2.4	1	2.4	1	2.4	1	2.4	1	2.7	1	2.4	1
2		4.8	1	3.5	1	4.8	1	5	1	4.8	1	4.8	1	4.8	1	4.8	1	4.8	1	5.4	1	4.8	1
3		7.2	1	6	1	7.2	1	7.5	1	7.2	1	7.2	1	7.2	1	7.2	1	7.2	1	8.1	1	7.2	1
4		9.6	1	8.5	1	9.6	1	10	1	9.6	1	9.6	1	9.6	1	9.6	1	9.6	1	10.8	1	9.6	1
5		12	1	11	1	12	1	12.5	1	12	1	12	1	12	1	12	1	12	1	13.5	1	12	1
6		14.4	1	13.5	1	14.4	1	15	1	14.4	1	14.4	1	14.4	1	14.4	1	14.4	1	16.2	1	14.4	1
7		16.8	1	16	1	16.8	1	17.5	1	16.8	1	16.8	1	16.8	1	16.8	1	16.8	1	18.9	1	16.8	1
8		19.2	1	18.5	1	19.2	1	20	1	19.2	1	19.2	1	19.2	1	19.2	1	19.2	1	21.6	1	19.2	1
9		21.6	1	21	1	21.6	1	22.5	1	21.6	1	21.6	1	21.6	1	21.6	1	21.6	1	24.3	1	21.6	1
Right Bank		24	0	25	0	24	0	25	0	24	0	24	0	24	0	24	0	24	0	27	0	24	0
Feature Type <small>(riffle, run, or pool)</small>		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 0.01 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Signed: _____ Date: _____

WBID # 3188
 Site # 14

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9/26/07 1:15	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown, Aaron Ball	15 Ln (dam)
Current Weather Conditions: cloudy	Facility Name: William Emmerling Jr.
Weather conditions for the past 10 days: 4 in.	Permit Number: MO0124028
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):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0388159	415425	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0387847	4154223	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
47	upstream	48	downstream		
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:

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

WBID # 3188
 Site # 14

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<input type="checkbox"/> City/County parks	<input type="checkbox"/> playgrounds	<input checked="" 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/walkways
<input checked="" type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:

Comments:

Municipal area

Evidence of Human Use:

<input checked="" type="checkbox"/> Roads	<input checked="" type="checkbox"/> Foot path/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:

Substrate:

% Cobble	% Gravel	% Sand	% Silt	100 % Mud/Clay	% Bedrock
----------	----------	--------	--------	----------------	-----------

Aquatic Vegetation:

None

Water Characteristics:

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

WBID # 3188
Site # 14

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.)

None

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

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3188</u> Site #: <u>14</u> Estimated Channel Incision: <u>6</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0388159</u> UTM Y: <u>4154252</u> +/- _____ (meters) 11 UTM X: <u>0387847</u> UTM Y: <u>4154223</u> +/- _____ (meters) Average Stream Width: <u>29</u> (meters) Length of Survey Segment: _____ (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Larissa Brown, Aaron Ball</u>	Dissolved Oxygen Date: <u>9/26/07</u> Time: <u>1:15</u> Dissolved Oxygen: <u>4.4</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>21.8</u> (°C)
---	--

Transect Cross-Section

Station		01		02		03		04		05		06		07		08		09		10		11	
		Distance (m)	Depth (m)																				
Left Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1		2.9	1	1	1	2.9	1	2.9	1	2.9	1	2.9	1	2.9	1	2.9	1	2.9	1	2.9	1	2.9	1
2		5.8	1	3.9	1	5.8	1	5.8	1	5.8	1	5.8	1	5.8	1	5.8	1	5.8	1	5.8	1	5.8	1
3		8.7	1	6.8	1	8.7	1	8.7	1	8.7	1	8.7	1	8.7	1	8.7	1	8.7	1	8.7	1	8.7	1
4		11.6	1	9.7	1	11.6	1	11.6	1	11.6	1	11.6	1	11.6	1	11.6	1	11.6	1	11.6	1	11.6	1
5		14.5	1	12.6	1	14.5	1	14.5	1	14.5	1	14.5	1	14.5	1	14.5	1	14.5	1	14.5	1	14.5	1
6		17.4	1	15.5	1	17.4	1	17.4	1	17.4	1	17.4	1	17.4	1	17.4	1	17.4	1	17.4	1	17.4	1
7		20.3	1	18.4	1	20.3	1	20.3	1	20.3	1	20.3	1	20.3	1	20.3	1	20.3	1	20.3	1	20.3	1
8		23.2	1	21.3	1	23.2	1	23.2	1	23.2	1	23.2	1	23.2	1	23.2	1	23.2	1	23.2	1	23.2	1
9		26.1	1	24.2	1	26.1	1	26.1	1	26.1	1	26.1	1	26.1	1	26.1	1	26.1	1	26.1	1	26.1	1
Right Bank		29	0	29	0	29	0	29	0	29	0	29	0	29	0	29	0	29	0	29	0	29	0
Feature Type <small>(riffle, run, or pool)</small>		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 0.01 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Signed: _____ Date: _____

WBID # 3188
 Site # 13

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9/26/07 12:30	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown, Aaron Ball	Site just north of 1st street
Current Weather Conditions: cloudy	Facility Name: William Emmerling Jr.
Weather conditions for the past 10 days: 4 in.	Permit Number: MO0124028
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):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0386321	4152190	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0386164	4152026	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
45	downstream	46	upstream		
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:

<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:				

WBID # 3188
 Site # 13

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<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/walkways
<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:

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

comments/other:

None

Substrate:

% Cobble	90	% Gravel	% Sand	% Silt	10	% Mud/Clay	% Bedrock
----------	----	----------	--------	--------	----	------------	-----------

Aquatic Vegetation:

None	
------	--

Water Characteristics:

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 type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

WBID # 3188
Site # 13

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.)

None

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

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3188</u> Site #: <u>13</u> Estimated Channel Incision: <u>4</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0386321</u> UTM Y: <u>4152190</u> +/- _____ (meters) 11 UTM X: <u>0386164</u> UTM Y: <u>4152026</u> +/- _____ (meters) Average Stream Width: <u>8</u> (meters) Length of Survey Segment: <u>160</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Larissa Brown, Aaron Ball</u>	Dissolved Oxygen Date: <u>9/26/07</u> Time: <u>12:30</u> Dissolved Oxygen: <u>3.6</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>21.6</u> (°C)
---	---

