



Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 2171 Koen Creek

Submitted by

Environmental Resource Coalition

To

Missouri Department of Natural Resources

Water Protection Program

On

May 29, 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):	Koen Creek
Missouri Water Body Identification (WBID) Number:	2171
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):	S, 36M S, 36N, SE
Number of sites evaluated:	3
List all site numbers, <u>consecutively upstream to downstream</u> :	Site 3, Site 2, Site 1
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).	

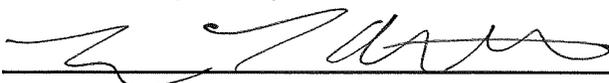
II. Facility Information (list all permitted discharges to this water body segment)

Facility Name(s) and Permit Number(s): Town and Country Mobile Home Park MO-0053180

III. UAA Surveyor (please PRINT legibly)

Name of Surveyor: T. Althether, J. VeVerka	Telephone Number: 573-443-4100
Organization/Employer: MEC Water Resources	

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: 5/16/08

amc 5-20-08

Eaton Branch WBID: 2166 3 mi.

Koen Creek WBID: 2171 1 mi.

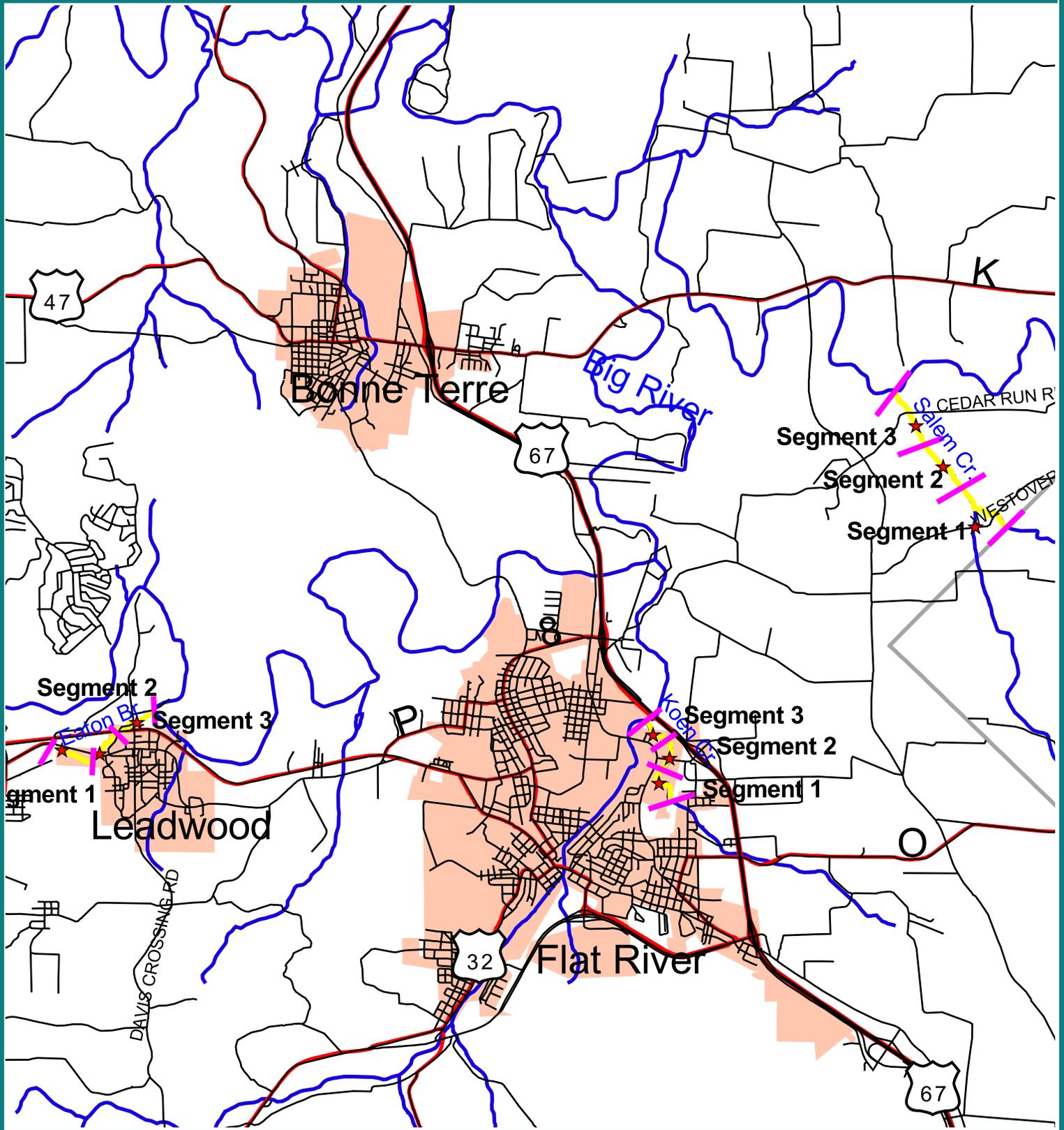
Salem Creek WBID: 2174 2 mi.



