



Use Attainability Analysis

for

WBID 2752 Neals 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):	Neals Creek
Missouri Water Body Identification (WBID) Number:	2752
8-digit HUC:	County: Iron
Upstream Legal Description (from Table H):	16,34N,1W
Downstream Legal Description (from Table H):	Mouth
Number of sites evaluated	3
List all sites numbers, listed consecutively upstream to downstream:	

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

Discharger Facility Name(s):	Bixby Trailer Park
Discharger Permit Number(s):	MO0094501

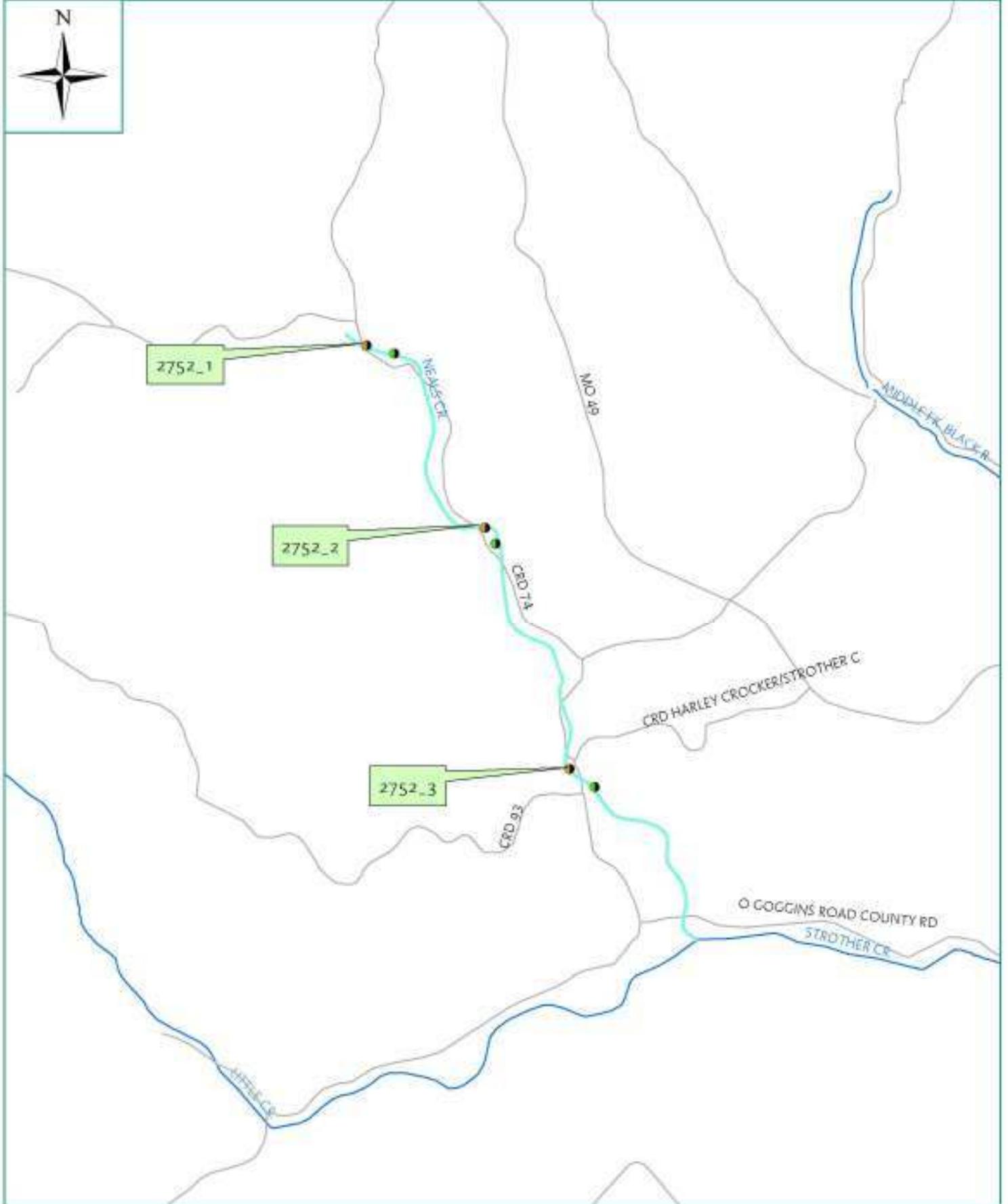
III. UAA Surveyor (please print legibly)

Name of Surveyor	James Leverka, Tim Altrucher	Telephone Number:	573-441-4300
Organization/Employer:	MFC - Water Resources		
Position:	Water Quality Scientist		

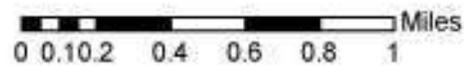
Please verify that you have completed all sections, checked all applicable boxes and that everything is complete.

