



Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 1855 Lick 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): Lick Cr.
Missouri Water Body Identification (WBID) Number: 1855
8-digit HUC: 07140103
County(ies), Listed Upstream to Downstream: Crawford
Upstream Legal Description (from Table H): 2, 38N, 4W
Downstream Legal Description (from Table H): 27, 39N, 4W
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): Rustic Haven Steakhouse MO- 0101311
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III. UAA Surveyor (please **PRINT** legibly)

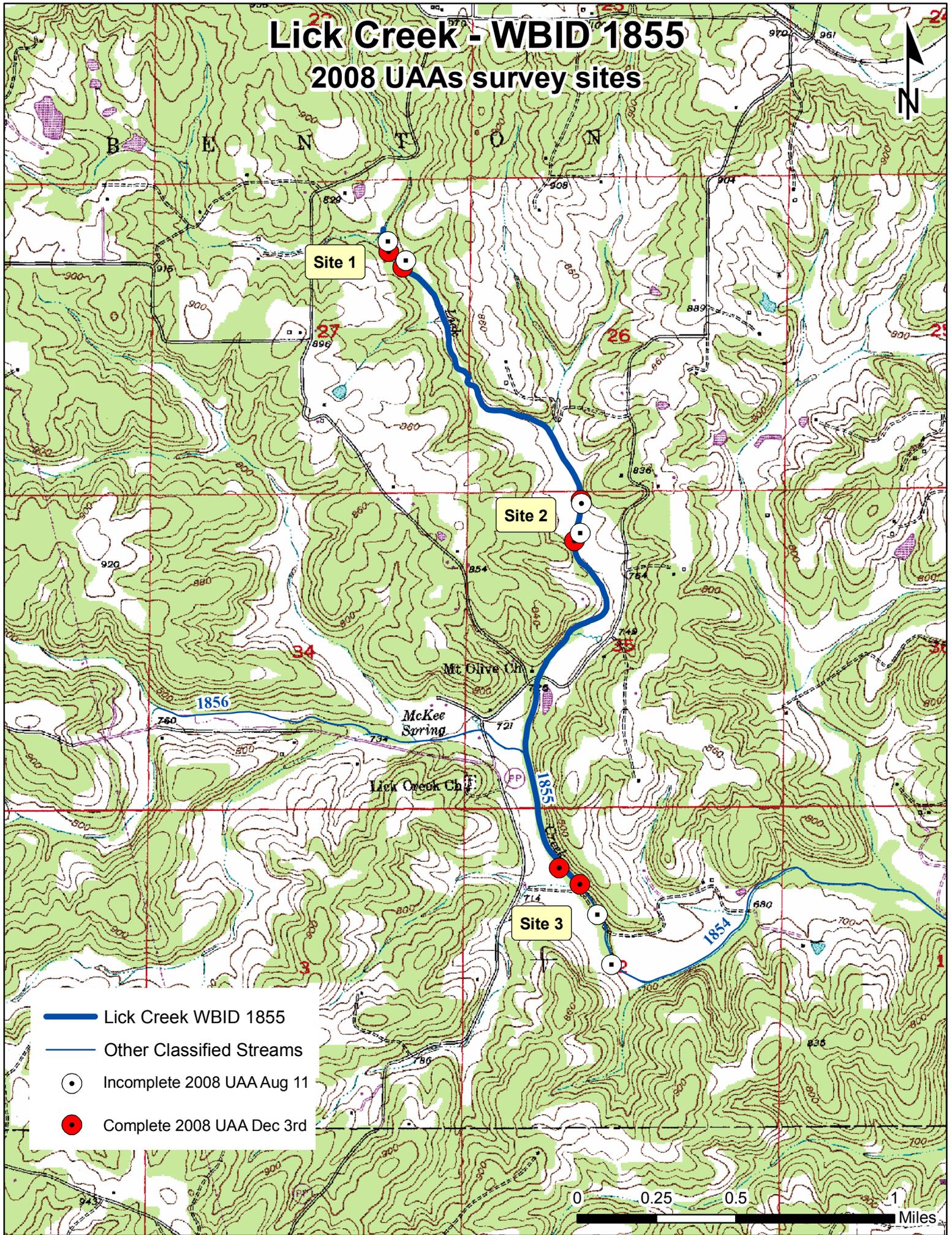
Name of Surveyor: Lindsey Schmid	Telephone Number:
Organization/Employer: Olsson Associates	

