Use Attainability Analysis

for

WBID 0744 Little Cedar 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): Little Cedar Creek	
Missouri Water Body Identification (WBID) Number: 0744	
8-digit HUC: 10300102	County: Boone
Upstream Legal Description (from Table H): 05, 48N, 11W	
Downstream Legal Description(from Table H): 17, 48N, 11W	
Number of sites evaluated ~~3~~ 4	
List all sites numbers, listed consecutively upstream to downstream: 1, 2, 4, 3 ~~site #3 was inaccessible private land~~ ~~AHC~~ SC	

II. Discharger Facility Information (list all permitted dischargers on the stream)

Discharger Facility Name(s): France Country Place	
Discharger Permit Number(s): MO0114332	

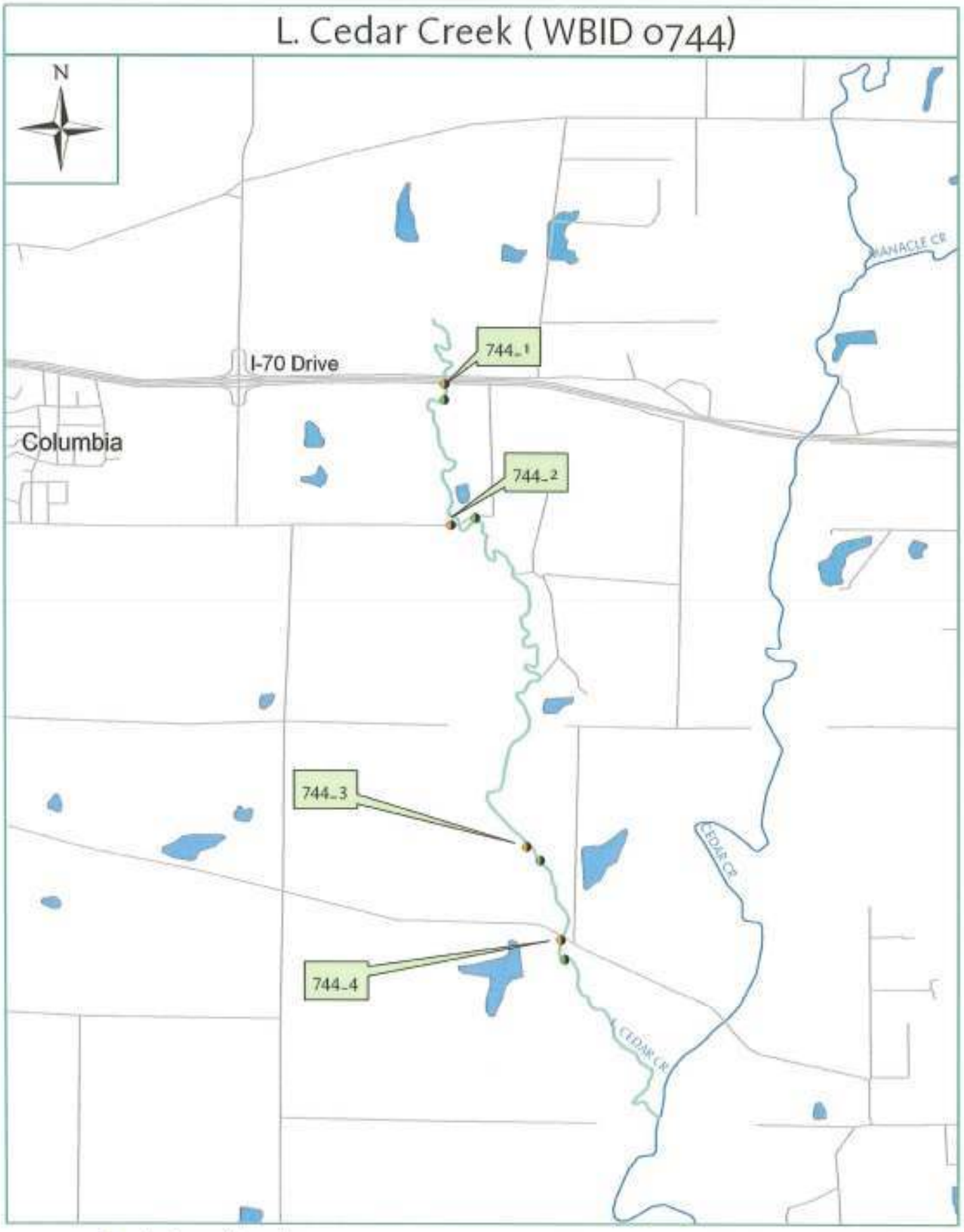
III. UAA Surveyor (please print legibly)

