



Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 2132 Cabanne Course

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): Cabanne Course
Missouri Water Body Identification (WBID) Number: 2132
8-digit HUC: 07140104
County(ies), Listed Upstream to Downstream: St. Francois
Upstream Legal Description (from Table H): Mouth
Downstream Legal Description (from Table H): 3, 37N, 4E
Number of sites evaluated: 3
List all site numbers, <u>consecutively upstream to downstream</u> :
2132-1, 2132-2, 2132-3
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)

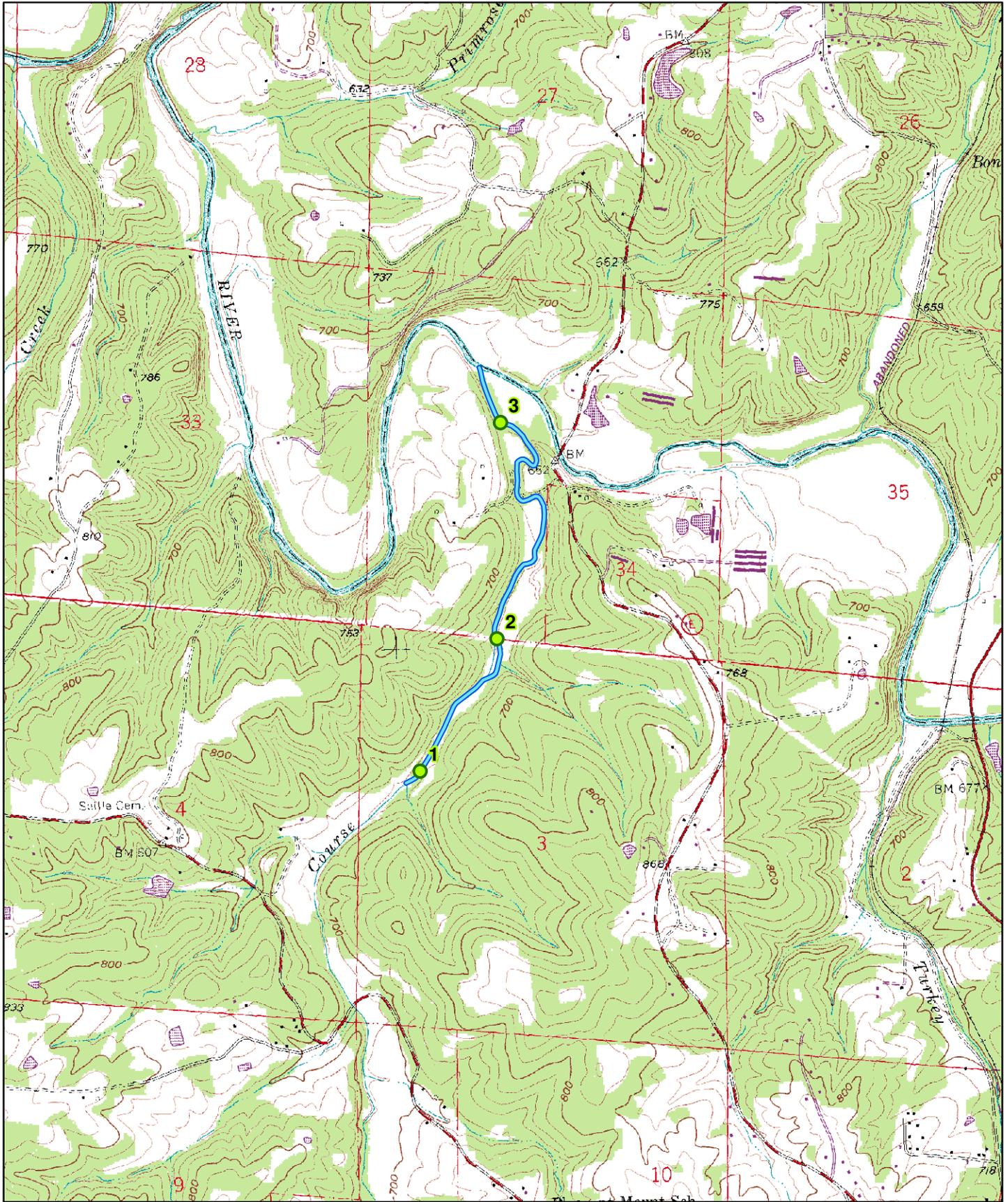
Facility Name(s) and Permit Number(s):
Terre Du Lac South MO 0057312

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

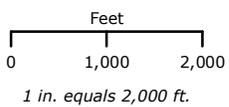
Name of Surveyor: L. Schmid/ Micah Hamer	Telephone Number: 417-890-8802
Organization/Employer: Olsson Associates	

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: 08-13-08



**MISSOURI RECREATIONAL
USE ATTAINABILITY ANALYSIS**



Stream: Cabanne Course
WBID: 2132

Map Sheet: 1/1
County: St. Francois



Project No. 008-1298

WBID # 2132

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: 08-13-08 12:00 p.m.	Location Description (e.g., road crossing):
Stream Name: Cabanne Course	Near fields with construction. Access from old, unused dirt road.
Current Weather Conditions: clear	Facility Name(s): Terre Du Lac South
Weather Conditions for Past 10 days: 0.49" @ Farmington	Permit Number(s): MO 0057312
Official Drought Conditions at time of this survey (search DNR home page for "drought"): <input checked="" type="checkbox"/> No drought; 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): 712417	Northing (UTM Y): 4203392	Horizontal Accuracy: (EPE / FOM / PDOP)	62 ft. Meters
Site 11	Easting (UTM X): 712504	Northing (UTM Y): 4203560	Horizontal Accuracy: (EPE / FOM / PDOP)	110 ft. Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
2132-1-A	Upstream looking down	2132-1-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.)				

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: NEAR FIELDS				

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	20% Gravel	10% Sand	% Silt	% Mud/Clay	70% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

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Water Characteristics*: (Mark all that apply.)

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

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: 08-13-08

Organization: Olsson Associates Position: Field Service

Field Data Sheets for Recreational Use Stream Surveys
Data Sheet C - Field Survey Results

Stream Name: <u>Cabanne Course</u> Waterbody ID: <u>2132</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>712417</u> UTM Y: <u>4203392</u> +/- <u>62</u> ft. (meters) 11 UTM X: <u>712504</u> UTM Y: <u>4203560</u> +/- <u>110</u> ft. (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>	Dissolved Oxygen Date: <u>8/13/2008</u> Time: <u>12:50 p.m.</u> Dissolved Oxygen: <u>8.2</u> (mg/L) Dissolved Oxygen: <u>101.1</u> (% sat) Specific Cond: <u>487</u> (µS/cm) Water Temperature: <u>24.9</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	0.98	0.17	0.36	0.05	0.36	0.05	0.41	0.11	0.47	0.05	0.32	0.05	0.13	0.05	0.82	0.07	1.01	0.13	0.78	0.19	0.30	0.07
2	1.96	0.14	0.72	0.05	0.72	0.08	0.82	0.18	0.94	0.05	0.64	0.05	0.26	0.05	1.64	0.05	2.02	0.08	1.56	0.19	0.60	0.09
3	2.94	0.19	1.08	0.05	1.08	0.09	1.23	0.18	1.41	0.05	0.96	0.05	0.39	0.05	2.46	0.05	3.03	0.29	2.34	0.22	0.90	0.11
4	3.92	0.18	1.44	0.05	1.44	0.09	1.64	0.16	1.88	0.09	1.28	0.05	0.52	0.05	3.28	0.05	4.04	0.28	3.12	0.30	1.20	0.13
5	4.90	0.20	1.80	0.05	1.80	0.08	2.05	0.05	2.35	0.05	1.60	0.05	0.65	0.05	4.10	0.13	5.05	0.21	3.90	0.36	1.50	0.15
6	5.88	0.09	2.16	0.05	2.16	0.12	2.46	0.13	2.82	0.05	1.92	0.08	0.78	0.05	4.92	<.05	6.06	0.13	4.68	0.22	1.80	0.13
7	6.86	0.12	2.52	0.05	2.52	0.07	2.87	0.05	3.29	0.05	2.24	0.09	0.91	0.05	5.74	0.00	7.07	0.17	5.46	0.11	2.10	0.08
8	7.84	0.10	2.88	0.05	2.88	0.05	3.28	0.06	3.76	0.06	2.56	0.08	1.04	0.05	6.56	0.05	8.08	0.05	6.24	0.14	2.40	0.09
9	8.82	0.05	3.24	0.05	3.24	0.05	3.69	0.05	4.23	0.05	2.88	0.05	1.17	0.05	7.38	0.06	9.09	0.06	7.02	0.08	2.70	0.11
Right Bank	9.80	0.00	3.60	0.00	3.60	0.00	4.10	0.00	4.70	0.00	3.20	0.00	1.30	0.00	8.20	0.00	10.10	0.00	7.80	0.00	3.00	0.00
Feature Type <small>(riffle, run, or pool)</small>	Run	Run	Run	Run	Run	Run	Run	Run	Run	Riffle	Riffle	Run	Run	Run	Run	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 0.1 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

