



Missouri  
Department of  
Natural Resources

## Use Attainability Analysis

for

WBID 2405 Tributary to Rockhouse Creek

Submitted by  
Olsson Associates

To  
Missouri Department of Natural Resources  
Water Protection Program

On  
May 30, 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): Trib. to Rockhouse Creek
Missouri Water Body Identification (WBID) Number: 2405
8-digit HUC: 11010002
County(ies), Listed Upstream to Downstream: Barry
Upstream Legal Description (from Table H): 34, 23N, 26W
Downstream Legal Description (from Table H): Mouth
Number of sites evaluated: 3
List all site numbers, <u>consecutively upstream to downstream</u> : 1, 2, 3
<b>Include a Site Location Map(s).</b> 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)

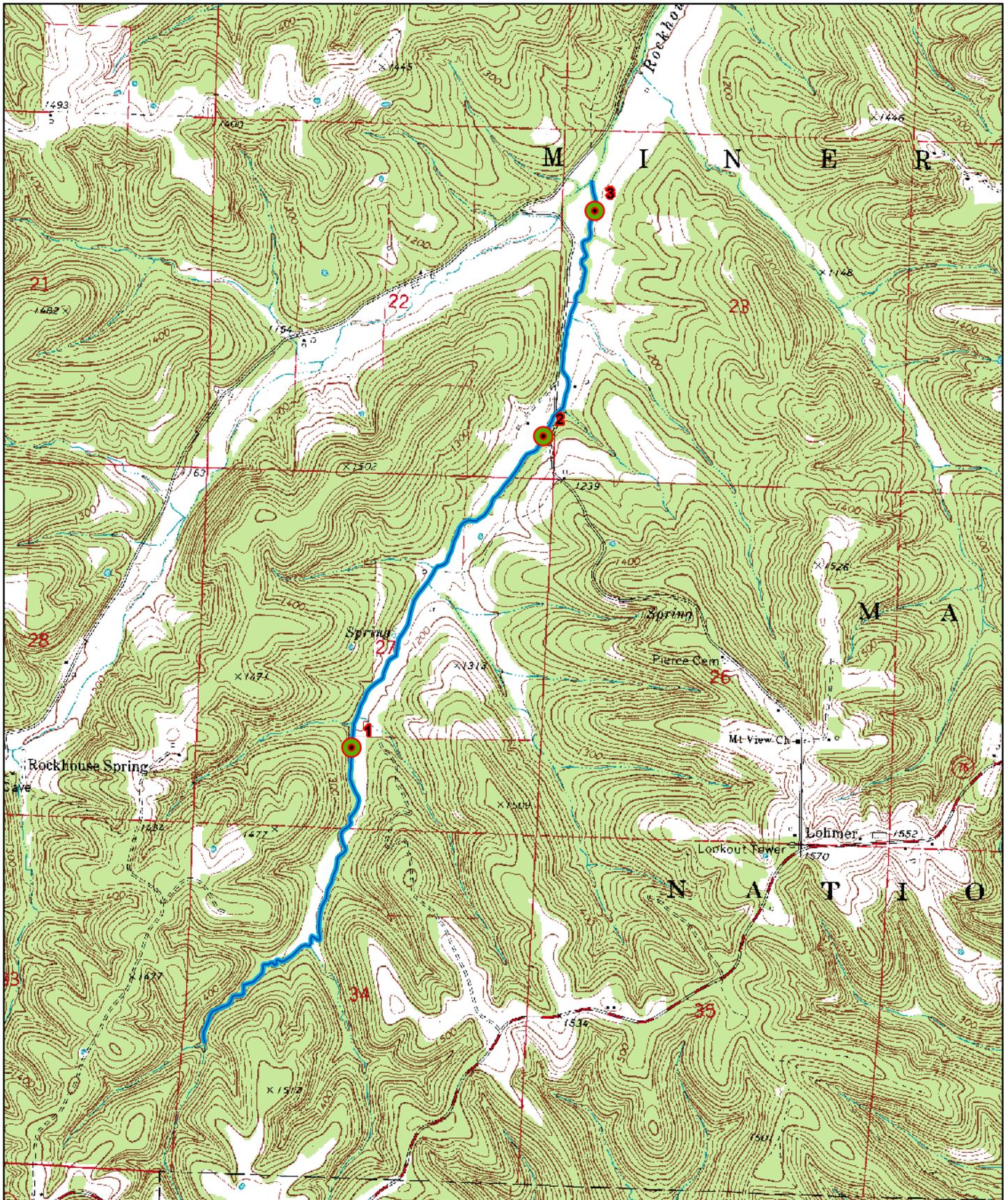
Facility Name(s) and Permit Number(s):  None
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**III. UAA Surveyor** (please **PRINT** legibly)