Name of Surveyor James Bryce, Tim Altweather	Telephone Number: (573) 443-4100
Organization/Employer: MEC Water Resources	
Position:	

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

Signed: [signature] for James Bryce **Date:** 10-15-07

AHC 10-15-07


L. Cedar Creek (WBID 0744)
N
I-70 Drive
Columbia
744_1
744_2
744_3
744_4
PINNACLE CR
CEDAR CR
CEDAR CR
Upstream Boundary
Downstream Boundary
0
0.25
0.5
1
1.5
2
Miles

WBID # 744

Site # 1

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(must be completed for each site)

Date & Time: 9/11/07	Site Location Description (e.g., road crossing): I-70 crossing
Personnel (Data Collectors): JB & TH	
Current Weather Conditions: Sunny / Warm	Facility Name:
Weather Conditions for Past 10 days: Clear, Warm SC	Permit Number:
Drought Conditions?: No drought □; Phase I □; Phase II □; Phase III □; Phase IV □; Unknown □	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)				
Site 01	Easting (UTM X): 0570679	Northing (UTM Y): 4312478	Horizontal Accuracy: (EPE / FOM / PDOP) 10.1	Meters
Site 11	Easting (UTM X): ~~0312533~~ 0570674 SC	Northing (UTM Y): 4312340 SC	Horizontal Accuracy: (EPE / FOM / PDOP)	Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
48	Transect 1 US @ I-70 Bridge	49	T1 DS		
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.)

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	☒ None of the above	☐ 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 # _____

Site # _____

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.)

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☐ Urban areas	☐ Rural Residential
☐ Campgrounds	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ Boating accesses	☐ Fence	☐ No trespass sign	☑ Steep slopes	☒ Other: I-70
Comments:				

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

☒ Roads	☐ Foot paths/prints	☐ Dock/platform	☐ Camping Sites	☐ Rope swings
☐ RV / ATV Tracks	☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Livestock Watering
Comments / Other:				

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

65
45

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
	5	20	10	~~65~~ 45	

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

None

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☑ None	☐ Other:
Color:	☒ Clear	☐ Green	☐ Gray	☐ Milky	☐ Other:
Bottom Deposit:	☐ Sludge	☐ Solids	☒ Fine sediments	☐ None	☐ Other:
Surface Deposit:	☒ Oil	☒ Scum	☐ Foam	☐ None	☐ 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 # _____

Site # _____

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.)

No Flow, intermittent deep pools with very high turbidity. Alot of litter from the highway

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

Surveyor's Signature: _____ Date of Survey: 9/11/07

Organization: MEK Water Position: _____

RHC 10-15-07

Recreational Use Attainability Analysis Field Survey Sheet

Waterbody ID: 7441 Site #: 1
(WBID_Site#)

Estimated Channel Incision: 0.2 (m) (height between low bank width and water)

GPS Location (taken at transect 1):
UTM X: 15505706.79 UTM Y: 4312473
Horizontal Accuracy Estimate (GPS Data Quality): +/- 10.1 (feet)

GPS Location (taken at transect 11):
UTM X: 15 0505794 UTM Y: 4312340
Horizontal Accuracy Estimate (GPS Data Quality): +/- 27.3 (feet)

Average Stream Width: 7.5 (meters) Length of Survey Segment: 150 (meters)
(To determne Length of Reach) (20x average stream width)

Field Staff: James Boyce ; Tim Altnether

Dissolved Oxygen

Date: 9/11/07 Time: 2:15 pm

Dissolved Oxygen: 5.47 (mg/L)

Dissolved Oxygen: 97% (% sat)

Specific Cond: 691 (µS/cm)

Water Temp.: 21.7 (°C)

Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	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	.02	0.3	.15	1.34	.03	0.26	.02	.00	.01	0.41	.07	0.31	.06	0	0	2.59	.07	0.51	.24	0.22	.02
2	.56	.03	0.6	.14	1.68	.10	0.52	.07	.16	.01	.82	.05	.62	.01	1.0	0	2.18	.01	1.02	.40	.44	.03
3	.14	.03	0.9	.15	1.22	.17	.78	.09	.24	.02	1.03	.05	.83	.06	0	0	1.77	0	1.53	.43	.66	.05
4	1.12	0	1.2	.12	1.34	.16	1.04	.08	.32	.03	1.64	.04	1.24	.04	0	0	2.36	.15	2.04	.44	.88	.08
5	1.4	.02	1.5	.14	1.79	.12	1.3	.09	.48	.05	2.05	0	1.55	.04	0	0	2.95	0.24	2.55	.59	1.1	.10
6	1.69	.02	1.8	.07	2.09	.07	1.56	.12	.48	.07	2.46	0	1.86	.04	1	1	3.54	0.40	3.06	.67	1.32	.10
7	1.96	.02	2.1	.06	2.38	.13	1.82	.08	.56	.04	2.87	.02	2.17	.07	↓	V	4.13	0.41	3.57	.68	1.59	.15
8	2.24	.02	2.4	.05	2.72	.07	2.08	.06	.64	.02	3.24	.07	2.48	.05			4.72	0.42	4.03	.68	1.76	.09
9	2.52	.03	2.7	.05	3.06	.03	2.34	.04	.72	.01	3.57	.01	2.79	.06			5.3	0.17	4.57	.65	1.96	.07
Right Bank	2.8	0	3.0	0	3.4	0	2.6	0	0.8	0	4.1	0	3.1	0	2	0	5.9	0	5.1	0	2.2	0
Feature Type (riffle, run, or pool)	Run		Run		Pool		Run		Run		Pool		Run		Dry		Pool		Pool		Run	

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0depth). This width is the wetted width
GPS location corresponds to Transect 01 and Transect 11. Transects entered 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: [signature] Date: 9/11/07

RMC 10-15-07

WBID # 744

Site # 7

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(must be completed for each site)

Date & Time: 9/11/07 3:10 pm	Site Location Description (e.g., road crossing): Custer School ROAD CROSSING
Personnel (Data Collectors): JB + Tim A	
Current Weather Conditions: Sunny - Warm	Facility Name:
Weather Conditions for Past 10 days:	Permit Number:
Drought Conditions?: No drought □; Phase I □; Phase II □; Phase III □; Phase IV □; Unknown □	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)				
Site 01	Easting (UTM X): 431317	Northing (UTM Y): 4571012	Horizontal Accuracy: (EPE / FOM / PDOP)	Meters
Site 11	Easting (UTM X): 431374 SC	Northing (UTM Y): 4570929 SC	Horizontal Accuracy: (EPE / FOM / PDOP)	Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
50	T1 US	51	T1 DS		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
52	T11 DS	53	T11 US		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose

Uses Observed*: (Uses actually observed at time of survey.)

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	☑ None of the above	☐ 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 # _____

Site # _____

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.)

