



Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 0613 West Fork Locust Creek

Submitted by

MEC Water Resources

To

Missouri Department of Natural Resources

Water Protection Program

On

October 17, 2008

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): | West Fk. Locust Cr. | |
| Missouri Water Body Identification (WBID) Number: | 613 | |
| 8-digit HUC: | 10280103 | |
| County(ies), Listed Upstream to Downstream: | Sullivan | |
| Upstream Legal Description (from Table H): | 33, 64N, 21W | |
| Downstream Legal Description (from Table H): | Hwy. 6 | |
| Number of sites evaluated: | 10 | |
| List all site numbers, <u>consecutively</u> upstream to downstream: | | |
| Site 1: Rt EE crossing | Site 4: 50m downstream of site 3 | Site 7: 50m downstream of site 6 |
| Site 2: Maple Rd crossing | Site 5: Rt. E crossing | Site 8: Collin Rd. crossing |
| Site 3: Marble Rd crossing | Site 6: Hwy PPCrossing | Site 9: Redwood Rd. |
| | | Site 10: 150m upstream of |
| Include a Site Location Map(s). The map must include all requirements detailed in the <i>Missouri Recreational Use Attainability Analyses: Water Body Survey and Assessment Protocol</i> (Section IV.D.8.a). | | |

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

| |
|--|
| Facility Name(s) and Permit Number(s): |
| PSF, Locust Ridge mo 0118494 |
| Premium Standard Farms mo 0118761 |

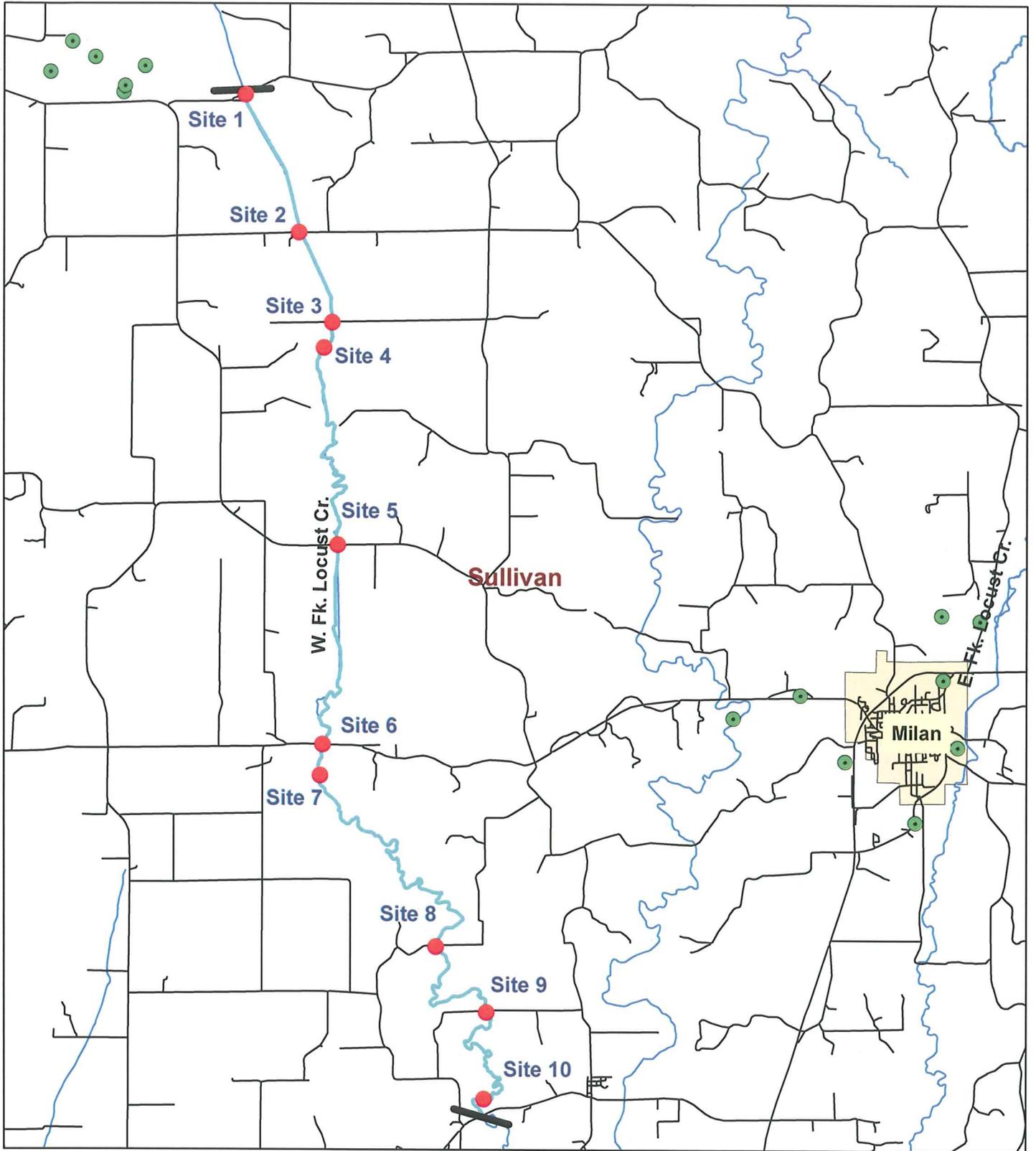
III. UAA Surveyor (please **PRINT** legibly)

| | |
|--|----------------------------------|
| Name of Surveyor: Renee Martin | Telephone Number: 573 -443 -4100 |
| Organization/Employer: MEC Water Resources / AESolutions | |

Please verify that you have completed all sections of all data sheets, checked all applicable boxes, provided a map (that includes all requirements listed in the *Missouri Recreational Use Attainability Analyses: Water Body Survey and Assessment Protocol*) and that this form is complete.

Signed: Renee Martin Date: 10/15/08

awc 10-16-08



**W. Fk. Locust Creek
WBID 0613
Sullivan County**



WBID # 0613
 Site # 01

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)
 (must be completed for each site)

| | |
|---|--|
| Date & Time: <u>08/15/08 06:59</u> | Location Description (e.g., road crossing): <u>Rt 77 Crossing</u> |
| Stream Name: <u>W. Fr. Locust Cr.</u> | Facility Name(s): <u>PSF Locust Ridge / Premium Sandcreek Farms</u> |
| Current Weather Conditions: <u>Light fog</u> | Permit Number(s): <u>MO 0118494 / MO 0118761</u> |
| Weather Conditions for Past 10 days: <u>0.71" rain</u> | |
| Official Drought Conditions at time of this survey (search DNR home page for "drought"): 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>0477273</u> | Northing (UTM Y): <u>4461671</u> | Horizontal Accuracy: (EPE / FOM / PDOP) <u>83</u> ⁵⁴ Meters <u>FT</u> |
| Site 11 | Easting (UTM X): <u>0477347</u> | Northing (UTM Y): <u>4461561</u> | Horizontal Accuracy: (EPE / FOM / PDOP) <u>42</u> ³⁴ Meters <u>FT</u> |

Photos:

| Photo ID# | Photo Purpose | Photo ID# | Photo Purpose | Photo ID# | Photo Purpose |
|-------------|-----------------|-------------|--------------------|-------------|--|
| <u>3221</u> | <u>UPSTREAM</u> | <u>3222</u> | <u>Down stream</u> | <u>3223</u> | <u>foot prints between Transects 1+2</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 the 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 <i>Data Sheet D- Recreational Use Interview</i> when conducting interviews.) | | | | |

Stream Name & WBID # W. Fr Coast #0613

Date of Survey 8/15/08

Site # 01

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

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 checked="" type="checkbox"/> Roads | <input checked="" 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 |
| <input type="checkbox"/> None of the above | Comments / Other: <u>Footprints throughout length of site</u> | | | |

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

| | | | | | |
|-------------------|--------------------|------------------|-----------------|---------------------|--------------------|
| <u>—</u> % Cobble | <u>30</u> % Gravel | <u>70</u> % Sand | <u>—</u> % Silt | <u>—</u> % Mud/Clay | <u>—</u> % Bedrock |
|-------------------|--------------------|------------------|-----------------|---------------------|--------------------|

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

Benthic algae - abundant

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 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 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 affect another use.

Stream Name & WBID # W. FK Loust #0613

Date of Survey 8/15/08

Site # 01

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

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.

Printed Names of Personnel Collecting Data: TIFFANIE HAMILTON, JENNIFER HRABIK

Surveyor's Signature: Tiffany L. Hamilton Date of Survey: 8/15/08

Organization: AE SOLUTIONS Position: Field Technician

AUC 10-16-08

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

| | |
|---|---|
| Stream Name: <u>W. Fk. Locust. Cr.</u> Waterbody ID: <u>613</u> Site #: <u>0613 01</u> Estimated Channel Incision: <u>0.1</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>477273</u> UTM Y: <u>4461671</u> +/- <u>83</u> (feet) 11 UTM X: <u>477347</u> UTM Y: <u>4461561</u> +/- <u>42</u> (feet) Average Stream Width: <u>4.3</u> (meters) Length of Survey Segment: <u>150.0</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>TAH, JRH</u> | Dissolved Oxygen |
| | Date: <u>8/15/2008</u> Time: <u>6:59</u> Dissolved Oxygen: <u>7.64</u> (mg/L) Dissolved Oxygen: <u>82.3</u> (% sat) Specific Cond: <u>401</u> (µS/cm) Water Temperature: <u>18.8</u> (°C) |

Transect Cross-Section

| | | 01 | | 02 | | 03 | | 04 | | 05 | | 06 | | 07 | | 08 | | 09 | | 10 | | 11 | |
|---------------------------------------|---|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|
| Station | | 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 | 0.46 | 0.02 | 0.56 | 0.09 | 0.70 | 0.25 | 0.74 | 0.36 | 0.69 | 0.48 | 0.28 | 0.10 | 0.15 | 0.10 | 0.31 | 0.19 | 0.42 | 0.06 | 0.22 | 0.14 | 0.18 | 0.10 |
| | 2 | 0.92 | 0.02 | 1.12 | 0.00 | 1.40 | 0.28 | 1.48 | 0.47 | 1.38 | 0.50 | 0.56 | 0.08 | 0.30 | 0.09 | 0.62 | 0.16 | 0.84 | 0.04 | 0.44 | 0.14 | 0.36 | 0.10 |
| | 3 | 1.38 | 0.01 | 1.68 | 0.02 | 2.10 | 0.30 | 2.22 | 0.45 | 2.07 | 0.61 | 0.84 | 0.06 | 0.45 | 0.12 | 0.93 | 0.15 | 1.26 | 0.06 | 0.66 | 0.15 | 0.54 | 0.01 |
| | 4 | 1.84 | 0.06 | 2.24 | 0.02 | 2.80 | 0.24 | 2.96 | 0.34 | 2.76 | 0.58 | 1.12 | 0.12 | 0.60 | 0.14 | 1.24 | 0.16 | 1.68 | 0.08 | 0.88 | 0.15 | 0.72 | 0.03 |
| | 5 | 2.30 | 0.09 | 2.80 | 0.00 | 3.50 | 0.20 | 3.70 | 0.22 | 3.45 | 0.44 | 1.40 | 0.10 | 0.75 | 0.16 | 1.55 | 0.18 | 2.10 | 0.09 | 1.10 | 0.14 | 0.90 | 0.06 |
| | 6 | 2.76 | 0.06 | 3.36 | 0.00 | 4.20 | 0.19 | 4.44 | 0.12 | 4.14 | 0.35 | 1.68 | 0.08 | 0.90 | 0.10 | 1.86 | 0.19 | 2.52 | 0.10 | 1.32 | 0.12 | 1.08 | 0.14 |
| | 7 | 3.22 | 0.01 | 3.92 | 0.00 | 4.90 | 0.11 | 5.18 | 0.04 | 4.83 | 0.30 | 1.96 | 0.13 | 1.05 | 0.06 | 2.17 | 0.19 | 2.94 | 0.06 | 1.54 | 0.10 | 1.26 | 0.20 |
| | 8 | 3.68 | 0.01 | 4.48 | 0.01 | 5.60 | 0.08 | 5.92 | 0.19 | 5.52 | 0.12 | 2.24 | 0.09 | 1.20 | 0.03 | 2.48 | 0.16 | 3.36 | 0.08 | 1.76 | 0.13 | 1.44 | 0.00 |
| | 9 | 4.14 | 0.02 | 5.04 | 0.01 | 6.30 | 0.09 | 6.66 | 0.04 | 6.21 | 0.02 | 2.52 | 0.02 | 1.35 | 0.01 | 2.79 | 0.11 | 3.78 | 0.10 | 1.98 | 0.04 | 1.62 | 0.06 |
| Right Bank | | 4.60 | 0.00 | 5.60 | 0.00 | 7.00 | 0.00 | 7.40 | 0.00 | 6.90 | 0.00 | 2.80 | 0.00 | 1.50 | 0.00 | 3.10 | 0.00 | 4.20 | 0.00 | 2.20 | 0.00 | 1.80 | 0.00 |
| Feature Type | | Riffle | | Riffle | | Run | | Pool | | Pool | | Riffle | |
| <small>(riffle, run, or pool)</small> | | | | | | | | | | | | | | | | | | | | | | | |

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 0.1 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: _____ Date: _____

WBID # 0613

Site # 02

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)
(must be completed for each site)

| | |
|---|--|
| Date & Time: <u>8/15/08 0750</u> | Location Description (e.g., road crossing): <u>Maple Rd.</u> |
| Stream Name: <u>W. Fr Locust Cr</u> | |
| Current Weather Conditions: <u>partly cloudy</u> | Facility Name(s): <u>PSF Locust Ridge / Premium Standard Farms</u> |
| Weather Conditions for Past 10 days: <u>0.71" rain</u> | Permit Number(s): <u>MO 0118494 / MO 0118761</u> |
| Official Drought Conditions at time of this survey (search DNR home page for "drought"): 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>0478288</u> | Northing (UTM Y): <u>4459175</u> | Horizontal Accuracy: (EPE / FOM / PDOP) <u>37</u> Meters ⁷⁴ <u>64</u> |
| Site 11 | Easting (UTM X): <u>0478357</u> | Northing (UTM Y): <u>4459017</u> | Horizontal Accuracy: (EPE / FOM / PDOP) <u>29</u> Meters ⁷⁴ <u>64</u> |

Photos:

| Photo ID# | Photo Purpose | Photo ID# | Photo Purpose | Photo ID# | Photo Purpose |
|-------------|-----------------|-------------|-------------------|-------------|-----------------|
| <u>3124</u> | <u>upstream</u> | <u>3125</u> | <u>downstream</u> | <u>3126</u> | <u>dnstream</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 the 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.) | | | | |

Stream Name & WBID # W. Fk Locust #0613

Date of Survey 8/15/08

Site # 02

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

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 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 |
| <input type="checkbox"/> None of the above | Comments / Other: | | | |

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

| | | | | | |
|-------------------|--------------------|------------------|-----------------|----------------------|--------------------|
| <u>—</u> % Cobble | <u>20</u> % Gravel | <u>50</u> % Sand | <u>—</u> % Silt | <u>30</u> % Mud/Clay | <u>—</u> % Bedrock |
|-------------------|--------------------|------------------|-----------------|----------------------|--------------------|

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

Benthic algae - diatoms - abundant

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 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 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 affect another use.

Stream Name & WBID # W. Fl. Locust #0613

Date of Survey 8/15/08

Site # 02

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

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) |
|-----------------|-----------------------------------|---------------|------------|------------------|---------------|
| | | | | | |
| | | <i>NA RWC</i> | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Comments: (Please record any additional comments here.)

Some woody debris at Transects 10 + 11.

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

Printed Names of Personnel Collecting Data: TIFFANIE HAMILTON, JENNIFER HRABIK

Surveyor's Signature: *Tiffan A. Hamilton* Date of Survey: 8/15/08

Organization: AE Solutions Position: FIELD TECHNICIAN

RWC 10-16-08

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

| | |
|---|--|
| Stream Name: <u>W. Fk. Locust. Cr.</u> Waterbody ID: <u>613</u> Site #: <u>0613 02</u> Estimated Channel Incision: <u>0.2</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>478288</u> UTM Y: <u>4459175</u> +/- <u>37</u> (feet) 11 UTM X: <u>478357</u> UTM Y: <u>4459017</u> +/- <u>29</u> (feet) Average Stream Width: <u>5.1</u> (meters) Length of Survey Segment: <u>150.0</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>TAH, JRH</u> | Dissolved Oxygen Date: <u>8/15/2008</u> Time: <u>7:50</u> Dissolved Oxygen: <u>4.16</u> (mg/L) Dissolved Oxygen: <u>47.2</u> (% sat) Specific Cond: <u>439</u> (µS/cm) Water Temperature: <u>19.1</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 |
| 1 | 0.69 | 0.01 | 0.67 | 0.02 | 0.61 | 0.16 | 0.54 | 0.02 | 0.49 | 0.10 | 0.51 | 0.02 | 0.46 | 0.04 | 0.46 | 0.02 | 0.44 | 0.15 | 0.39 | 0.02 | 0.36 | 0.10 |
| 2 | 1.38 | 0.01 | 1.34 | 0.01 | 1.22 | 0.15 | 1.08 | 0.01 | 0.98 | 0.12 | 1.02 | 0.02 | 0.92 | 0.10 | 0.92 | 0.02 | 0.88 | 0.15 | 0.78 | 0.10 | 0.72 | 0.24 |
| 3 | 2.07 | 0.01 | 2.01 | 0.01 | 1.83 | 0.13 | 1.62 | 0.06 | 1.47 | 0.15 | 1.53 | 0.08 | 1.38 | 0.06 | 1.38 | 0.03 | 1.32 | 0.25 | 1.17 | 0.14 | 1.08 | 0.25 |
| 4 | 2.76 | 0.01 | 2.68 | 0.24 | 2.44 | 0.16 | 2.16 | 0.09 | 1.96 | 0.20 | 2.04 | 0.12 | 1.84 | 0.04 | 1.84 | 0.01 | 1.76 | 0.31 | 1.56 | 0.15 | 1.44 | 0.25 |
| 5 | 3.45 | 0.02 | 3.35 | 0.19 | 3.05 | 0.16 | 2.70 | 0.18 | 2.45 | 0.25 | 2.55 | 0.13 | 2.30 | 0.00 | 2.30 | 0.04 | 2.20 | 0.18 | 1.95 | 0.16 | 1.80 | 0.33 |
| 6 | 4.14 | 0.01 | 4.02 | 0.18 | 3.66 | 0.14 | 3.24 | 0.20 | 2.94 | 0.30 | 3.06 | 0.08 | 2.76 | 0.00 | 2.76 | 0.04 | 2.64 | 0.22 | 2.34 | 0.19 | 2.16 | 0.34 |
| 7 | 4.83 | 0.08 | 4.69 | 0.16 | 4.27 | 0.15 | 3.78 | 0.21 | 3.43 | 0.34 | 3.57 | 0.02 | 3.22 | 0.06 | 3.22 | 0.13 | 3.08 | 0.18 | 2.73 | 0.20 | 2.52 | 0.35 |
| 8 | 5.52 | 0.09 | 5.36 | 0.04 | 4.88 | 0.15 | 4.32 | 0.19 | 3.92 | 0.26 | 4.08 | 0.02 | 3.68 | 0.04 | 3.68 | 0.34 | 3.52 | 0.09 | 3.12 | 0.15 | 2.88 | 0.25 |
| 9 | 6.21 | 0.09 | 6.03 | 0.02 | 5.49 | 0.15 | 4.86 | 0.08 | 4.41 | 0.21 | 4.59 | 0.04 | 4.14 | 0.04 | 4.14 | 0.19 | 3.96 | 0.02 | 3.51 | 0.10 | 3.24 | 0.15 |
| Right Bank | 6.90 | 0.00 | 6.70 | 0.00 | 6.10 | 0.00 | 5.40 | 0.00 | 4.90 | 0.00 | 5.10 | 0.00 | 4.60 | 0.00 | 4.60 | 0.00 | 4.40 | 0.00 | 3.90 | 0.00 | 3.60 | 0.00 |
| Feature Type <small>(riffle, run, or pool)</small> | Riffle | | Riffle | | Run | | Run | | Pool | | Riffle | | Run | | Pool | | Run | | Run | | Pool | |

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 0.1 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: _____ Date: _____

WBID # 0613
 Site # 03

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)
 (must be completed for each site)

| | |
|---|---|
| Date & Time: <u>8/15/08 08:50</u> | Location Description (e.g., road crossing): |
| Stream Name: <u>W. FR. Locust</u> | <u>Crossing at Marble Rd</u> |
| Current Weather Conditions: <u>Partly Cloudy</u> | Facility Name(s): <u>BF Locust Ridge / Premium Standard Farms</u> |
| Weather Conditions for Past 10 days: <u>0.71" rain</u> | Permit Number(s): <u>MO 0118494 / 0118761</u> |
| Official Drought Conditions at time of this survey (search DNR home page for "drought"): 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>0478868</u> | Northing (UTM Y): <u>4457531</u> | Horizontal Accuracy: (EPE / FOM / PDOP) <u>16</u> Meters ^{ft} |
| Site 11 | Easting (UTM X): <u>0478842</u> | Northing (UTM Y): <u>4457361</u> | Horizontal Accuracy: (EPE / FOM / PDOP) <u>17</u> Meters ^{ft} |

Photos:

| Photo ID# | Photo Purpose | Photo ID# | Photo Purpose | Photo ID# | Photo Purpose |
|-----------------|-----------------|-----------------|-------------------|-----------|---------------|
| <u>103-0001</u> | <u>upstream</u> | <u>103-0002</u> | <u>downstream</u> | | |
| | | | | | |
| | | | | | |
| | | | | | |

Uses Observed*: (Uses actually observed at the 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 <i>Data Sheet D- Recreational Use Interview</i> when conducting interviews.) | | | | |

Stream Name & WBID # W. Fk. Locust #10613

Date of Survey 8/15/08

Site # 03

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

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: Bank at Transect is very eroded - 60 meters

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 |

None of the above

Comments / Other:

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

| | | | | | |
|-------------------|-------------------|------------------|-----------------|----------------------|--------------------|
| <u>←</u> % Cobble | <u>2</u> % Gravel | <u>80</u> % Sand | <u>—</u> % Silt | <u>18</u> % Mud/Clay | <u>—</u> % Bedrock |
|-------------------|-------------------|------------------|-----------------|----------------------|--------------------|

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

Benthic algae - diatoms - abundant

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 checked="" type="checkbox"/> Fine sediments | <input type="checkbox"/> None | <input type="checkbox"/> Other: |
| Surface Deposit: | <input checked="" type="checkbox"/> Oil | <input type="checkbox"/> Scum | <input type="checkbox"/> Foam | <input type="checkbox"/> None | <input checked="" type="checkbox"/> Other: <u>mineral film</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 affect another use.

Stream Name & WBID # W. Fk Locust #0613

Date of Survey 8/15/08

Site # 03

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

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 or less | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Comments: (Please record any additional comments here.)

Pool at Transect 1 caused by log jam.
Woody Debris at Transect 4 + 10

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

Printed Names of Personnel Collecting Data: TIFFANIE HAMILTON, JENNIFER HRABIK

Surveyor's Signature: Tiffanie A. Hamilton Date of Survey: 8/15/08

Organization: AE SOLUTIONS Position: FIELD TECHNICIAN

RWC 10-16-08

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

| | |
|---|--|
| Stream Name: <u>W. Fk. Locust. Cr.</u> Waterbody ID: <u>613</u> Site #: <u>0613 03</u> Estimated Channel Incision: <u>0.2</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>478868</u> UTM Y: <u>4457531</u> +/- <u>16</u> (feet) 11 UTM X: <u>478842</u> UTM Y: <u>4457361</u> +/- <u>17</u> (feet) Average Stream Width: <u>4.3</u> (meters) Length of Survey Segment: <u>150.0</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>TAH, JRH</u> | Dissolved Oxygen Date: <u>8/15/2008</u> Time: <u>8:50</u> Dissolved Oxygen: <u>3.64</u> (mg/L) Dissolved Oxygen: <u>39.3</u> (% sat) Specific Cond: <u>425</u> (µS/cm) Water Temperature: <u>19</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 |
| 1 | 0.95 | 0.63 | 0.56 | 0.18 | 0.56 | 0.02 | 0.33 | 0.15 | 0.27 | 0.05 | 0.27 | 0.10 | 0.28 | 0.10 | 0.44 | 0.15 | 0.14 | 0.08 | 0.62 | 0.06 | 0.27 | 0.04 |
| 2 | 1.90 | 0.84 | 1.12 | 0.14 | 1.12 | 0.03 | 0.66 | 0.27 | 0.54 | 0.10 | 0.54 | 0.12 | 0.56 | 0.11 | 0.88 | 0.08 | 0.28 | 0.23 | 1.24 | 0.08 | 0.54 | 0.02 |
| 3 | 2.85 | 0.98 | 1.68 | 0.19 | 1.68 | 0.08 | 0.99 | 0.30 | 0.81 | 0.14 | 0.81 | 0.13 | 0.84 | 0.15 | 1.32 | 0.08 | 0.42 | 0.21 | 1.86 | 0.08 | 0.81 | 0.08 |
| 4 | 3.80 | >1.0 | 2.24 | 0.00 | 2.24 | 0.09 | 1.32 | 0.26 | 1.08 | 0.11 | 1.08 | 0.16 | 1.12 | 0.13 | 1.76 | 0.06 | 0.56 | 0.26 | 2.48 | 0.09 | 1.08 | 0.15 |
| 5 | 4.75 | >1.0 | 2.80 | 0.00 | 2.80 | 0.18 | 1.65 | 0.19 | 1.35 | 0.09 | 1.35 | 0.16 | 1.40 | 0.13 | 2.20 | 0.10 | 0.70 | 0.25 | 3.10 | 0.02 | 1.35 | 0.18 |
| 6 | 5.70 | >1.0 | 3.36 | 0.00 | 3.36 | 0.13 | 1.98 | 0.16 | 1.62 | 0.06 | 1.62 | 0.14 | 1.68 | 0.11 | 2.64 | 0.10 | 0.84 | 0.23 | 3.72 | 0.06 | 1.62 | 0.34 |
| 7 | 6.65 | 0.87 | 3.92 | 0.05 | 3.92 | 0.29 | 2.31 | 0.19 | 1.89 | 0.03 | 1.89 | 0.09 | 1.96 | 0.10 | 3.08 | 0.08 | 0.98 | 0.13 | 4.34 | 0.12 | 1.89 | 0.30 |
| 8 | 7.60 | 0.62 | 4.48 | 0.04 | 4.48 | 0.19 | 2.64 | 0.14 | 2.16 | 0.01 | 2.16 | 0.08 | 2.24 | 0.08 | 3.52 | 0.10 | 1.12 | 0.11 | 4.96 | 0.14 | 2.16 | 0.19 |
| 9 | 8.55 | 0.54 | 5.04 | 0.02 | 5.04 | 0.06 | 2.97 | 0.10 | 2.43 | 0.01 | 2.43 | 0.10 | 2.52 | 0.04 | 3.96 | 0.04 | 1.26 | 0.08 | 5.58 | 0.19 | 2.43 | 0.16 |
| Right Bank | 9.50 | 0.30 | 5.60 | 0.00 | 5.60 | 0.00 | 3.30 | 0.00 | 2.70 | 0.00 | 2.70 | 0.00 | 2.80 | 0.00 | 4.40 | 0.00 | 1.40 | 0.00 | 6.20 | 0.00 | 2.70 | 0.00 |
| Feature Type <small>(riffle, run, or pool)</small> | Pool | | Riffle | | Run | |