Transect Cross-Section

Station		01		02		03		04		05		06		07		08		09		10		11	
		Distance (m)	Depth (m)																				
Left Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1	0.7	0.35	1	0.8	0.7	0.1	0.3	0	0.8	0.3	0.8	0.1	0.4	0.2	0.9	0.05	1	0.35	0.3	0.1	1.1	0.15
	2	1.4	0.55	1.7	0.9	1.4	0.15	0.6	0	1.6	0.55	1.6	0.2	0.8	0.2	1.8	0.05	2	0.45	0.6	0.15	2.2	0.3
	3	2.1	0.5	2.4	0.95	2.1	0.2	0.9	0	2.4	0.7	2.4	0.3	1.2	0.25	2.7	0.25	3	0.6	0.9	0.2	3.3	0.55
	4	2.8	0.4	3.1	1	2.8	0.2	1.2	0.2	3.2	0.7	3.2	0.4	1.6	0.3	3.6	0.4	4	0.6	1.2	0.25	4.4	0.7
	5	3.5	0.3	3.8	0.9	3.5	0.25	1.5	0.4	4	0.75	4	0.4	2	0.25	4.5	0.5	5	0.6	1.5	0.3	5.5	0.6
	6	4.2	0.45	4.5	0.7	4.2	0.35	1.8	0.4	4.8	0.8	4.8	0.5	2.4	0.3	5.4	0.6	6	0.8	1.8	0.35	6.6	0.4
	7	4.9	0.35	5.2	0.5	4.9	0.45	2.1	0.4	5.6	0.8	5.6	0.5	2.8	0.25	6.3	0.75	7	0.75	2.1	0.4	7.7	0.3
	8	5.6	0.05	5.9	0.3	5.6	0.4	2.4	0.45	6.4	0.6	6.4	0.3	3.2	0.25	7.2	0.8	8	0.7	2.4	0.3	8.8	0.3
	9	6.3	0.25	6.6	0.2	6.3	0.25	2.7	0.3	7.2	0.5	7.2	0.3	3.6	0.1	8.1	0.65	9	0.65	2.7	0.2	9.9	0.25
Right Bank		7	0	7	0	7	0	3	0	8	0	8	0	4	0	9	0	10	0	3	0	11	0
Feature Type <small>(riffle, run, or pool)</small>		pool		pool		pool		run		pool		riffle		pool		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 0.01 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Signed: _____ Date: _____

WBID # 3188
 Site # 12

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9/26/07 11:15amj	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown, Aaron Ball	Site Located in Lamar Heights
Current Weather Conditions: cloudy	Facility Name: William Emmerling Jr.
Weather conditions for the past 10 days: 4 in.	Permit Number: MO0124028
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):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0385798	4150597	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0385702	4150428	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
42	downstream	43	upstream		
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:

<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:				

WBID # 3188
 Site # 12

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<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/walkways
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:
Comments:				

Evidence of Human Use:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: None				

Substrate:

% Cobble	40	% Gravel	% Sand	50	% Silt	10	% Mud/Clay	% Bedrock
----------	----	----------	--------	----	--------	----	------------	-----------

Aquatic Vegetation:

None	
------	--

Water Characteristics:

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

WBID # 3188
Site # 12

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.)

None

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

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3188</u> Site #: <u>12</u> Estimated Channel Incision: <u>5</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0385798</u> UTM Y: <u>4150597</u> +/- _____ (meters) 11 UTM X: <u>0385702</u> UTM Y: <u>4150428</u> +/- _____ (meters) Average Stream Width: <u>5</u> (meters) Length of Survey Segment: <u>100</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Larissa Brown, Aaron Ball</u>	Dissolved Oxygen Date: <u>9/26/07</u> Time: <u>11:15</u> Dissolved Oxygen: <u>4.7</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>21.2</u> (°C)
---	---

Transect Cross-Section

Station		01		02		03		04		05		06		07		08		09		10		11	
		Distance (m)	Depth (m)																				
Left Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1		0.3	0.4	1	0.2	0.6	0.1	0.7	0.15	0.9	0.7	0.9	0.6	1.1	0.2	0.3	0.1	1.2	0.4	0.5	0.5	1.7	0.2
2		0.6	0.3	1.5	0.3	1.2	0.2	1.4	0.2	1.8	0.85	1.8	0.8	2.2	0.4	0.6	0.2	2.4	0.4	1	0.7	3.4	1
3		0.9	0.35	2	0.3	1.8	0.2	2.1	0.25	2.7	1	2.7	0.8	3.3	0.6	0.9	0.3	3.6	0.2	1.5	0.8	5.1	1
4		1.2	0.25	2.5	0.4	2.4	0.2	2.8	0.2	3.6	1	3.6	0.9	4.4	0.85	1.2	0.4	4.8	0.05	2	0.8	6.8	1
5		1.5	0.3	3	0.4	3	0.2	3.5	0.4	4.5	1	4.5	1	5.5	0.85	1.5	0.45	6	0.4	2.5	0.85	8.5	1
6		1.8	0.3	3.5	0.4	3.6	0.2	4.2	0.45	5.4	1	5.4	1	6.6	0.75	1.8	0.4	7.2	0.6	3	1	10.2	1
7		2.1	0.35	4	0.4	4.2	0.15	4.9	0.3	6.3	1	6.3	1	7.7	0.6	2.1	0.4	8.4	0.9	3.5	1	11.9	1
8		2.4	0.25	4.5	0.3	4.8	0.2	5.6	0.1	7.2	1	7.2	1	8.8	0.45	2.4	0.3	9.6	0.6	4	0.8	13.6	1
9		2.7	0.2	5	0.2	5.4	0.2	6.3	0.05	8.1	0.9	8.1	1	9.9	0.4	2.7	0.2	10.8	0.4	4.5	0.6	15.3	1
Right Bank		3	0	5	0	6	0	7	0	9	0	9	0	11	0	3	0	12	0	5	0	17	0
Feature Type <small>(riffle, run, or pool)</small>		pool		pool		pool		pool		pool		pool		run		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 0.01 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Signed: _____ Date: _____

WBID # 3188
 Site # 11

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9/26/07 10:10am	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown, Aaron Ball	Site north of SE 30 Rd crossing
Current Weather Conditions: rain/cloudy	Facility Name: William Emmerling Jr.
Weather conditions for the past 10 days: 4 in.	Permit Number: MO0124028
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):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0386308	4148803	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0386546	4148759	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
40	downstream	41	upstream		
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:

<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:				

WBID # 3188
 Site # 11

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<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/walkways
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:

Comments:

Evidence of Human Use:

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

comments/other:

None

Substrate:

% Cobble	% Gravel	% Sand	50 % Silt	50 % Mud/Clay	% Bedrock
----------	----------	--------	-----------	---------------	-----------

Aquatic Vegetation:

None

Water Characteristics:

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input checked="" type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input 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:

WBID # 3188
Site # 11

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.)

None

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

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3188</u> Site #: <u>11</u> Estimated Channel Incision: <u>5</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0386308</u> UTM Y: <u>4148803</u> +/- _____ (meters) 11 UTM X: <u>0386546</u> UTM Y: <u>4148759</u> +/- _____ (meters) Average Stream Width: <u>11</u> (meters) Length of Survey Segment: <u>220</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Larissa Brown, Aaron Ball</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>9/26/07</u> Time: <u>10:15</u> Dissolved Oxygen: <u>6.9</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>21.5</u> (°C)
--	---