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☐ Urban areas	☐ Rural Residential
☐ Campgrounds	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ Boating accesses	☐ Fence	☐ No trespass sign	☑ Steep slopes	☐ Other:
Comments:				

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

☒ Roads	☐ Foot paths/prints	☐ Dock/platform	☐ Camping Sites	☐ Rope swings
☐ RV / ATV Tracks	☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Livestock Watering
Comments / Other: Trash Dump See T1 US photo				

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

% Cobble	% Gravel	90 % Sand	5 % Silt	5 % Mud/Clay	% Bedrock

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

None

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☑ Musky	☐ Chemical	☐ None	☐ Other:
Color:	☐ Clear	☐ Green	☑ Gray	☐ Milky	☐ Other: Brown
Bottom Deposit:	☐ Sludge	☐ Solids	☒ Fine sediments	☐ None	☐ Other:
Surface Deposit:	☑ Oil	☑ Scum	☐ Foam	☐ None	☐ Other:

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WBID # _____

Site # _____

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.)

No Flow, intermittent deep pools. A lot of trash, carpet, Junk, and trash bags floating in the water. Water is dark and murky.

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

Surveyor's Signature: _____ Date of Survey: 9/11/07

Organization: MEC Water Position: _____

RNC 10-15-07

Recreational Use Attainability Analysis Field Survey Sheet

Waterbody ID: 7414 Site #: 7214-2
(WBID_Site#)

Estimated Channel Incision: 0.25 (m) (height between low bank width and water)

GPS Location (taken at transect 1):
UTM X: 15 S 057092 UTM Y: 4311317
Horizontal Accuracy Estimate (GPS Data Quality): +/- 21 (feet)

GPS Location (taken at transect 11):
UTM X: 15 S 057029 UTM Y: 4311374 SB
Horizontal Accuracy Estimate (GPS Data Quality): +/- ~~115~~ 274 SB (feet)

Average Stream Width: 5 (meters) Length of Survey Segment: 150 (meters)
(To determine Length of Reach) (20x average stream width)

Field Staff: James Boyle, Tim A.

Dissolved Oxygen

Date: 7/11/07 Time: 3:00 pm

Dissolved Oxygen: 2.94 (mg/L)

Dissolved Oxygen: 31.4 (% sat)

Specific Cond: 258.5 (µS/cm)

Water Temp.: 20.1 (°C)

Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	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	.57	.05	.24	.02	.63	.36	0.51	.13	.56	.41	0.51	.06	0.24	.04	0.32	0.10	0.25	.06	.19	.07	0.39	.12
2	1.14	0	.48	.15	1.26	.69	.62	.20	1.12	.36	.62	.21	.52	.08	.64	.21	.5	.24	.38	.08	.78	.16
3	1.71	.06	.72	.21	1.89	.85	.93	.28	1.69	.52	.93	.19	.78	.05	.96	.36	.75	.25	.57	.10	1.17	.17
4	2.28	.24	.96	.24	2.52	.88	1.24	.38	2.24	.56	1.24	.21	1.04	.07	1.28	.43	1	.27	.76	.10	1.56	.17
5	2.85	.31	1.2	.25	3.14	.97	1.55	.37	2.8	.45	1.55	.30	1.4	.05	1.6	.45	1.25	.29	.95	.08	1.95	.18
6	3.42	.37	1.44	.19	3.70	1.01	1.86	.45	3.24	.73	1.86	.30	1.96	.02	1.92	.43	1.5	.25	1.14	.09	2.34	.18
7	3.99	.35	1.68	.17	4.44	.92	2.17	.44	3.96	.62	2.17	.27	1.82	0	2.24	.39	1.75	.18	1.33	.09	2.75	.13
8	4.56	.31	1.92	.16	5.04	.51	2.48	.34	4.68	.52	2.48	.19	2.09	.02	2.56	.34	2	.15	1.52	.05	3.12	.13
9	5.13	.16	2.16	.02	5.67	.18	2.79	.12	5.24	~~.20~~ .28	2.79	.09	2.34	.03	2.88	.17	2.25	.06	1.91	.04	3.51	.09
Right Bank	5.7	0	2.4	0	6.3	0	3.1	0	5.6	0	3.1	0	2.6	0	3.2	0	2.5	0	1.9	0	3.9	0
Feature Type (riffle, run, or pool)	Pool		Pool		Pool		Pool		Pool		Pool		Pool		Pool		Pool		Pool		Pool	

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0depth). This width is the wetted width
GPS location corresponds to Transect 01 and Transect 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: [signature] Date: 9/11/07

QAC 10-15-07

WBID # 744

Site # 2-Rail 3

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(must be completed for each site)

Date & Time: 9/11/07 1:45 pm	Site Location Description (e.g., road crossing): On private land
Personnel (Data Collectors): JB, TA	
Current Weather Conditions: Sunny / warm	Facility Name:
Weather Conditions for Past 10 days:	Permit Number:
Drought Conditions?: No drought □; Phase I □; Phase II □; Phase III □; Phase IV □; Unknown □	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)				
Site 01	Easting (UTM X): —	Northing (UTM Y): —	Horizontal Accuracy: (EPE / FOM / PDOP) —	Meters
Site 11	Easting (UTM X): —	Northing (UTM Y): —	Horizontal Accuracy: (EPE / FOM / PDOP) —	Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
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.)

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	☐ None of the above	☐ 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 # _____

Site # _____

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.)

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☐ Urban areas	☒ Rural Residential
☐ Campgrounds	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ Boating accesses	☐ Fence	☐ No trespass sign	☐ Steep slopes	☐ Other:
Comments:				

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

☐ Roads	☐ Foot paths/prints	☐ Dock/platform	☐ Camping Sites	☐ Rope swings
☐ RV / ATV Tracks	☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Livestock Watering
Comments / Other:				

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

% Cobble	% Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☐ None	☐ Other:
Color:	☐ Clear	☐ Green	☐ Gray	☐ Milky	☐ Other:
Bottom Deposit:	☐ Sludge	☐ Solids	☐ Fine sediments	☐ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☐ None	☐ 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 # _____

Site # _____

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.)

The stream was innacessible between sites 2 and 4. Private residences as well as no trespass signs surrounded the streams. Given that sites 1 and 2 had no flow, just intermittent pools, and there was no water at site 4, and site 3 was innaccessible, we did not check site 3.

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

Surveyor's Signature: _____ Date of Survey: 9/11/07

Organization: MEC Water Position: _____

RMC 10-15-07

WBID # 0744

Site # ~~A~~ 3
TA

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(must be completed for each site)

Date & Time: 10/31/07 11:35	Site Location Description (e.g., road crossing): Hiked upstream from sta 4 at TA RT WW Bridge
Personnel (Data Collectors): TA, SC	
Current Weather Conditions: Partly Cloudy, warm	Facility Name:
Weather Conditions for Past 10 days: Rain/Clear	Permit Number:
Drought Conditions?: No drought □; Phase I □; Phase II □; Phase III □; Phase IV □; Unknown □	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)				
Site 01	Easting (UTM X): 430867	Northing (UTM Y): 0571354	Horizontal Accuracy: (EPE / FOM / PDOP) 12.6	Meters
Site 11	Easting (UTM X): 430859	Northing (UTM Y): 0571465	Horizontal Accuracy: (EPE / FOM / PDOP) 5.7	Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
0744_3_1366	US	0744_3_1367	DNS		
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.)

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	☑ None of the above	☐ 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.)

None Observed

WBID # 0744
Site # 3

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.)

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☐ Urban areas	☑ Rural Residential
☐ Campgrounds	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ Boating accesses	☑ Fence	☐ No trespass sign	☑ Steep slopes	☐ Other:
Comments:				

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

☐ Roads	☐ Foot paths/prints	☐ Dock/platform	☐ Camping Sites	☐ Rope swings
☐ RV / ATV Tracks	☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Livestock Watering
Comments / Other: None Observed				

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

20 % Cobble	30 % Gravel	50 % Sand	% Silt	% Mud/Clay	% Bedrock

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

grasses, algae & TA, smartweed

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☐ Musky	☐ Chemical	☑ None	☐ Other:
Color:	☐ Clear	☐ Green	☐ Gray	☐ Milky	☑ Other: Turbid / Brown
Bottom Deposit:	☐ Sludge	☐ Solids	☑ Fine sediments	☐ None	☐ Other:
Surface Deposit:	☐ Oil	☐ Scum	☐ Foam	☑ None	☐ 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 # 0744
Site # 3

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)
		N/A			

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.