Signed: sh loly Date: 10/31/07

Neals Creek (WBID 2752)



- Upstream Boundary
- Downstream Boundary



WBID # 2752Site # 1**Field Data Sheets for Recreational Use Stream Surveys****Data Sheet B – Site Characterization**

(must be completed for each site)

Date & Time: <u>10/25/07 9:00</u>	Site Location Description (e.g., road crossing): <u>off of CAD 74</u>
Personnel (Data Collectors): <u>SU/TA</u>	Facility Name:
Current Weather Conditions: <u>Light Rain, Breezy, 42-59</u>	Permit Number:
Weather Conditions for Past 10 days: <u>Spotty Showers/Clear</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>4167631</u>	Northing (UTM Y): <u>0672987¹⁵⁵</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>6.8</u> Meters
Site 11	Easting (UTM X): <u>4167580</u>	Northing (UTM Y): <u>0673162¹⁵⁵</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>5.2</u> Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>2752-1-1302</u>	<u>Up Stream</u>	<u>2752-1-1303</u>	<u>Down Stream</u>	<u>2752-1-1304</u>	<u>Road Access</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 # 2752Site # 1**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 checked="" type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input checked="" type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: <u>Pasture</u>
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
Comments / Other: <u>Photo taken</u>				

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

<u>20</u> % Cobble	<u>20</u> % Gravel	<u>50</u> % Sand	% Silt	% Mud/Clay	<u>10</u> % Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

<u>Willow, grasses, smart weed, algal and periphyton growth common</u>

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 type="checkbox"/> None	<input checked="" type="checkbox"/> Other: <u>leaf mats</u>
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 # 2752

Site # 1

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.)

Water levels up due to beaver dam

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

Surveyor's Signature:  Date of Survey: 10/25/07

Organization: MEC Water Resources Position: Water Quality Scientist

RWC 10-30-07

Recreational Use Attainability Analysis Field Survey Sheet

Waterbody ID: <u>2752</u> Site #: <u>1</u> Estimated Channel Incision: 0.00 <u>0.00</u> (WBID_Site#) GPS Location (taken at transect 1): <u>N 0-00</u> (m) (height between low bank width and water) UTM X: <u>4167631</u> UTM Y: <u>1550672987</u> Horizontal Accuracy Estimate (GPS Data Quality): <u>+/- 6.8m</u> _{3V} GPS Location (taken at transect 11): UTM X: <u>4167580</u> UTM Y: <u>155067162</u> Horizontal Accuracy Estimate (GPS Data Quality): <u>+/- 5.2</u> _{3V} 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>JV/TA</u>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: center;">Dissolved Oxygen</th> </tr> <tr> <td>Date: <u>10/25/07</u></td> <td>Time: <u>9:00</u></td> </tr> <tr> <td>Dissolved Oxygen: <u>7.67</u> (mg/L)</td> <td></td> </tr> <tr> <td>Dissolved Oxygen: <u>68.0</u> (% sat)</td> <td></td> </tr> <tr> <td>Specific Cond: <u>427.9</u> (µS/cm)</td> <td></td> </tr> <tr> <td>Water Temp.: <u>9.8</u> (°C)</td> <td></td> </tr> </table>	Dissolved Oxygen		Date: <u>10/25/07</u>	Time: <u>9:00</u>	Dissolved Oxygen: <u>7.67</u> (mg/L)		Dissolved Oxygen: <u>68.0</u> (% sat)		Specific Cond: <u>427.9</u> (µS/cm)		Water Temp.: <u>9.8</u> (°C)	
Dissolved Oxygen													
Date: <u>10/25/07</u>	Time: <u>9:00</u>												
Dissolved Oxygen: <u>7.67</u> (mg/L)													
Dissolved Oxygen: <u>68.0</u> (% sat)													
Specific Cond: <u>427.9</u> (µS/cm)													
Water Temp.: <u>9.8</u> (°C)													

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
30'	1.18	0.07	1.24	0.17	1.41	0.04	1.35	0.24	1.47	0.04	1.49	0.75	1.46	0.57	1.61	0.65	1.55	0.40	1.16	0.00	0.49	0.04
2	2.32	0.19	2.48	0.25	2.82	0.25	2.70	0.38	2.94	0.28	2.98	0.77	2.72	0.67	3.22	0.99	3.10	0.86	2.32	0.07	0.98	0.07
3	3.48	0.24	3.72	0.39	4.23	0.26	4.05	0.45	4.41	0.64	4.47	0.60	4.38	0.85	4.83	1.00	4.65	0.97	3.48	0.00	1.47	0.15
4	4.64	0.19	4.96	0.20	5.64	0.42	5.40	0.50	5.88	0.64	5.88	0.71	5.84	0.80	6.44	>1.00	6.20	0.98	4.64	0.04	1.96	0.22
5	5.80	0.30	6.20	0.40	7.05	0.37	6.75	0.58	7.35	0.64	7.45	0.54	7.30	0.74	8.05	>1.00	7.75	0.93	5.80	0.05	2.45	0.18
6	6.96	0.19	7.44	0.48	8.46	0.52	8.10	0.52	8.82	0.72	8.94	0.53	8.76	0.72	9.66	0.57	9.30	0.81	6.96	0.05	2.94	0.21
7	8.12	0.08	8.68	0.34	9.87	0.39	9.45	0.62	10.29	0.72	10.43	0.62	10.22	0.72	11.37	0.31	10.85	0.51	8.12	0.00	3.43	0.21
8	9.28	0.16	9.92	0.33	11.28	0.15	10.80	0.44	11.76	0.64	11.92	0.65	11.68	0.49	12.88	0.29	12.40	0.50	9.28	0.12	3.92	0.13
9	10.44	0.17	11.16	0.12	12.69	0.15	12.15	0.42	13.23	0.40	13.41	0.65	13.14	0.32	14.49	0.14	13.95	0.30	10.44	0.16	4.41	0.12
Right Bank	11.60	0	12.40	0	14.10	0	13.50	0	14.70	0	14.90	0	14.60	0	16.10	0	15.50	0	11.60	0	4.90	0
Feature Type (riffle, run, or pool)	Run		Riffle		Run																	

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (depth). This water 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: 10/25/07

RAC 10-30-07

WBID # 2752
 Site # 2

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization
 (must be completed for each site)

Date & Time: <u>10/25/07 10:15</u>	Site Location Description (e.g., road crossing): <u>2nd bridge off of CRD 74 crossing</u>
Personnel (Data Collectors): <u>JV/TA</u>	Facility Name:
Current Weather Conditions: <u>Overcast, Breezy, 42°F</u>	Permit Number:
Weather Conditions for Past 10 days: <u>Spotty Showers/Clear</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>4166470</u>	Northing (UTM Y): <u>155 0673742</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>7.6</u> Meters
Site 11	Easting (UTM X): <u>4166370</u>	Northing (UTM Y): <u>155 0673808</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>6.4</u> Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>2752-2-1305</u>	<u>Up Stream</u>	<u>2752-2-1306</u>	<u>Down Stream</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 # 2752
 Site # 2

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 checked="" type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input checked="" 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 checked="" type="checkbox"/> Other: <u>Pasture</u>
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: <u>No observed</u>				

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

<u>20</u> % Cobble	<u>20</u> % Gravel	<u>50</u> % Sand	% Silt	% Mud/Clay	<u>10</u> % Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

Willow, grasses, smartweed, algal growth common

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 type="checkbox"/> None	<input checked="" type="checkbox"/> Other: <u>Leaf matter</u>
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.

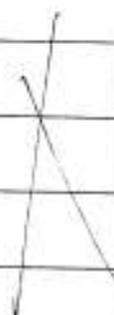
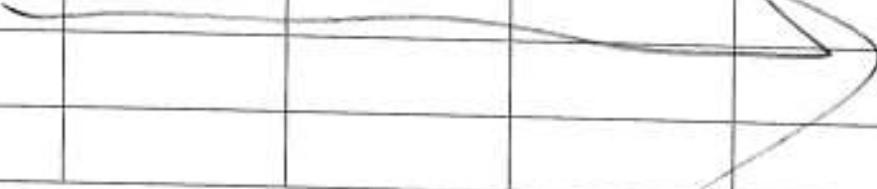
WBID # 2752

Site # 2

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.)

