



Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 1745 Establishment 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): Establishment Cr.
Missouri Water Body Identification (WBID) Number: 1745
8-digit HUC: 07140101
County(ies), Listed Upstream to Downstream: Ste. Genevieve
Upstream Legal Description (from Table H): 23,37N, 7E
Downstream Legal Description (from Table H): 33, 37N, 7E
Number of sites evaluated: 3
List all site numbers, <u>consecutively upstream to downstream</u> : 1, 2, 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)

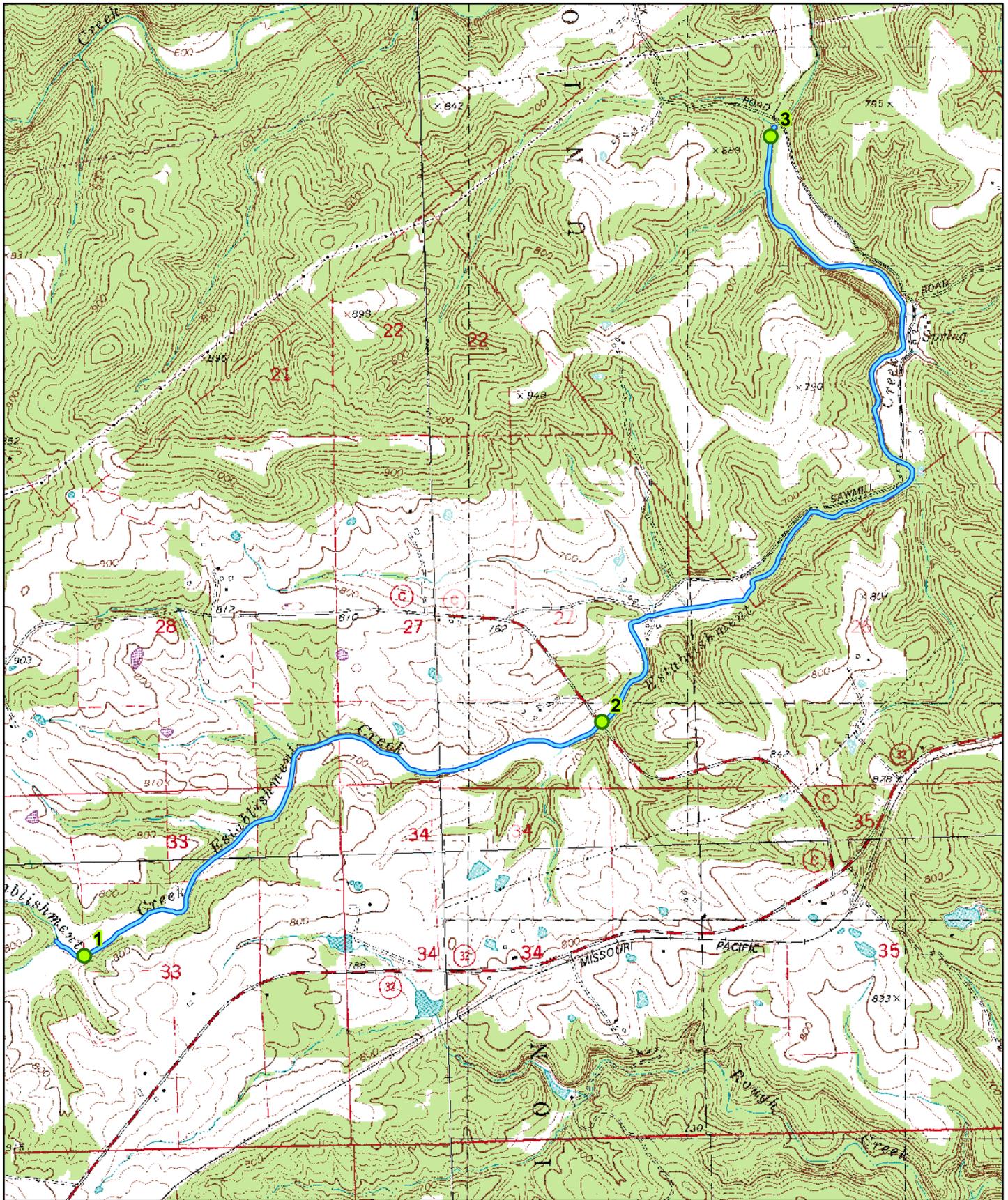
Facility Name(s) and Permit Number(s): Midway Bar and Grill MO 0083976

