



Use Attainability Analysis

for

WBID 1850 Stater Creek

Submitted by
Olsson Associates

To
Missouri Department of Natural Resources
Water Protection Program

On
October 14, 2008

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet A – Water Body Identification

I. Water Body Information (for water body being surveyed)

Water Body Name (from USGS 7.5' quad): Stater Cr.
Missouri Water Body Identification (WBID) Number: 1850
8-digit HUC: 07140102
County(ies), Listed Upstream to Downstream: Crawford
Upstream Legal Description (from Table H): 27, 40N, 2W
Downstream Legal Description (from Table H): 29, 40N, 2W
Number of sites evaluated: 3
List all site numbers, <u>consecutively upstream to downstream</u> : 1850-1, 1850-2, 1850-3
Include a Site Location Map(s). The map must include all requirements detailed in the <i>Missouri Recreational Use Attainability Analyses: Water Body Survey and Assessment Protocol</i> (Section IV.D.8.a).

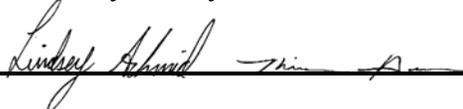
II. Facility Information (list all permitted discharges to this water body segment)

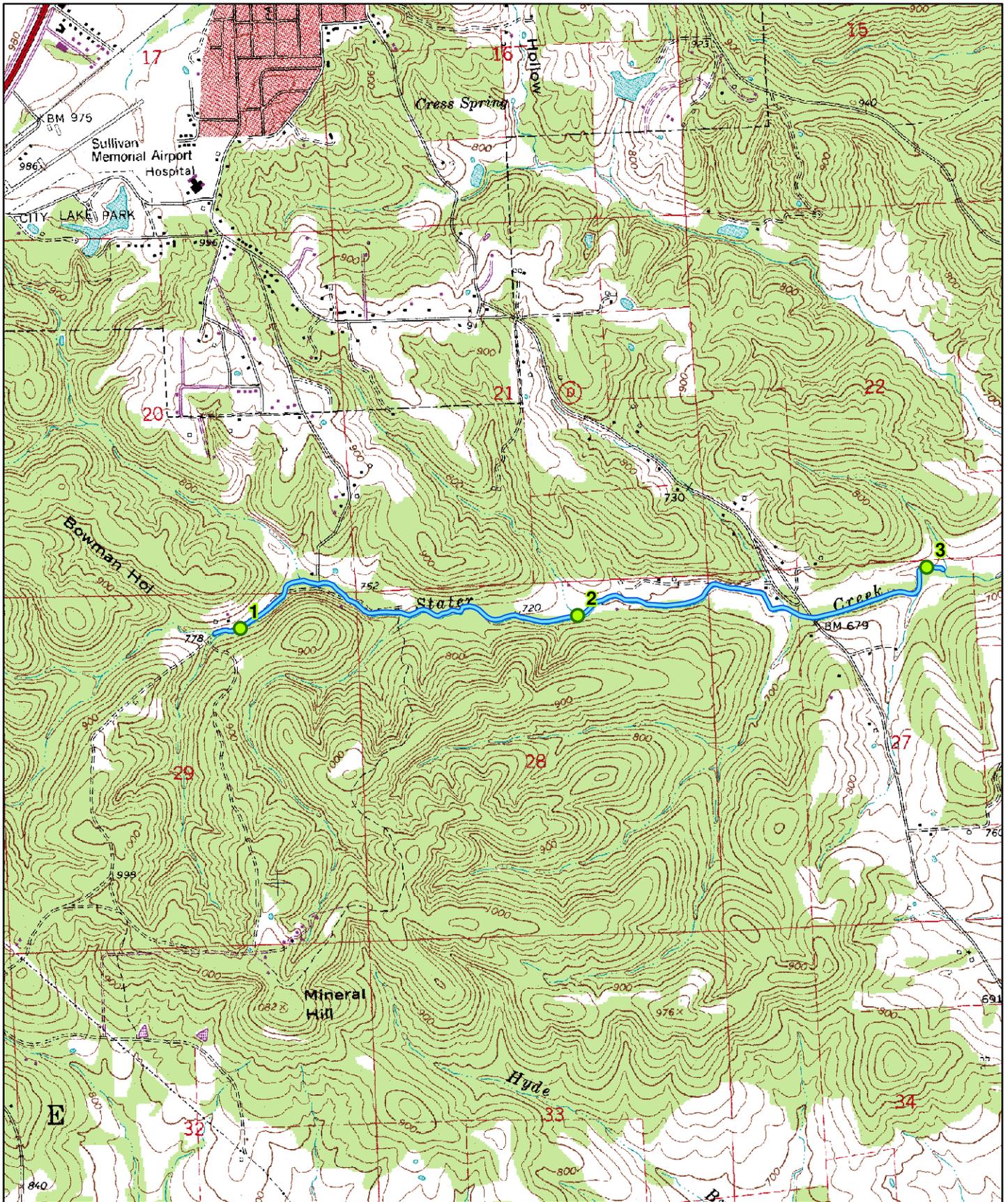
Facility Name(s) and Permit Number(s): County Square MHP MO0125491