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:** _____

Lick Creek - WBID 1855

2008 UAAs survey sites



- Lick Creek WBID 1855
- Other Classified Streams
- Incomplete 2008 UAA Aug 11
- Complete 2008 UAA Dec 3rd

0 0.25 0.5 1 Miles

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: 12/03/08 10:45 a.m.	Location Description (e.g., road crossing):
Stream Name: Lick Creek	Downstream from private road.
Current Weather Conditions: Cloudy	Facility Name(s): Rustic Haven Steakhouse
Weather Conditions for Past 10 days: 0.07 in. @ Rolla	Permit Number(s): MO0101311
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): 645460	Northing (UTM Y): 4215342	Horizontal Accuracy: <u>(EPE)</u> FOM / PDOP 72 ft. Meters
Site 11	Easting (UTM X): 645532	Northing (UTM Y): 4215263	Horizontal Accuracy: <u>(EPE)</u> FOM / PDOP 93 ft. Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
1855-1-A	Upstream looking down	1855-1-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 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/Rodney Holland

Surveyor's Signature:  Date of Survey: 12/03/08

Organization: Olsson Associates Position: Field Service

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Lick Cr.</u> Waterbody ID: <u>1855</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>645460</u> UTM Y: <u>4215342</u> +/- <u>72 ft.</u> (meters) 11 UTM X: <u>645532</u> UTM Y: <u>4215263</u> +/- <u>93 ft.</u> (meters) Average Stream Width: <u>2.5</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Lindsey Schmid / Rodney Holland</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>12/3/2008</u> Time: <u>10:45 a.m.</u> Dissolved Oxygen: <u>N/A</u> (mg/L) Dissolved Oxygen: <u>N/A</u> (% sat) Specific Cond: <u>N/A</u> (µS/cm) Water Temperature: <u>N/A</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	0.22	0.00	0.24	0.00	0.31	0.00	0.28	0.00	0.26	0.00	0.27	0.00	0.21	0.00	0.24	0.00	0.18	0.00	0.21	0.00	0.19	0.00
2	0.44	0.00	0.48	0.00	0.62	0.00	0.56	0.00	0.52	0.00	0.54	0.00	0.42	0.00	0.48	0.00	0.36	0.00	0.42	0.00	0.38	0.00
3	0.66	0.00	0.72	0.00	0.93	0.00	0.84	0.00	0.78	0.00	0.81	0.00	0.63	0.00	0.72	0.00	0.54	0.00	0.63	0.00	0.57	0.00
4	0.88	0.00	0.96	0.00	1.24	0.00	1.12	0.00	1.04	0.00	1.08	0.00	0.84	0.00	0.96	0.00	0.72	0.00	0.84	0.00	0.76	0.00
5	1.10	0.00	1.20	0.00	1.55	0.00	1.40	0.00	1.30	0.00	1.35	0.00	1.05	0.00	1.20	0.00	0.90	0.00	1.05	0.00	0.95	0.00
6	1.32	0.00	1.44	0.00	1.86	0.00	1.68	0.00	1.56	0.00	1.62	0.00	1.26	0.00	1.44	0.00	1.08	0.00	1.26	0.00	1.14	0.00
7	1.54	0.00	1.68	0.00	2.17	0.00	1.96	0.00	1.82	0.00	1.89	0.00	1.47	0.00	1.68	0.00	1.26	0.00	1.47	0.00	1.33	0.00
8	1.76	0.00	1.92	0.00	2.48	0.00	2.24	0.00	2.08	0.00	2.16	0.00	1.68	0.00	1.92	0.00	1.44	0.00	1.68	0.00	1.52	0.00
9	1.98	0.00	2.16	0.00	2.79	0.00	2.52	0.00	2.34	0.00	2.43	0.00	1.89	0.00	2.16	0.00	1.62	0.00	1.89	0.00	1.71	0.00
Right Bank	2.20	0.00	2.40	0.00	3.10	0.00	2.80	0.00	2.60	0.00	2.70	0.00	2.10	0.00	2.40	0.00	1.80	0.00	2.10	0.00	1.90	0.00
Feature Type <small>(riffle, run, or pool)</small>	Run	Dry																				