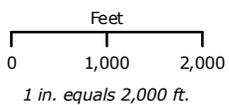
Name of Surveyor: Rodney Holland	Telephone Number: 417-890-8802
Organization/Employer: Olsson Associates	

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: 4-3-08



**MISSOURI RECREATIONAL  
USE ATTAINABILITY ANALYSIS**



**Stream:** Trib. to Rockhouse Cr.  
**WBID:** 2405

**Map Sheet:** 1/1  
**County:** Barry



WBID # 2405

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)

<b>Date &amp; Time:</b> 4-3-08	4:25 p.m.	Location Description (e.g., road crossing):
<b>Stream Name:</b> Trib. to Rockhouse Creek		160m upstream of bridge on CR120
Current Weather Conditions: Trace of rain		Facility Name(s): None
Weather Conditions for Past 10 days: 2.72" rain @ Cassville		Permit Number(s): None
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): 435484	Northing (UTM Y): 4059990	Horizontal Accuracy: (EPE / FOM / PDOP) 60 ft. <del>Meters</del>
Site 11	Easting (UTM X): 435542	Northing (UTM Y): 4060088	Horizontal Accuracy: (EPE / FOM / PDOP) 40 ft. <del>Meters</del>

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
2405-1-A	Upstream looking down				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
2405-1-B	House				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
2405-1-C	Downstream looking up				

**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 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 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 checked="" 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.)

none
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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 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.)

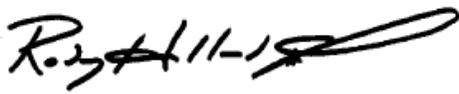
Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)

**Comments:** (Please record any additional comments here.)

Site 1 has moved to present location because home owner didn't want us on his land.

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

Printed Names of Personnel Collecting Data: Rodney Holland, Christopher Park

Surveyor's Signature:  Date of Survey: 4-3-08

Organization: Olsson Associates Position: Field Team Leader & Field Team Member

## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet C - Field Survey Results

Stream Name: <u>Tib. to Rockhouse Creek</u> Waterbody ID: <u>2405</u> Site #: <u>1</u>  Estimated Channel Incision: <u>0.3</u> (m) (height between low bank width and water)  GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) <b>01</b> UTM X: <u>435484</u> UTM Y: <u>4059990</u> +/- <u>60</u> ft. ( <u>meters</u> ) <b>11</b> UTM X: <u>435542</u> UTM Y: <u>4060008</u> +/- <u>40</u> ft. ( <u>meters</u> )  Average Stream Width: <u>3.75</u> (meters)      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)      (20x average stream width)  Field Staff: <u>Rodney Holland and Christopher Parks</u>	<b>Dissolved Oxygen</b>  Date: <u>4/3/2008</u> Time: <u>4:25 p.m.</u>  Dissolved Oxygen: <u>10.9</u> (mg/L)  Dissolved Oxygen: <u>99.8</u> (% sat)  Specific Cond: <u>226</u> (µS/cm)  Water Temperature: <u>12.9</u> (°C)
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#### Transect Cross-Section

		01		02		03		04		05		06		07		08		09		10		11	
Station		Distance (m)	Depth (m)																				
<b>Left Bank</b>		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0.43	0.11	0.37	0.23	0.53	<0.05	0.31	0.07	0.33	0.05	0.30	0.13	0.38	0.07	0.27	0.16	0.31	0.07	0.50	0.14	0.39	0.08
	2	0.86	0.17	0.74	0.29	1.06	<0.05	0.62	0.08	0.66	<0.05	0.60	0.22	0.76	0.11	0.54	0.19	0.62	0.15	1.00	0.21	0.78	0.12
	3	1.29	0.28	1.11	0.26	1.59	-0.05	0.93	0.11	0.99	0.06	0.90	0.34	1.14	0.18	0.81	0.26	0.93	0.21	1.50	0.33	1.17	0.13
	4	1.72	0.25	1.48	0.27	2.12	0.09	1.24	0.17	1.32	0.12	1.20	0.37	1.52	0.19	1.08	0.29	1.24	0.30	2.00	0.46	1.56	0.21
	5	2.15	0.18	1.85	0.23	2.65	0.09	1.55	0.15	1.65	0.11	1.50	0.33	1.90	0.19	1.35	0.24	1.55	0.33	2.50	0.44	1.95	0.22
	6	2.58	0.19	2.22	0.21	3.18	0.13	1.86	0.19	1.98	0.14	1.80	0.35	2.28	0.12	1.62	0.22	1.86	0.29	3.00	0.36	2.34	0.20
	7	3.01	0.15	2.59	0.17	3.71	0.14	2.17	0.20	2.31	0.16	2.10	0.31	2.66	0.13	1.89	0.11	2.17	0.21	3.50	0.22	2.73	0.20
	8	3.44	0.12	2.96	0.12	4.24	0.28	2.48	0.17	2.64	0.27	2.40	0.30	3.04	0.18	2.16	0.11	2.48	0.25	4.00	0.17	3.12	0.13
	9	3.87	0.07	3.33	0.07	4.77	0.22	2.79	0.07	2.97	0.40	2.70	0.32	3.42	0.13	2.43	0.05	2.79	0.10	4.50	0.14	3.51	0.08
<b>Right Bank</b>		4.30	0.00	3.70	0.00	5.30	0.00	3.10	0.00	3.30	0.00	3.00	0.00	3.80	0.00	2.70	0.00	3.10	0.00	5.00	0.00	3.90	0.00
<b>Feature Type</b>		run		run		riffle		riffle		run		run		riffle		run		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.

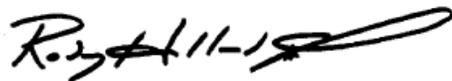
Depth measurements taken at 10 equally spaced locations along transect (determine by dividing wetted width by ten)

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      0.46

MEDIAN      0.18

Surveyor's Signature:       Date: 4/3/2008

WBID # 2405

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)

<b>Date &amp; Time:</b> 4-4-08	7:20 a.m.	Location Description (e.g., road crossing):
<b>Stream Name:</b> Trib. to Rockhouse Creek		500 ft. downstream of bridge
Current Weather Conditions: Cloudy		Facility Name(s): None
Weather Conditions for Past 10 days: 2.72" rain @ Cassville		Permit Number(s): None
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): 435593	Northing (UTM Y): 4060154	Horizontal Accuracy: (EPE / FOM / PDOP)	63 ft.	<del>Meters</del>
Site 11	Easting (UTM X): 435576	Northing (UTM Y): 4060300	Horizontal Accuracy: (EPE / FOM / PDOP)	41 ft.	<del>Meters</del>

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
2405-2-A	Upstream looking down				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
2405-2-B	House				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
2405-2-C	Downstream looking up				

**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 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	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.)

none
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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 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)

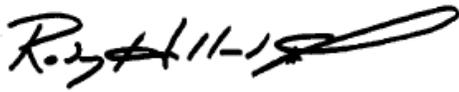
**Additional Stream Morphology:** (Record isolated pools or other features identified during the survey that may support recreational uses.)

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: Rodney Holland, Christopher Park

Surveyor's Signature:  Date of Survey: 4-4-08

Organization: Olsson Associates Position: Field Team Leader & Field Team Member

## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet C - Field Survey Results

Stream Name: <u>Tib. to Rockhouse Creek</u> Waterbody ID: <u>2405</u> Site #: <u>2</u>  Estimated Channel Incision: <u>0.7</u> (m) (height between low bank width and water)  GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) <b>01</b> UTM X: <u>435593</u> UTM Y: <u>4060154</u> +/- <u>63</u> ft. (meters) <b>11</b> UTM X: <u>435576</u> UTM Y: <u>4060300</u> +/- <u>41</u> ft. (meters)  Average Stream Width: <u>4.96</u> (meters)      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)      (20x average stream width)  Field Staff: <u>Rodney Holland and Christopher Parks</u>	<b>Dissolved Oxygen</b>  Date: <u>4/4/2008</u> Time: <u>7:25 a.m.</u>  Dissolved Oxygen: <u>11.22</u> (mg/L)  Dissolved Oxygen: <u>100.2</u> (% sat)  Specific Cond: <u>223</u> (µS/cm)  Water Temperature: <u>11</u> (°C)
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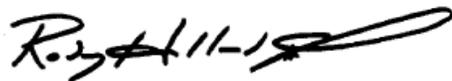
#### Transect Cross-Section

		01		02		03		04		05		06		07		08		09		10		11	
Station		Distance (m)	Depth (m)																				
<b>Left Bank</b>		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0.48	0.07	0.49	0.16	0.61	0.07	0.42	0.06	0.43	0.31	0.42	0.20	0.52	0.37	0.51	0.06	0.46	0.11	0.70	0.06	0.42	0.21
	2	0.96	0.11	0.98	0.17	1.22	0.09	0.84	0.16	0.86	0.33	0.84	0.14	1.04	0.28	1.02	0.07	0.92	0.16	1.40	0.14	0.84	0.24
	3	1.44	0.12	1.47	0.18	1.83	0.21	1.26	0.21	1.29	0.55	1.26	0.31	1.56	0.20	1.53	0.14	1.38	0.18	2.10	0.10	1.26	0.24
	4	1.92	0.16	1.96	0.24	2.44	0.13	1.68	0.21	1.72	0.56	1.68	0.36	2.08	0.13	2.04	0.17	1.84	0.11	2.80	0.15	1.68	0.24
	5	2.40	0.24	2.45	0.37	3.05	0.25	2.10	0.25	2.15	0.52	2.10	0.41	2.60	0.13	2.55	0.22	2.30	0.09	3.50	0.12	2.10	0.18
	6	2.88	0.25	2.94	0.41	3.66	0.21	2.52	0.28	2.58	0.51	2.52	0.42	3.12	0.14	3.06	0.26	2.76	0.14	4.20	0.15	2.52	0.21
	7	3.36	0.29	3.43	0.29	4.27	0.17	2.94	0.27	3.01	0.47	2.94	0.37	3.64	0.12	3.57	0.34	3.22	0.28	4.90	0.16	2.94	0.17
	8	3.84	0.35	3.92	0.21	4.88	0.16	3.36	0.26	3.44	0.35	3.36	0.30	4.16	0.15	4.08	0.42	3.68	0.37	5.60	0.14	3.36	0.13
	9	4.32	0.28	4.41	0.13	5.49	0.10	3.78	0.21	3.87	0.29	3.78	0.19	4.68	0.18	4.59	0.47	4.14	0.46	6.30	0.18	3.78	0.06
<b>Right Bank</b>		4.80	0.00	4.90	0.00	6.10	0.00	4.20	0.00	4.30	0.00	4.20	0.00	5.20	0.00	5.10	0.00	4.60	0.00	7.00	0.00	4.20	0.00
<b>Feature Type</b> <small>(riffle, run, or pool)</small>		riffle		run		riffle		riffle		run		run		run		run		riffle		riffle		riffle	

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

MAXIMUM      0.56

MEDIAN          0.21

Surveyor's Signature:       Date: 4/4/2008

WBID # 2405

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)

<b>Date &amp; Time:</b> 4-4-08	8:15 a.m.	Location Description (e.g., road crossing):
<b>Stream Name:</b> Trib. to Rockhouse Creek		160m upstream of where this trib. joins Rockhouse Creek
Current Weather Conditions: Cloudy		Facility Name(s): None
Weather Conditions for Past 10 days: 2.72" rain @ Cassville		Permit Number(s): None
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): 435739	Northing (UTM Y): 4061029	Horizontal Accuracy: (EPE / FOM / PDOP)	44 ft.	<del>Meters</del>
Site 11	Easting (UTM X): 435724	Northing (UTM Y): 4061195	Horizontal Accuracy: (EPE / FOM / PDOP)	54 ft.	<del>Meters</del>

**Photos:**

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
2405-3-A	Upstream looking down				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
2405-3-B	Downstream looking up				
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 type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other:
Comments: Private Property				

**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	80% Gravel	10% Sand	% Silt	% Mud/Clay	10% Bedrock
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**Aquatic Vegetation\*:** (Note amount of vegetation or algal growth at the assessment site.)

none
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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 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 # 3

**Field Data Sheets for Recreational Use Stream Surveys**

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

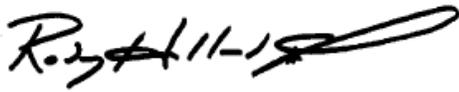
**Additional Stream Morphology:** (Record isolated pools or other features identified during the survey that may support recreational uses.)

Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)
Pool	250m	7m	10m	1m	1m+

**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: Rodney Holland, Christopher Park

Surveyor's Signature:  Date of Survey: 4-4-08

Organization: Olsson Associates Position: Field Team Leader & Field Team Member

## Field Data Sheets for Recreational Use Stream Surveys

### Data Sheet C - Field Survey Results

Stream Name: <u>Tib. to Rockhouse Creek</u> Waterbody ID: <u>2405</u> Site #: <u>3</u>  Estimated Channel Incision: <u>0.35</u> (m) (height between low bank width and water)  GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FOM) <b>01</b> UTM X: <u>435739</u> UTM Y: <u>4061029</u> +/- <u>44 ft.</u> (meters) <b>11</b> UTM X: <u>435724</u> UTM Y: <u>4061195</u> +/- <u>54 ft.</u> (meters)  Average Stream Width: <u>7.25</u> (meters)      Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach)      (20x average stream width)  Field Staff: <u>Rodney Holland and Christopher Parks</u>	<b>Dissolved Oxygen</b>  Date: <u>4/4/2008</u> Time: <u>8:20 a.m.</u>  Dissolved Oxygen: <u>11.25</u> (mg/L)  Dissolved Oxygen: <u>99.4</u> (% sat)  Specific Cond: <u>239</u> (µS/cm)  Water Temperature: <u>10</u> (°C)
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#### Transect Cross-Section

		01		02		03		04		05		06		07		08		09		10		11	
Station		Distance (m)	Depth (m)																				
<b>Left Bank</b>		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1	0.55	0.26	0.74	0.17	0.69	0.14	0.53	0.18	0.73	0.14	0.84	0.19	0.91	0.14	1.50	0.09	0.60	0.06	0.51	0.35	0.37	0.06
	2	1.10	0.36	1.48	0.23	1.38	0.21	1.06	0.20	1.46	0.14	1.68	0.61	1.82	0.25	3.00	0.18	1.20	0.05	1.02	0.71	0.74	0.21
	3	1.65	0.41	2.22	0.21	2.07	0.34	1.59	0.28	2.19	0.20	2.52	0.51	2.73	0.25	4.50	0.15	1.80	0.05	1.53	0.73	1.11	0.33
	4	2.20	0.41	2.96	0.24	2.76	0.33	2.12	0.35	2.92	0.26	3.36	0.49	3.64	0.00	6.00	0.14	2.40	0.06	2.04	0.68	1.48	0.39
	5	2.75	0.44	3.70	0.24	3.45	0.25	2.65	0.34	3.65	0.31	4.20	0.66	4.55	0.00	7.50	0.00	3.00	0.14	2.55	0.57	1.85	0.46
	6	3.30	0.44	4.44	0.28	4.14	0.14	3.10	0.31	4.38	0.31	5.04	0.68	5.46	0.00	9.00	0.00	3.60	0.33	3.06	0.37	2.22	0.54
	7	3.85	0.42	5.18	0.17	4.83	0.13	3.71	0.29	5.11	0.27	5.88	0.48	6.37	0.00	10.50	0.00	4.20	0.35	3.57	0.29	2.59	0.63
	8	4.40	0.34	5.92	0.13	5.52	0.11	4.24	0.18	5.84	0.11	6.72	0.56	7.28	0.00	12.00	0.05	4.80	0.19	4.08	0.18	2.96	0.61
	9	4.95	0.21	6.66	0.16	6.21	0.08	4.77	0.11	6.57	0.12	7.56	0.28	8.19	0.26	13.50	0.05	5.40	0.13	4.59	0.08	3.33	0.27
<b>Right Bank</b>		5.50	0.00	7.40	0.00	6.90	0.00	5.30	0.00	7.30	0.00	8.40	0.00	9.10	0.00	15.00	0.00	6.00	0.00	5.10	0.00	3.70	0.00
<b>Feature Type</b>		run		riffle		riffle		run		run		pool		riffle		riffle		riffle		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      0.73

MEDIAN      0.24

Surveyor's Signature: \_\_\_\_\_

Date: 4/4/2008