None

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

Surveyor's Signature: [Signature] Date of Survey: 10/25/07

Organization: MEC Water Resource Position: Water Quality Scientist

AUC 10-30-07

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

Waterbody ID: <u>2752</u> Site #: <u>2</u> (wbid_site #) Estimated Channel Incision: <u>0.25</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>4166470</u> UTM Y: <u>195 0673742</u> +/- <u>7.6</u> (meters) 11 UTM X: <u>4166370</u> UTM Y: <u>195 0673908</u> +/- <u>6.4</u> (meters) Average Stream Width: <u>7</u> (meters) Length of Survey Segment: <u>150</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>SU / TA</u>	Dissolved Oxygen Date: <u>10/25/07</u> Time: <u>10:15</u> Dissolved Oxygen: <u>8.98</u> (mg/L) Dissolved Oxygen: <u>84.5</u> (% sat) Specific Cond: <u>431.8</u> (µS/cm) Water Temperature: <u>12.6</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	0.56	0.05	0.76	0.00	0.54	0.17	0.73	0.15	0.76	0.15	0.99	0.15	0.93	0.07	1.07	0.07	1.06	0.07	1.06	0.13	0.92	0.16
2	1.12	0.10	1.52	0.14	1.08	0.26	1.46	0.46	1.52	0.20	1.98	0.30	1.86	0.09	2.14	0.00	2.12	0.05	2.12	0.10	1.84	0.25
3	1.68	0.15	2.28	0.16	1.62	0.34	2.19	0.28	2.28	0.34	2.97	0.32	2.79	0.12	3.21	0.06	3.18	0.08	3.18	0.05	2.76	0.25
4	2.24	0.16	3.04	0.04	2.16	0.39	2.92	0.32	3.04	0.24	3.96	0.09	3.72	0.01	4.28	0.05	4.24	0.05	4.24	0.06	3.68	0.28
5	2.80	0.24	3.80	0.06	2.70	0.35	3.65	0.30	3.80	0.21	4.95	0.24	4.65	0.17	5.35	0.03	5.30	0.03	5.30	0.02	4.60	0.29
6	3.36	0.16	4.56	0.03	3.24	0.30	4.38	0.25	4.56	0.25	5.94	0.28	5.58	0.21	6.42	0.00	6.36	0.04	6.36	0.00	5.52	0.30
7	3.92	0.10	5.32	0.05	3.78	0.18	5.11	0.19	5.32	0.19	6.93	0.19	6.51	0.23	7.49	0.09	7.42	0.11	7.42	0.00	6.44	0.24
8	4.48	0.15	6.08	0.00	4.52	0.13	5.84	0.21	6.08	0.10	7.92	0.15	7.44	0.14	8.56	0.17	8.48	0.10	8.48	0.00	7.36	0.21
9	5.04	0.06	6.84	0.09	4.86	0.05	6.57	0.16	6.84	0.06	8.91	0.13	8.37	0.12	9.63	0.14	9.54	0.08	9.54	0.02	8.28	0.15
Right Bank	5.60	0	7.60	0	5.46	0	7.36	0	7.60	0	9.90	0	9.30	0	10.70	0	10.60	0	10.60	0	9.26	0
Feature Type	Run	Run	Riffle	Riffle	Riffle	Riffle	Riffle	Riffle	Riffle	Riffle	Run	Run										

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). The width is the widest 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 widest 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.

RWC 10-30-07
 Signed: [Signature] Date: 10/25/07

WBID # 2752Site # 3**Field Data Sheets for Recreational Use Stream Surveys****Data Sheet B – Site Characterization**

(must be completed for each site)

Date & Time: <u>10/25/07 10:55</u>	Site Location Description (e.g., road crossing): <u>Intersection of CRD 47 and 39</u>
Personnel (Data Collectors): <u>JV/TA</u>	
Current Weather Conditions: <u>Overcast, Breezy, 45°F</u>	Facility Name:
Weather Conditions for Past 10 days: <u>Spotty Showers/Clear</u>	Permit Number:
Drought Conditions?: 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	Easting (UTM X): <u>4164929</u>	Northing (UTM Y): <u>0674280</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>6.8</u> Meters
Site 11	Easting (UTM X): <u>4164814</u>	Northing (UTM Y): <u>0674441</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>11.1</u> Meters

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>2752-3-1307</u>	<u>Up stream</u>	<u>2752-3-1308</u>	<u>Down Stream</u>	<u>2752-3-1309</u>	<u>Campsite</u>
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>2752-3-1310</u>	<u>Rope Swing</u>				
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 # 2752
 Site # ~~2~~ 3
3v

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 checked="" type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input checked="" 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 checked="" type="checkbox"/> Camping Sites	<input checked="" type="checkbox"/> Rope swings
<input type="checkbox"/> RV / ATV Tracks	<input checked="" type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock Watering

Comments / Other:

Photos taken

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

<u>20</u> % Cobble	<u>20</u> % Gravel	<u>50</u> % Sand	% Silt	% Mud/Clay	<u>10</u> % Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

Grasses, willow and algal growth uncommon

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 type="checkbox"/> None	<input checked="" type="checkbox"/> Other: <i>Leaf mats</i>
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 # 2752
 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)

Comments: (Please record any additional comments here.)

Road crossing between Tran #5 & #6
 (CRD 39)

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

Surveyor's Signature: [Signature] Date of Survey: 10/25/07
 Organization: MBC Water Resources Position: Water Quality Scientist
 BAC 10-30-07

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

Waterbody ID: <u>2752</u> Site #: <u>3</u> (whid_site #) Estimated Channel Incision: <u>0.20</u> (m) (height between low bank width and water) GPS Location - Easting (UTM X), Northing (UTM Y), Horizontal Accuracy Estimate (EPE / PDOP / FQM) 01 UTM X: <u>416 4929</u> UTM Y: <u>155 0674280</u> +/- <u>6.8</u> (meters) 11 UTM X: <u>416 4814</u> UTM Y: <u>155 0674441</u> +/- <u>1.1</u> (meters) Average Stream Width: <u>8</u> (meters) Length of Survey Segment: <u>160</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>JV/TA</u>	<h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>10/25/07</u> Time: <u>10:55</u> Dissolved Oxygen: <u>6.12</u> (mg/L) Dissolved Oxygen: <u>58.1</u> (% sat) Specific Cond: <u>415.3</u> (µS/cm) Water Temperature: <u>13.0</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	1.05	0.13	1.62	0.30	1.50	0.39	1.53	0.46	1.59	0.21	0.75	0.02	0.52	0.08	0.58	0.37	0.63	0.20	0.64	0.62	0.83	0.42
2	2.10	0.24	3.24	0.70	3.00	0.30	3.06	0.30	3.18	6.40	1.50	0.12	1.04	0.10	1.16	0.46	1.26	0.11	1.28	0.14	1.66	0.25
3	3.15	0.33	4.86	0.76	4.50	0.15	4.59	0.20	4.77	0.32	2.25	0.11	1.56	0.14	1.74	0.44	1.89	0.20	1.72	0.22	2.49	0.31
4	4.20	0.33	6.48	0.99	6.00	0.01	6.12	0.11	6.36	0.20	3.00	0.00	2.08	0.09	2.32	6.43	2.52	0.29	2.56	0.21	3.32	0.34
5	5.25	0.54	8.10	2.00	7.50	0.00	7.65	0.09	7.95	0.21	3.75	0.00	2.60	0.09	2.90	0.44	3.15	0.33	3.20	0.22	4.15	0.23
6	6.30	0.75	9.72	0.98	9.00	0.00	9.18	0.22	9.54	0.26	4.50	0.11	3.12	0.08	3.48	0.42	3.78	0.29	3.84	0.11	4.98	0.24
7	7.35	0.79	11.34	0.76	10.50	0.48	10.71	0.26	11.13	0.39	5.25	0.00	3.64	0.00	4.06	0.27	4.41	0.18	4.48	0.11	5.81	0.00
8	8.40	0.66	12.96	0.65	12.00	0.45	12.24	0.44	12.72	0.32	6.00	0.07	4.16	0.01	4.64	0.20	5.04	0.16	5.12	0.10	6.64	0.06
9	9.45	0.70	14.58	0.64	13.50	0.56	13.77	0.42	14.21	0.10	6.75	0.03	4.68	0.00	5.22	0.14	5.67	0.05	5.76	0.05	7.47	0.06
Right Bank	10.50	0	16.20	0	15.00	0	15.30	0	15.96	0	7.50	0	5.20	0	5.86	0	6.30	0	6.40	0	8.30	0
Feature Type	Pool	Pool	Run	Run	Run	Run	Run	Riffle	Riffle	Run	Run	Run	Run	Run								

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

GPS locations corresponds to Transect 01 and 11. Transects ordered in upstream to downstream order.

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

Mark dry depth measurements as 0, record actual measurements to 0.01 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

BAC 10-30-07

Signed: [Signature] Date: 10/25/07