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

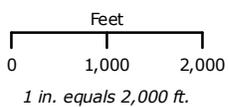
Name of Surveyor: <u>Lindsey Schmid / Micah Hamer</u>	Telephone Number: 417-890-8802
Organization/Employer: Olsson Associates	

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: 08-20-08



**MISSOURI RECREATIONAL
USE ATTAINABILITY ANALYSIS**



Stream: Establishment Cr.
WBID: 1745

Map Sheet: 1/1
County: Ste. Genevieve

WBID # 1745

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: 08-20-08 10:45 a.m.	Location Description (e.g., road crossing):
Stream Name: Establishment Cr.	In forest and through fields. No road access.
Current Weather Conditions: cloudy	Facility Name(s): Midway Bar and Grill
Weather Conditions for Past 10 days: 0.17" @ Farmington	Permit Number(s): MO 0083976
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): 740078	Northing (UTM Y): 4195186	Horizontal Accuracy: (EPE / FOM / PDOP) 179 ft. Meters
Site 11	Easting (UTM X): 740196	Northing (UTM Y): 4195034	Horizontal Accuracy: (EPE / FOM / PDOP) 95 ft. Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
1745-1-A	Downstream looking up	1745-1-B	Upstream looking down		
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.)				

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 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*: (Attach photos and reference in "Photos" section.)

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

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

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

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

--

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.

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.)

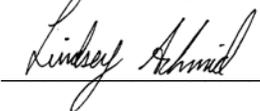
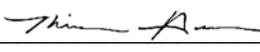
Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

Comments: (Please record any additional comments here.)

Access to waterway gained by walking from road down tributary to stream. No access point for the public. Homeowners nearby claim little knowledge of creek other than that the cows drink from it.

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: 08-20-08

Organization: Olsson Associates Position: Field Service

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Establishment Cr.</u> Waterbody ID: <u>1745</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>740078</u> UTM Y: <u>4195186</u> +/- <u>179</u> ft. (meters) 11 UTM X: <u>740196</u> UTM Y: <u>4195034</u> +/- <u>95</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>	<p align="center">Dissolved Oxygen</p> Date: <u>8/20/2008</u> Time: <u>10:45 a.m.</u> Dissolved Oxygen: <u>3.48</u> (mg/L) Dissolved Oxygen: <u>40.1</u> (% sat) Specific Cond: <u>152</u> (µS/cm) Water Temperature: <u>20.1</u> (°C)
--	---