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

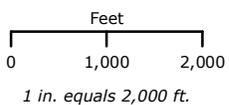
Name of Surveyor: Lindsey Schmid / Micah Hamer	Telephone Number: 417-890-8802
Organization/Employer: Olsson Associates	

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

Signed:  Date: 08-11-08



**MISSOURI RECREATIONAL
USE ATTAINABILITY ANALYSIS**



Stream: Stater Cr.
WBID: 1850

Map Sheet: 1/1
County: Crawford



Project No. 008-1298

WBID # 1850

Site # 1

Field Data Sheets for Recreational Use Stream Surveys

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

(must be completed for each site)

Date & Time: 08-11-08 4:00 p.m.	Location Description (e.g., road crossing): Alongside Thatcher Drive
Stream Name: Stater Cr.	
Current Weather Conditions: Clear	Facility Name(s): County Square MHP
Weather Conditions for Past 10 days: 1.12" @ Sullivan	Permit Number(s): MO 012491 0125491
Official Drought Conditions at time of this survey (search DNR home page for "drought"): No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)			
Site 01	Easting (UTM X): 660426	Northing (UTM Y): 4227065	Horizontal Accuracy: (EPE / FOM / PDOP) 36 ft. Meters
Site 11	Easting (UTM X): 660572	Northing (UTM Y): 4227164	Horizontal Accuracy: (EPE / FOM / PDOP) 44 ft. Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
1850-1-A	Upstream looking down	1850-1-B	Downstream looking up		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

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

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

Site # 1

Field Data Sheets for Recreational Use Stream Surveys

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

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

<input type="checkbox"/> City/county parks	<input type="checkbox"/> Playgrounds	<input type="checkbox"/> MDC conservation lands	<input type="checkbox"/> Urban areas	<input type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments: NONE				

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

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

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

% Cobble	80% Gravel	20% Sand	% Silt	% Mud/Clay	% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

30% brown algae

Water Characteristics*: (Mark all that apply.)

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

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that affect another use.

Site # 1

Field Data Sheets for Recreational Use Stream Surveys

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

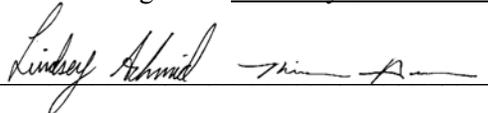
Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses.)

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

Comments: (Please record any additional comments here.)

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

Printed Names of Personnel Collecting Data: Lindsey Schmid / Micah Hamer

Surveyor's Signature:  Date of Survey: 08-11-08

Organization: Olsson Associates Position: Field Service

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Stater Cr.</u> Waterbody ID: <u>1850</u> Site #: <u>1</u> Estimated Channel Incision: <u>0.5</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>660426</u> UTM Y: <u>4227065</u> +/- <u>36</u> ft. (meters) 11 UTM X: <u>660572</u> UTM Y: <u>4227164</u> +/- <u>44</u> ft. (meters) Average Stream Width: <u>2</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Lindsey Schmid/Micah Hamer</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>8/11/2008</u> Time: <u>4:00 p.m.</u> Dissolved Oxygen: <u>9.31</u> (mg/L) Dissolved Oxygen: <u>104</u> (% sat) Specific Cond: <u>288</u> (µS/cm) Water Temperature: <u>21</u> (°C)
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Transect Cross-Section

Station		01		02		03		04		05		06		07		08		09		10		11	
		Distance (m)	Depth (m)																				
Left Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1	0.25	0.05	0.25	0.10	0.22	0.05	0.18	0.05	0.23	0.05	0.25	0.05	0.30	0.05	0.13	0.05	0.22	0.05	0.26	0.05	0.10	0.05
	2	0.50	0.05	0.50	0.07	0.44	0.05	0.25	0.07	0.46	0.00	0.50	0.08	0.60	0.05	0.26	0.05	0.44	0.06	0.52	0.05	0.20	0.08
	3	0.75	0.05	0.75	0.09	0.66	0.05	0.43	0.05	0.69	0.00	0.75	0.05	0.90	0.05	0.39	0.05	0.66	0.05	0.78	0.00	0.30	0.08
	4	1.00	0.05	1.00	0.08	0.88	0.08	0.60	0.05	0.92	0.00	1.00	0.05	1.20	0.00	0.52	0.05	0.88	0.05	1.04	0.06	0.40	0.07
	5	1.25	0.00	1.25	0.11	1.10	0.07	0.78	0.05	1.15	0.00	1.25	0.05	1.50	0.00	0.65	0.05	1.10	0.05	1.30	0.08	0.50	0.07
	6	1.50	0.05	1.50	0.07	1.32	0.08	0.96	0.05	1.38	0.10	1.50	0.05	1.80	0.00	0.78	0.05	1.32	0.05	1.56	0.05	0.60	0.07
	7	1.75	0.08	1.75	0.07	1.54	0.08	1.14	0.05	1.61	0.09	1.75	0.11	2.10	0.05	0.91	0.05	1.54	0.05	1.82	0.06	0.70	0.06
	8	2.00	0.06	2.00	0.06	1.76	0.07	1.13	0.05	1.84	0.11	2.00	0.09	2.40	0.05	1.04	0.05	1.76	0.07	2.08	0.09	0.80	0.06
	9	2.25	0.09	2.25	0.05	1.98	0.07	1.49	0.05	2.07	0.05	2.25	0.11	2.70	0.05	1.17	0.05	1.98	0.06	2.34	0.05	0.90	0.05
Right Bank		2.50	0.00	2.50	0.00	2.20	0.00	1.75	0.00	2.30	0.00	2.50	0.00	3.00	0.00	1.30	0.05	2.20	0.00	2.60	0.08	1.00	0.00
Feature Type <small>(riffle, run, or pool)</small>		Run		Run		Run		Riffle		Run		Run		Riffle									

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width
 GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.
 Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)
 Mark dry depth measurements as 0; record actual measurements to 0.1 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

MAXIMUM 0.11

MEDIAN 0.05

Surveyor's Signature: Date: 08-11-08

WBID # 1850

Site # 2

Field Data Sheets for Recreational Use Stream Surveys

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

(must be completed for each site)

Date & Time: 08-11-08	5:30 p.m.	Location Description (e.g., road crossing):
Stream Name: Stater Cr.		Rural, private property
Current Weather Conditions: Sunny/warm		Facility Name(s)County Square MHP:
Weather Conditions for Past 10 days: 1.12" @ Sullivan		Permit Number(s): MO0125491
Official Drought Conditions at time of this survey (search DNR home page for "drought"): No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>		

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)					
Site 01	Easting (UTM X): 661975	Northing (UTM Y): 4227121	Horizontal Accuracy: (EPE / FOM / PDOP)	50 ft. Meters	
Site 11	Easting (UTM X): 662115	Northing (UTM Y): 4227189	Horizontal Accuracy: (EPE / FOM / PDOP)	73 ft. Meters	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
1850-2-A	Upstream looking down	1850-2-B	Downstream looking up		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

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

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

Site # 2

Field Data Sheets for Recreational Use Stream Surveys

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

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

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

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

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

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

% Cobble	15% Gravel	5% Sand	% Silt	% Mud/Clay	80% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

Dark green algae on 50% of rocks.

Water Characteristics*: (Mark all that apply.)

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

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that affect another use.

Site # 2

Field Data Sheets for Recreational Use Stream Surveys

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

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

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

Comments: (Please record any additional comments here.)

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

Printed Names of Personnel Collecting Data: Lindsey Schmid / Micah Hamer

Surveyor's Signature:  Date of Survey: 08-11-08

Organization: Olsson Associates Position: Field Service

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Stater Cr.</u> Waterbody ID: <u>1850</u> Site #: <u>2</u> Estimated Channel Incision: <u>0.1</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>661975</u> UTM Y: <u>4227121</u> +/- <u>50</u> ft. (meters) 11 UTM X: <u>662115</u> UTM Y: <u>4227189</u> +/- <u>73</u> ft. (meters) Average Stream Width: <u>7</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Lindsey Schmid / Micah Hamer</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>8/11/2008</u> Time: <u>5:30 p.m.</u> Dissolved Oxygen: <u>6.69</u> (mg/L) Dissolved Oxygen: <u>82.9</u> (% sat) Specific Cond: <u>352</u> (µS/cm) Water Temperature: <u>26.1</u> (°C)
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Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)																				
Left Bank	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0.27	0.10	0.34	0.05	0.35	0.13	0.67	0.16	0.39	0.05	0.76	0.07	1.51	0.09	1.02	0.14	0.98	0.15	1.23	0.06	0.25	0.08
2	0.54	0.08	0.68	0.05	0.70	0.12	1.34	0.09	0.78	0.09	1.52	0.13	3.02	0.07	2.04	0.11	1.96	0.22	2.46	0.05	0.50	0.09
3	0.81	0.06	1.02	0.08	1.05	0.14	2.01	0.09	1.17	0.10	2.28	0.06	4.53	0.07	3.06	0.07	2.94	0.24	3.69	0.05	0.75	0.09
4	1.08	0.08	1.36	0.09	1.40	0.09	2.68	0.09	1.56	0.12	3.04	<.05	6.04	0.07	4.08	0.05	3.92	0.09	4.92	0.05	1.00	0.16
5	1.35	0.06	1.70	0.09	1.75	0.11	3.35	0.00	1.95	0.13	3.80	0.07	7.55	0.05	5.10	0.05	4.90	0.05	6.15	0.00	1.25	0.10
6	1.62	0.06	2.04	0.10	2.10	0.09	4.02	0.05	2.34	0.12	4.56	0.05	9.06	0.05	6.12	0.05	5.88	0.16	7.38	0.00	1.50	0.12
7	1.89	0.05	2.38	0.14	2.45	0.13	4.69	0.06	2.73	0.17	5.32	0.05	10.57	0.06	7.14	0.05	6.86	0.10	8.61	0.05	1.75	0.05
8	2.16	0.05	2.72	0.21	2.80	0.06	5.36	0.05	3.12	0.18	6.08	0.05	12.08	0.07	8.16	0.08	7.84	0.22	9.84	0.05	2.00	0.05
9	2.43	0.12	3.06	0.21	3.15	0.05	6.03	0.05	3.51	0.19	6.84	0.05	13.59	0.05	9.18	0.07	8.82	0.09	11.07	0.13	2.25	0.05
Right Bank	2.70	0.00	3.40	0.00	3.50	0.00	6.70	0.00	3.90	0.00	7.60	0.00	15.10	0.00	10.20	0.00	9.80	0.00	12.30	0.00	2.50	0.00
Feature Type <small>(riffle, run, or pool)</small>	Run		Run		Riffle		Run		Run		Run		Riffle		Riffle		Run		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 0.1 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

MAXIMUM 0.24

MEDIAN 0.06

Surveyor's Signature: *Lindsey Schmid* Date: 8/11/2008

WBID # 1850

Site # 3

Field Data Sheets for Recreational Use Stream Surveys

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

(must be completed for each site)

Date & Time: 08-11-08 6:30 p.m.	Location Description (e.g., road crossing): Rural, private land
Stream Name: Stater Cr.	
Current Weather Conditions: Sunny/warm	Facility Name(s): County Square MHP
Weather Conditions for Past 10 days: 1.12" @ Sullivan	Permit Number(s): MO 0125491
Official Drought Conditions at time of this survey (search DNR home page for "drought"): No drought <input checked="" type="checkbox"/> ; Phase I <input type="checkbox"/> ; Phase II <input type="checkbox"/> ; Phase III <input type="checkbox"/> ; Phase IV <input type="checkbox"/> ; Unknown <input type="checkbox"/>	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)				
Site 01	Easting (UTM X): 663123	Northing (UTM Y): 4227114	Horizontal Accuracy: (EPE / FOM / PDOP)	117 ft. Meters
Site 11	Easting (UTM X): 663283	Northing (UTM Y): 4227163	Horizontal Accuracy: (EPE / FOM / PDOP)	77 ft. Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
1850-3-A	Upstream looking down	1850-3-B	Downstream looking up	1850-3-C	Bridge
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

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

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

Site # 3

Field Data Sheets for Recreational Use Stream Surveys

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

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

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

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

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

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

% Cobble	60% Gravel	25% Sand	% Silt	% Mud/Clay	15% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

Moderate

Water Characteristics*: (Mark all that apply.)