MAXIMUM 0.36
 MEDIAN 0.05

Surveyor's Signature:



Date: 08-13-08

WBID # 2132

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: 08-13-08 10:50 a.m.	Location Description (e.g., road crossing) Near field with bulldozer/backhoe construction. Old road access at beginning.
Stream Name: Cabanne Course	
Current Weather Conditions: clear	Facility Name(s):Terre Du Lac South
Weather Conditions for Past 10 days: 0.49" @ Farmington	Permit Number(s):MO 0057312
Official Drought Conditions at time of this survey (search DNR home page for "drought"): No drought X ; 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): 712748	Northing (UTM Y): 4203997	Horizontal Accuracy: (EPE / FOM / PDOP) 64 ft. Meters
Site 11	Easting (UTM X): 712805	Northing (UTM Y): 4204194	Horizontal Accuracy: (EPE / FOM / PDOP) 360 ft. Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
2132-2-A	Upstream looking down	2132-2-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 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 old/overgrown	<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	20% Sand	% Silt	% Mud/Clay	20% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

Some 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 type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: brown
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 # 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: 08-13-08

Organization: Olsson Associates Position: Field Service

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Cabanna Course</u> Waterbody ID: <u>2132</u> Site #: <u>2</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>712748</u> UTM Y: <u>4203197</u> +/- <u>64 ft. (meters)</u> 11 UTM X: <u>712805</u> UTM Y: <u>4204194</u> +/- <u>360 ft. (meters)</u> 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>	Dissolved Oxygen Date: <u>08-13-08</u> Time: <u>10:50 a.m.</u> Dissolved Oxygen: <u>5.68</u> (mg/L) Dissolved Oxygen: <u>632</u> (% sat) Specific Cond: <u>530</u> (µS/cm) Water Temperature: <u>21.4</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	0.52	0.28	0.97	0.19	0.34	0.05	0.61	0.33	1.23	0.30	0.76	0.49	0.38	0.05	0.84	0.65	0.92	0.52	0.58	0.05	0.63	0.05
2	1.04	0.31	1.94	0.25	0.68	0.05	1.22	0.35	2.46	0.32	1.52	0.51	0.76	>.05	1.68	0.59	1.84	0.62	1.16	0.08	1.26	0.05
3	1.56	0.32	2.91	0.30	1.02	0.05	1.83	0.32	3.69	0.35	2.28	0.60	1.14	0.05	2.52	0.62	2.76	0.66	1.74	0.29	1.89	0.05
4	2.08	0.34	3.88	0.41	1.36	0.05	2.44	0.39	4.92	0.51	3.04	0.64	1.52	0.05	3.36	0.63	3.68	0.56	2.32	0.38	2.52	0.05
5	2.60	0.34	4.85	0.52	1.70	0.05	3.05	0.40	6.15	0.55	3.80	0.64	1.90	0.05	4.20	0.61	4.60	0.34	2.90	0.36	3.15	0.05
6	3.12	0.35	5.82	0.56	2.04	0.05	3.66	0.41	7.38	0.47	4.56	0.67	2.28	0.05	5.04	0.48	5.52	0.29	3.48	0.33	3.78	0.05
7	3.64	0.37	6.79	0.57	2.38	0.05	4.27	0.36	8.61	0.51	5.32	0.65	2.66	0.05	5.88	0.34	6.44	0.27	4.06	0.22	4.41	0.05
8	4.16	0.38	7.76	0.45	2.72	0.05	4.88	0.15	9.84	0.53	6.08	0.49	3.04	0.05	6.72	0.26	7.36	0.19	4.64	0.10	5.04	0.05
9	4.68	0.39	8.73	0.34	3.06	0.05	5.49	0.07	11.07	0.49	6.84	0.34	3.42	0.05	7.56	0.11	8.28	0.14	5.22	0.12	5.67	0.05
Right Bank	5.20	0.00	9.70	0.00	3.40	0.00	6.10	0.00	12.30	0.00	7.60	0.00	3.80	0.00	8.40	0.00	9.20	0.00	5.80	0.00	6.30	0.00
Feature Type <small>(riffle, run, or pool)</small>	Run	Pool	Riffle	Run	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 0.1 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