Transect Cross-Section

Station		01		02		03		04		05		06		07		08		09		10		11	
		Distance (m)	Depth (m)																				
Left Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1		1.1	0.6	1	1	1.2	0.5	2	1	2.4	1	1.9	0.5	1.9	0.8	1.8	0.8	1.9	1	1.7	1	2	1
2		2.2	0.8	2.2	1	2.4	0.95	4	1	4.8	1	3.8	0.7	3.8	1	3.6	0.95	3.8	1	3.4	1	4	1
3		3.3	0.8	3.4	1	3.6	1	6	1	7.2	0.75	5.7	1	5.7	1	5.4	0.9	5.7	1	5.1	1	6	1
4		4.4	0.85	4.6	1	4.8	1	8	1	9.6	0.45	7.6	1	7.6	1	7.2	1	7.6	1	6.8	1	8	1
5		5.5	0.95	5.8	1	6	1	10	1	12	0.65	9.5	0.9	9.5	1	9	1	9.5	1	8.5	1	10	1
6		6.6	1	7	1	7.2	1	12	1	14.4	0.85	11.4	0.35	11.4	0.6	10.8	1	11.4	1	10.2	1	12	1
7		7.7	1	8.2	1	8.4	1	14	1	16.8	1	13.3	0.2	13.3	1	12.6	1	13.3	1	11.9	1	14	1
8		8.8	1	9.4	1	9.6	1	16	1	19.2	1	15.2	0.6	15.2	1	14.4	1	15.2	1	13.6	1	16	1
9		9.9	0.85	10.6	0.85	10.8	0.85	18	1	21.6	1	17.1	1	17.1	0.8	16.2	1	17.1	1	15.3	1	18	1
Right Bank		11	0	12	0	12	0	20	0	24	0	19	0	19	0	18	0	19	0	17	0	20	0
Feature Type <small>(riffle, run, or pool)</small>		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 0.01 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Signed: _____ Date: _____

WBID # 3188
 Site # 10

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9/26/07 8:50am	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown, Aaron Ball	SE 30 Rd crossing
Current Weather Conditions: rain/cloudy	Facility Name: William Emmerling Jr.
Weather conditions for the past 10 days: 4 in.	Permit Number: MO0124028
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):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0386599	4146299	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0386725	4146089	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
38	upstream	39	downstream		
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:

<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:				

WBID # 3188
 Site # 10

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<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/walkways
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:

Comments:

Evidence of Human Use:

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

comments/other:

None

Substrate:

% Cobble	% Gravel	10	% Sand	30	% Silt	60	% Mud/Clay	% Bedrock
----------	----------	----	--------	----	--------	----	------------	-----------

Aquatic Vegetation:

None								
------	--	--	--	--	--	--	--	--

Water Characteristics:

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

WBID # 3188
Site # 9

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.)

None

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

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3188</u> Site #: <u>10</u> Estimated Channel Incision: <u>4</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0386599</u> UTM Y: <u>4146299</u> +/- _____ (meters) 11 UTM X: <u>0386725</u> UTM Y: <u>4146089</u> +/- _____ (meters) Average Stream Width: <u>9</u> (meters) Length of Survey Segment: <u>180</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Larissa Brown, Aaron Ball</u>	Dissolved Oxygen Date: <u>9/26/07</u> Time: <u>8:50</u> Dissolved Oxygen: <u>7.6</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>20.8</u> (°C)
---	--

Transect Cross-Section

Station		01		02		03		04		05		06		07		08		09		10		11	
		Distance (m)	Depth (m)																				
Left Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1		1.1	0.8	1	0.65	1	0.7	0.9	0.2	0.6	0.2	0.6	0.1	1	0.4	1.1	0.3	1.2	0.45	1	0.4	1.1	0.4
2		2.2	1	2.1	1	2	0.75	1.8	0.3	1.2	0.4	1.2	0.25	2	0.8	2.2	0.55	2.4	0.85	2	0.8	2.2	0.6
3		3.3	1	3.2	1	3	0.8	2.7	0.3	1.8	0.6	1.8	0.15	3	1	3.3	0.4	3.6	1	3	1	3.3	0.7
4		4.4	1	4.3	1	4	0.65	3.6	0.3	2.4	0.7	2.4	0.2	4	1	4.4	0.6	4.8	1	4	1	4.4	0.75
5		5.5	1	5.4	1	5	0.6	4.5	0.3	3	0.8	3	0.3	5	1	5.5	0.7	6	1	5	1	5.5	0.8
6		6.6	1	6.5	0.95	6	0.4	5.4	0.3	3.6	0.9	3.6	0.35	6	1	6.6	0.7	7.2	1	6	1	6.6	0.7
7		7.7	1	7.6	0.95	7	0.3	6.3	0.2	4.2	0.95	4.2	0.5	7	1	7.7	0.8	8.4	1	7	1	7.7	0.55
8		8.8	1	8.7	0.95	8	0.3	7.2	0.2	4.8	0.8	4.8	0.45	8	1	8.8	0.9	9.6	0.85	8	0.8	8.8	0.3
9		9.9	0.9	9.8	0.7	9	0.3	8.1	0.1	5.4	0.6	5.4	0.2	9	0.8	9.9	0.8	10.8	0.8	9	0.45	9.9	0.4
Right Bank		11	0	11	0	10	0	9	0	6	0	6	0	10	0	11	0	12	0	10	0	11	0
Feature Type <small>(riffle, run, or pool)</small>		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 0.01 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Signed: _____ Date: _____

WBID # 3188
 Site # 19

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9/27/07 8:30am	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown, Aaron Ball	SE 40 Rd crossing
Current Weather Conditions: clear	Facility Name: William Emmerling Jr.
Weather conditions for the past 10 days: 4 in.	Permit Number: MO0124028
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):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0386484	4144771	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0386419	4144663	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
59	upstream	60	downstream		
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:

<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:				

WBID # 3188
 Site # 19

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<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/walkways
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:

Comments:

Evidence of Human Use:

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

comments/other:

none

Substrate:

10 % Cobble	10 % Gravel	% Sand	20 % Sil	60 % Mud/Clay	% Bedrock
-------------	-------------	--------	----------	---------------	-----------

Aquatic Vegetation:

None

Water Characteristics:

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

WBID # 3188
Site # 19

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.)

None

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

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3188</u> Site #: <u>19</u> Estimated Channel Incision: <u>5</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0386484</u> UTM Y: <u>4144771</u> +/- _____ (meters) 11 UTM X: <u>0386419</u> UTM Y: <u>4144663</u> +/- _____ (meters) Average Stream Width: <u>9</u> (meters) Length of Survey Segment: <u>180</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Larissa Brown, Aaron Ball</u>	Dissolved Oxygen Date: <u>9/27/07</u> Time: <u>8:30am</u> Dissolved Oxygen: <u>7.7</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>20.4</u> (°C)
---	--

Transect Cross-Section

Station		01		02		03		04		05		06		07		08		09		10		11	
		Distance (m)	Depth (m)																				
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	0.6	0.4	1	0.5	0.7	0.4	0.9	0.1	1	0.5	1	0.5	1	0.3	1	0.25	0.9	0.3	0.9	0.3	0.9	0.05	
2	1.2	0.4	1.8	0.7	1.4	0.7	1.8	0.5	2	0.85	2	0.8	2	0.5	2	0.8	1.8	0.4	1.8	0.35	1.8	0.2	
3	1.8	0.25	2.6	1	2.1	0.8	2.7	0.5	3	1	3	0.85	3	0.5	3	0.9	2.7	0.5	2.7	0.85	2.7	0.4	
4	2.4	0.3	3.4	1	2.8	0.9	3.6	0.6	4	1	4	0.95	4	0.5	4	0.8	3.6	0.55	3.6	0.9	3.6	0.4	
5	3	0.3	4.2	1	3.5	0.95	4.5	0.6	5	1	5	1	5	0.5	5	0.65	4.5	0.55	4.5	0.9	4.5	0.4	
6	3.6	0.2	5	1	4.2	1	5.4	0.6	6	1	6	1	6	0.45	6	0.5	5.4	0.7	5.4	0.8	5.4	0.5	
7	4.2	0.2	5.8	1	4.9	1	6.3	0.65	7	0.95	7	0.85	7	0.45	7	0.5	6.3	0.9	6.3	0.5	6.3	0.55	
8	4.8	0.1	6.6	0.8	5.6	0.95	7.2	0.5	8	0.95	8	0.7	8	0.3	8	0.45	7.2	0.7	7.2	0.4	7.2	0.4	
9	5.4	0.05	7.4	0.65	6.3	0.8	8.1	0.5	9	0.8	9	0.55	9	0.2	9	0.3	8.1	0.5	8.1	0.4	8.1	0.3	
Right Bank	6	0	8	0	7	0	9	0	10	0	10	0	10	0	10	0	9	0	9	0	9	0	
Feature Type <small>(riffle, run, or pool)</small>	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 0.01 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Signed: _____ Date: _____