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

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that affect another use.

Site # 3

Field Data Sheets for Recreational Use Stream Surveys

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

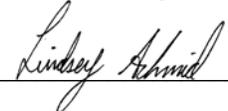
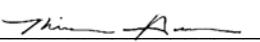
Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses.)

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

Comments: (Please record any additional comments here.)

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

Printed Names of Personnel Collecting Data: Lindsey Schmid / Micah Hamer

Surveyor's Signature:   Date of Survey: 08-11-08

Organization: Olsson Associates Position: Field Service

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Stater Cr.</u> Waterbody ID: <u>1850</u> Site #: <u>3</u> Estimated Channel Incision: <u>0.2</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) 01 UTM X: <u>663123</u> UTM Y: <u>4227114</u> +/- <u>117 ft.</u> (meters) 11 UTM X: <u>663283</u> UTM Y: <u>4227163</u> +/- <u>77 ft.</u> (meters) Average Stream Width: <u>5</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Lindsey Schmid / Micah Hamer</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>8/11/2008</u> Time: <u>6:30 p.m.</u> Dissolved Oxygen: <u>7.67</u> (mg/L) Dissolved Oxygen: <u>95.5</u> (% sat) Specific Cond: <u>366</u> (µS/cm) Water Temperature: <u>26.6</u> (°C)
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Transect Cross-Section

Station		01		02		03		04		05		06		07		08		09		10		11	
		Distance (m)	Depth (m)																				
Left Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	1	0.42	0.05	0.45	0.21	0.41	0.14	0.39	0.05	0.75	0.09	0.53	0.19	0.58	0.15	0.55	0.05	0.52	0.09	0.82	0.16	0.91	0.05
	2	0.84	0.08	0.90	0.27	0.82	0.11	0.78	0.05	1.50	0.11	1.06	0.19	1.16	0.18	1.10	0.11	1.04	0.13	1.64	0.05	1.82	0.05
	3	1.26	0.05	1.35	0.26	1.23	0.08	1.17	0.07	2.25	0.22	1.59	0.17	1.74	0.22	1.65	0.10	1.56	0.21	2.46	0.05	2.73	0.05
	4	1.68	0.06	1.80	0.26	1.64	0.05	1.56	0.05	3.00	0.21	2.12	0.23	2.32	0.17	2.20	0.12	2.08	0.20	3.28	0.05	3.64	0.09
	5	2.10	0.05	2.25	0.23	2.05	0.05	1.95	0.16	3.75	0.24	2.65	0.18	2.90	0.15	2.75	0.10	2.60	0.24	4.10	0.11	4.55	0.05
	6	2.52	0.05	2.70	0.21	2.46	0.05	2.34	0.19	4.50	0.21	3.18	0.18	3.48	0.12	3.30	0.10	3.12	0.22	4.92	0.11	5.46	0.05
	7	2.94	0.05	3.15	0.16	2.87	0.10	2.73	0.16	5.25	0.16	3.71	0.22	4.06	0.08	3.85	0.09	3.64	0.18	5.74	0.16	6.37	0.05
	8	3.36	0.05	3.60	0.15	3.28	0.13	3.12	0.08	6.00	0.11	4.24	0.23	4.64	0.13	4.40	0.08	4.16	0.18	6.56	0.19	7.28	0.09
9	3.78	0.05	4.05	0.09	3.69	0.07	3.51	0.06	6.75	0.07	4.77	0.19	5.22	0.05	4.95	0.07	4.68	0.19	7.38	0.22	8.19	0.08	
Right Bank		4.20	0.00	4.50	0.00	4.10	0.00	3.90	0.00	7.50	0.00	5.30	0.00	5.80	0.00	5.50	0.00	5.20	0.00	8.20	0.00	9.10	0.00
Feature Type		Riffle		Run		Riffle		Riffle		Riffle		Run		Riffle									

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width
 GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.
 Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)
 Mark dry depth measurements as 0; record actual measurements to 0.1 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

MAXIMUM 0.27

MEDIAN 0.10

Surveyor's Signature: Date: 8/11/2008