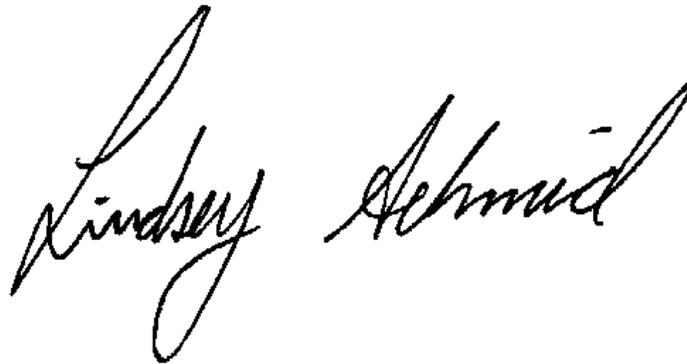
Transect Cross-Section

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	0.16	0.00	0.12	0.00	0.28	0.00	0.17	0.00	0.16	0.05	0.13	0.05	0.12	0.05	0.39	0.22	0.44	0.11	0.36	0.00	0.22	0.00
2	0.32	0.00	0.24	0.00	0.56	0.00	0.34	0.00	0.32	0.08	0.26	0.05	0.24	0.06	0.78	0.51	0.88	0.24	0.72	0.00	0.44	0.00
3	0.48	0.00	0.36	0.00	0.84	0.00	0.51	0.00	0.48	0.08	0.39	0.05	0.36	0.05	1.17	0.52	1.32	0.36	1.08	0.00	0.66	0.00
4	0.64	0.00	0.48	0.00	1.12	0.00	0.68	0.00	0.64	0.07	0.52	0.06	0.48	0.09	1.56	0.50	1.76	0.39	1.44	0.00	0.88	0.00
5	0.80	0.00	0.60	0.00	1.40	0.00	0.85	0.00	0.80	0.08	0.65	0.05	0.60	0.10	1.95	0.52	2.20	0.37	1.80	0.00	1.10	0.00
6	0.96	0.00	0.72	0.00	1.68	0.00	1.02	0.00	0.96	0.07	0.78	0.05	0.72	0.11	2.34	0.44	2.64	0.31	2.16	0.00	1.32	0.00
7	1.12	0.00	0.84	0.00	1.96	0.00	1.19	0.00	1.12	0.08	0.91	0.12	0.84	0.05	2.73	0.43	3.08	0.29	2.52	0.00	1.54	0.00
8	1.28	0.00	0.96	0.00	2.24	0.00	1.36	0.00	1.28	0.08	1.04	0.10	0.96	0.06	3.12	0.42	3.52	0.22	2.88	0.00	1.76	0.00
9	1.44	0.00	1.08	0.00	2.52	0.00	1.53	0.00	1.44	0.05	1.17	0.05	1.08	0.05	3.51	0.35	3.96	0.10	3.24	0.00	1.98	0.00
Right Bank	1.60	0.00	1.20	0.00	2.80	0.00	1.70	0.00	1.60	0.00	1.30	0.00	1.20	0.00	3.90	0.00	4.40	0.00	3.60	0.00	2.20	0.00
Feature Type <small>(riffle, run, or pool)</small>	Dry		Dry		Dry		Dry		Pool		Run		Run		Pool		Pool		Dry		Dry	

MAXIMUM 0.52
 MEDIAN 0.00

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

Surveyor's Signature:



WBID # 1745

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: 08-20-08 9:00 a.m.	Location Description (e.g., road crossing): Road crossing Hwy. C
Stream Name: Establishment Cr.	
Current Weather Conditions: Partly cloudy	Facility Name(s): Midway Bar & Grill
Weather Conditions for Past 10 days: 0.17" @ Farmington	Permit Number(s): MO 0083976
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): 742446	Northing (UTM Y): 4196024	Horizontal Accuracy: (EPE / FOM / PDOP)	115 ft.	Meters
Site 11	Easting (UTM X): 7442611	Northing (UTM Y): 4196110	Horizontal Accuracy: (EPE / FOM / PDOP)	154 ft.	Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
1745-2-A	Cow Trail	1745-2-B	Upstream looking down	1745-2-C	Downstream looking up/ 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 # 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 checked="" type="checkbox"/> Livestock Watering
<input type="checkbox"/> None of the above	Comments / Other:			

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

% Cobble	70% Gravel	10% Sand	10% Silt	% Mud/Clay	10% Bedrock
----------	------------	----------	----------	------------	-------------

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

Lots of green gobs of algae, microbial, brown algae on 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 type="checkbox"/> Clear	<input checked="" type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input checked="" type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input type="checkbox"/> None	<input type="checkbox"/> Other:

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

Site # 2

Field Data Sheets for Recreational Use Stream Surveys

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

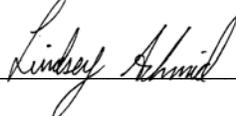
Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses.)