Notes: Transects will be measured beginning on left descending bank (0 depth) and finishing on right descending bank (0 depth). This width is the wetted width
 GPS 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 0.1 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: _____ Date: _____

WBID # 0613
 Site # 04

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)
 (must be completed for each site)

| | |
|---|--|
| Date & Time: <u>8/15/08 09:12</u> | Location Description (e.g., road crossing): |
| Stream Name: <u>W. Fk Locust</u> | <u>50m downstream Site 03, Transect 11</u> |
| Current Weather Conditions: <u>Mostly cloudy</u> | Facility Name(s): <u>BSF Locust Ridge / Premium Standard Farms</u> |
| Weather Conditions for Past 10 days: <u>0.71" Rain</u> | Permit Number(s): <u>MO 0118494 / MO 0118761</u> |
| Official Drought Conditions at time of this survey (search DNR home page for "drought"): 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>0478872</u> | Northing (UTM Y): <u>4457299</u> | Horizontal Accuracy: (EPE / FOM / PDOP) <u>19</u> Meters ²⁴ FF |
| Site 11 | Easting (UTM X): <u>0478810</u> | Northing (UTM Y): <u>4457146</u> | Horizontal Accuracy: (EPE / FOM / PDOP) <u>27</u> Meters ²⁵ FF |

Photos:

| Photo ID# | Photo Purpose | Photo ID# | Photo Purpose | Photo ID# | Photo Purpose |
|--------------------------|-----------------|--------------------------|-------------------|-----------|---------------|
| <u>103-0003 0004</u> | <u>upstream</u> | <u>103-0005 0004</u> | <u>downstream</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 the 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 <i>Data Sheet D- Recreational Use Interview</i> when conducting interviews.) | | | | |

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

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: <u>Major bank erosion at Transect 11 - 45-50 meters.</u> | | | | |

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

| | | | | |
|---|--|--|---|---|
| <input type="checkbox"/> Roads | <input type="checkbox"/> Foot paths/prints | <input type="checkbox"/> Dock/platform | <input type="checkbox"/> Camping Sites | <input type="checkbox"/> Rope swings |
| <input type="checkbox"/> RV / ATV Tracks | <input type="checkbox"/> Fire pit/ring | <input type="checkbox"/> NPDES Discharge | <input type="checkbox"/> Fishing Tackle | <input type="checkbox"/> Livestock Watering |
| <input checked="" type="checkbox"/> None of the above | Comments / Other: | | | |
| | | | | |

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

| | | | | | |
|-------------------|-------------------|------------------|-----------------|----------------------|--------------------|
| <u>—</u> % Cobble | <u>2</u> % Gravel | <u>70</u> % Sand | <u>—</u> % Silt | <u>28</u> % Mud/Clay | <u>—</u> % Bedrock |
|-------------------|-------------------|------------------|-----------------|----------------------|--------------------|

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

| |
|---------------------------------|
| <u>Benthic algae - abundant</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 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 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 affect another use.

Stream Name & WBID # W. Fk. Locust #0613

Date of Survey 8/15/08

Site # 04

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

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) |
|-----------------|-----------------------------------|-----------|------------|------------------|---------------|
| | | | | | |
| | | NA | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Comments: (Please record any additional comments here.)

NA

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

Printed Names of Personnel Collecting Data: TIFFANIE HAMILTON, JENNIFER HRABIK

Surveyor's Signature: Tiffany A. Hill Date of Survey: 8/15/08

Organization: AE Solutions Position: Field Technician

AHC 10-16-08

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

| | |
|---|--|
| Stream Name: <u>W. Fk. Locust. Cr.</u> Waterbody ID: <u>613</u> Site #: <u>0613 04</u> Estimated Channel Incision: <u>0.2</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>478872</u> UTM Y: <u>4457299</u> +/- <u>19</u> (feet) 11 UTM X: <u>478810</u> UTM Y: <u>4457146</u> +/- <u>27</u> (feet) Average Stream Width: <u>4.4</u> (meters) Length of Survey Segment: <u>150.0</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>TAH, JRH</u> | <h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>8/15/2008</u> Time: <u>9:12</u> Dissolved Oxygen: <u>7.23</u> (mg/L) Dissolved Oxygen: <u>78.4</u> (% sat) Specific Cond: <u>411</u> (µS/cm) Water Temperature: <u>19.2</u> (°C) |
|---|--|