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 0.00

MEDIAN 0.00

Surveyor's Signature: *Lindsey Schmid* Date: 12/3/2008

WBID # 1855

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: 12/03/08 11:20	Location Description (e.g., road crossing): Private livestock land
Stream Name: Lick Cr.	
Current Weather Conditions: Cloudy	Facility Name(s): Rustic Haven Steakhouse
Weather Conditions for Past 10 days: 0.07 in. @ Rolla	Permit Number(s): MO 0101311
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): 646436	Northing (UTM Y): 4214082	Horizontal Accuracy: (EPE) FOM / PDOP	58 ft. Meters	
Site 11	Easting (UTM X): 646402	Northing (UTM Y): 4213875	Horizontal Accuracy: (EPE) FOM / PDOP	163 ft. Meters	

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
1855-2-A	Upstream looking down	1855-2-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 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 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	20% Sand	% Silt	% Mud/Clay	10% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

N/A

Water Characteristics*: (Mark all that apply.)

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

Surveyor's Signature:  Date of Survey: 12/03/08

Organization: Olsson Associates Position: Field Service

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Lick Cr.</u> Waterbody ID: <u>1855</u> Site #: <u>2</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>646435</u> UTM Y: <u>4214082</u> +/- <u>58</u> ft. (meters) 11 UTM X: <u>646402</u> UTM Y: <u>4213875</u> +/- <u>163</u> ft. (meters) Average Stream Width: <u>3.5</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Lindsey Schmid / Rodney Holland</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>12/3/2008</u> Time: <u>11:20 AM</u> Dissolved Oxygen: <u>N/A</u> (mg/L) Dissolved Oxygen: <u>N/A</u> (% sat) Specific Cond: <u>N/A</u> (µS/cm) Water Temperature: <u>N/A</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	0.32	0.00	0.40	0.00	0.29	0.00	0.32	0.00	0.39	0.00	0.35	0.00	0.33	0.00	0.37	0.00	0.28	0.00	0.30	0.00	0.32	0.00
2	0.64	0.00	0.80	0.00	0.58	0.00	0.64	0.00	0.78	0.00	0.70	0.00	0.66	0.00	0.74	0.00	0.56	0.00	0.60	0.00	0.64	0.00
3	0.96	0.00	1.20	0.00	0.87	0.00	0.96	0.00	1.17	0.00	1.05	0.00	0.99	0.00	1.11	0.00	0.84	0.00	0.90	0.00	0.96	0.00
4	1.28	0.00	1.60	0.00	1.16	0.00	1.28	0.00	1.56	0.00	1.40	0.00	1.32	0.00	1.48	0.00	1.12	0.00	1.20	0.00	1.28	0.00
5	1.60	0.00	2.00	0.00	1.45	0.00	1.60	0.00	1.95	0.00	1.75	0.00	1.65	0.00	1.85	0.00	1.40	0.00	1.50	0.00	1.60	0.00
6	1.92	0.00	2.40	0.00	1.74	0.00	1.92	0.00	2.34	0.00	2.10	0.00	1.98	0.00	2.22	0.00	1.68	0.00	1.80	0.00	1.92	0.00
7	2.24	0.00	2.80	0.00	2.03	0.00	2.24	0.00	2.73	0.00	2.45	0.00	2.31	0.00	2.59	0.00	1.96	0.00	2.10	0.00	2.24	0.00
8	2.56	0.00	3.20	0.00	2.32	0.00	2.56	0.00	3.12	0.00	2.80	0.00	2.64	0.00	2.96	0.00	2.24	0.00	2.40	0.00	2.56	0.00
9	2.88	0.00	3.60	0.00	2.61	0.00	2.88	0.00	3.51	0.00	3.15	0.00	2.97	0.00	3.33	0.00	2.52	0.00	2.70	0.00	2.88	0.00
Right Bank	3.20	0.00	4.00	0.00	2.90	0.00	3.20	0.00	3.90	0.00	3.50	0.00	3.30	0.00	3.70	0.00	2.80	0.00	3.00	0.00	3.20	0.00
Feature Type <small>(riffle, run, or pool)</small>	Riffle		Pool		Run		Pool		Pool		riffle		Riffle		Run		Pool		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 0.00

