



Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 2182 Heads 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):	Heads CR.		
Missouri Water Body Identification (WBID) Number:	2182		
8-digit HUC:	20080129	County:	Jefferson
Upstream Legal Description (from Table H):	14, 42N, 4E		
Downstream Legal Description (from Table H):	3, 42N, 4E		
Number of sites evaluated	3		
List all sites numbers, listed consecutively upstream to downstream:	site 1: Marie Rd - walked in from church site 3: Town & Country Ln. site 2: Cripple Creek Rd.		

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

Discharger Facility Name(s):	Golden Acres MHP
Discharger Permit Number(s):	MO 0092584

III. UAA Surveyor (please print legibly)

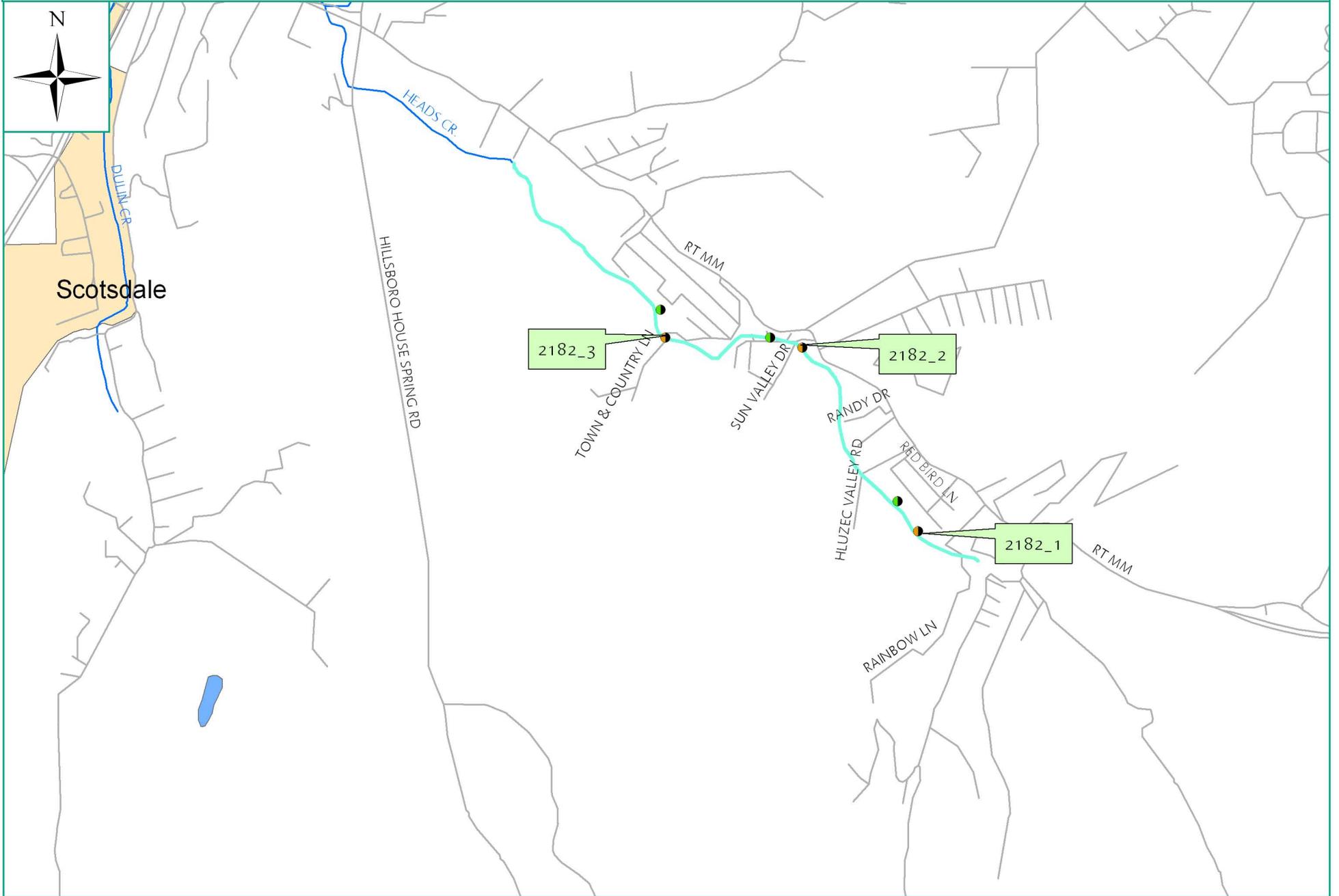
Name of Surveyor	Renee Martin	Telephone Number:	573-875-7844
Organization/Employer:	AE Solutions		
Position:	Env. Specialist		

