



Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 1361 Stockton Branch

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): Stockton Br.
Missouri Water Body Identification (WBID) Number: 1361
8-digit HUC: 10290106
County(ies), Listed Upstream to Downstream: Cedar
Upstream Legal Description (from Table H): 4, 34N, 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
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)

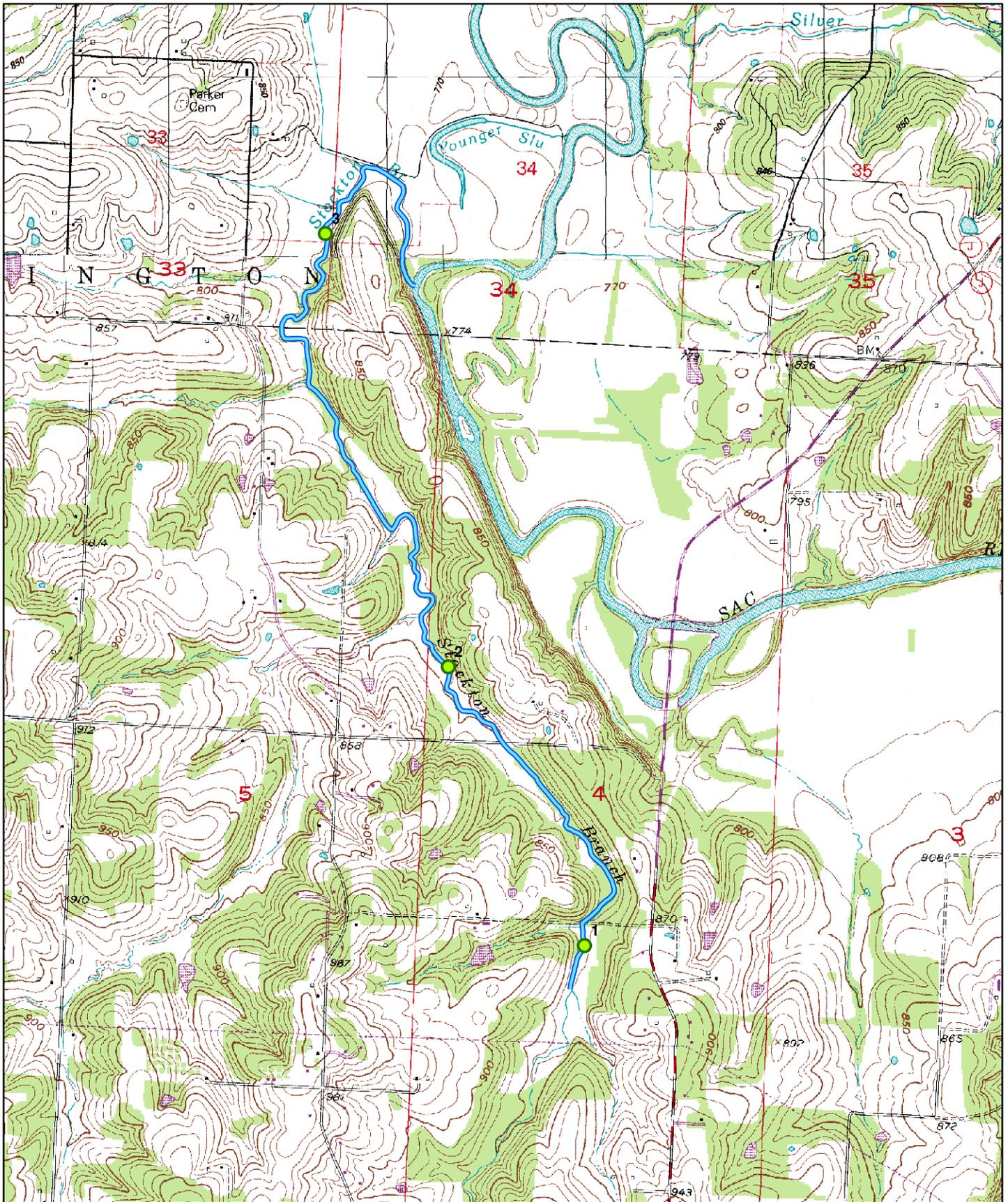
Facility Name(s) and Permit Number(s): Stockton WWTF MO 0055280
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III. UAA Surveyor (please **PRINT** legibly)

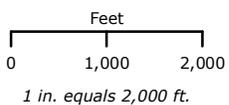
Name of Surveyor: Austin Lohkamp	Telephone Number: 417-890-8802
Organization/Employer: Olsson Associates	