MEDIAN 0.00

Surveyor's Signature: *Lindsey Schmid* Date: 12/3/2008

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: 12/03/08 12:00 p.m.	Location Description (e.g., road crossing): Private Land
Stream Name: Lick Creek	
Current Weather Conditions: Cloudy	Facility Name(s): Rustic Haven Steakhouse
Weather Conditions for Past 10 days: 0.07 in. @ Rolla	Permit Number(s): MO0101311
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): 646324	Northing (UTM Y): 4212216	Horizontal Accuracy: <u>(EPE)</u> FOM / PDOP 44 ft. Meters
Site 11	Easting (UTM X): 646430	Northing (UTM Y): 4212133	Horizontal Accuracy: <u>(EPE)</u> FOM / PDOP 91 ft. Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
1855-3-A	Upstream looking down	1855-3-B	DLU		
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 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: Traces of Cattle Trails			

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

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

N/A

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: DRY
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 1%	<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 / Rodney Holland

Surveyor's Signature:  Date of Survey: 12/03/08

Organization: Olsson Associates Position: Field Service

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Lick Cr.</u> Waterbody ID: <u>1855</u> Site #: <u>3</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>646324</u> UTM Y: <u>4212216</u> +/- <u>44</u> ft. (meters) 11 UTM X: <u>646430</u> UTM Y: <u>4212133</u> +/- <u>91</u> ft. (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>Lindsey Schmid / Rodney Holland</u>	Dissolved Oxygen Date: <u>12/3/2008</u> Time: <u>12:00 PM</u> Dissolved Oxygen: <u>N/A</u> (mg/L) Dissolved Oxygen: <u>N/A</u> (% sat) Specific Cond: <u>N/A</u> (µS/cm) Water Temperature: <u>N/A</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	0.26	0.00	0.31	0.00	0.22	0.00	0.19	0.00	0.24	0.00	0.23	0.00	0.28	0.00	0.34	0.00	0.31	0.00	0.32	0.00	0.28	0.00
2	0.52	0.00	0.62	0.00	0.44	0.00	0.38	0.00	0.48	0.00	0.46	0.00	0.56	0.00	0.68	0.00	0.62	0.00	0.64	0.00	0.56	0.00
3	0.78	0.00	0.93	0.00	0.66	0.00	0.57	0.00	0.72	0.00	0.69	0.00	0.84	0.00	1.02	0.00	0.93	0.00	0.96	0.00	0.84	0.00
4	1.04	0.00	1.24	0.00	0.88	0.00	0.76	0.00	0.96	0.00	0.92	0.00	1.12	0.00	1.36	0.00	1.24	0.00	1.28	0.00	1.12	0.00
5	1.30	0.00	1.55	0.00	1.10	0.00	0.95	0.00	1.20	0.00	1.15	0.00	1.40	0.00	1.70	0.00	1.55	0.00	1.60	0.00	1.40	0.00
6	1.56	0.00	1.86	0.00	1.32	0.00	1.14	0.00	1.44	0.00	1.38	0.00	1.68	0.00	2.04	0.00	1.86	0.00	1.92	0.00	1.68	0.00
7	1.82	0.00	2.17	0.00	1.54	0.00	1.33	0.00	1.68	0.00	1.61	0.00	1.96	0.00	2.38	0.00	2.17	0.00	2.24	0.00	1.96	0.00
8	2.08	0.00	2.48	0.00	1.76	0.00	1.52	0.00	1.92	0.00	1.84	0.00	2.24	0.00	2.72	0.00	2.48	0.00	2.56	0.00	2.24	0.00
9	2.34	0.00	2.79	0.00	1.98	0.00	1.71	0.00	2.16	0.00	2.07	0.00	2.52	0.00	3.06	0.00	2.79	0.00	2.88	0.00	2.52	0.00
Right Bank	2.60	0.00	3.10	0.00	2.20	0.00	1.90	0.00	2.40	0.00	2.30	0.00	2.80	0.00	3.40	0.00	3.10	0.00	3.20	0.00	2.80	0.00
Feature Type <small>(riffle, run, or pool)</small>	Run		Run		Run		Run		Pool		Run		Run		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 0.00

MEDIAN 0.00

Surveyor's Signature: Date: 12/3/2008