WBID # 3188
 Site # 9

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9/26/07 7:30	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown, Aaron Ball	50 Rd crossing
Current Weather Conditions: rain	Facility Name: William Emmerling Jr.
Weather conditions for the past 10 days: 4 in.	Permit Number: MO0124028
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):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0385003	4143143	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0384899	4142972	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
36	upstream	37	downstream		
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:

<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:				

WBID # 3188
 Site # 9

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<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/walkways
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:

Comments:

Evidence of Human Use:

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

comments/other:

None

Substrate:

% Cobble	40	% Gravel	% Sand	30	% Silt	30	% Mud/Clay	% Bedrock
----------	----	----------	--------	----	--------	----	------------	-----------

Aquatic Vegetation:

None	
------	--

Water Characteristics:

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input checked="" type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input 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:

WBID # 3188
Site # 9

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.)

None

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

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3188</u> Site #: <u>9</u> Estimated Channel Incision: <u>7</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0385003</u> UTM Y: <u>4143143</u> +/- _____ (meters) 11 UTM X: <u>0384899</u> UTM Y: <u>4142972</u> +/- _____ (meters) Average Stream Width: <u>11</u> (meters) Length of Survey Segment: <u>220</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Larissa Brown, Aaron Ball</u>	Dissolved Oxygen Date: <u>9/26/07</u> Time: <u>7:30am</u> Dissolved Oxygen: <u>5.6</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>21.8</u> (°C)
---	--

Transect Cross-Section

Station		01		02		03		04		05		06		07		08		09		10		11	
		Distance (m)	Depth (m)																				
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	0.7	0.3	1	1	1	1	1	0.8	1.1	0.7	1.2	0.4	1.3	0.5	1.1	0.5	0.7	0.6	1.5	0.45	1.3	0.4	
2	1.4	0.4	1.9	1	2	1	2	0.95	2.2	1	2.4	0.85	2.6	0.8	2.2	0.8	1.4	0.7	3	0	2.6	0.7	
3	2.1	0.3	2.8	1	3	1	3	1	3.3	1	3.6	0.9	3.9	1	3.3	0.8	2.1	0.85	4.5	0.35	3.9	0.8	
4	2.8	0.4	3.7	1	4	1	4	1	4.4	1	4.8	0.95	5.2	1	4.4	0.8	2.8	0.9	6	0	5.2	0.8	
5	3.5	0.5	4.6	1	5	1	5	1	5.5	1	6	1	6.5	1	5.5	0.8	3.5	0.9	7.5	0.25	6.5	0.75	
6	4.2	0.5	5.5	1	6	1	6	1	6.6	1	7.2	1	7.8	1	6.6	0.8	4.2	0.85	9	0.65	7.8	0.55	
7	4.9	0.5	6.4	1	7	1	7	1	7.7	1	8.4	0.9	9.1	1	7.7	0.6	4.9	0.65	10.5	0.9	9.1	0.7	
8	5.6	0.3	7.3	1	8	1	8	1	8.8	1	9.6	0.85	10.4	0.95	8.8	0.5	5.6	0.25	12	0.85	10.4	0.8	
9	6.3	0.1	8.2	1	9	1	9	0.95	9.9	1	10.8	0.65	11.7	0.85	9.9	0.4	6.3	0.2	13.5	0.7	11.7	0.8	
Right Bank	7	0	9	0	10	0	10	0	11	0	12	0	13	0	11	0	7	0	15	0	13	0	
Feature Type <small>(riffle, run, or pool)</small>	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 0.01 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Signed: _____ Date: _____

WBID # 3188
 Site # 8

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9/25/07 12:30	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown, Aaron Ball	60 RD crossing
Current Weather Conditions: rain	Facility Name: William Emmerling Jr.
Weather conditions for the past 10 days: 4 in.	Permit Number: MO0124028
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):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0384404	4141488	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0384224	4141662	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
29	downstream				
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:

<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:				

WBID # 3188
 Site # 8

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<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/walkways
<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:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: None				

Substrate:

% Cobble	% Gravel	10 % Sand	40 % Silt	60 % Mud/Clay	% Bedrock
----------	----------	-----------	-----------	---------------	-----------

Aquatic Vegetation:

None					
------	--	--	--	--	--

Water Characteristics:

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

WBID # 3188
Site # 8

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.)

None

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

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3188</u> Site #: <u>8</u> Estimated Channel Incision: <u>8</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0384404</u> UTM Y: <u>4141488</u> +/- _____ (meters) 11 UTM X: <u>0384224</u> UTM Y: <u>4141662</u> +/- _____ (meters) Average Stream Width: <u>12</u> (meters) Length of Survey Segment: <u>240</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Larissa Brown, Aaron Ball</u>	Dissolved Oxygen Date: <u>9/25/07</u> Time: <u>12:30</u> Dissolved Oxygen: <u>2.2</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>24.3</u> (°C)
---	---

Transect Cross-Section

Station		01		02		03		04		05		06		07		08		09		10		11	
		Distance (m)	Depth (m)																				
Left Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1		1.2	0.9	1	0.8	1.2	0.9	1.2	1	1.3	1	1.3	1	1.2	1	1.2	1	1.2	1	1.3	1	1.2	1
2		2.4	1	2.2	1	2.4	1	2.4	1	2.6	1	2.6	1	2.4	1	2.4	1	2.4	1	2.6	1	2.4	1
3		3.6	1	3.4	1	3.6	1	3.6	1	3.9	1	3.9	1	3.6	1	3.6	1	3.6	1	3.9	1	3.6	1
4		4.8	1	4.6	1	4.8	1	4.8	1	5.2	1	5.2	1	4.8	1	4.8	1	4.8	1	5.2	1	4.8	1
5		6	1	5.8	1	6	1	6	1	6.5	1	6.5	1	6	1	6	1	6	1	6.5	1	6	1
6		7.2	1	7	1	7.2	1	7.2	1	7.8	1	7.8	1	7.2	1	7.2	1	7.2	1	7.8	1	7.2	1
7		8.4	1	8.2	1	8.4	1	8.4	1	9.1	1	9.1	1	8.4	1	8.4	1	8.4	1	9.1	1	8.4	1
8		9.6	0.95	9.4	1	9.6	1	9.6	1	10.4	1	10.4	1	9.6	1	9.6	1	9.6	1	10.4	1	9.6	1
9		10.8	0.9	10.6	0.95	10.8	0.95	10.8	1	11.7	1	11.7	1	10.8	1	10.8	1	10.8	1	11.7	1	10.8	1
Right Bank		12	0	12	0	12	0	12	0	13	0	13	0	12	0	12	0	12	0	13	0	12	0
Feature Type <small>(riffle, run, or pool)</small>		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 0.01 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Signed: _____ Date: _____

WBID # 3188
 Site # 7

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9/25/07 11:00am	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown, Aaron Ball	route 126 crossing
Current Weather Conditions: cloudy/rain	Facility Name: William Emmerling Jr.
Weather conditions for the past 10 days: 4 in.	Permit Number: MO0124028
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):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0384009	4139851	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0383936	4139553	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
27	upstream	28	downstream		
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:

<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:				

WBID # 3188
 Site # 7

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<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/walkways
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:

Comments:

Evidence of Human Use:

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

comments/other:

None

Substrate:

% Cobble	% Gravel	% Sand	60 % Silt	40 % Mud/Clay	% Bedrock
----------	----------	--------	-----------	---------------	-----------

Aquatic Vegetation:

None

Water Characteristics:

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

WBID # 3188
Site # 7

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization (continued)

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

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

Comments: (Please record any additional comments here.)