Surveyor's Signature: _____ Date of Survey: 10/31/07

Organization: MEC Water Resources Position: Water Quality Scientist

AWC 11-8-07

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: 0744 Site #: 3 (whid_site #)

Estimated Channel Incision: 0.25 (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:	4309672	UTM Y:	0571354	+/- 12.6 (meters)
11	UTM X:	4308559	UTM Y:	0571465	+/- 5.7 (meters)

Average Stream Width: 7 (meters) (To determine Length of Reach)

Length of Survey Segment: 150 (meters) (20x average stream width)

Field Staff: TA, ~~JV~~ SC

Dissolved Oxygen

Date: 10/31/07 Time: 11:35

Dissolved Oxygen: 0.98 (mg/L)

Dissolved Oxygen: 8.9 (% sat)

Specific Cond: 344.2 (µS/cm)

Water Temperature: 10.8 (°C)

Transect Cross-Section

Station	01		02		03		04		05		06		07		08		09		10		11	
	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	Distance (m)	Depth (m)	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	~~0.10~~ 0.01	0.01										~~0.20~~	~~0.30~~ 0.30	0.01								
2	0.20	0.02											0.40	0.0								
3	0.30	0.04											0.60	0.03								
4	0.40	0.04											0.80	0.01								
5	0.50	0.01											1.0	0.0								
6	0.60	0.05											1.2	0.02								
7	0.70	0.05											1.4	0.03								
8	0.80	0.03											1.6	0.03								
9	0.90	0.03											1.8	0.01								
Right Bank	1.0	0		0		0		0		0		0	2.0	0		0		0		0		0
Feature Type (riffle, run, or pool)	Run		Dry		Dry		Dry		Dry		Dry		Run		Dry		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 is 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.

QA/C 11-8-07

Signed: [signature] Date: 10/31/07

WBID # 744

Site # 4

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization

(must be completed for each site)

Date & Time: 9/11/07 445 pm	Site Location Description (e.g., road crossing): Route 10 W Crossing
Personnel (Data Collectors): JB TA.	
Current Weather Conditions: Sunny; warm	Facility Name:
Weather Conditions for Past 10 days:	Permit Number:
Drought Conditions?: No drought □; Phase I □; Phase II □; Phase III □; Phase IV □; Unknown □	

Site Location:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)				
Site 01	Easting (UTM X): 0571637	Northing (UTM Y): 4307907	Horizontal Accuracy: (EPE / FOM / PDOP)	Meters
Site 11	Easting (UTM X): 0571668	Northing (UTM Y): 4307747	Horizontal Accuracy: (EPE / FOM / PDOP)	Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
S4	744-4 T8 US	S5	744-4 T8 DS		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
S6	744-4 T11 DS	S7	744-4 T11 US		
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
S8	T1 US	S9	T1 DS		

Uses Observed*: (Uses actually observed at time of survey.)

☐ Swimming	☐ Skin diving	☐ SCUBA diving	☐ Tubing	☐ Water skiing
☐ Wind surfing	☐ Kayaking	☐ Boating	☐ Wading	☐ Rafting
☐ Hunting	☐ Trapping	☐ Fishing	☒ None of the above	☐ 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 # 744
Site # 744-3

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.)