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: 08-08-08



**MISSOURI RECREATIONAL
USE ATTAINABILITY ANALYSIS**



Stream: Stockton Br.
WBID: 1361

Map Sheet: 1/1
County: Cedar



Project No. 008-1298

WBID # 1361

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: 09-02-08 10:32 a.m.	Location Description (e.g., road crossing):
Stream Name: Stockton Br.	Private drive off of Hwy J
Current Weather Conditions: sunny	Facility Name(s): Stockton WWTF
Weather Conditions for Past 10 days: 0.13" @ Springfield	Permit Number(s): 10290106
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): 430892	Northing (UTM Y): 4175249	Horizontal Accuracy: (EPE / FOM / PDOP) 52 ft. Meters
Site 11	Easting (UTM X): 430911	Northing (UTM Y): 4175340	Horizontal Accuracy: (EPE / FOM / PDOP) 154 ft. Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
1361-1-A	Upstream looking down				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
1361-1-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 # 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 type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments:				

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

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

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.)

Moss on gravels

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 type="checkbox"/> Fine sediments	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Other:

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

Site # 1

Field Data Sheets for Recreational Use Stream Surveys

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

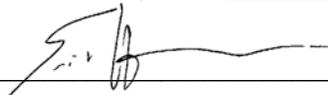
Additional Stream Morphology: (Record isolated pools or other features identified during the survey that may support recreational uses.)

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

Comments: (Please record any additional comments here.)

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

Printed Names of Personnel Collecting Data: Eric Hertzler

Surveyor's Signature:  Date of Survey: 09-02-08

Organization: Olsson Associates Position: Field Service

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Stockton Br.</u> Waterbody ID: <u>1361</u> Site #: <u>1</u> Estimated Channel Incision: <u>0.41</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>430892</u> UTM Y: <u>4175249</u> +/- <u>52 ft.</u> (meters) 11 UTM X: <u>430911</u> UTM Y: <u>4175340</u> +/- <u>154 ft.</u> (meters) Average Stream Width: <u>5</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Eric Hertzler / Austin Lohkamp</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>09-02-08</u> Time: <u>10:35 a.m.</u> Dissolved Oxygen: <u>5.83</u> (mg/L) Dissolved Oxygen: <u>63.6</u> (% sat) Specific Cond: <u>546</u> (µS/cm) Water Temperature: <u>23.2</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	0
	1	0.46	0.21	0.21	0.05	0.18	0.05	0.35	0.05	0.14	0.05	0.61	0.00	0.72	0.00	0.32	0.05	0.74	0.00	0.80	0.00	0.83	0.00
	2	0.92	0.42	0.42	0.09	0.36	0.05	0.70	0.05	0.28	0.05	1.22	0.00	1.44	0.00	0.64	0.05	1.48	0.00	1.60	0.00	1.66	0.00
	3	1.38	0.46	0.63	0.16	0.54	0.05	1.05	0.10	0.42	0.05	1.83	0.00	2.16	0.00	0.96	0.05	2.22	0.00	2.40	0.00	2.49	0.00
	4	1.84	0.48	0.84	0.23	0.72	0.05	1.40	0.05	0.56	0.05	2.44	0.00	2.88	0.00	1.28	0.05	2.96	0.00	3.20	0.00	3.32	0.00
	5	2.30	0.51	1.05	0.23	0.90	0.05	1.75	0.05	0.70	0.05	3.05	0.00	3.60	0.00	1.60	0.05	3.70	0.00	4.00	0.00	4.15	0.00
	6	2.76	0.49	1.26	0.30	1.08	0.05	2.10	0.12	0.84	0.05	3.66	0.00	4.32	0.00	1.92	0.05	4.44	0.00	4.80	0.00	4.98	0.00
	7	3.22	0.39	1.47	0.31	1.26	0.05	2.45	0.11	0.98	0.05	4.27	0.00	5.04	0.00	2.24	0.05	5.18	0.00	5.60	0.00	5.81	0.00
	8	3.68	0.15	1.68	0.28	1.44	0.05	2.80	0.17	1.12	0.05	4.88	0.00	5.76	0.00	2.56	0.05	5.92	0.00	6.40	0.00	6.64	0.00
9	4.14	0.09	1.89	0.22	1.62	0.05	3.15	0.08	1.26	0.05	5.49	0.00	6.48	0.00	2.88	0.05	6.66	0.00	7.20	0.00	7.47	0.00	
Right Bank	4.60	0.00	2.10	0.00	1.80	0.00	3.50	0.00	1.40	0.00	6.10	0.00	7.20	0.00	3.20	0.00	7.40	0.00	8.00	0.00	8.30	0.00	
Feature Type <small>(riffle, run, or pool)</small>	Run		Run		Run		Run		Riffle		Dry		Dry		Pool		Dry		Dry		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 0.51
 MEDIAN 0.00