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: 08-20-08

Organization: Olsson Associates Position: Field Service

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Establishment Cr.</u> Waterbody ID: <u>1745</u> Site #: <u>2</u> Estimated Channel Incision: <u>0.25</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>742446</u> UTM Y: <u>4196024</u> +/- <u>115 ft.</u> (meters) 11 UTM X: <u>742611</u> UTM Y: <u>4196110</u> +/- <u>154 ft.</u> (meters) Average Stream Width: <u>4</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>	<p align="center">Dissolved Oxygen</p> Date: <u>8/20/2008</u> Time: <u>9:00 a.m.</u> Dissolved Oxygen: <u>5.71</u> (mg/L) Dissolved Oxygen: <u>60.5</u> (% sat) Specific Cond: <u>217</u> (µS/cm) Water Temperature: <u>19.3</u> (°C)
--	--

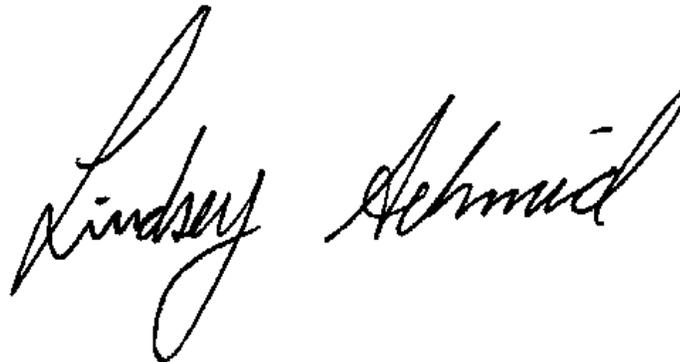
Transect Cross-Section

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	0.61	0.05	0.46	0.08	0.17	0.05	0.63	0.15	0.48	0.09	0.59	0.26	0.09	0.05	0.39	0.05	0.47	0.15	0.04	0.05	0.22	0.05
2	1.22	0.05	0.92	0.12	0.34	0.05	1.26	0.15	0.96	0.07	1.18	0.34	0.18	0.05	0.78	0.05	0.94	0.19	0.08	0.05	0.44	0.36
3	1.83	0.05	1.38	0.08	0.51	0.05	1.89	0.20	1.44	0.10	1.77	0.43	0.27	0.05	1.17	0.05	1.41	0.23	0.12	0.05	0.66	0.44
4	2.44	0.05	1.84	0.05	0.68	0.05	2.52	0.28	1.92	0.05	2.36	0.52	0.36	0.05	1.56	0.06	1.88	0.31	0.16	0.05	0.88	0.43
5	3.05	0.05	2.30	0.10	0.85	0.05	3.15	0.22	2.40	0.05	2.95	0.50	0.45	0.05	1.95	0.15	2.35	0.29	0.20	0.05	1.10	0.43
6	3.66	0.08	2.76	0.06	1.02	0.05	3.78	0.21	2.88	0.05	3.54	0.62	0.54	0.05	2.34	0.20	2.82	0.26	0.24	0.05	1.32	0.47
7	4.27	0.08	3.22	0.05	1.19	0.05	4.41	0.21	3.36	0.05	4.13	0.79	0.63	0.05	2.73	0.25	3.29	0.22	0.28	0.05	1.54	0.46
8	4.88	0.06	3.68	0.05	1.36	0.05	5.04	0.15	3.84	0.05	4.72	1.00	0.72	0.05	3.12	0.29	3.76	0.17	0.32	0.05	1.76	0.42
9	5.49	0.07	4.14	0.05	1.53	0.05	5.67	0.06	4.32	0.05	5.31	1.00	0.81	0.05	3.51	0.30	4.23	0.14	0.36	0.05	1.98	0.41
Right Bank	6.10	0.00	4.60	0.00	1.70	0.00	6.30	0.00	4.80	0.00	5.90	0.00	0.90	0.00	3.90	0.00	4.70	0.00	0.40	0.00	2.20	0.00
Feature Type <small>(riffle, run, or pool)</small>	Run		Run		Riffle		Run		Run		Pool		Riffle		Run		Run		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 0.1 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

MAXIMUM 1.00
 MEDIAN 0.05

Surveyor's Signature:



WBID # 1745 _____

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: 08-20-08	8:00 a.m.	Location Description (e.g., road crossing):
Stream Name: Establishment Cr.		Road crossing, road name unknown
Current Weather Conditions: Partly cloudy		Facility Name(s) Midway Bar & Grill
Weather Conditions for Past 10 days: 0.17" @ Farmington		Permit Number(s): MO:0083976
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): 743381	Northing (UTM Y): 41988793	Horizontal Accuracy: (EPE / FOM / PDOP)	132 ft.	Meters
Site 11	Easting (UTM X): 743507	Northing (UTM Y): 4198989	Horizontal Accuracy: (EPE / FOM / PDOP)	76 ft.	Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
1745-3-A	Upstream looking down	1745-3-B	Bridge	1745-3-C	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 # 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 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*: (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	30% Gravel	10% Sand	% Silt	% Mud/Clay	60% Bedrock
----------	------------	----------	--------	------------	-------------

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

Some slick green and brown algae on rocks 40%

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input checked="" type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input type="checkbox"/> Other:
Bottom Deposit:	<input type="checkbox"/> Sludge	<input checked="" type="checkbox"/> Solids	<input checked="" type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input 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: 8-20-08

Organization: Olsson Associates Position: Field Service

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Establishment Cr.</u> Waterbody ID: <u>1745</u> Site #: <u>3</u> Estimated Channel Incision: <u>0.25</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>743381</u> UTM Y: <u>4198793</u> +/- <u>132</u> ft. (meters) 11 UTM X: <u>743507</u> UTM Y: <u>4198989</u> +/- <u>76</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>	<p align="center">Dissolved Oxygen</p> Date: <u>8/20/2008</u> Time: <u>8:00 a.m.</u> Dissolved Oxygen: <u>8.18</u> (mg/L) Dissolved Oxygen: <u>90.8</u> (% sat) Specific Cond: <u>371</u> (µS/cm) Water Temperature: <u>20.3</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
1	0.71	0.05	1.25	0.14	1.16	0.24	0.81	0.05	0.83	0.20	0.53	0.25	0.49	0.09	0.47	0.05	0.56	0.10	0.31	0.61	0.63	0.19
2	1.42	0.05	2.50	0.27	2.32	0.23	1.62	0.14	1.66	0.18	1.06	0.17	0.98	0.19	0.94	0.06	1.12	0.17	0.62	0.70	1.26	0.26
3	2.13	0.05	3.75	0.08	3.48	0.21	2.43	0.18	2.49	0.19	1.59	0.14	1.47	0.31	1.41	0.12	1.68	0.05	0.93	0.69	1.89	0.36
4	2.84	0.08	5.00	0.10	4.64	0.24	3.24	0.05	3.32	0.27	2.12	0.16	1.96	0.32	1.88	0.06	2.24	0.07	1.24	0.58	2.52	0.36
5	3.55	0.07	6.25	0.18	5.80	0.22	4.05	0.12	4.15	0.31	2.65	0.15	2.45	0.35	2.35	0.08	2.80	0.18	1.55	0.33	3.15	0.40
6	4.26	0.09	7.50	0.19	6.96	0.17	4.86	0.23	4.98	0.25	3.18	0.11	2.94	0.33	2.82	0.06	3.36	0.13	1.86	0.48	3.78	0.46
7	4.97	0.06	8.75	0.20	8.12	0.13	5.67	0.19	5.81	0.17	3.71	0.11	3.43	0.31	3.29	0.05	3.92	0.21	2.17	0.42	4.41	0.55
8	5.68	0.05	10.00	0.29	9.28	0.19	6.48	0.14	6.64	0.15	4.24	0.12	3.92	0.26	3.76	0.12	4.48	0.14	2.48	0.40	5.04	0.43
9	6.39	0.06	11.25	0.37	10.44	0.15	7.29	0.11	7.47	0.21	4.77	0.10	4.41	0.22	4.23	0.11	5.04	0.12	2.79	0.06	5.67	0.36
Right Bank	7.10	0.00	12.50	0.00	11.60	0.00	8.10	0.00	8.30	0.00	5.30	0.00	4.90	0.00	4.70	0.00	5.60	0.00	3.10	0.00	6.30	0.00
Feature Type <small>(riffle, run, or pool)</small>	Run		Run		Run		Riffle		Run		Run		Run		Riffle		Run		Pool		Run	

MAXIMUM 0.70

MEDIAN 0.15

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

Surveyor's Signature:

