Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 0586 Raccoon Creek

Submitted by
BWR

to
Missouri Department of Natural Resources
Water Protection Program

Date received: June 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):	Raccoon Creek
Missouri Water Body Identification (WBID) Number:	586
8-digit HUC: 102 80102	County: Grundy
Upstream Legal Description (from Table H):	175 m from Hwy 146 bridge crossing - 5,61N, 25
Downstream Legal Description(from Table H):	100 m from Bridge crossing on NW 65th Ave - MO
Number of sites evaluated 3	15 m from 2 m riffle
List all sites numbers, listed consequently upstream to downstream:	Site 1 - upstream from Hwy 146, Site 2 - Mid-section, 100 m downstream off of Hwy 146; Sites downstream off of NW 65th Ave

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

II. Subegmentation (fill this section out only in cases where subesgmentation is being proposed) N/A

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)	
Upstream Coordinates: UTM X [redacted] Y [redacted]	Downstream Coordinates: UTM X [redacted] Y [redacted]

HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)

Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing			

HORIZONTAL ACCURACY ESTIMATE

GPS Data Quality		Interpolation Data Quality
FOM	± _____ Meters	Source Map Scale: 1:24,000 1:100,000 Other
EPE	± 20 Feet or ± _____ Meters	
PDOP		± _____ Feet or ± _____ Meters

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

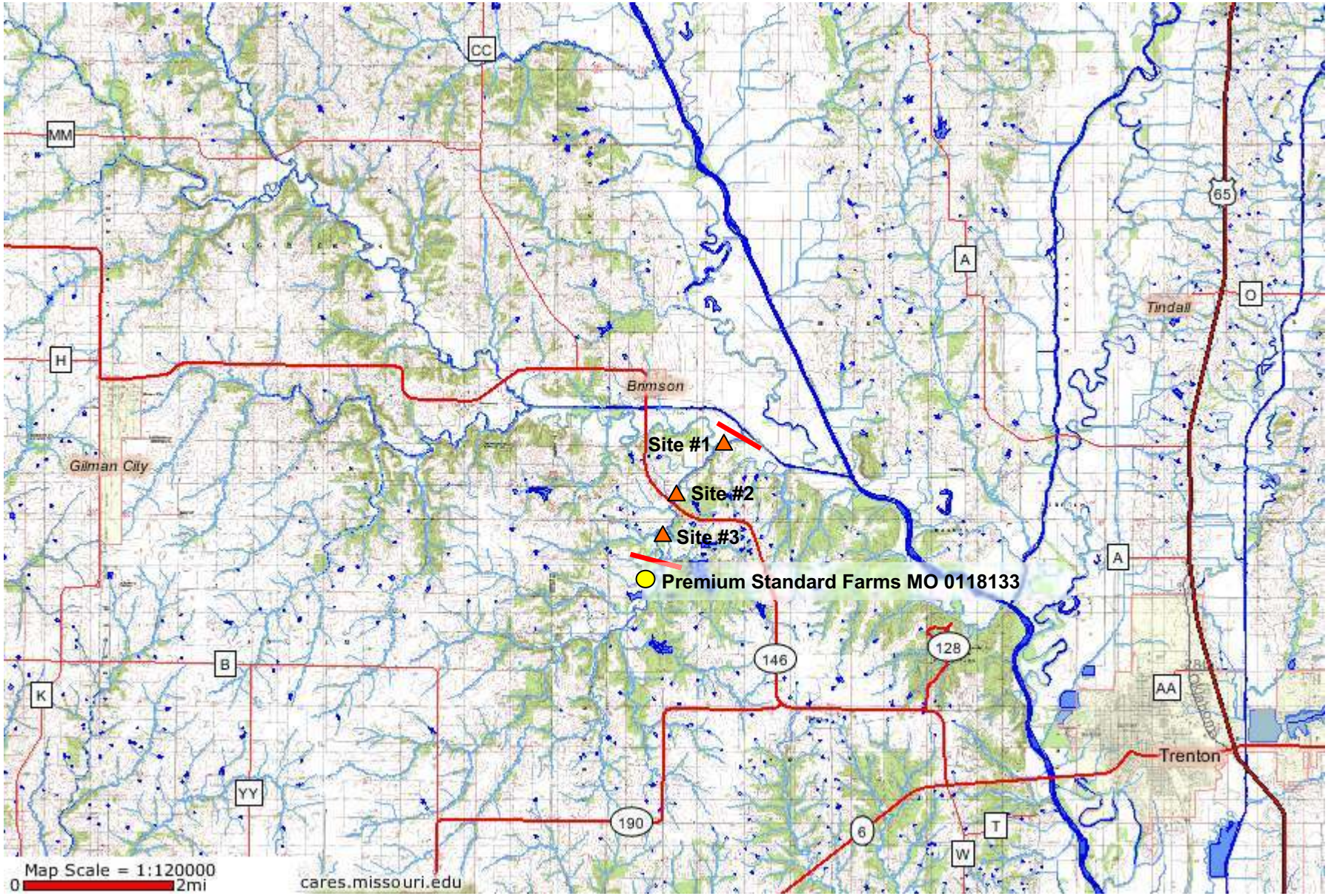
Discharger Facility Name(s):	Premium Standard Farms
Discharger Permit Number(s):	MO 0118133

IV. UAA Surveyor (please print legibly)

Name of Surveyor Ryan M. Lunt	Telephone Number:
Organization/Employer: Sergeant Environmental Technologies	
Position: Environmental Scientist	

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

Signed: Ryan M. Lunt **Date:** 05-16-07



BWR

Raccoon Creek

WBID #586

N

WBID# 586
Site# 1

Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
(must be completed for each site)

Date & Time: 05-16-07 08:00	Site Location Description (e.g., road crossing): Hwy 146 Bridge Crossing; 175m from Bridge Crossing.
Personnel (Data Collectors): LUNT & WELLS	
Current Weather Conditions: SUNNY 65-70°F	Facility Name: B Premium Standard Farms
Weather Conditions for Past 10 days: Sunny/Light Rain	Permit Number: MO 0118135
Drought Conditions?: No drought ☒; Phase I ☐; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐	

Site Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)

Site GPS Coordinates: UTM X: 40.12048°N Y: 093.73451°W

HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)

Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing			

HORIZONTAL ACCURACY ESTIMATE

GPS Data Quality		Interpolation Data Quality
FOM	± _____ Meters	Source Map Scale: 1:24,000 1:100,000 Other _____
EPE	± 20 Feet or ± _____ Meters	± _____ Feet or ± _____ Meters
PDOP		

Photos:

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
586-6	Upstream Photo of Riffle between Transect B-A	586-5	Downstream Photo of Pool & Riffle between Transect B-A	586: 1,2,3,4	360° of Transect A Upstream Rt, Downstream Lt

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.) Upstream is Leisure Lake which is used for recreational USES

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	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ No trespass sign	☐ Fence	☒ Steep slopes	☐ None of the above	☒ Other: Houses

Comments: Several Houses along Raccoon Creek, probably 300 m up the bank

Indications of Human Use*: (attach photos)

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

Comments: Hwy 146 South of Brinson, MO

*** Page Two – Data Sheet B for WBID #** 556 **:**

Stream Morphology:

Upstream View's Physical Dimensions: Is there any water present at this view? ☒ Yes ☐ No

If so, is there an obvious current? ☒ Yes ☐ No

Select one of the following channel features: 5-K

	Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
25%	RIFFLE	3.0 m	2.0 m	10.0 m	0.06	0.15
15%	RUN					
60%	POOL					

Downstream View's Physical Dimensions: Is there any water present at this view? ☒ Yes ☐ No

If so, is there an obvious current? ~~☒ Yes~~ ☒ No - Pool

Select one of the following channel features: Transect 6-A

	Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
5%	RIFFLE					
	RUN					
95%	POOL	20.0 m	10 m	15 m	0.43	0.55

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

10% % Cobble	35% % Gravel	5 % Sand	5 % Silt	% Mud/Clay	45 % Bedrock

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

Limited aquatic vegetation or no algal growth. Detritus & woody debris floating in water column.

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:

Comments: Please attach any additional comments () to this form.

*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.

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

Surveyor's Signature: Ryan M. Hunt Date of Survey: 05-16-07

Organization: Seagull Environmental Technologies Position: Environmental Scientist

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

TRANSECT REACH: 17m

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect A 6.00	0.6	0.10			1	
	1.2	0.11			2	
	1.8	0.15			3	
	2.4	0.05			4	
	3.0	0.09			5	
	3.60	0.10			6	
	4.2	0.10			7	
	4.8	0.03			8	
	5.4	0.01			9	
	6.0	0.01			10	
					11	
Transect B 10.00	1.00	0.22			12	
	2.00	0.28			13	
	3.00	0.35			14	
	4.00	0.41			15	
	5.00	0.36			16	
	6.00	0.50			17	
	7.00	0.50			18	
	8.00	0.55			19	
	9.00	0.40			20	
	10.00	0.18			21	
					22	
Transect C 4.00	0.40	0.16			23	
	0.80	0.21			24	
	1.2	0.20			25	
	1.6	1.9			26	
	2.0	0.14			.	
	2.4	0.10			.	
	2.8	0.11			.	
	3.2	0.10			n	
	3.6	0.09				
	4.00	0.05				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Ryan M. Lurd **Date:** 05-16-07

Organization: SETI Position: Environmental Scientist

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect D 3.0	0.30	0.1			1	
	0.60	0.12			2	
	0.90	0.17			3	
	1.2	0.19			4	
	1.5	0.22			5	
	1.8	0.3			6	
	2.1	0.32			7	
	2.4	0.29			8	
	2.7	0.29			9	
	3.0	0.30			10	
					11	
Transect E 2.75	0.25	0.05			12	
	0.50	0.10			13	
	0.75	0.15			14	
	1.00	0.21			15	
	1.25	0.27			16	
	1.50	0.12			17	
	1.75	0.13			18	
	2.0	0.05			19	
	2.5	0.11			20	
	2.75	0.07			21	
					22	
Transect 5 4.0	0.40	0.11			23	
	0.80	1.7			24	
	1.2	1.9			25	
	1.6	0.19			26	
	2.0	0.11			.	
	2.4	0.07			.	
	2.8	0.10			.	
	3.0	0.07			n	
	3.6	0.01				
	4.0	0.09				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Ryan McLeod **Date:** 05-16-07

Organization: SETI Position: Environmental Scientist

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect G 4.0	0.04	0.21			1	
	0.08	0.30			2	
	1.2	0.39			3	
	1.6	0.40			4	
	2.0	0.41			5	
	2.4	0.35			6	
	2.8	0.27			7	
	3.20	0.21			8	
	3.6	0.13			9	
	4.0	0.10			10	
					11	
Transect H 6.0	0.60	0.17			12	
	1.2	0.27			13	
	1.8	0.29			14	
	2.4	0.28			15	
	3.0	0.30			16	
	3.6	0.37			17	
	4.2	0.18			18	
	4.8	0.11			19	
	5.4	0.11			20	
	6.0	0.07			21	
					22	
Transect I 12.0	1.2	0.20			23	
	2.4	0.20			24	
	3.6	0.09			25	
	4.8	0.17			26	
	6.0	0.20			.	
	7.2	0.21			.	
	8.4	0.30			.	
	9.6	0.31			n	
	10.8	0.20				
	12.0	0.10				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

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Signed: Ryan McLeod **Date:** 05-16-07

Organization: SETD Position: Environmental Scientist

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect J 2.0	0.70	0.15			1	
	1.4	0.03			2	
	2.1	0.10			3	
	2.8	0.04			4	
	3.5	0.05			5	
	4.2	0.08			6	
	4.9	0.07			7	
	5.6	0.07			8	
	6.3	0.03			9	
	7.0	0.02			10	
					11	
Transect K 7.0	0.7	0.19			12	
	1.4	0.25			13	
	2.1	0.20			14	
	2.8	0.01			15	
	3.5	0.16			16	
	4.2	0.03			17	
	4.9	0.14			18	
	5.6	0.13			19	
	6.3	0.18			20	
	7.0	0.01			21	
					22	
					23	
					24	
					25	
					26	
					.	
					.	
					.	
					n	

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Ryan M. Lunt **Date:** 05-16-07

Organization: Seagull Environmental Tech Position: Environmental Scientist

WBID# 586
Site# 2

Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
(must be completed for each site)

Date & Time: 05-16-07	Site Location Description (e.g., road crossing): HWY 146 Bridge crossing = 100m, 6m wide stream; Started Transect A at a Riffle
Personnel (Data Collectors): Lunt & Wells	
Current Weather Conditions: Sunny 65-70	Facility Name: Premium Standard Farms
Weather Conditions for Past 10 days: Sunny / light Rain	Permit Number: MO0118135
Drought Conditions?: No drought ☒ Phase I ☐; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐	

Site Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)

Site GPS Coordinates: UTM X: N 40.12260 Y: W093.73284

HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)

Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing			

HORIZONTAL ACCURACY ESTIMATE

GPS Data Quality		Interpolation Data Quality
FOM	± _____ Meters	Source Map Scale: 1:24,000 1:100,000 Other _____
EPE	± 20 Feet or ± _____ Meters	± _____ Feet or ± _____ Meters
PDOP		

Photos:

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
586-12	Transect J-K	586-11	Transect B-A	586-7,8,9,10	360° Photo of Transect A: Upstream, Rt, Downstream, Lt

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.)

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	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ No trespass sign	☒ Fence	☒ Steep slopes	☐ None of the above	☒ Other: Farmland

Comments:

Indications of Human Use*: (attach photos)

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

Comments: Hwy 146 South of Brinson runs over Raccoon Creek

*** Page Two – Data Sheet B for WBID #** 556 **:**

Stream Morphology:

Upstream View's Physical Dimensions: Is there any water present at this view? ☒ Yes ☐ No

If so, is there an obvious current? ☐ Yes ☒ No

Select one of the following channel features: Transect J-K

	Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
	RIFFLE					
	RUN					
100%	POOL	200 M	6 m	17	0.28 m	0.41

Downstream View's Physical Dimensions: Is there any water present at this view? ☒ Yes ☐ No

If so, is there an obvious current? ☐ Yes ☒ No

Select one of the following channel features: Transect B-A

	Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
5 %	RIFFLE					
5 %	RUN					
90 %	POOL	50 m	8 m	12 m	0.20 m	0.31

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

% Cobble	5 % Gravel	15 % Sand	10 % Silt	75 % Mud/Clay	% Bedrock

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

Limited aquatic vegetation or no algal growth. Most vegetation is along the Bankful.

Water Characteristics*: (Mark all that apply.)

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

Comments: Please attach any additional comments () to this form.

*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.

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

Surveyor's Signature: Ryan M. Lint Date of Survey: 05-16-07

Organization: Stoughton Environmental Technologies Position: Environmental Scientist

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

Transect Reach: 17

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect A 3.0	0.30	0.10			1	
	0.60	0.13			2	
	0.90	0.15			3	
	1.2	0.16			4	
	1.5	0.10			5	
	1.8	0.07			6	
	2.1	0.10			7	
	2.4	0.10			8	
	2.7	0.03			9	
	3.0	0.04			10	
					11	
Transect B 8.0	0.80	0.20	0.10	(1)	12	
	1.6	0.20	0.10	(2)	13	
	2.4	0.11	0.11	(3)	14	
	3.2	0.10	0.15	(4)	15	
	4.0	0.15	0.20	(5)	16	
	4.8	0.22	0.20	(6)	17	
	5.6	0.27	0.22	(7)	18	
	6.4	0.27	0.27	(8)	19	
	7.2	0.31	0.27	(9)	20	
	8.0	0.10	0.31	(10)	21	
					22	
Transect C 7.0	0.7	0.10			23	
	1.4	0.15			24	
	2.1	0.22			25	
	2.8	0.33			26	
	3.5	0.41			.	
	4.2	0.47			.	
	4.9	0.4			.	
	5.6	0.39			n	
	6.2	0.30				
	7.0	0.10				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Ryan M. Lunt **Date:** 05-16-07

Organization: SOTI Position: Environmental Scientist

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect D 6.0	~~0.60~~ 0.60	0.1			1	
	1.2	0.19			2	
	1.8	0.23			3	
	2.4	0.29			4	
	3.0	0.31			5	
	3.6	0.39			6	
	4.2	0.4			7	
	4.8	0.4			8	
	5.4	0.11			9	
	6.0	0.10			10	
					11	
Transect E 7.0	0.7	0.15			12	
	1.4	0.2			13	
	2.1	0.36			14	
	2.8	0.33			15	
	3.5	0.36			16	
	4.2	0.44			17	
	4.9	0.51			18	
	5.6	0.59			19	
	6.3	0.66			20	
	7.0	0.30			21	
					22	
Transect F 3.0	0.3	0.04			23	
	0.6	0.07			24	
	0.9	0.10			25	
	1.2	0.13			26	
	1.5	0.10			.	
	1.8	0.20			.	
	2.1	0.20			.	
	2.4	0.19			n	
	2.7	0.14				
	3.0	0.13				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Ryan M. Lund **Date:** 05-16-07

Organization: SETI Position: Environmental Scientist

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect G 6.0	0.6	0.11			1	
	1.2	0.15			2	
	1.8	0.21			3	
	2.4	0.29			4	
	3.0	0.40			5	
	3.6	0.55			6	
	4.2	0.69			7	
	4.8	0.79			8	
	5.4	0.63			9	
	6.0	0.55			10	
					11	
Transect H 9.0	0.9	0.44			12	
	1.8	0.70			13	
	2.7	0.66			14	
	3.6	0.70			15	
	4.5	0.71			16	
	5.4	0.71			17	
	6.3	0.72			18	
	7.2	0.77			19	
	8.1	0.61			20	
	9.0	0.20			21	
					22	
Transect I 11.0	1.11	0.79			23	
	2.22	0.75			24	
	3.33	0.71			25	
	4.44	0.72			26	
	5.55	0.73			.	
	6.66	0.78			.	
	7.77	0.79			.	
	8.88	0.6			n	
	9.99	0.61				
	11.00	0.31				

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Ryan M. Lust **Date:** 05-16-07

Organization: SETI Position: Environmental Scientist

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect J 6.0	0.6	0.20			1	
	1.2	0.39			2	
	1.8	0.40			3	
	2.4	0.44			4	
	3.0	0.45			5	
	3.6	0.4			6	
	4.2	0.31			7	
	4.8	0.27			8	
	5.4	0.13			9	
	6.0	0.04			10	
					11	
Transect K 6.0	0.6	0.27	0.11 (1)		12	
	1.2	0.41	0.11 (2)		13	
	1.8	0.39	0.19 (3)		14	
	2.4	0.37	0.22 (4)		15	
	3.0	0.33	0.27 (5)		16	
	3.6	0.29	0.29 (6)		17	
	4.2	0.22	0.33 (7)		18	
	4.8	0.19	0.37 (8)		19	
	5.4	0.11	0.39 (9)		20	
	6.0	0.11	0.41 (10)		21	
					22	
					23	
					24	
					25	
					26	
					.	
					.	
					.	
					n	

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
If there is an even number of entries, the median depth corresponds to the arithmetic average of the two depth values surrounding the middle rank.

I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Ryan Mc Hunt **Date:** 05-16-07

Organization: Seagull Environmental Position: Environmental Scientist

WBID# 586
Site# 3

Field Data Sheets for Recreational Use Stream Surveys
Data Sheet B - Site Characterization
(must be completed for each site)

Date & Time: 05-16-07 11:45	Site Location Description (e.g., road crossing): 100 m from Bridge Crossing, Steep slopes 15 m Run with 2 m Riffles.
Personnel (Data Collectors): Lunt & Wells	
Current Weather Conditions: Sunny 65-70°	Facility Name: Premium Standard Farms
Weather Conditions for Past 10 days: Sunny / light Rain	Permit Number: MD0118133
Drought Conditions?: No drought ☒; Phase I ☐; Phase II ☐; Phase III ☐; Phase IV ☐; Unknown ☐	

Site Locations:

LOCATION COORDINATES (UNIVERSAL TRANSVERSE MERCATOR PROJECTION, IN METERS)

Site GPS Coordinates: UTM X: N40.13391 Y: [illegible]

HORIZONTAL COLLECTION METHOD (Indicate the method used to determine the locational data.)

Global Positioning System (GPS)		Interpolation	
Static Mode		Topographic Map or DRG	
Dynamic Mode (Kinematic)		Aerial Photograph or DOQQ	
Precise Positioning Service		Satellite Imagery	
Signal Averaging		Interpolation Other	
Real Time Differential Processing			

HORIZONTAL ACCURACY ESTIMATE

GPS Data Quality		Interpolation Data Quality
FOM	± _____ Meters	Source Map Scale: 1:24,000 1:100,000 Other _____
EPE	± 20 Feet or ± _____ Meters	± _____ Feet or ± _____ Meters
PDOP		

Photos:

Upstream Photos		Downstream Photos		Other Photos	
Photo ID#	Photo Purpose	Photo ID#	Photo Purpose	Photo ID#	Photo Purpose
586-18	Transect K	586-17	Downstream Trans B-C	586-13, 14, 15, 16	360° of Transect Upstream, Rt, Downstream Lt

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.)

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	☐ Campgrounds
☐ Boating accesses	☐ State parks	☐ National forests	☐ Nature trails	☐ Stairs/walkway
☐ No trespass sign	☒ Fence	☒ Steep slopes	☐ None of the above	☒ Other: Farmland

Comments: * Witness Raccoon Crossing Stream Plenty of campsites (rad poles) in the Stream

Indications of Human Use*: (attach photos)

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

Comments: County Rd 65th Ave

*** Page Two – Data Sheet B for WBID # 5[illegible]e :**

Stream Morphology:

Upstream View's Physical Dimensions: Is there any water present at this view? ☒ Yes ☐ No

If so, is there an obvious current? ☒ Yes ☐ No

Select one of the following channel features: Transect K

	Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
15%	RIFFLE					
85%	RUN	100 m	3.0	15 m	0.4 m	0.19 m
	POOL					

Downstream View's Physical Dimensions: Is there any water present at this view? ☒ Yes ☐ No

If so, is there an obvious current? ~~☒ Yes~~ RC ☒ No

Select one of the following channel features: Transect B ~~[illegible]~~ – C

	Channel Feature	Distance from access (m)	Width (m)	Length (m)	Median Depth (m)	Max. Depth (m)
5%	RIFFLE					
5%	RUN					
90%	POOL	200 m	? m	17 m	0.13	0.22

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

25 % Cobble	25 % Gravel	15 % Sand	25 % Silt	10 % Mud/Clay	% Bedrock

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

limited aquatic vegetation or no algal growth

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:

Comments: Please attach any additional comments () to this form.

*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.

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

Surveyor's Signature: [signature] Date of Survey: 05-17-07

Organization: Seagull Environmental Tech Position: ~~Seag.~~ Environmental Scientist

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

Transect March 2007

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect A 4.0	0.45	0.1			1	
	0.8	0.17			2	
	1.2	0.26			3	
	1.6	0.17			4	
	2.0	0.11			5	
	2.4	0.07			6	
	2.8	0.01			7	
	3.2	0.01			8	
	3.6	0.01			9	
	4.0	0.01			10	
					11	
Transect B 9.0	0.9	0.17	0.19	(1)	12	
	1.8	0.22	0.10	(2)	13	
	2.7	0.18	0.10	(3)	14	
	3.6	0.11	0.11	(4)	15	
	4.5	0.13	0.11	(5)	16	
	5.4	0.10	0.15	(6)	17	
	6.3	0.09	0.17	(7)	18	
	7.2	0.11	0.17	(8)	19	
	8.1	0.17	0.16	(9)	20	
	9.0	0.16	0.22	(10)	21	
					22	
Transect C 8.0	0.8	0.40			23	
	1.6	0.65			24	
	2.4	0.81			25	
	3.2	0.85			26	
	4.0	0.84			.	
	4.8	0.47			.	
	5.6	0.45			.	
	6.4	0.41			n	
	7.2	0.43				
	8.0	0.10				

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I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Ryan M Lunt **Date:** 05-16-07

Organization: SETI Position: Environmental Scientist

Data Sheet C -- Cross-Sectional Depth Measurements (for estimation of median depth)

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect D 4.0	0.4	0.03			1	
	0.8	0.13			2	
	1.2	0.19			3	
	1.6	0.20			4	
	2.0	0.19			5	
	2.4	0.19			6	
	2.8	0.15			7	
	3.2	0.10			8	
	3.6	0.10			9	
	4.0	0.05			10	
Transect E 9.0					11	
	0.9	0.37			12	
	1.8	0.49			13	
	2.7	0.83			14	
	~~3.5~~ 3.6	0.71			15	
	~~4.6~~ 4.5	0.82			16	
	~~5.5~~ 5.4	0.75			17	
	~~7.4~~ 6.3	0.49			18	
	7.2	0.59			19	
	8.1	0.17			20	
	9.0	0.10			21	
					22	
Transect F 7.0	0.7	0.22			23	
	1.4	0.31			24	
	2.1	0.39			25	
	2.8	0.55			26	
	3.5	0.88			.	
	4.2	0.79			.	
	4.9	0.61			.	
	5.6	0.44			n	
	6.3	0.31				
	7.0	0.05				

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Signed: Ryan M. Hunt **Date:** 05-16-07