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

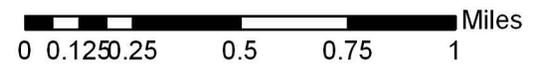
Signed: Renee Martin Date: 10/12/07

gwc 10-17-07

Heads Creek (WBID 2182)



- Upstream Boundary
- Downstream Boundary



WBID # 2182
 Site # 01

Field Data Sheets for Recreational Use Stream Surveys

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

Date & Time: <u>10/09/07 0800</u>	Site Location Description (e.g., road crossing): <u>Marie Rd.</u> <i>(parked at church and walked in)</i>
Personnel (Data Collectors): <u>JH/JF</u>	Facility Name: <u>Golden Acres MHP</u>
Current Weather Conditions: <u>Clear</u>	Permit Number: <u>MO 0092584</u>
Weather Conditions for Past 10 days: <u>rain/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>4251235</u>	Northing (UTM Y): <u>0715245</u>	Horizontal Accuracy: <u>33</u> Meters ^{JH} ft
Site 11	Easting (UTM X): <u>4251400</u>	Northing (UTM Y): <u>0715132</u>	Horizontal Accuracy: <u>34</u> Meters ^{JH} ft

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>103-031</u>	<u>upstream - ATU tracks</u>	<u>103-032</u>	<u>downstream - ATU tracks</u>	<u>103-033</u>	<u>rural residential</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 # 2182

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 checked="" type="checkbox"/> Rural Residential
<input type="checkbox"/> Campgrounds	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> Fence	<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: <u>JRH</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 checked="" type="checkbox"/> RV / ATV Tracks ^①	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock Watering
Comments / Other: <u>Through entire site</u>				

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

<u>30</u> % Cobble	<u>70</u> % Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

<u>none</u>

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Other: <u>DRY</u>
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: <u>DRY</u>
Bottom Deposit:	<input type="checkbox"/> Sludge	<input checked="" type="checkbox"/> Solids	<input type="checkbox"/> Fine sediments	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Other: <u>DRY JRH</u>
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Other: <u>DRY</u>

*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 # 2182

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.)

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

Surveyor's Signature: Jennifer Drabok Date of Survey: 10/09/07

Organization: AE Solutions Position: Env. Specialist

RUC 10-17-07

Recreational Use Attainability Analysis Field Survey Sheet

Waterbody ID: 2182 Site #: 2182_01
 (WBID_Site#)

Estimated Channel Incision: 0.5 (m) (height between low bank width and water)

GPS Location (taken at transect 1):
 UTM X: 4251235 UTM Y: 0715245 33
 Horizontal Accuracy Estimate (GPS Data Quality): +/- 33 (feet)

GPS Location (taken at transect 11):
 UTM X: 4251400 UTM Y: 0715132 34
 Horizontal Accuracy Estimate (GPS Data Quality): +/- 34 (feet)

Average Stream Width: 3.0 (meters) Length of Survey Segment: 150 (meters)
 (To determine Length of Reach) (20x average stream width)

Field Staff: JH/JF

Dissolved Oxygen	
Date: <u>10/09/07</u>	Time: <u>0800</u>
Dissolved Oxygen: _____ (mg/L)	
Dissolved Oxygen: _____ (% sat)	
Specific Cond: _____ (µS/cm)	
Water Temp.: _____ (°C)	
DRY	

		Transect Cross-Section																					
		01		02		03		04		05		06		07		08		09		10		11	
Station		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		0.15	0.00	0.20	0.00	0.30	0.00	0.27	0.00	0.27	0.00	0.30	0.00	0.35	0.00	0.31	0.00	0.30	0.00	0.25	0.00	0.40	0.00
2		0.30		0.40		0.60		0.54		0.54		0.60		0.70		0.62		0.60		0.50		0.80	
3		0.45		0.60		0.90		0.81		0.81		0.90		1.05		0.93		0.90		0.75		1.20	
4		0.60		0.80		1.20		1.08		1.08		1.20		1.40		1.24		1.20		1.00		1.60	
5		0.75		1.00		1.50		1.35		1.35		1.50		1.75		1.55		1.50		1.25		2.00	
6		0.90		1.20		1.80		1.62		1.62		1.80		2.10		1.86		1.80		1.50		2.40	
7		1.05		1.40		2.10		1.89		1.89		2.10		2.45		2.17		2.10		1.75		2.80	
8		1.20		1.60		2.40		2.16		2.16		2.40		2.80		2.48		2.40		2.00		3.20	
9		1.35		1.80		2.70		2.43		2.43		2.70		3.15		2.79		2.70		2.25		3.60	
Right Bank		1.50	0	2.00	0	3.00	0	2.70	0	2.70	0	3.00	0	3.50	0	3.15	0	3.00	0	2.50	0	4.00	0
Feature Type (riffle, run, or pool)		dry		dry		dry		dry		dry		dry		dry		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 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.

BWC 10-17-07

Signed: Jennifer Strabala Date: 10/12/07

WBID # 2182
 Site # 02

Field Data Sheets for Recreational Use Stream Surveys

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

Date & Time: <u>10/09/07 0840</u>	Site Location Description (e.g., road crossing): <u>Cripple Creek Rd.</u>
Personnel (Data Collectors): <u>JH/JF</u>	
Current Weather Conditions: <u>clear</u>	Facility Name: <u>Golden Acres MHP</u>
Weather Conditions for Past 10 days: <u>rain/clear</u>	Permit Number: <u>MO 0092584</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>4252241</u>	Northing (UTM Y): <u>0714612</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>29</u> ^{JH} Meters <u>ft</u>
Site 11	Easting (UTM X): <u>4252296</u>	Northing (UTM Y): <u>0714435</u>	Horizontal Accuracy: (EPE / FOM / PDOP) <u>31</u> ^{JH} Meters <u>ft</u>

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>103.034</u>	<u>upstream</u>	<u>103.035</u>	<u>dnstream</u>	<u>103.036</u>	<u>ATU tracks</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 # 2182

Site # 02

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: <p align="center">none</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 checked="" type="checkbox"/> RV / ATV Tracks ^①	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock Watering
Comments / Other: <p>① From Trans 02 through rest of site</p>				

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

30 % Cobble	70 % Gravel	% Sand	% Silt	% Mud/Clay	% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

none

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Other: DRY
Color:	<input 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 checked="" type="checkbox"/> Other: DRY
Surface Deposit:	<input type="checkbox"/> Oil	<input type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Other: DRY

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WBID # 2182

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.)

Sewage treatment plant located near Cripple Creek Rd bridge crossing

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

Surveyor's Signature: Jennifer Hrabak Date of Survey: 10/09/07
Organization: AE Solutions Position: Env. Specialist
AUC 10-17-07

Recreational Use Attainability Analysis Field Survey Sheet

Waterbody ID: 2182 Site #: 2182-02
 (WBID_Site#)

Estimated Channel Incision: 0.5 (m) (height between low bank width and water)

GPS Location (taken at transect 1):
 UTM X: 4252241 UTM Y: 0714612 29
 Horizontal Accuracy Estimate (GPS Data Quality): +/- _____ (feet)

GPS Location (taken at transect 11):
 UTM X: 4252296 UTM Y: 0714435 31
 Horizontal Accuracy Estimate (GPS Data Quality): +/- _____ (feet)

Average Stream Width: 3.0 (meters) Length of Survey Segment: 150 (meters)
 (To determine Length of Reach) (20x average stream width)

Field Staff: JH/JF

Dissolved Oxygen	
Date: <u>10/09/07</u>	Time: <u>0840</u>
Dissolved Oxygen: _____ (mg/L)	
Dissolved Oxygen: _____ (% sat)	
Specific Cond: _____ (µS/cm)	
Water Temp.: _____ (°C)	
DRY	

		Transect Cross Section																					
		01		02		03		04		05		06		07		08		09		10		11	
Station		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		0.45	0.00	0.35	0.00	0.40	0.00	0.41	0.00	0.40	0.00	0.38	0.00	0.26	0.00	0.31	0.00	0.20	0.00	0.21	0.00	0.21	0.00
2		0.90		0.70		0.80		0.82		0.80		0.76		0.52		0.62		0.40		0.42		0.42	
3		1.35		1.05		1.20		1.23		1.20		1.14		0.78		0.93		0.60		0.63		0.63	
4		1.80		1.40		1.60		1.64		1.60		1.52		1.04		1.24		0.80		0.84		0.84	
5		2.25		1.75		2.00		2.05		2.00		1.90		1.30		1.55		1.00		1.05		1.05	
6		2.70		2.10		2.40		2.46		2.40		2.28		1.56		1.86		1.20		1.26		1.26	
7		3.15		2.45		2.80		2.87		2.80		2.66		1.82		2.17		1.40		1.47		1.47	
8		3.60		2.80		3.20		3.28		3.20		3.04		2.08		2.48		1.60		1.68		1.68	
9		4.05		3.15		3.60		3.69		3.60		3.42		2.34		2.79		1.80		1.89		1.89	
Right Bank		4.50	0	3.50	0	4.00	0	4.10	0	4.05	0	3.80	0	2.60	0	3.15	0	2.00	0	2.10	0	2.15	0
Feature Type (riffle, run, or pool)		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 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: Jennifer Habes Date: 10/12/07