☐ City/county parks	☐ Playgrounds	☐ MDC conservation lands	☐ Urban areas	☐ Rural Residential
☐ Campgrounds	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ Boating accesses	☐ Fence	☐ No trespass sign	☒ Steep slopes	☐ Other:
Comments:				

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

☒ Roads	☐ Foot paths/prints	☐ Dock/platform	☐ Camping Sites	☐ Rope swings
☐ RV / ATV Tracks	☐ Fire pit/ring	☐ NPDES Discharge	☐ Fishing Tackle	☐ Livestock Watering
Comments / Other:				

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

% Cobble	30	% Gravel	5	% Sand	5	% Silt		% Mud/Clay	60	% Bedrock

Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

None

Water Characteristics*: (Mark all that apply.)

Odor:	☐ Sewage	☒ Musky	☐ Chemical	☐ None	☐ Other:
Color:	☐ Clear	☐ Green	☐ Gray	☑ Milky	☐ Other: Brown
Bottom Deposit:	☐ Sludge	☒ Solids	☐ Fine sediments	☐ None	☐ Other:
Surface Deposit:	☑ Oil	☑ Scum	☐ Foam	☐ None	☐ 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 # 744
Site # 744-7

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.)

Dry except for a 10m long pool at transect 8.

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

Surveyor's Signature: _____ Date of Survey: 9/11/07

Organization: MEC Water Position: _____

AMC 10-15-07

Recreational Use Attainability Analysis Field Survey Sheet

Waterbody ID: 744 Site #: 744-4 (WBID_Site#)

Estimated Channel Incision: NA (m) (height between low bank width and water)

GPS Location (taken at transect 1):
UTM X: 150 0571637 UTM Y: 4307907
Horizontal Accuracy Estimate (GPS Data Quality): +/- 26.4 (feet)

GPS Location (taken at transect 11):
UTM X: 150 0571668 UTM Y: 4307747
Horizontal Accuracy Estimate (GPS Data Quality): +/- 16.3 (feet)

Average Stream Width: 0 (Dry for 100 meters) (meters) Length of Survey Segment: 150 (meters)
(To determne Length of Reach) (20x average stream width)

Field Staff: James Bryce ; Tim A

Dissolved Oxygen

Date: 9/11/07 Time: 4:45 pm

Dissolved Oxygen: 7.51 (mg/L)

Dissolved Oxygen: 90.8 (% sat)

Specific Cond: 337.7 (µS/cm)

Water Temp.: 75.3 (°C)

From Transect 8; no Flow at the other transects

Transect Cross-Section

Station	01 Distance (m)	01 Depth (m)	02 Distance (m)	02 Depth (m)	03 Distance (m)	03 Depth (m)	04 Distance (m)	04 Depth (m)	05 Distance (m)	05 Depth (m)	06 Distance (m)	06 Depth (m)	07 Distance (m)	07 Depth (m)	08 Distance (m)	08 Depth (m)	09 Distance (m)	09 Depth (m)	10 Distance (m)	10 Depth (m)	11 Distance (m)	11 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	0	0	0	0	0	0	0	0	0	0	0	0	0	0.72	0.09	0	0	0	0	0	0
2															1.44	0.12						
3															2.16	0.15						
4															2.88	0.19						
5															3.6	0.18						
6															4.32	0.07						
7															5.04	0.10						
8															5.76	0.08						
9															6.48	0.09						
Right Bank		0		0		0		0		0		0		0	7.2	0		0		0		0
Feature Type (riffle, run, or pool)	Dry		Dry		Dry		Dry		Dry		Dry		Dry		Pool		Dry		Dry		Dry	

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0depth). This width is the wetted width.
GPS location corresponds to Transect 01 and Transect 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.

QAC 10-15-07

Signed: [signature] Date: 9/11/07

Site 1
WBID 744
US

WBID 744
US

WBID744

Site
DNS

Site 2
WBID 744
DNS T-11

WBID 0744
Upstream
site 3

Site 2
WBID 744
DNS

Site 2
WBID 744
US T-11

Site 4
WBID 744
US T-8

WBID 0744
Downstream
site 3

Site 4
WBID 744

Site 4
WBID 744
US T1

Site 4
WBID 744
US T1