None

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

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3188</u> Site #: <u>7</u> Estimated Channel Incision: <u>9</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0384009</u> UTM Y: <u>4139851</u> +/- _____ (meters) 11 UTM X: <u>0383936</u> UTM Y: <u>4139553</u> +/- _____ (meters) Average Stream Width: <u>9</u> (meters) Length of Survey Segment: <u>180</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Larissa Brown, Aaron Ball</u>	Dissolved Oxygen Date: <u>9/25/07</u> Time: <u>11:00am</u> Dissolved Oxygen: <u>5.2</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>23.2</u> (°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	
	1	0.9	0.3	1	0.2	0.9	0.2	0.7	0.4	1	0.25	1.3	0.2	0.7	0.4	0.8	0.6	0.8	0.35	0.8	0.8	0.7	0.5
	2	1.8	0.4	1.9	0.4	1.8	0.5	1.4	0.7	2	0.35	2.6	0.4	1.4	0.3	1.6	1	1.6	0.5	1.6	0.9	1.4	0.7
	3	2.7	0.7	2.8	0.35	2.7	0.8	2.1	0.9	3	0.3	3.9	0.45	2.1	0.5	2.4	1	2.4	0.75	2.4	0.9	2.1	0.85
	4	3.6	0.8	3.7	0.55	3.6	0.8	2.8	1	4	0.4	5.2	0.4	2.8	0.7	3.2	1	3.2	0.7	3.2	0.95	2.8	0.7
	5	4.5	0.85	4.6	0.6	4.5	1	3.5	1	5	0.5	6.5	0.45	3.5	0.7	4	1	4	0.6	4	0.7	3.5	0.4
	6	5.4	1	5.5	0.5	5.4	1	4.2	1	6	0.65	7.8	0.7	4.2	0.7	4.8	1	4.8	0.45	4.8	0.6	4.2	0.2
	7	6.3	1	6.4	0.7	6.3	1	4.9	0.95	7	0.5	9.1	0.7	4.9	0.6	5.6	1	5.6	0.3	5.6	0.4	4.9	0.35
	8	7.2	0.9	7.3	0.5	7.2	0.8	5.6	0.9	8	0.4	10.4	0.7	5.6	0.5	6.4	1	6.4	0.2	6.4	0.3	5.6	0.5
	9	8.1	0.6	8.2	0.5	8.1	0.75	6.3	0.7	9	0.3	11.7	0.4	6.3	0.3	7.2	0.7	7.2	0.1	7.2	0.3	6.3	0.4
Right Bank		9	0	9	0	9	0	7	0	10	0	13	0	7	0	8	0	8	0	8	0	7	0
Feature Type <small>(riffle, run, or pool)</small>		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 0.01 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Signed: _____ Date: _____

WBID # 3188
 Site # 4

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9/24/07 5:00pm	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown, Aaron Ball	SW 85 Rd Crossing
Current Weather Conditions: Clear	Facility Name: William Emmerling Jr.
Weather conditions for the past 10 days: 4 in.	Permit Number: MO0124028
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):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0383335	4137512	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0383523	4137236	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
18	upstream	19	downstream		
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:

<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:				

WBID # 3188
 Site # 4

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<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/walkways
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:

Comments:

Evidence of Human Use:

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

comments/other:

None

Substrate:

% Cobble	% Gravel	% Sand	50	% Silt	50	% Mud/Clay	% Bedrock
----------	----------	--------	----	--------	----	------------	-----------

Aquatic Vegetation:

None

Water Characteristics:

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input checked="" type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input 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:

WBID # 3188
Site # 4

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.)

None

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

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3188</u> Site #: <u>4</u> Estimated Channel Incision: <u>3</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0383335</u> UTM Y: <u>4137512</u> +/- _____ (meters) 11 UTM X: <u>0383523</u> UTM Y: <u>4137236</u> +/- _____ (meters) Average Stream Width: <u>12</u> (meters) Length of Survey Segment: <u>240</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Larissa Brown, Aaron Ball</u>	Dissolved Oxygen Date: <u>9/24/07</u> Time: <u>4:45</u> Dissolved Oxygen: <u>5</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>24.8</u> (°C)
---	--

Transect Cross-Section

Station		01		02		03		04		05		06		07		08		09		10		11	
		Distance (m)	Depth (m)																				
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	1	0.2	1	0.35	1.2	0.35	1.2	0.3	1.3	0.05	1.4	0.2	1.3	0.6	1.5	0.2	1.3	0.35	1.4	0.3	1.5	0.4	
2	2	0.4	2.1	0.5	2.4	0.7	2.4	0.65	2.6	0.15	2.8	0.5	2.6	0.9	3	0.25	2.6	0.45	2.8	0.5	3	0.45	
3	3	0.45	3.2	0.55	3.6	0.85	3.6	0.9	3.9	0.2	4.2	0.65	3.9	1	4.5	0.35	3.9	0.5	4.2	0.55	4.5	0.45	
4	4	0.5	4.3	0.8	4.8	1	4.8	1	5.2	0.3	5.6	0.9	5.2	1	6	0.4	5.2	0.5	5.6	0.6	6	0.45	
5	5	0.5	5.4	0.9	6	1	6	1	6.5	0.35	7	0.9	6.5	1	7.5	0.6	6.5	0.5	7	0.45	7.5	0.5	
6	6	0.6	6.5	0.9	7.2	1	7.2	1	7.8	0.35	8.4	0.7	7.8	1	9	0.65	7.8	0.55	8.4	0.4	9	0.55	
7	7	0.5	7.6	0.75	8.4	0.85	8.4	1	9.1	0.4	9.8	0.5	9.1	1	10.5	0.75	9.1	0.6	9.8	0.4	10.5	0.5	
8	8	0.5	8.7	0.25	9.6	0.85	9.6	0.65	10.4	0.5	11.2	0.5	10.4	1	12	0.45	10.4	0.6	11.2	0.3	12	0.6	
9	9	0.45	9.8	0.3	10.8	0.55	10.8	0.7	11.7	0.25	12.6	0.7	11.7	1	13.5	0.4	11.7	0.55	12.6	0.3	13.5	0.5	
Right Bank	10	0	11	0	12	0	12	0	13	0	14	0	13	0	15	0	13	0	14	0	15	0	
Feature Type (riffle, run, or pool)	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 0.01 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Signed: _____ Date: _____

WBID # 3188
 Site # 3

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9/24/07 4:20 pm	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown, Aaron Ball	SW 100 Rd crossing
Current Weather Conditions: Clear	Facility Name: William Emmerling Jr.
Weather conditions for the past 10 days: 4 in.	Permit Number: MO0124028
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):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0383624	4135060	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0383812	4134939	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
16	upstream	17	downstream		
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:

<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:				

WBID # 3188
 Site # 3

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<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/walkways
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:

Comments:

Evidence of Human Use:

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

comments/other:

None

Substrate:

20 % Cobble	20 % Gravel	% Sand	% Silt	30 % Mud/Clay	50 % Bedrock
-------------	-------------	--------	--------	---------------	--------------

Aquatic Vegetation:

None

Water Characteristics:

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

WBID # 3188
Site # 3

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization (continued)

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

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

Comments: (Please record any additional comments here.)

None

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

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3188</u> Site #: <u>3</u> Estimated Channel Incision: <u>4</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0383624</u> UTM Y: <u>4135060</u> +/- _____ (meters) 11 UTM X: <u>0383812</u> UTM Y: <u>4134939</u> +/- _____ (meters) Average Stream Width: <u>8</u> (meters) Length of Survey Segment: <u>160</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Larissa Brown, Aaron Ball</u>	Dissolved Oxygen Date: <u>9/24/07</u> Time: <u>4:20</u> Dissolved Oxygen: <u>4.9</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>24.2</u> (°C)
--	--

Transect Cross-Section

Station		01		02		03		04		05		06		07		08		09		10		11	
		Distance (m)	Depth (m)																				
Left Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1		0.7	0.15	1	0.1	1	0.05	1.2	0.2	1.2	0.1	1.3	0.45	1.3	0.5	1.6	0.3	1.2	0.4	0.9	0.35	0.4	0.1
2		1.4	0.3	1.8	0.1	2	0	2.4	0.35	2.4	0.2	2.6	0.4	2.6	0.7	3.2	1	2.4	0.55	1.8	0.6	0.8	0.2
3		2.1	0.45	2.6	0.15	3	0.1	3.6	0.2	3.6	0.3	3.9	0.45	3.9	0.7	4.8	1	3.6	0.7	2.7	0.7	1.2	0.35
4		2.8	0.45	3.4	0.2	4	0.2	4.8	0.2	4.8	0.35	5.2	0.55	5.2	1	6.4	1	4.8	0.9	3.6	0.6	1.6	0.35
5		3.5	0.4	4.2	0.2	5	0.2	6	0.1	6	0.4	6.5	0.35	6.5	1	8	1	6	0.95	4.5	0.6	2	0.45
6		4.2	0.4	5	0.3	6	0.25	7.2	0	7.2	0.4	7.8	0.45	7.8	1	9.6	1	7.2	0.9	5.4	0.5	2.4	0.4
7		4.9	0.35	5.8	0.3	7	0.2	8.4	0	8.4	0.4	9.1	0.35	9.1	1	11.2	1	8.4	0.8	6.3	0.4	2.8	0.35
8		5.6	0.4	6.6	0.15	8	0.1	9.6	0.1	9.6	0.3	10.4	0.3	10.4	1	12.8	0.55	9.6	0.45	7.2	0.3	3.2	0.2
9		6.3	0.2	7.4	0.2	9	0.05	10.8	0.2	10.8	0.2	11.7	0.3	11.7	0.65	14.4	0.45	10.8	0.25	8.1	0.05	3.6	0.1
Right Bank		7	0	8	0	10	0	12	0	12	0	13	0	13	0	16	0	12	0	9	0	4	0
Feature Type <small>(riffle, run, or pool)</small>		pool		riffle		riffle		riffle		pool		run											

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

Signed: _____ Date: _____

WBID # 3188
 Site # 6

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9/25/07 8:30	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown, Aaron Ball	Highway H crossing
Current Weather Conditions: Partly cloudy	Facility Name: William Emmerling Jr.
Weather conditions for the past 10 days: 4 in.	Permit Number: MO0124028
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):	Northing (UTM Y):	Horizontal Accuracy: Meters
	038186	4133418	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0381277	4133248	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
24	downstream	25	upstream		
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:

<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:				

WBID # 3188
 Site # 6

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<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/walkways
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:
Comments:				

Evidence of Human Use:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: None				

Substrate:

% Cobble	15	% Gravel	15	% Sand	40	% Silt	30	% Mud/Clay	% Bedrock
----------	----	----------	----	--------	----	--------	----	------------	-----------

Aquatic Vegetation:

None				
------	--	--	--	--

Water Characteristics:

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

WBID # 3188
Site # 6

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization (continued)

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

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

Comments: (Please record any additional comments here.)

None

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

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3188</u> Site #: <u>6</u> Estimated Channel Incision: <u>3</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0381321</u> UTM Y: <u>413328</u> +/- _____ (meters) 11 UTM X: <u>0381277</u> UTM Y: <u>4133248</u> +/- _____ (meters) Average Stream Width: <u>15</u> (meters) Length of Survey Segment: <u>300</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Larissa Brown, Aaron Ball</u>	Dissolved Oxygen Date: <u>9/25/07</u> Time: <u>8:45</u> Dissolved Oxygen: <u>4.7</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>23.2</u> (°C)
--	--

Transect Cross-Section

Station		01		02		03		04		05		06		07		08		09		10		11	
		Distance (m)	Depth (m)																				
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	1.6	0.2	1	0.35	2	0.3	2.2	0.65	2.2	0.5	2.1	0.8	2.3	0.4	2.4	0.45	2	0.4	2.1	0.5	1.8	0.35	
2	3.2	0.3	2.9	0.35	4	0.55	4.4	1	4.4	0.8	4.2	0.7	4.6	0.65	4.8	0.7	4	0.9	4.2	1	3.6	0.5	
3	4.8	0.4	4.8	0.4	6	0.55	6.6	1	6.6	1	6.3	1	6.9	0.8	7.2	0.8	6	0.95	6.3	1	5.4	0.6	
4	6.4	0.4	6.7	0.4	8	0.5	8.8	1	8.8	1	8.4	1	9.2	0.6	9.6	0.8	8	1	8.4	1	7.2	0.7	
5	8	0.4	8.6	0.45	10	0.5	11	1	11	1	10.5	1	11.5	0.6	12	0.7	10	1	10.5	1	9	0.65	
6	9.6	0.45	10.5	0.3	12	0.65	13.2	1	13.2	0.75	12.6	1	13.8	0.5	14.4	0.7	12	1	12.6	1	10.8	0.6	
7	11.2	0.6	12.4	0.25	14	0.7	15.4	1	15.4	0.5	14.7	1	16.1	0.4	16.8	0.7	14	1	14.7	1	12.6	0.55	
8	12.8	0.6	14.3	0.25	16	0.7	17.6	1	17.6	0.55	16.8	0.9	18.4	0.4	19.2	0.7	16	1	16.8	0.85	14.4	0.7	
9	14.4	0.6	16.2	0.2	18	0.7	19.8	1	19.8	0.5	18.9	0.7	20.7	0.35	21.6	0.55	18	0.85	18.9	0.65	16.2	0.65	
Right Bank	16	0	19	0	20	0	22	0	22	0	21	0	23	0	24	0	20	0	21	0	18	0	
Feature Type <small>(riffle, run, or pool)</small>	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 0.01 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Signed: _____ Date: _____

WBID # 3188
 Site # 5

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9/24/07 6:30pm	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown, Aaron Ball	Sumac Rd Crossing
Current Weather Conditions: Clear	Facility Name: William Emmerling Jr.
Weather conditions for the past 10 days: 4 in.	Permit Number: MO0124028
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):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0381006	4132349	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	381348	4132158	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
20	upstream	21		22	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
23					
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed:

<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:				

WBID # 3188
 Site # 5

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<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/walkways
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:
Comments:				

Evidence of Human Use:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: None				

Substrate:

% Cobble	30	% Gravel	% Sand	40	% Silt	30	% Mud/Clay	% Bedrock
----------	----	----------	--------	----	--------	----	------------	-----------

Aquatic Vegetation:

None				
------	--	--	--	--

Water Characteristics:

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

WBID # 3188
Site # 5

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization (continued)

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

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

Comments: (Please record any additional comments here.)