Transect Cross-Section

| | | 01 | | 02 | | 03 | | 04 | | 05 | | 06 | | 07 | | 08 | | 09 | | 10 | | 11 | |
|---------------------|---|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|
| Station | | 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 | 0.28 | 0.10 | 0.41 | 0.04 | 0.30 | 0.15 | 0.47 | 0.10 | 0.32 | 0.02 | 0.51 | 0.02 | 0.46 | 0.11 | 0.43 | 0.01 | 0.64 | 0.16 | 0.53 | 0.19 | 0.49 | 0.46 |
| | 2 | 0.56 | 0.14 | 0.82 | 0.08 | 0.60 | 0.14 | 0.94 | 0.14 | 0.64 | 0.04 | 1.02 | 0.11 | 0.92 | 0.15 | 0.86 | 0.04 | 1.28 | 0.24 | 1.06 | 0.19 | 0.98 | 0.70 |
| | 3 | 0.84 | 0.19 | 1.23 | 0.10 | 0.90 | 0.11 | 1.41 | 0.15 | 0.96 | 0.09 | 1.53 | 0.10 | 1.38 | 0.10 | 1.29 | 0.04 | 1.92 | 0.28 | 1.59 | 0.25 | 1.47 | 0.55 |
| | 4 | 1.12 | 0.18 | 1.64 | 0.01 | 1.20 | 0.10 | 1.88 | 0.13 | 1.28 | 0.10 | 2.04 | 0.12 | 1.84 | 0.10 | 1.72 | 0.08 | 2.56 | 0.30 | 2.12 | 0.34 | 1.96 | 0.65 |
| | 5 | 1.40 | 0.14 | 2.05 | 0.01 | 1.50 | 0.08 | 2.35 | 0.04 | 1.60 | 0.15 | 2.55 | 0.06 | 2.30 | 0.08 | 2.15 | 0.08 | 3.20 | 0.31 | 2.65 | 0.31 | 2.45 | 0.41 |
| | 6 | 1.68 | 0.08 | 2.46 | 0.02 | 1.80 | 0.09 | 2.82 | 0.00 | 1.92 | 0.18 | 3.06 | 0.09 | 2.76 | 0.03 | 2.58 | 0.18 | 3.84 | 0.33 | 3.18 | 0.41 | 2.94 | 0.35 |
| | 7 | 1.96 | 0.01 | 2.87 | 0.14 | 2.10 | 0.11 | 3.29 | 0.01 | 2.24 | 0.16 | 3.57 | 0.10 | 3.22 | 0.02 | 3.01 | 0.19 | 4.48 | 0.16 | 3.71 | 0.40 | 3.43 | 0.24 |
| | 8 | 2.24 | 0.02 | 3.28 | 0.15 | 2.40 | 0.16 | 3.76 | 0.04 | 2.56 | 0.16 | 4.08 | 0.13 | 3.68 | 0.04 | 3.44 | 0.20 | 5.12 | 0.18 | 4.24 | 0.19 | 3.92 | 0.19 |
| | 9 | 2.52 | 0.01 | 3.69 | 0.10 | 2.70 | 0.08 | 4.23 | 0.10 | 2.88 | 0.17 | 4.59 | 0.08 | 4.14 | 0.04 | 3.87 | 0.11 | 5.76 | 0.18 | 4.77 | 0.04 | 4.41 | 0.02 |
| Right Bank | | 2.80 | 0.00 | 4.10 | 0.00 | 3.00 | 0.00 | 4.70 | 0.00 | 3.20 | 0.00 | 5.10 | 0.00 | 4.60 | 0.00 | 4.30 | 0.00 | 6.40 | 0.00 | 5.30 | 0.00 | 4.90 | 0.00 |
| Feature Type | | Run | | Run | | Run | | Run | | Run | | Run | | Run | | Riffle | | Pool | | Pool | | Pool | |

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 0.1 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: _____ Date: _____

WBID # 0613

Site # 05

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)

(must be completed for each site)

| | |
|---|--|
| Date & Time: <u>8/15/08 10:00</u> | Location Description (e.g., road crossing): |
| Stream Name: <u>W. Fk. Loust.</u> | <u>Rt E Crossing</u> |
| Current Weather Conditions: <u>Partly cloudy</u> | Facility Name(s): <u>PSF Loust city / Premium standard Farms</u> |
| Weather Conditions for Past 10 days: <u>0.71" rain</u> | Permit Number(s): <u>no 0118494 / no 0118701</u> |
| Official Drought Conditions at time of this survey (search DNR home page for "drought"): | |
| 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>0478964</u> | Northing (UTM Y): <u>4453537</u> | Horizontal Accuracy: (EPE / FOM / PDOP) <u>22</u> Meters ^{ft} <u>FT</u> |
| Site 11 | Easting (UTM X): <u>0478266</u> | Northing (UTM Y): <u>4453366</u> | Horizontal Accuracy: (EPE / FOM / PDOP) <u>25</u> Meters ^{ft} <u>FT</u> |

Photos:

| Photo ID# | Photo Purpose | Photo ID# | Photo Purpose | Photo ID# | Photo Purpose |
|-------------|-----------------|-------------|-------------------|-----------|---------------|
| <u>0006</u> | <u>upstream</u> | <u>0007</u> | <u>downstream</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 the 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 <i>Data Sheet D- Recreational Use Interview</i> when conducting interviews.) | | | | |

Stream Name & WBID # W. Fk. Locust #E0613

Date of Survey 8/15/08

Site # 05

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

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:
private property

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 |
| <input type="checkbox"/> None of the above | Comments / Other: | | | |

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

| | | | | | |
|-------------------|-------------------|------------------|-----------------|----------------------|--------------------|
| <u>—</u> % Cobble | <u>—</u> % Gravel | <u>20</u> % Sand | <u>—</u> % Silt | <u>80</u> % Mud/Clay | <u>—</u> % Bedrock |
|-------------------|-------------------|------------------|-----------------|----------------------|--------------------|

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

Benthic algae - abundant

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 checked="" type="checkbox"/> Fine sediments | <input type="checkbox"/> None | <input type="checkbox"/> Other: |
| Surface Deposit: | <input type="checkbox"/> Oil | <input type="checkbox"/> Scum | <input checked="" type="checkbox"/> Foam | <input type="checkbox"/> None | <input type="checkbox"/> Other: |

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that affect another use.

Stream Name & WBID # W. Fk. Locust #0613

Date of Survey 8/15/08

Site # 05

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

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 or u | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Comments: (Please record any additional comments here.)

Woody debris at Transects 4, 10, 11

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

Printed Names of Personnel Collecting Data: TIFFANIE HAMILTON, JENNIFER HRADIK

Surveyor's Signature: Tiffany A. Hamilton Date of Survey: 8/15/08

Organization: AE Solutions Position: Field Technician

RUC 10-16-08

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

| | |
|---|--|
| Stream Name: <u>W. Fk. Locust. Cr.</u> Waterbody ID: <u>613</u> Site #: <u>0613 05</u> Estimated Channel Incision: <u>0.2</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>478964</u> UTM Y: <u>4453537</u> +/- <u>22</u> (feet) 11 UTM X: <u>478966</u> UTM Y: <u>4453366</u> +/- <u>25</u> (feet) Average Stream Width: <u>6.2</u> (meters) Length of Survey Segment: <u>150.0</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>TAH, JRH</u> | Dissolved Oxygen |
| | Date: <u>8/15/2008</u> Time: <u>10:00</u> Dissolved Oxygen: <u>7.86</u> (mg/L) Dissolved Oxygen: <u>87.4</u> (% sat) Specific Cond: <u>410</u> (µS/cm) Water Temperature: <u>20.5</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 |
| | 0.45 | 0.15 | 0.36 | 0.37 | 0.90 | 0.30 | 0.84 | 0.48 | 0.74 | 0.13 | 0.50 | 0.15 | 0.70 | 0.51 | 0.73 | 0.93 | 0.39 | 0.29 | 0.57 | 0.10 | 0.65 | 0.23 |
| 2 | 0.90 | 0.14 | 0.72 | 0.45 | 1.80 | 0.60 | 1.68 | 0.64 | 1.48 | 0.14 | 1.00 | 0.18 | 1.40 | 0.74 | 1.46 | 0.87 | 0.78 | 0.26 | 1.14 | 0.12 | 1.30 | 0.29 |
| 3 | 1.35 | 0.13 | 1.08 | 0.68 | 2.70 | 0.72 | 2.52 | 0.55 | 2.22 | 0.00 | 1.50 | 0.16 | 2.10 | 0.57 | 2.19 | 0.74 | 1.17 | 0.28 | 1.71 | 0.21 | 1.95 | 0.28 |
| 4 | 1.80 | 0.18 | 1.44 | 0.81 | 3.60 | 0.90 | 3.36 | 0.50 | 2.96 | 0.01 | 2.00 | 0.13 | 2.80 | 0.59 | 2.92 | 0.61 | 1.56 | 0.27 | 2.28 | 0.20 | 2.60 | 0.39 |
| 5 | 2.25 | 0.08 | 1.80 | 0.90 | 4.50 | >1.0 | 4.20 | 0.51 | 3.70 | 0.02 | 2.50 | 0.08 | 3.50 | 0.50 | 3.65 | 0.45 | 1.95 | 0.27 | 2.85 | 0.20 | 3.25 | 0.40 |
| 6 | 2.70 | 0.08 | 2.16 | >1.0 | 5.40 | >1.0 | 5.04 | 0.54 | 4.44 | 0.02 | 3.00 | 0.10 | 4.20 | 0.45 | 4.38 | 0.34 | 2.34 | 0.24 | 3.42 | 0.20 | 3.90 | 0.50 |
| 7 | 3.15 | 0.04 | 2.52 | 0.94 | 6.30 | >1.0 | 5.88 | 0.53 | 5.18 | 0.15 | 3.50 | 0.12 | 4.90 | 0.26 | 5.11 | 0.25 | 2.73 | 0.20 | 3.99 | 0.18 | 4.55 | 0.54 |
| 8 | 3.60 | 0.16 | 2.88 | 0.71 | 7.20 | 0.81 | 6.72 | 0.43 | 5.92 | 0.18 | 4.00 | 0.08 | 5.60 | 0.08 | 5.84 | 0.10 | 3.12 | 0.13 | 4.56 | 0.20 | 5.20 | 0.45 |
| 9 | 4.05 | 0.16 | 3.24 | 0.40 | 8.10 | 0.35 | 7.56 | 0.19 | 6.66 | 0.16 | 4.50 | 0.06 | 6.30 | 0.02 | 6.57 | 0.04 | 3.51 | 0.15 | 5.13 | 0.49 | 5.85 | 0.60 |
| Right Bank | 4.50 | 0.00 | 3.60 | 0.00 | 9.00 | 0.00 | 8.40 | 0.00 | 7.40 | 0.00 | 5.00 | 0.00 | 7.00 | 0.00 | 7.30 | 0.00 | 3.90 | 0.00 | 5.70 | 0.00 | 6.50 | 0.00 |
| Feature Type <small>(riffle, run, or pool)</small> | Riffle | Pool | Pool | Pool | Pool | Run | Run | Pool | Pool | Pool |

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 0.1 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: _____ Date: _____

WBID # 0613

Site # 06

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)

(must be completed for each site)

| | |
|---|--|
| Date & Time: <u>8/15/08 11:00</u> | Location Description (e.g., road crossing): |
| Stream Name: <u>W. Fork Locust</u> | <u>Hwy 99 crossing</u> |
| Current Weather Conditions: <u>Partly sunny</u> | Facility Name(s): <u>PSF Locust ridge / Premium Standard Farms</u> |
| Weather Conditions for Past 10 days: <u>0.7" rain</u> | Permit Number(s): <u>MO 0118494 / MO 0118761</u> |
| Official Drought Conditions at time of this survey (search DNR home page for "drought"): | |
| 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>0478 737</u> | Northing (UTM Y): <u>444909</u> | Horizontal Accuracy: (EPE / FOM / PDOP) <u>21</u> ²⁴ Meters <u>FT</u> |
| Site 11 | Easting (UTM X): <u>0478672</u> | Northing (UTM Y): <u>4449711</u> | Horizontal Accuracy: (EPE / FOM / PDOP) <u>25</u> ²⁴ Meters <u>FT</u> |

Photos:

| Photo ID# | Photo Purpose | Photo ID# | Photo Purpose | Photo ID# | Photo Purpose |
|-------------|-----------------|----------------------------|-------------------|-----------|---------------|
| <u>0008</u> | <u>upstream</u> | <u>0009</u> <u>0010</u> | <u>downstream</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 the 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.) | | | | |

Stream Name & WBID # W. Rk Locust #0613

Date of Survey 8/15/08

Site # 06

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

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:

private property

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 |
| <input type="checkbox"/> None of the above | Comments / Other: | | | |

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

| | | | | | |
|----------------------|----------------------|------------------|--------------------|-----------------------------|-----------------------|
| <u> </u> % Cobble | <u> </u> % Gravel | <u>60</u> % Sand | <u> </u> % Silt | <u>40</u> % <u>Mud/Clay</u> | <u> </u> % Bedrock |
|----------------------|----------------------|------------------|--------------------|-----------------------------|-----------------------|

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

| |
|-----------------------------------|
| <i>Diatoms at Transect 9 only</i> |
|-----------------------------------|

Water Characteristics*: (Mark all that apply.)

| | | | | | |
|------------------|---|---------------------------------|--|--|---------------------------------|
| Odor: | <input type="checkbox"/> Sewage | <input type="checkbox"/> Musky | <input type="checkbox"/> Chemical | <input checked="" type="checkbox"/> None | <input type="checkbox"/> Other: |
| Color: | <input checked="" type="checkbox"/> Clear | <input type="checkbox"/> Green | <input type="checkbox"/> Gray | <input type="checkbox"/> Milky | <input type="checkbox"/> Other: |
| Bottom Deposit: | <input type="checkbox"/> Sludge | <input 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 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 affect another use.