line 10-17-07

WBID # 2182
 Site # 03

Field Data Sheets for Recreational Use Stream Surveys

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

Date & Time: <u>10/09/07</u> <u>0911</u>	Site Location Description (e.g., road crossing):
Personnel (Data Collectors): <u>JH/JF</u>	<u>Town & Country Rd</u>
Current Weather Conditions: <u>clear</u>	Facility Name: <u>Golden Acres MHP</u>
Weather Conditions for Past 10 days: <u>rain/clear</u>	Permit Number: <u>MO 0092584</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>4252297</u>	Northing (UTM Y): <u>0713860</u>	Horizontal Accuracy: <u>24</u> ^{ft} Meters <u>ft</u> (EPE / FOM / PDOP)
Site 11	Easting (UTM X): <u>4252449</u>	Northing (UTM Y): <u>0713834</u>	Horizontal Accuracy: <u>23</u> ^{ft} Meters <u>ft</u> (EPE / FOM / PDOP)

Photos:

Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
<u>103_037</u>	<u>dnstream</u>	<u>103_038</u>	<u>upstream</u>	<u>103_039</u>	<u>ATUTRACKS</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 # 2182

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

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

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Rope swings
<input checked="" type="checkbox"/> RV / ATV Tracks ^①	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle	<input type="checkbox"/> Livestock Watering
Comments / Other: ① From Trans 04 through Trans 06				

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

60 % Cobble	39 % Gravel	% Sand	% Silt	1 % Mud/Clay	% Bedrock
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Aquatic Vegetation*: (Note amount of vegetation or algal growth at the assessment site)

none

Water Characteristics*: (Mark all that apply.)

Odor:	<input type="checkbox"/> Sewage	<input type="checkbox"/> Musky	<input type="checkbox"/> Chemical	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Other: DRY
Color:	<input type="checkbox"/> Clear	<input type="checkbox"/> Green	<input type="checkbox"/> Gray	<input type="checkbox"/> Milky	<input checked="" type="checkbox"/> Other: DRY
Bottom Deposit:	<input type="checkbox"/> Sludge	<input checked="" type="checkbox"/> Solids	<input checked="" 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 type="checkbox"/> None	<input checked="" type="checkbox"/> Other: DRY

*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 # 2182

Site # 03

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: Jennifer Drabek Date of Survey: 10/09/07

Organization: AE Solutions Position: Env. Specialist

BWC 10-17-07

Recreational Use Attainability Analysis Field Survey Sheet

Waterbody ID: 2182 Site #: 2182-03
 (WBID_Site#)

Estimated Channel Incision: 2 (m) (height between low bank width and water)

GPS Location (taken at transect 1):
 UTM X: 4252297 UTM Y: 0713860
 Horizontal Accuracy Estimate (GPS Data Quality): +/- 24 (feet)

GPS Location (taken at transect 11):
 UTM X: 4252449 UTM Y: 0713844
 Horizontal Accuracy Estimate (GPS Data Quality): +/- 23 (feet)

Average Stream Width: 4.0 (meters) Length of Survey Segment: 150 (meters)
 (To determine Length of Reach) (20x average stream width)

Field Staff: JH/JF

Dissolved Oxygen	
Date: <u>10/09/07</u>	Time: <u>0911</u>
Dissolved Oxygen: _____	(mg/L)
Dissolved Oxygen: _____	(% sat)
Specific Cond: _____	(µS/cm)
Water Temp.: _____	(°C)
DRY	

		Transect Cross Section																					
		01		02		03		04		05		06		07		08		09		10		11	
Station		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		0.45	0.00	0.70	0.00	0.30	0.00	0.60	0.00	0.55	0.00	0.32	0.00	0.35	0.00	0.40	0.00	0.52	0.00	0.56	0.00	0.37	0.00
2		0.90		0.40		0.60		1.20		1.10		0.64		0.70		0.80		1.04		1.12		0.74	
3		1.35		0.60		0.90		1.80		1.65		0.96		1.05		1.20		1.56		1.68		1.11	
4		1.80		0.80		1.20		2.40		2.20		1.28		1.40		1.60		2.08		2.24		1.48	
5		2.25		1.00		1.50		3.00		2.75		1.60		1.75		2.00		2.60		2.80		1.85	
6		2.70		1.20		1.80		3.60		3.30		1.92		2.10		2.40		3.12		3.36		2.22	
7		3.15		1.40		2.10		4.20		3.85		2.24		2.45		2.80		3.64		3.92		2.59	
8		3.60		1.60		2.40		4.80		4.40		2.56		2.80		3.20		4.16		4.48		2.96	
9		4.05		1.80		2.70		5.40		4.95		2.88		3.15		3.60		4.68		5.04		3.33	
	Right Bank	4.50	0	2.00	0	3.05	0	6.00	0	5.50	0	3.25	0	3.50	0	4.05	0	5.20	0	5.60	0	3.75	0
	Feature Type (riffle, run, or pool)	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 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: Jennifer Drabik Date: 10/12/07

JHC 10-17-07