MAXIMUM 0.67
 MEDIAN 0.30

Surveyor's Signature:

Date: 8/13/2008

WBID # 2132

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: 08-13-08 9:45 a.m.	Location Description (e.g., road crossing): No real access point. Possible farm land adjacent.
Stream Name: Cabanne Course	
Current Weather Conditions: clear	Facility Name(s): Terre Du Lac South
Weather Conditions for Past 10 days 0.49” @ Farmington:	Permit Number(s): MO 0057312
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): 712776	Northing (UTM Y): 4204982	Horizontal Accuracy: (EPE / FOM / PDOP) 43 ft. Meters
Site 11	Easting (UTM X): 712683	Northing (UTM Y): 4205211	Horizontal Accuracy: (EPE / FOM / PDOP) 92 ft. Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
2132-3-A	Upstream looking down	2132-3-B	Downstream looking up	2132-3-C	>1m pool
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 type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other:
Comments: No road/trail access.				

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	50% Gravel	20% Sand	% Silt	30% Mud/Clay	% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

Thick algae in pools.

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: brown
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: 08-13-08

Organization: Olsson Associates Position: Field Service

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Cabanna Course</u> Waterbody ID: <u>2132</u> Site #: <u>3</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>712776</u> UTM Y: <u>4204982</u> +/- <u>43</u> ft. (meters) 11 UTM X: <u>712683</u> UTM Y: <u>4205211</u> +/- <u>92</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>	Dissolved Oxygen Date: <u>08-13-08</u> Time: <u>9:45 a.m.</u> Dissolved Oxygen: <u>2.89</u> (mg/L) Dissolved Oxygen: <u>34.7</u> (% sat) Specific Cond: <u>465</u> (µS/cm) Water Temperature: <u>23.5</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	0.72	1.00	0.17	0.05	0.16	0.05	0.23	0.05	0.18	0.05	0.21	0.05	0.22	0.05	0.12	0.05	0.21	0.05	0.08	0.05	0.51	0.05
2	1.44	1.00	0.34	0.05	0.32	0.05	0.46	0.05	0.36	0.08	0.42	0.05	0.44	0.05	0.24	0.05	0.42	0.05	0.16	0.05	1.02	0.07
3	2.16	0.82	0.51	0.05	0.48	0.05	0.69	0.05	0.54	0.13	0.63	0.05	0.66	0.05	0.36	0.05	0.63	0.05	0.24	0.05	1.53	0.13
4	2.88	0.66	0.68	0.05	0.64	0.05	0.92	0.05	0.72	0.16	0.84	0.05	0.88	0.05	0.48	0.05	0.84	0.05	0.32	0.05	2.04	0.14
5	3.60	0.53	0.85	0.05	0.80	0.05	1.15	0.05	0.90	0.17	1.05	0.05	1.10	0.05	0.60	0.05	1.05	0.00	0.40	0.05	2.55	0.13
6	4.32	0.48	1.02	0.05	0.96	0.05	1.38	0.05	1.08	0.18	1.26	0.05	1.32	0.05	0.72	0.05	1.26	0.00	0.48	0.05	3.06	0.07
7	5.04	0.40	1.19	0.05	1.12	0.05	1.61	0.05	1.26	0.17	1.47	0.05	1.54	0.05	0.84	0.05	1.47	0.00	0.56	0.05	3.57	0.05
8	5.76	0.29	1.36	0.05	1.28	0.08	1.84	0.05	1.44	0.16	1.68	0.05	1.76	0.05	0.96	0.05	1.68	0.05	0.64	0.05	4.08	0.06
9	6.48	0.05	1.53	0.05	1.44	0.09	2.07	0.05	1.62	0.13	1.89	0.05	1.98	0.05	1.08	0.05	1.89	0.05	0.72	0.05	4.59	0.07
Right Bank	7.20	0.00	1.70	0.00	1.60	0.00	2.30	0.00	1.80	0.00	2.10	0.00	2.20	0.00	1.20	0.00	2.10	0.00	0.80	0.00	5.10	0.00
Feature Type <small>(riffle, run, or pool)</small>	Pool		Run		Pool		Run		Pool		Run		Run		Riffle		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 0.1 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:



Date: 08-13-08