Survey Reach



Survey Points



WBID # 2171
 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: <u>5/10/08 10:30</u>	Location Description (e.g., road crossing):
Stream Name: <u>Koon Creek</u>	<u>New Hwy 67</u>
Current Weather Conditions: <u>Partly Cloudy, Breezy 65°F</u>	Facility Name(s): <u>Towson County Mobile Home Park</u>
Weather Conditions for Past 10 days: <u>0.50 in rain, Partly Cloudy, Clear</u>	Permit Number(s): <u>MD-0055180</u>
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	Working (UTM X) Easting (UTM X): <u>4193301</u>	Working (UTM Y) Northing (UTM Y): <u>0719900</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>6.9</u> Meters
Site 11	Working (UTM X) Easting (UTM X): <u>4193518</u>	Working (UTM Y) Northing (UTM Y): <u>0719959</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>12.2</u> Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>2171.01.027</u>	<u>Up Stream</u>	<u>2171.01.028</u>	<u>Down Stream</u>		

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 Data Sheet D- Recreational Use Interview when conducting interviews.)				
<u>N/A</u>				

Stream Name & WBID # Koen Creek, 2171

Date of Survey 5/01/08

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 checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:

Comments:

N/A

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

None of the above

Comments / Other:

N/A

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

20 % Cobble	10 % Gravel	10 % Sand	% Silt	% Mud/Clay	60 % Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

grosses, periphyton abundant

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.

Stream Name & WBID # Koon Creek, 2171

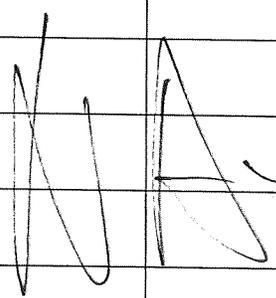
Date of Survey 5/01/08

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.)

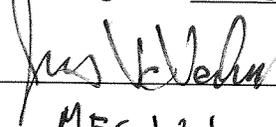
Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)
					

Comments: (Please record any additional comments here.)

N/A

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

Printed Names of Personnel Collecting Data: James V. Vetter, Tim Altvether

Surveyor's Signature:  Date of Survey: 05/01/08

Organization: MFC Water Position: Water Quality Scientist

QUC 5-20-08

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

Stream Name: <u>Koen Creek</u> Waterbody ID: <u>2171</u> Site #: <u>1</u> Estimated Channel Incision: <u>0.00</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>719900</u> UTM Y: <u>4193301</u> +/- <u>6.9</u> (meters) 11 UTM X: <u>719959</u> UTM Y: <u>4193518</u> +/- <u>12.2</u> (meters) Average Stream Width: <u>14</u> (meters) Length of Survey Segment: <u>280</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>TA, JV</u>	<p align="center">Dissolved Oxygen</p> Date: <u>5/1/2008</u> Time: <u>10:30</u> Dissolved Oxygen: <u>11.99</u> (mg/L) Dissolved Oxygen: <u>121.6</u> (% sat) Specific Cond: <u>506</u> (µS/cm) Water Temperature: <u>15.9</u> (°C)
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rwc

Transect Cross-Section																							
		01		02		03		04		05		06		07		08		09		10		11	
Station		Distance (m)	Depth (m)																				
Left Bank		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1		1.03	0.14	1.39	0.00	1.18	0.05	0.82	0.23	0.88	0.11	1.27	0.44	1.53	0.43	1.56	0.50	1.49	0.09	1.41	0.39	1.38	0.43
2		2.06	0.14	2.78	0.15	2.36	0.16	1.64	0.05	1.76	0.11	2.54	0.83	3.06	>1.00	3.12	0.54	2.98	0.30	2.82	>1.00	2.76	0.56
3		3.09	0.18	4.17	0.24	3.54	0.18	2.46	0.09	2.64	0.20	3.81	0.85	4.59	>1.00	4.68	0.68	4.47	0.28	4.23	>1.00	4.14	0.90
4		4.12	0.05	5.56	0.20	4.72	0.10	3.28	0.00	3.28	0.12	5.08	0.79	6.12	>1.00	6.24	0.81	5.96	0.37	5.64	>1.00	5.52	0.80
5		5.15	0.06	6.95	0.04	5.90	0.02	4.10	0.00	4.10	0.29	6.35	0.74	7.65	>1.00	7.80	0.91	7.45	0.32	7.05	>1.00	6.90	0.41
6		6.18	0.22	8.34	0.00	7.08	0.00	4.92	0.10	4.92	0.00	7.62	0.78	9.18	>1.00	9.36	0.93	8.94	0.29	8.46	>1.00	8.28	0.49
7		7.21	0.09	9.73	0.00	8.26	0.00	5.72	0.09	5.72	0.13	8.89	0.64	10.71	0.92	10.92	0.89	10.43	0.28	9.87	0.87	9.66	0.47
8		8.24	0.00	11.12	0.13	9.44	0.19	6.56	0.04	6.56	0.10	10.16	0.33	12.24	0.76	12.48	0.66	11.92	0.31	11.28	0.26	11.04	0.24
9		9.27	0.00	12.51	0.17	10.62	0.00	7.38	0.02	7.38	0.09	11.43	0.37	13.77	0.62	14.04	0.31	13.41	0.32	12.69	0.26	12.42	0.35
Right Bank		10.30	0.00	13.90	0.00	11.80	0.00	8.20	0.00	8.20	0.00	12.70	0.00	15.30	0.00	15.60	0.00	14.90	0.00	14.10	0.00	13.80	0.00
Feature Type		Riffle		Riffle		Riffle		Riffle		Riffle		Pool		Pool		Pool		Run		Pool		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.

Surveyor's Signature: _____ Date: _____

WBID # 2771
 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: <u>5/01/08 11:19</u>	Location Description (e.g., road crossing): <u>New Parkway Street</u>
Stream Name: <u>Koon Creek</u>	
Current Weather Conditions: <u>Overcast, Soft, Breezy</u>	Facility Name(s): <u>Town & Country Mobile Home Park</u>
Weather Conditions for Past 10 days: <u>0.50 in rain, cloudy, clear</u>	Permit Number(s): <u>MO 00530180</u>
Official Drought Conditions at time of this survey (search DNR home page for "drought"): No drought <input 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	W. <u>4193686</u> Easting (UTM X)	N. <u>0720064</u> Northing (UTM Y)	Horizontal Accuracy: (EPE / FOM / PDOP) <u>26.6</u> Meters
Site 11	W. <u>4193900</u> Easting (UTM X)	N. <u>0720076</u> Northing (UTM Y)	Horizontal Accuracy: (EPE / FOM / PDOP) <u>11.8</u> Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>2771-02-029</u>	<u>Up Stream</u>	<u>2771-02-030</u>	<u>Down Stream</u>	<u>2771-02-032</u>	<u>Rope Swing</u>

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.) <u>N/A</u>				

Stream Name & WBID # Koon Creek, 2171

Date of Survey 5/5/08

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 checked="" 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 type="checkbox"/> Other:

Comments:
N/A

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 checked="" 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: <u>N/A</u>			

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

<u>40</u> % Cobble	<u>20</u> % Gravel	% Sand	% Silt	% Mud/Clay	<u>40</u> % Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site.)

Periphyton common, grasses, willow

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.

Stream Name & WBID # Koan Creek 2171

Date of Survey 5/01/08

Site # 5

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.)

N/A

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

Printed Names of Personnel Collecting Data: James DeVeck, Tim Altmuth

Surveyor's Signature: [Signature] Date of Survey: 5/01/08

Organization: MEC Water Position: Water Quality Scientist

AUC 5-20-08

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Koen Creek</u> Waterbody ID: <u>2171</u> Site #: <u>2</u> Estimated Channel Incision: <u>0.00</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>720064</u> UTM Y: <u>4193686</u> +/- <u>26.6</u> (meters) 11 UTM X: <u>720076</u> UTM Y: <u>4193900</u> +/- <u>11.8</u> (meters) Average Stream Width: <u>10</u> (meters) Length of Survey Segment: <u>200</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>TA, JV</u>	Dissolved Oxygen Date: <u>5/1/2008</u> Time: <u>11:19</u> Dissolved Oxygen: <u>10.83</u> (mg/L) Dissolved Oxygen: <u>109.2</u> (% sat) Specific Cond: <u>518</u> (µS/cm) Water Temperature: <u>15.7</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	
	1	0.65	0.00	1.05	0.35	1.00	0.39	1.28	0.86	1.26	0.89	1.26	0.75	1.22	0.32	1.15	0.15	1.94	0.00	2.10	0.06	0.61	0.00
	2	1.30	0.20	2.10	0.50	2.00	0.64	2.56	>1.00	2.52	>1.00	2.52	0.82	2.44	0.56	2.30	0.24	3.88	0.00	4.20	0.00	1.22	0.08
	3	1.95	0.19	3.15	0.60	3.00	0.70	3.84	>1.00	3.78	>1.00	3.78	0.85	3.66	0.82	3.45	0.54	5.82	0.00	6.30	0.00	1.83	0.21
	4	2.60	0.11	4.20	0.59	4.00	0.69	5.12	>1.00	5.04	>1.00	5.04	0.89	4.88	0.83	4.60	0.77	7.76	0.15	8.40	0.00	2.44	0.24
	5	3.25	0.08	5.25	0.66	5.00	0.71	6.40	>1.00	6.30	>1.00	6.30	0.88	6.10	0.76	5.75	0.74	9.70	0.23	10.50	0.00	3.05	0.24
	6	3.90	0.10	6.30	0.60	6.00	0.85	7.68	>1.00	7.56	>1.00	7.56	0.87	7.32	0.73	6.90	0.92	11.64	0.00	12.60	0.00	3.66	0.10
	7	4.55	0.03	7.35	0.56	7.00	0.75	8.96	>1.00	8.82	>1.00	8.82	0.88	8.54	0.69	8.05	0.87	13.58	0.00	14.70	0.00	4.27	0.11
	8	5.20	0.10	8.40	0.50	8.00	0.46	10.24	>1.00	10.08	0.93	10.08	0.76	9.76	0.60	9.20	0.72	15.52	0.18	16.80	0.04	4.88	0.11
	9	5.85	0.06	9.45	0.38	9.00	0.24	11.52	0.91	11.34	0.56	11.34	0.63	10.98	0.53	10.35	0.68	17.46	0.05	18.90	0.23	5.49	0.01
Right Bank		6.50	0.00	10.50	0.00	10.00	0.00	12.80	0.00	12.60	0.00	12.60	0.00	12.20	0.00	11.50	0.00	19.40	0.00	21.00	0.00	6.10	0.00
Feature Type		Riffle		Run		Run		Pool		Pool		Run		Run		Run		Riffle		Riffle		Run	

RWC

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

Surveyor's Signature: _____ Date: _____

WBID # 2171
 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: <u>5/01/08 12:22</u>	Location Description (e.g., road crossing): <u>East of South State Street</u>
Stream Name: <u>Koen Creek</u>	
Current Weather Conditions: <u>overcast, Breezy, 65°F</u>	Facility Name(s): <u>Town & Country Mobile Home Park</u>
Weather Conditions for Past 10 days: <u>9.50 in rain, partly clear</u>	Permit Number(s): <u>MO 0053180</u>
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 # <u>01</u>	Northing (UTM Y): <u>6719737</u>	Easting (UTM X): <u>4194222</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>8.3</u> Meters
Site # <u>01</u>	Northing (UTM Y): <u>6719809</u>	Easting (UTM X): <u>4194050</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>11.2</u> Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>2171.03.033</u>	<u>Up Stream</u>	<u>2171.03.034</u>	<u>Down Stream</u>		

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 Data Sheet D- Recreational Use Interview when conducting interviews.)
N/A

Stream Name & WBID # Koon Creek, 2171

Date of Survey 5/01/08

Site # 5

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 checked="" 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 checked="" type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:
Comments: <p style="text-align: center;">N/A</p>				

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: <p style="text-align: center;">N/A</p>			

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

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

Algae and periphyton abundant, grasses

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.

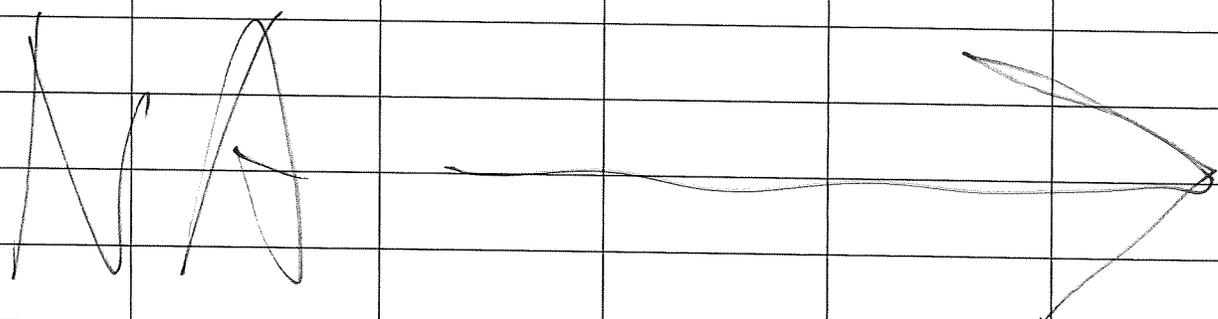
Stream Name & WBID # Koon Creek, 2171
 Site # 3

Date of Survey 5/01/08

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.)

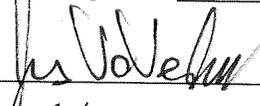
Channel Feature	Distance from access location (m)	Width (m)	Length (m)	Median Depth (m)	Max Depth (m)
					

Comments: (Please record any additional comments here.)

N/A

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

Printed Names of Personnel Collecting Data: James Ververka, Tim Altmether

Surveyor's Signature:  Date of Survey: 05/01/08

Organization: MEC Water Position: Water Quality Scientist

amc 5-20-08

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Stream Name: <u>Koen Creek</u> Waterbody ID: <u>2171</u> Site #: <u>3</u> Estimated Channel Incision: <u>0.00</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>719809</u> UTM Y: <u>4194050</u> +/- <u>11.2</u> (meters) 11 UTM X: <u>719737</u> UTM Y: <u>4194222</u> +/- <u>8.3</u> (meters) Average Stream Width: <u>10</u> (meters) Length of Survey Segment: <u>200</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>TA, JV</u>	Dissolved Oxygen Date: <u>5/1/2008</u> Time: <u>12:22</u> Dissolved Oxygen: <u>10.57</u> (mg/L) Dissolved Oxygen: <u>108.3</u> (% sat) Specific Cond: <u>511</u> (µS/cm) Water Temperature: <u>16.4</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)																				
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	0.87	0.14	1.00	0.00	1.14	0.07	0.96	0.10	0.75	0.00	0.76	0.08	1.21	0.11	1.25	0.29	1.21	0.11	1.26	0.09	0.45	0.13
	2	1.74	0.28	2.00	0.16	2.28	0.08	1.92	0.05	1.50	0.04	1.52	0.05	2.42	0.08	2.50	0.37	2.42	0.08	2.52	0.00	0.90	0.11
	3	2.61	0.16	3.00	0.50	3.42	0.14	2.88	0.10	2.25	0.02	2.28	0.04	3.63	0.25	3.75	0.40	3.63	0.25	3.78	0.00	1.35	0.08
	4	3.48	0.31	4.00	0.42	4.56	0.15	3.84	0.06	3.00	0.05	3.04	0.06	4.83	0.24	5.00	0.44	4.84	0.24	5.04	0.00	1.80	0.10
	5	4.35	0.41	5.00	0.41	5.70	0.21	4.80	0.03	3.75	0.02	3.80	0.06	6.05	0.46	6.25	0.31	6.05	0.46	6.30	0.00	2.25	0.11
	6	5.22	0.39	6.00	0.39	6.84	0.15	5.76	0.07	4.50	0.06	4.56	0.05	7.26	0.43	7.50	0.25	7.26	0.43	7.56	0.09	2.70	0.10
	7	6.09	0.38	7.00	0.40	7.98	0.16	6.72	0.15	5.25	0.08	5.32	0.07	8.47	0.47	8.75	0.42	8.47	0.47	8.82	0.29	3.15	0.12
	8	6.96	0.36	8.00	0.43	9.12	0.15	7.68	0.15	6.00	0.06	6.08	0.10	9.68	0.41	10.00	0.46	9.68	0.41	10.08	0.40	3.60	0.12
	9	7.83	0.39	9.00	0.06	10.26	0.19	8.64	0.10	6.75	0.09	6.84	0.11	10.98	0.29	11.25	0.45	10.98	0.29	11.34	0.55	4.05	0.05
Right Bank		8.70	0.00	10.00	0.00	11.40	0.00	9.60	0.00	7.50	0.00	7.60	0.00	12.10	0.00	12.50	0.00	12.10	0.00	12.60	0.00	4.50	0.00
Feature Type <small>(riffle, run, or pool)</small>		Run		Run		Run		Riffle		Riffle		Riffle		Run		Run		Run		Run		Riffle	

rwc

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

Surveyor's Signature: _____ Date: _____

WBID # 2171

Site 1

Upstream



WBID # 2171

Site 1

Downstream



WBID # 2171

Site 2

Upstream



WBID # 2171

Site 2

Downstream



WBID # 2171

Site 2

"Rope Swing"



WBID # 2171

Site 3

Upstream



WBID #2171

Site 3

Downstream