Surveyor's Signature:



WBID # 1361

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: 08-08-08 1:39 p.m.	Location Description (e.g., road crossing):
Stream Name: Stockton Br.	400 to 600meters downstream of Rd. 200 Wetweather Bridge
Current Weather Conditions: sunny	Facility Name(s): Stockton WWTF
Weather Conditions for Past 10 days:0.13” @ Springfield	Permit Number(s): 10290109
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): 430282	Northing (UTM Y): 4176437	Horizontal Accuracy: (EPE / FOM / PDOP) 263 ft. Meters
Site 11	Easting (UTM X): 430269	Northing (UTM Y): 4176475	Horizontal Accuracy: (EPE / FOM / PDOP) 52 ft. Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
1361-2-A	Upstream looking down				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
1361-2-B	Downstream looking up				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
1361-2-C	Pool 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 # 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 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 checked="" 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.)

Green moss on gravels

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input checked="" type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input 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)
Pool	250m	5	12	.5	+1m

Comments: (Please record any additional comments here.)

Deep but small pool found downstream of Wetweather Bridge (250meters) See photo 1361-2-C

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

Printed Names of Personnel Collecting Data: Eric Hertzler

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

Organization: Olsson Associates Position: Field Service

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Stockton Br.</u> Waterbody ID: <u>1361</u> Site #: <u>2</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) 01 UTM X: <u>430282</u> UTM Y: <u>4176437</u> +/- <u>263</u> ft. (meters) 11 UTM X: <u>430269</u> UTM Y: <u>4176475</u> +/- <u>52</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>Eric Hertzler / Austin Lohkamp</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>8/8/2008</u> Time: <u>1:39 p.m.</u> Dissolved Oxygen: <u>8.78</u> (mg/L) Dissolved Oxygen: <u>109</u> (% sat) Specific Cond: <u>460</u> (µS/cm) Water Temperature: <u>27</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	0
	1	0.13	0.05	0.33	0.05	0.30	0.12	0.34	0.06	0.55	0.23	0.47	0.56	0.52	0.34	0.31	0.05	0.40	0.05	0.24	0.05	0.27	0.05
	2	0.26	0.06	0.66	0.10	0.60	0.15	0.68	0.18	1.10	0.29	0.94	0.72	1.04	0.51	0.62	0.05	0.80	0.05	0.48	0.05	0.54	0.05
	3	0.39	0.11	0.99	0.11	0.90	0.17	1.02	0.13	1.65	0.32	1.41	0.65	1.56	0.56	0.93	0.13	1.20	0.07	0.72	0.05	0.81	0.05
	4	0.52	0.12	1.32	0.18	1.20	0.11	1.36	0.26	2.20	0.43	1.88	0.67	2.08	0.64	1.24	0.16	1.60	0.17	0.96	0.05	1.08	0.05
	5	0.65	0.14	1.65	0.17	1.50	0.20	1.70	0.20	2.75	0.38	2.35	0.63	2.60	0.61	1.55	0.14	2.00	0.20	1.20	0.05	1.35	0.05
	6	0.78	0.07	1.98	0.13	1.80	0.25	2.04	0.27	3.30	0.41	2.82	0.59	3.12	0.54	1.86	0.18	2.40	0.19	1.44	0.05	1.62	0.05
	7	0.91	0.05	2.31	0.09	2.10	0.21	2.38	0.18	3.85	0.37	3.29	0.49	3.64	0.51	2.17	0.16	2.80	0.12	1.68	0.05	1.89	0.10
	8	1.04	0.05	2.64	0.06	2.40	0.13	2.72	0.13	4.40	0.29	3.76	0.33	4.16	0.37	2.48	0.23	3.20	0.08	1.92	0.05	2.16	0.14
9	1.17	0.05	2.97	0.05	2.70	0.06	3.06	0.05	4.95	0.17	4.23	0.24	4.68	0.10	2.79	0.12	3.60	0.05	2.16	0.05	2.43	0.17	
Right Bank	1.30	0.00	3.30	0.00	3.00	0.00	3.40	0.00	5.50	0.00	4.70	0.00	5.20	0.00	3.10	0.00	4.00	0.00	2.40	0.00	2.70	0.00	
Feature Type <small>(riffle, run, or pool)</small>	Riffle		Run		Run		Pool		Pool		Pool		Pool		Riffle		Run		Riffle		Riffle		