None

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

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3188</u> Site #: <u>5</u> Estimated Channel Incision: <u>3</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0381006</u> UTM Y: <u>4132349</u> +/- _____ (meters) 11 UTM X: <u>0381348</u> UTM Y: <u>4132158</u> +/- _____ (meters) Average Stream Width: <u>22</u> (meters) Length of Survey Segment: <u>240</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Larissa Brown, Aaron Ball</u>	Dissolved Oxygen
	Date: <u>9/24/07</u> Time: <u>6:30</u>
	Dissolved Oxygen: <u>3.9</u> (mg/L)
	Dissolved Oxygen: _____ (% sat)
	Specific Cond: _____ (µS/cm)
	Water Temperature: <u>24</u> (°C)

Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)																				
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	1.6	0.2	1	0.2	1.7	0.15	2	0.8	2	0.9	2.2	1	2.1	1	2.3	1	2.1	1	2.2	1	2.7	1
2	3.2	0.35	2.6	0.3	3.4	0.35	4	1	4	1	4.4	1	4.2	1	4.6	1	4.2	1	4.4	1	5.4	1
3	4.8	0.4	4.2	0.2	5.1	0.4	6	1	6	1	6.6	1	6.3	1	6.9	1	6.3	1	6.6	1	8.1	1
4	6.4	0.5	5.8	0.2	6.8	0.6	8	1	8	1	8.8	1	8.4	1	9.2	1	8.4	1	8.8	1	10.8	1
5	8	0.7	7.4	0.3	8.5	0.6	10	1	10	1	11	1	10.5	1	11.5	1	10.5	1	11	1	13.5	1
6	9.6	1	9	0.1	10.2	0.65	12	1	12	1	13.2	1	12.6	1	13.8	1	12.6	1	13.2	1	16.2	1
7	11.2	1	10.6	0.1	11.9	0.7	14	1	14	1	15.4	1	14.7	1	16.1	1	14.7	1	15.4	1	18.9	1
8	12.8	0.8	12.2	0.05	13.6	0.65	16	1	16	1	17.6	1	16.8	1	18.4	1	16.8	1	17.6	1	21.6	1
9	14.4	0.6	13.8	0.05	15.3	0.5	18	1	18	1	19.8	1	18.9	1	20.7	1	18.9	1	19.8	1	24.3	1
Right Bank	16	0	16	0	17	0	20	0	20	0	22	0	21	0	23	0	21	0	22	0	27	0
Feature Type <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 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Signed: _____ Date: _____

WBID # 3188
 Site # 2

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9/24/07 2:00pm	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown, Aaron Ball	Redbud Rd crossing
Current Weather Conditions: Clear	Facility Name: William Emmerling Jr.
Weather conditions for the past 10 days: 4 in.	Permit Number: MO0124028
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):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0379489	4130767	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0379278	4130392	

Photos:

Photo ID#	Photo Purpose	Photo ID#:	Photo Purpose	Photo ID#:	Photo Purpose
13	upstream	12	downstream	15	upstream
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:

<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:				

WBID # 3188
 Site #

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<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/walkways
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep Slopes	<input type="checkbox"/> Other:
Comments:				

Evidence of Human Use:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input type="checkbox"/> RV/ATV Tracks	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock watering
comments/other: None				

Substrate:

20 % Cobble	20 % Gravel	% Sand	% Silt	10 % Mud/Clay	50 % Bedrock
-------------	-------------	--------	--------	---------------	--------------

Aquatic Vegetation:

None

Water Characteristics:

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

WBID # 3188
Site # 2

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization (continued)

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

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

Comments: (Please record any additional comments here.)

None

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

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3188</u> Site #: <u>2</u> Estimated Channel Incision: <u>5</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0379489</u> UTM Y: <u>4130767</u> +/- _____ (meters) 11 UTM X: <u>0379278</u> UTM Y: <u>4130392</u> +/- _____ (meters) Average Stream Width: <u>14</u> (meters) Length of Survey Segment: <u>280</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Larissa Brown, Aaron Ball</u>	Dissolved Oxygen Date: <u>9/24/07</u> Time: <u>2:00pm</u> Dissolved Oxygen: <u>7.0</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>24.2</u> (°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	1.6	0.5	1	0.4	1.3	0.4	1.5	0.4	1.9	0.9	2	0.85	2	0.2	2.4	0.7	2.4	0	2.3	0.35	2.1	0.4	
2	3.2	0.65	2.3	0.65	2.6	0.7	3	0.6	3.8	1	4	0.85	4	0.3	4.8	0.45	4.8	0	4.6	0.45	4.2	0.5	
3	4.8	1	3.6	0.8	3.9	0.65	4.5	0.7	5.7	1	6	0.8	6	0.4	7.2	0	7.2	0.4	6.9	0.45	6.3	0.45	
4	6.4	1	4.9	0.9	5.2	0.7	6	0.75	7.6	1	8	0.8	8	0.4	9.6	0	9.6	0.45	9.2	0.45	8.4	0.45	
5	8	1	6.2	0.9	6.5	0.75	7.5	0.8	9.5	1	10	0.8	10	0.45	12	0	12	0.4	11.5	0.5	10.5	0.4	
6	9.6	1	7.5	0.85	7.8	0.7	9	0.8	11.4	1	12	0.7	12	0.35	14.4	0	14.4	0.4	13.8	0.4	12.6	0.4	
7	11.2	1	8.8	0.8	9.1	0.8	10.5	0.6	13.3	1	14	0.6	14	0.4	16.8	0	16.8	0.25	16.1	0.4	14.7	0.4	
8	12.8	0.85	10.1	0.7	10.4	0.65	12	0.5	15.2	0.8	16	0.5	16	0.3	19.2	0.2	19.2	0.25	18.4	0.5	16.8	0.25	
9	14.4	0.95	11.4	0.5	11.7	0.45	13.5	0.4	17.1	0.5	18	0.4	18	0.35	21.6	0.2	21.6	0.35	20.7	0.65	18.9	0.3	
Right Bank	16	0	13	0	13	0	15	0	19	0	20	0	20	0	24	0	24	0	23	0	21	0	
Feature Type (riffle, run, or pool)	pool																						

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

Signed: _____ Date: _____

WBID # 3188
 Site # 1

Field Data Sheets For Recreational Use Stream Surveys

Data Sheet B-Site Characterization

Date & Time: 9/24/07 1:41pm	Site Location Description (e.g. road crossing):
Personnel: Larissa Brown, Aaron Ball	Hwy M
Current Weather Conditions: Clear	Facility Name: William Emmerling Jr.
Weather conditions for the past 10 days: 4 in.	Permit Number: MO0124028
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):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0379632	4128720	
Site 11	Easting (UTM X):	Northing (UTM Y):	Horizontal Accuracy: Meters
	0379623	4128399	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
11	Downstream	12	Upstream		
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:

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

WBID # 3188
 Site # 1

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B- Site Characterization (Continued)

Surrounding Conditions:

<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/walkways
<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:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot path/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: limb lines				

Substrate:

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
----------	----------	--------	--------	------------	-----------

Aquatic Vegetation:

None

Water Characteristics:

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

WBID # 3188
Site # 1

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization (continued)

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

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

Comments: (Please record any additional comments here.)

None

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

Surveyor's Signature: _____ Date of Survey: _____

Organization: _____ Position: _____

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>3188</u> Site #: <u>1</u> Estimated Channel Incision: <u>12</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>0379632</u> UTM Y: <u>4123720</u> +/- _____ (meters) 11 UTM X: <u>0379623</u> UTM Y: <u>4128399</u> +/- _____ (meters) Average Stream Width: <u>16</u> (meters) Length of Survey Segment: <u>320</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Larissa Brown, Aaron Ball</u>	Dissolved Oxygen Date: <u>9/24/07</u> Time: <u>1:41pm</u> Dissolved Oxygen: <u>5.4</u> (mg/L) Dissolved Oxygen: _____ (% sat) Specific Cond: _____ (µS/cm) Water Temperature: <u>24.2</u> (°C)
--	--

Transect Cross-Section

Station		01		02		03		04		05		06		07		08		09		10		11	
		Distance (m)	Depth (m)																				
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1	1.6	1	1	1	1.6	1	1.6	1	1.6	1	1.7	1	1.7	1	1.6	1	1.6	1	1.6	1	1.6	1	
2	3.2	1	2.7	1	3.2	1	3.2	1	3.2	1	3.4	1	3.4	1	3.2	1	3.2	1	3.2	1	3.2	1	
3	4.8	1	4.4	1	4.8	1	4.8	1	4.8	1	5.1	1	5.1	1	4.8	1	4.8	1	4.8	1	4.8	1	
4	6.4	1	6.1	1	6.4	1	6.4	1	6.4	1	6.8	1	6.8	1	6.4	1	6.4	1	6.4	1	6.4	1	
5	8	1	7.8	1	8	1	8	1	8	1	8.5	1	8.5	1	8	1	8	1	8	1	8	1	
6	9.6	1	9.5	1	9.6	1	9.6	1	9.6	1	10.2	1	10.2	1	9.6	1	9.6	1	9.6	1	9.6	1	
7	11.2	1	11.2	1	11.2	1	11.2	1	11.2	1	11.9	1	11.9	1	11.2	1	11.2	1	11.2	1	11.2	1	
8	12.8	1	12.9	1	12.8	1	12.8	1	12.8	1	13.6	1	13.6	1	12.8	1	12.8	1	12.8	1	12.8	1	
9	14.4	1	14.6	1	14.4	1	14.4	1	14.4	1	15.3	1	15.3	1	14.4	1	14.4	1	14.4	1	14.4	1	
Right Bank	16	0	17	0	16	0	16	0	16	0	17	0	17	0	16	0	16	0	16	0	16	0	
Feature Type <small>(riffle, run, or pool)</small>	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 0.01 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Signed: _____ Date: _____

WBID# 3188



Site# 31 Photo ID# 79, Upstream



Site# 31 Photo ID# 80, Upstream



Site# 28 Photo ID# 73, Upstream



Site# 28 Photo ID# 78, Downstream

WBID# 3188



Site# 27 Photo ID# 71, Upstream



Site# 27 Photo ID# 72, Downstream



Site# 26 Photo ID# 69, Upstream



Site# 26 Photo ID# 70, Downstream

WBID# 3188



Site# 25 Photo ID# 67, Downstream



Site# 25 Photo ID# 68, Upstream



Site# 24 Photo ID# 65, Upstream



Site# 24 Photo ID# 64, Downstream

WBID# 3188



Site# 30 Photo ID# 76, Downstream



Site# 30 Photo ID# 77, Upstream



Site# 29 Photo ID# 74, Downstream



Site# 29 Photo ID# 75, Upstream

WBID# 3188



Site# 22 Photo ID# 61, Upstream



Site# 22 Photo ID# 62, Downstream



Site# 23 Photo ID# 63, Downstream



Site# 23 Photo ID# 64, Upstream

WBID# 3188



Site# 18 Photo ID# 55, Upstream



Site# 18 Photo ID# 56, Downstream



Site# 21 Photo ID# 3, Downstream



Site# 21 Photo ID# 4, Upstream

WBID# 3188



Site# 17 Photo ID# 53, Downstream



Site# 17 Photo ID# 54, Upstream



Site# 16 Photo ID# 51, Upstream



Site# 16 Photo ID# 52, Downstream

WBID# 3188



Site# 20 Photo ID# 1, Downstream



Site# 20 Photo ID# 2, Upstream



Site# 15 Photo ID# 49, Downstream



Site# 15 Photo ID# 50, Upstream

WBID# 3188



Site# 14 Photo ID# 47, Upstream



Site# 14 Photo ID# 48, Downstream



Site# 13 Photo ID# 45, Downstream



Site# 13 Photo ID# 46, Upstream

WBID# 3188



Site# 12 Photo ID# 42, Downstream



Site# 12 Photo ID# 43, Upstream



Site# 11 Photo ID# 40, Downstream



Site# 11 Photo ID# 41, Upstream

WBID# 3188



Site# 10 Photo ID# 38, Upstream



Site# 10 Photo ID# 39, Downstream



Site# 19 Photo ID# 59, Upstream



Site# 19 Photo ID# 60, Downstream

WBID# 3188



Site# 9 Photo ID# 36, Upstream



Site# 9 Photo ID# 37, Downstream



Site# 8 Photo ID# 29, Downstream



Site# 7 Photo ID# 27, Upstream

WBID# 3188



Site# 7 Photo ID# 28, Downstream



Site# 4 Photo ID# 18, Upstream



Site# 4 Photo ID# 19, Downstream



Site# 3 Photo ID# 16, Upstream

WBID# 3188



Site# 3 Photo ID# 17, Downstream



Site# 6 Photo ID# 24, Downstream



Site# 6 Photo ID# 25, Upstream



Site# 5 Photo ID# 20, Upstream

WBID# 3188

Deleted

Deleted

Site# 5 Photo ID# 21



Site# 5 Photo ID# 23

Site# 5 Photo ID# 22



Site# 2 Photo ID# 13, Upstream

WBID# 3188



Site# 2 Photo ID# 12, Downstream



Site# 2 Photo ID# 15, Upstream



Site# 1 Photo ID# 11, Downstream



Site# 1 Photo ID# 12, Upstream

Memo

To: File
From: Mike Kruse
Date: May 2, 2008
Re: Deleted photos from 2007 UAA of WBID 3188

Photos numbered 21 and 22 were deleted by SES, Inc. prior to submittal. The field copies of the data sheets provide this notation while the electronic submittal did not.