Organization: SETI Position: Environmental Scientist

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect G 4.0	0.4	0.11			1	
	0.8	0.15			2	
	1.2	0.27			3	
	1.6	0.27			4	
	2.0	0.25			5	
	2.4	0.22			6	
	2.8	0.21			7	
	3.2	0.13			8	
	3.6	0.11			9	
	4.0	0.04			10	
					11	
Transect H 5.0	0.5	0.09			12	
	1.0	0.13			13	
	1.5	0.22			14	
	2.0	0.29			15	
	2.5	0.31			16	
	3.0	0.44			17	
	3.5	0.49			18	
	4.0	0.48			19	
	4.5	0.49			20	
	5.0	0.22			21	
					22	
Transect I 6.0	0.6	0.17			23	
	1.2	0.10			24	
	1.8	0.10			25	
	2.4	0.09			26	
	3.0	0.11			.	
	3.6	0.17			.	
	4.2	0.17			.	
	4.8	0.19			n	
	5.4	0.09				
	6.0	0.10				

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Signed: Ryan M. Lunt **Date:** 05-16-07

Organization: SETI Position: Environmental Scientist

Data Sheet C – Cross-Sectional Depth Measurements (for estimation of median depth)

	Distance from Stream edge	Depth	Rank		Assigned Rank	Sorted depth
Transect J 10.0	1.0	0.11			1	
	2.0	0.11			2	
	3.0	0.11			3	
	4.0	0.15			4	
	5.0	0.09			5	
	6.0	0.07			6	
	7.0	0.03			7	
	8.0	0.21			8	
	9.0	0.03			9	
	10.0	0.10			10	
					11	
	0.3	0.09	0.09 (1)		12	
	0.6	0.10	0.10 (2)		13	
Transect K 3.0	0.9	0.10	0.10 (3)		14	
	1.2	0.13	0.12 (4)		15	
	1.5	0.15	0.13 (5)		16	
	1.8	0.17	0.15 (6)		17	
	2.1	0.18	0.17 (7)		18	
	2.4	0.19	0.18 (8)		19	
	2.7	0.19	0.19 (9)		20	
	3.0	0.10	0.19 (10)		21	
					22	
					23	
					24	
					25	
					26	
					.	
					.	
					.	
					n	

If there is an odd number of entries find middle rank [(n+1)/2]. The corresponding sorted value depth to the middle rank is the median depth.
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Signed: Ryan M. Lunt **Date:** 05-16-07

Organization: SETI Position: Environmental Scientist

DISSOLVED OXYGEN DATA ENTRY SHEET

Stream ID	WBID	Date	Time	Cross - Section #	Transect #	DO Reading (mg/L)
Racoon Creek			08:00	1	1	9.36
			08.10		2	9.00
			08.20		3	9.49
			08.30		4	9.47
			08.40		5	9.50
			08.46		6	9.12
			08.55		7	9.09
			09.00		8	8.98
			09.10		9	9.01
			09.20		10	9.09
			09.30		11	9.02
			9.45	2	1	10.15
			9.55		2	9.70
			10.05		3	9.23
			10.15		4	9.75
			10.25		5	9.29
			10.35		6	9.52
			10.45		7	9.12
			10.53		8	9.23
			11.00		9	9.02
			11.10		10	9.15
			11.20		11	9.11
			11.35	3	1	10.86
			11.45		2	10.02
			11.55		3	9.89
			12.06		4	10.32
			12.05		5	9.92
			12.20		6	9.95
			12.30		7	10.29
			12.39		8	10.01
			12.45		9	10.03
			12.55		10	10.40
			13.05		11	10.60

Transect A (Site 1) of Raccoon Creek.

Transect A (Site 1) of Raccoon Creek.

Transect A (Site 1) of Raccoon Creek.

Transect A (Site 1) of Raccoon Creek.

Downstream (Site 1) of Raccoon Creek.

Upstream (Site 1) of Raccoon Creek.

Transect A (Site 2) of Raccoon Creek.

Transect A (Site 2) of Raccoon Creek.

Transect A (Site 2) of Raccoon Creek.

Transect A (Site 2) of Raccoon Creek.

Downstream (Site 2) of Raccoon Creek.

Upstream (Site 2) of Raccoon Creek.

Transect A (Site 3) of Raccoon Creek.

Transect A (Site 3) of Raccoon Creek.

Transect A (Site 3) of Raccoon Creek.

Transect A (Site 3) of Raccoon Creek.

Downstream (Site 3) of Raccoon Creek.

Upstream (Site 3) of Raccoon Creek.