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

MAXIMUM 0.72
 MEDIAN 0.13

Surveyor's Signature:



WBID # 1361

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: 09-02-08 11:37 a.m.	Location Description (e.g., road crossing):
Stream Name: Stockton Br.	Private property off of Rd. 1525
Current Weather Conditions: sunny	Facility Name(s): Stockton WWTF
Weather Conditions for Past 10 days: 0.13" @ Springfield	Permit Number(s): 10290106
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): 429686	Northing (UTM Y): 4177717	Horizontal Accuracy: (EPE / FOM / PDOP) 55 ft. Meters
Site 11	Easting (UTM X): 429623	Northing (UTM Y): 4177813	Horizontal Accuracy: (EPE / FOM / PDOP) 36 ft. Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
1361-3-A	Upstream looking down				
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
1361-3-B	Downstream looking up With pool				
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 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.)

Moss and algae on gravels

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 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.)

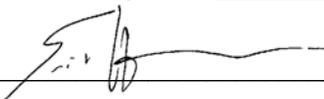
Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)
Pool	500	6.5	21	12	+1

Comments: (Please record any additional comments here.)

Pool @ station #11 of transect +1 meter deep. See photo 1361-3-B

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

Printed Names of Personnel Collecting Data: Eric Hertzler

Surveyor's Signature:  Date of Survey: 09-02-08

Organization: Olsson Associates Position: Field Service

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Stockton Br.</u> Waterbody ID: <u>1361</u> Site #: <u>3</u> Estimated Channel Incision: <u>0.12</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>429686</u> UTM Y: <u>4177717</u> +/- <u>55 ft.</u> (meters) 11 UTM X: <u>429623</u> UTM Y: <u>4177813</u> +/- <u>36 ft.</u> (meters) Average Stream Width: <u>5</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Eric Hertzler / Austin Lohkamp</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>9/2/2008</u> Time: <u>11:39 a.m.</u> Dissolved Oxygen: <u>2.09</u> (mg/L) Dissolved Oxygen: <u>24.9</u> (% sat) Specific Cond: <u>256</u> (µS/cm) Water Temperature: <u>21.5</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	0.66	0.00	0.43	0.15	0.41	0.05	0.31	0.00	0.56	0.15	0.32	0.05	0.68	0.00	0.31	0.05	1.03	0.00	0.83	0.00	0.65	0.21
2	1.32	0.00	0.86	1.00	0.82	0.09	0.62	0.00	1.12	0.28	0.64	0.11	1.36	0.00	0.62	0.05	2.06	0.00	1.66	0.00	1.30	0.47
3	1.98	0.00	1.29	1.00	1.23	0.12	0.93	0.00	1.68	0.36	0.96	0.14	2.04	0.00	0.93	0.13	3.09	0.00	2.49	0.00	1.95	1.00
4	2.64	0.00	1.72	1.00	1.64	0.12	1.24	0.00	2.24	0.32	1.28	0.13	2.72	0.00	1.24	0.16	4.12	0.00	3.32	0.00	2.60	1.00
5	3.30	0.00	2.15	1.00	2.05	0.11	1.55	0.00	2.80	0.30	1.60	0.13	3.40	0.00	1.55	0.19	5.15	0.00	4.15	0.00	3.25	0.85
6	3.96	0.00	2.58	0.82	2.46	0.12	1.86	0.00	3.36	0.21	1.92	0.14	4.08	0.00	1.86	0.18	6.18	0.00	4.98	0.00	3.90	0.49
7	4.62	0.00	3.01	0.61	2.87	0.10	2.17	0.00	3.92	0.12	2.24	0.14	4.76	0.00	2.17	0.17	7.21	0.00	5.81	0.00	4.55	0.21
8	5.28	0.00	3.44	0.41	3.28	0.11	2.48	0.00	4.48	0.13	2.56	0.13	5.44	0.00	2.48	0.12	8.24	0.00	6.64	0.00	5.20	0.11
9	5.94	0.00	3.87	0.27	3.69	0.08	2.79	0.00	5.04	0.15	2.88	0.05	6.12	0.00	2.79	0.05	9.27	0.00	7.47	0.00	5.85	0.05
Right Bank	6.60	0.00	4.30	0.00	4.10	0.00	3.10	0.00	5.60	0.00	3.20	0.00	6.80	0.00	3.10	0.00	10.30	0.00	8.30	0.00	6.50	0.00
Feature Type <small>(riffle, run, or pool)</small>	Dry		Pool		Pool		Dry		Pool		Pool		Dry		Pool		Dry		Dry		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 0.00

Surveyor's Signature:



