



Use Attainability Analysis

for

WBID 1127 Rainy Creek

Submitted by

MEC Water Resources

To

Missouri Department of Natural Resources

Water Protection Program

On

December 1, 2007

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):	Rainy Creek		
Missouri Water Body Identification (WBID) Number:	1127		
8-digit HUC:	10290109	County:	Camden, Benton
Upstream Legal Description (from Table H):	7, 39N, 19W		
Downstream Legal Description (from Table H):	5, 39N, 19W		
Number of sites evaluated:	3		
List all sites numbers, listed consequently upstream to downstream:	1, 2, 3		

Site Locations Map(s): Attach a map of the entire segment with assessment sites clearly labeled. Mark any other items that may be of interest.

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

Facility Name(s) and Permit Number(s):
Climax Springs R-4 School MO0126667
Two Days Barbecue MO0110442

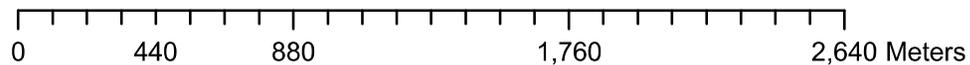
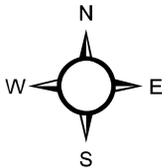
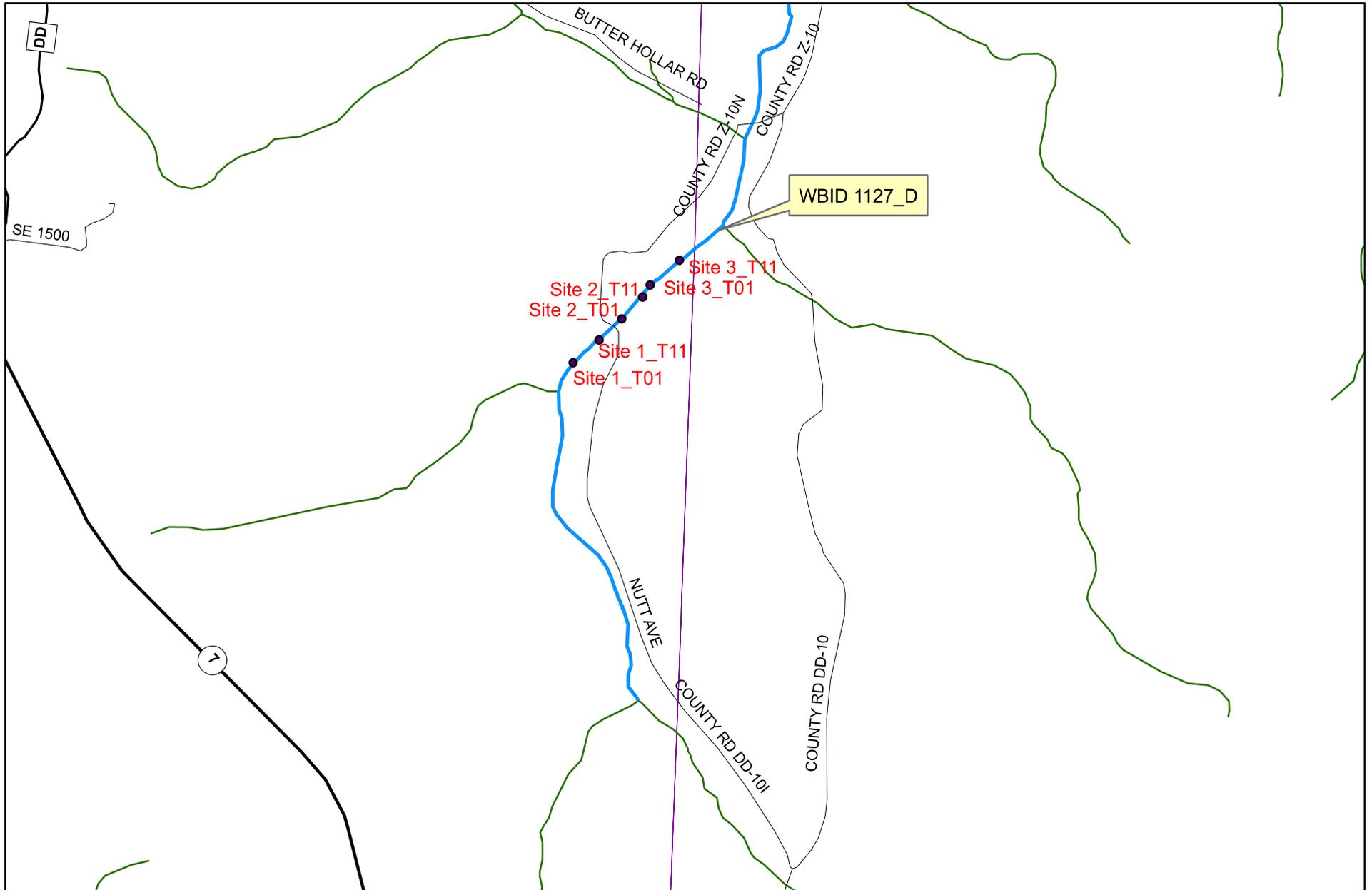
III. UAA Surveyor (please print legibly)

Name of Surveyor	Bob Bacon	Telephone Number:	(573) 634-7078
Organization/Employer:	ERC		

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

Signed: Bob Bacon Date: 10-5-2007

WBID 1127 Rainy Creek - Benton and Camden Counties



Weather Conditions

Weather conditions ten days previous to stream assessment are listed in the tables below. The date(s) that the stream was assessed are shaded.

Data from the WeatherUnderground.com
Kaiser, MO

Date	Precipitation (Inches)	Min. Temp (°F)	Max. Temp (°F)	Avg. Temp (°F)
9/25/2007	0.75	69	84	76
9/26/2007	0.00	59	64	62
9/27/2007	0.00	60	75	68
9/28/2007	0.00	53	82	68
9/29/2007	0.00	57	80	68
9/30/2007	0.31	55	84	70
10/1/2007	0.00	57	77	67
10/2/2007	0.10	57	84	70
10/3/2007	0.01	53	75	64
10/4/2007	0.00	60	84	72
10/5/2007	0.00	66	86	76

WBID # 1127

Site # 01

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(must be completed for each site)

Date & Time: <u>10-5-2007 10:41</u>	Site Location Description (e.g., road crossing): <u>upstream of Nutt Hill Road</u>
Personnel (Data Collectors): <u>Bob Ream + Matt Nelson</u>	
Current Weather Conditions: <u>hty cloudy 80</u>	Facility Name: <u>Climax Springs A-4 School / Two Days Barbecue</u>
Weather Conditions for Past 10 days: <u>see table</u>	Permit Number: <u>MO0126667 MO0110442</u>
Drought Conditions?: 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): <u>1520494053</u>	Northing (UTM Y): <u>4220334</u>	Horizontal Accuracy: (EP/ FOM / PDOP) <u>7</u> Meters
Site 11	Easting (UTM X): <u>1520494172</u>	Northing (UTM Y): <u>4220436</u>	Horizontal Accuracy: (EP/ FOM / PDOP) <u>5</u> Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>I65</u> <u>701</u>	<u>downstream view</u>	<u>I66</u> <u>711</u>	<u>upstream view</u>		
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 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.)				

WBID # 1127

Site # 01

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (continued)

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 checked="" 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

Comments / Other:

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

<u>5</u> % Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	<u>95</u> % Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

~ 5% aquatic veg cover

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 checked="" type="checkbox"/> Foam	<input 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 effect another use.

WBID # 1127

Site # 01

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (continued)

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.)

Assessment sites further upstream were not accessible.
Numerous No Trespassing signs further upstream

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

Surveyor's Signature: Dale R. Ben Date of Survey: 10-5-2007

Organization: ELC Position: Field Manager

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

T01 - I65 downstream
 T11 - I66 upshun

Waterbody ID: <u>1127</u> Site #: <u>01</u> Estimated Channel Incision: <u>.0</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (RPE / PDOP / FOM) 01 UTM X: <u>15 5 0494057</u> UTM Y: <u>4220734</u> +/- <u>7</u> (meters) ⁰²⁷ 11 UTM X: <u>15 5 0494172</u> UTM Y: <u>4220436</u> +/- <u>5</u> (meters) ⁰²⁸ Average Stream Width: <u>7.0</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Bob Bevan and Matt Nelson</u>	Dissolved Oxygen Date: <u>10-5-2007</u> Time: <u>10:41</u> Dissolved Oxygen: <u>9.42</u> (mg/L) Dissolved Oxygen: <u>105.4</u> (% sat) Specific Cond: <u>484</u> (µS/cm) Water Temperature: <u>21.06</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	.54	.07	.62	.52	.75	.29	.55	.09	.55	.05	.70	.10	.67	.03	.71	.04	.71	.09	.85	.13	.82	.09
2	1.08	.17	1.24	.49	1.50	.37	1.10	.10	1.10	.05	1.40	.13	1.34	.01	1.42	.06	1.42	.11	1.70	.27	1.64	.13
3	1.62	.17	1.86	.50	2.25	.40	1.65	.10	1.65	.04	2.10	.18	2.01	.06	2.13	.11	2.13	.09	2.55	.33	2.46	.18
4	2.16	.14	2.48	.46	2.00	.43	2.20	.03	2.20	.03	2.80	.08	2.68	.07	2.84	.02	2.84	.10	3.40	.32	3.28	.26
5	2.70	.13	3.10	.46	3.75	.41	2.75	.01	2.75	.02	3.50	.10	3.35	.01	3.55	.10	3.55	.08	4.25	.35	4.10	.25
6	3.24	.15	3.72	.44	4.50	.31	3.30	.01	3.30	.03	4.20	.06	4.02	.10	4.26	.15	4.26	.04	5.10	.33	4.92	.22
7	3.75	.15	4.24	.40	5.25	.28	3.85	.01	3.85	.04	4.90	.12	4.69	.10	4.97	.23	4.97	.07	5.95	.32	5.74	.28
8	4.32	.13	4.96	.35	6.00	.16	4.40	.01	4.40	.04	5.60	.16	5.36	.02	5.68	.20	5.68	.02	6.80	.34	6.56	.17
9	4.86	.14	5.58	.26	6.75	.12	4.95	.01	4.95	.01	6.30	.11	6.03	.07	6.39	.15	6.29	.10	7.65	.34	7.38	.20
Right Bank	5.4	0	6.2	0	7.5	0	5.50	0	5.50	0	7.00	0	6.70	0	7.10	0	7.10	0	8.50	0	8.20	0
Feature Type <small>(riffle, run, or pool)</small>	run		pool		pool		riffle		riffle		run		riffle		run		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 location 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 0.01 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Signed: Bob Bevan Date: 10-5-2007

WBID # 1127Site # 07**Field Data Sheets for Recreational Use Stream Surveys****Data Sheet B – Site Characterization**

(must be completed for each site)

Date & Time: <u>10-5-2007</u> <u>11:27</u>	Site Location Description (e.g., road crossing): <u>downstream of Natl Road bridge</u>
Personnel (Data Collectors): <u>Bob Z. & Matt W</u>	
Current Weather Conditions: <u>Partly Cloudy</u> <u>82°</u>	Facility Name: <u>Climax Springs R-4 School / Two Days</u>
Weather Conditions for Past 10 days: <u>see table</u>	Permit Number: <u>MOD12667 MD 011044B</u>
Drought Conditions?: 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): <u>153 0494224</u>	Northing (UTM Y): <u>4220530</u>	Horizontal Accuracy: (EPE / FOM / PDOP)	<u>8</u>	Meters
Site 11	Easting (UTM X): <u>153 0494369</u>	Northing (UTM Y): <u>4220628</u>	Horizontal Accuracy: (EPE / FOM / PDOP)	<u>7</u>	Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>T1-167</u>	<u>downstream view</u>	<u>T11-168</u>	<u>upstream view</u>		

Uses Observed*: (Uses actually observed at 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.)				

WBID # 1127

Site # 07

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (continued)

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: <i>Woods and Hay Fields</i>				

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
Comments / Other: <i>None</i>				

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

<i>75</i> % Cobble	<i>5</i> % Gravel	% Sand	% Silt	% Mud/Clay	<i>20</i> % Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

<i>~10% aquatic vegetation cover</i>

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 effect another use.

WBID # 1127

Site # 02

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (continued)

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.

Surveyor's Signature:  Date of Survey: 10-5-2007

Organization: ERC Position: Field Manager

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

T01 - I 67 - downstream
T11 - I 68 upstem

Waterbody ID: <u>1127</u> Site #: <u>02</u> Estimated Channel Incision: <u>0</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>15 5 0494274</u> UTM Y: <u>4220530</u> +/- <u>8</u> (meters) 029 11 UTM X: <u>15 5 0494269</u> UTM Y: <u>4220628</u> +/- <u>7</u> (meters) 030 Average Stream Width: <u>7.0</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Rob Teun and Matt Nelson</u>	Dissolved Oxygen Date: <u>10-5-07</u> Time: <u>11:37</u> Dissolved Oxygen: <u>6.53</u> (mg/L) Dissolved Oxygen: <u>70.7</u> (% sat) Specific Cond: <u>308</u> (µS/cm) Water Temperature: <u>20.14</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	.29	.19	.68	.26	.89	.10	.37	.09	.49	.10	.51	.10	.49	.46	.71	.54	.74	.13	.14	.02	.60	.19
2	.76	.20	1.36	.49	1.78	.12	.74	.11	.98	.24	1.02	.09	.98	.60	1.42	.67	1.48	.36	.28	.02	1.20	.37
3	1.14	.23	2.04	.63	2.67	.22	1.11	.10	1.47	.29	1.52	.14	1.47	.53	2.12	.70	2.22	.39	.42	.03	1.80	.33
4	1.52	.29	2.72	.69	3.56	.29	1.48	.07	1.96	.30	2.04	.16	1.96	.41	2.24	.72	2.96	.32	.56	.04	2.40	.35
5	1.90	.31	3.40	.82	4.45	.34	1.85	.06	2.45	.08	2.58	.12	2.45	.54	3.55	.61	3.70	.70	.70	.03	3.00	.39
6	2.28	.32	4.08	.88	5.74	.36	2.22	.08	2.94	.30	3.06	.04	2.94	.53	4.26	.51	4.44	.24	.84	.03	3.60	.48
7	2.66	.33	4.76	.73	6.23	.25	2.59	.05	3.43	.29	3.57	.04	3.43	.52	4.97	.32	5.18	.21	.98	.03	4.20	.56
8	3.04	.27	5.44	.67	7.12	.17	2.96	.04	3.92	.10	4.08	.01	3.92	.42	5.68	.23	5.92	.16	1.12	.03	4.80	.56
9	3.42	.16	6.12	.58	8.01	.17	3.33	.01	4.41	.11	4.59	.04	4.41	.24	6.39	.10	6.66	.07	1.26	.02	5.40	.46
Right Bank	3.80	0	6.60	0	8.90	0	3.70	0	4.90	0	5.10	0	4.90	0	7.10	0	7.40	0	1.40	0	6.0	0
Feature Type (riffle, run, or pool)	run		pool		run		riffle		run		riffle		pool		pool		run		riffle		run	

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width.
 GPS location 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 0.01 meter unless depth is too deep to measure (then record as > 1).
 All measurements to be taken to the nearest 0.01 meter.

Signed: Rob Teun Date: 10-5-2007

WBID # 1127

Site # 03

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(must be completed for each site)

Date & Time: <u>10-5-07 12:28</u>	Site Location Description (e.g., road crossing): <u>downstream site 42 downstream of Mt. Hill road crossing</u>
Personnel (Data Collectors): <u>Rob. B. & M.H.N.</u>	Facility Name: <u>Climax Springs R-4 School / ^{Two Days} Backbone</u>
Current Weather Conditions: <u>Partly cloudy sunny 44°</u>	Permit Number: <u>MO0126067 MO0210442</u>
Weather Conditions for Past 10 days: <u>see table</u>	
Drought Conditions?: 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): <u>1580494401</u>	Northing (UTM Y): <u>4720692</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>5</u> Meters
Site 11	Easting (UTM X): <u>1580494532</u>	Northing (UTM Y): <u>4720792</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>5</u> Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>T1-569</u>	<u>downstream view</u>	<u>T11-570</u>	<u>upstream view</u>		
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 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.)

WBID # 1127

Site # 03

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (continued)

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: <u>woods and hay field</u>				

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
Comments / Other: <u>None</u>				

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

<u>30</u> % Cobble	<u>10</u> % Gravel	% Sand	% Silt	% Mud/Clay	<u>60</u> % Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

~15% aquatic vegetation cover

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 effect another use.

WBID # 1127

Site # 02

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (continued)

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.

Surveyor's Signature:  Date of Survey: 10-5-2007

Organization: ERC Position: Field Manager

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

T01 - I69 downstream
T11 - I70 upchem

Waterbody ID: <u>1127</u> Site #: <u>03</u> Estimated Channel Incision: <u>0</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>15 S 0494401</u> UTM Y: <u>4220682</u> +/- <u>5</u> (meters) 031 11 UTM X: <u>15 S 0494537</u> UTM Y: <u>4220792</u> +/- <u>5</u> (meters) Average Stream Width: <u>6.5</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>Bob Reem & Matt Nelson</u>	<p style="text-align: center; margin: 0;">Dissolved Oxygen</p> Date: <u>10-5-07</u> Time: <u>12:28</u> Dissolved Oxygen: <u>7.10</u> (mg/L) Dissolved Oxygen: <u>79.8</u> (% sat) Specific Cond: <u>463</u> (µS/cm) Water Temperature: <u>21.10</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		.48	.01	.60	.01	.87	.24	.93	.01	.43	.05	.49	.09	.60	.17	.57	.17	.60	.03	.74	.05	.38	.01
2		.96	.03	1.20	.06	1.74	.24	1.86	.01	.86	.06	.91	.09	1.20	.16	1.14	.18	1.20	.04	1.48	.08	.76	.04
3		1.44	.03	1.80	.13	2.41	.25	2.79	.11	1.29	.11	1.47	.13	1.80	.17	1.71	.28	1.80	.01	2.22	.03	1.14	.07
4		1.92	.03	2.40	.25	3.48	.27	2.92	.05	1.72	.04	1.96	.07	2.40	.12	2.28	.32	2.40	.10	2.96	.01	1.52	.11
5		2.40	.08	3.00	.17	4.25	.25	4.65	.03	2.15	.06	2.45	.10	3.00	.12	2.85	.31	3.00	.02	3.70	.01	1.90	.08
6		2.88	.10	3.60	.13	5.22	.23	5.58	.02	2.58	.05	2.94	.07	3.60	.10	3.42	.30	3.60	.04	4.44	.01	2.28	.05
7		5.36	.12	4.20	.06	6.09	.39	6.51	.01	3.01	.02	3.42	.15	4.20	.21	3.99	.29	4.20	.13	5.18	.14	2.66	.06
8		3.84	.13	4.80	.10	6.94	.35	7.44	.04	3.44	.07	3.92	.14	4.80	.24	4.56	.27	4.80	.05	5.92	.17	3.04	.01
9		4.32	.02	5.40	.10	7.83	.22	8.37	.01	3.87	.06	4.41	.16	5.40	.19	5.13	.26	5.40	.04	6.66	.06	3.42	.04
Right Bank		4.80	0	6.00	0	8.70	0	9.30	0	4.30	0	4.90	0	6.00	0	5.70	0	6.00	0	7.4	0	7.80	0
Feature Type		riffle		run		run		riffle		riffle		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 location 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 0.01 meter unless depth is too deep to measure (then record as > 1).
 All measurements to be taken to the nearest 0.01 meter.

Signed: Bob Reem Date: 10-5-2007

WBID# 1127 Rainy Creek



Site# 1 Photo ID# T01-I-65 Downstream



Site# 1 Photo ID# T11-I-66 Upstream



Site# 2 Photo ID# T-01-I-67 Downstream



Site# 2 Photo ID# T11-I-68 Upstream

WBID# 1127 Rainy Creek



Site# 3 Photo ID# T01-I-69 Downstream



Site# 3 Photo ID# T-11-I-70 Upstream