Stream Name & WBID # W. Fl. Locust #D613

Date of Survey 8/15/08

Site # 06

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

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) |
|-----------------|-----------------------------------|-----------|------------|------------------|---------------|
| | | | | | |
| | | NA RUC | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Comments: (Please record any additional comments here.)

NA RUC

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

Printed Names of Personnel Collecting Data: TIFFANIE HAMILTON, JENNIFER HRABIK

Surveyor's Signature: Tiffani A. Hamilt Date of Survey: 8/15/08

Organization: AE Solutions Position: Field Technician

RUC 10-16-08

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

| | |
|---|---|
| Stream Name: <u>W. Fk. Locust. Cr.</u> Waterbody ID: <u>613</u> Site #: <u>0613 06</u> Estimated Channel Incision: <u>0.2</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>478737</u> UTM Y: <u>4449909</u> +/- <u>21</u> (feet) 11 UTM X: <u>478672</u> UTM Y: <u>4449711</u> +/- <u>25</u> (feet) Average Stream Width: <u>9.7</u> (meters) Length of Survey Segment: <u>195.0</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>TAH, JRH</u> | <h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>8/15/2008</u> Time: <u>11:00</u> Dissolved Oxygen: <u>6.15</u> (mg/L) Dissolved Oxygen: <u>65.4</u> (% sat) Specific Cond: <u>400</u> (µS/cm) Water Temperature: <u>20.1</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 |
| | 0.91 | 0.73 | 1.02 | 0.81 | 0.93 | 0.82 | 0.96 | 0.65 | 1.16 | 0.20 | 1.16 | 0.40 | 1.01 | 0.30 | 1.26 | 0.40 | 1.26 | 0.13 | 0.59 | 0.28 | 0.43 | 0.08 |
| 2 | 1.82 | 0.99 | 2.04 | >1.0 | 1.86 | 0.71 | 1.92 | 0.90 | 2.32 | 0.20 | 2.32 | 0.49 | 2.02 | 0.60 | 2.52 | 0.15 | 2.52 | 0.10 | 1.18 | 0.18 | 0.86 | 0.16 |
| 3 | 2.73 | >1.0 | 3.06 | >1.0 | 2.79 | 0.84 | 2.88 | 0.80 | 3.48 | 0.16 | 3.48 | 0.64 | 3.03 | 0.74 | 3.78 | 0.02 | 3.78 | 0.04 | 1.77 | 0.10 | 1.29 | 0.17 |
| 4 | 3.64 | >1.0 | 4.08 | >1.0 | 3.72 | 0.93 | 3.84 | 0.78 | 4.64 | 0.19 | 4.64 | 0.63 | 4.04 | 0.92 | 5.04 | 0.10 | 5.04 | 0.06 | 2.36 | 0.09 | 1.72 | 0.19 |
| 5 | 4.55 | >1.0 | 5.10 | >1.0 | 4.65 | >1.0 | 4.80 | 0.66 | 5.80 | 0.10 | 5.80 | 0.64 | 5.05 | >1.0 | 6.30 | 0.12 | 6.30 | 0.10 | 2.95 | 0.10 | 2.15 | 0.19 |
| 6 | 5.46 | >1.0 | 6.12 | >1.0 | 5.58 | >1.0 | 5.76 | 0.50 | 6.96 | 0.15 | 6.96 | 0.72 | 6.06 | >1.0 | 7.56 | 0.20 | 7.56 | 0.20 | 3.54 | 0.15 | 2.58 | 0.24 |
| 7 | 6.37 | >1.0 | 7.14 | >1.0 | 6.51 | >1.0 | 6.72 | 0.30 | 8.12 | 0.01 | 8.12 | 0.49 | 7.07 | >1.0 | 8.82 | 0.01 | 8.82 | 0.15 | 4.13 | 0.17 | 3.01 | 0.25 |
| 8 | 7.28 | >1.0 | 8.16 | >1.0 | 7.44 | 0.89 | 7.68 | 0.15 | 9.28 | 0.04 | 9.28 | 0.60 | 8.08 | >1.0 | 10.08 | 0.15 | 10.08 | 0.01 | 4.72 | 0.18 | 3.44 | 0.20 |
| 9 | 8.19 | 0.97 | 9.18 | 0.98 | 8.37 | 0.57 | 8.64 | 0.25 | 10.44 | 0.08 | 10.44 | 0.43 | 9.09 | 0.83 | 11.34 | 0.22 | 11.34 | 0.10 | 5.31 | 0.15 | 3.87 | 0.20 |
| Right Bank | 9.10 | 0.00 | 10.20 | 0.00 | 9.30 | 0.00 | 9.60 | 0.00 | 11.60 | 0.00 | 11.60 | 0.00 | 10.10 | 0.00 | 12.60 | 0.00 | 12.60 | 0.00 | 5.90 | 0.00 | 4.30 | 0.00 |
| Feature Type <small>(riffle, run, or pool)</small> | Pool | | Pool | | Pool | | Pool | | Run | | Pool | | Pool | | Run | | Riffle | | Run | | Run | |

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

GPS 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 0.1 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: _____ Date: _____

WBID # 0613
 Site # 07

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)
 (must be completed for each site)

| | |
|---|---|
| Date & Time: <u>8/15/08 11:29</u> | Location Description (e.g., road crossing): |
| Stream Name: <u>W. Fk Locust</u> | <u>50m downstream of Site 06, Transect 11</u> |
| Current Weather Conditions: <u>Partly sunny</u> | Facility Name(s): <u>PSF Locust ridge / Premium Standard Farm</u> |
| Weather Conditions for Past 10 days: <u>0.71" rain</u> | Permit Number(s): <u>MO 0118494 / MO 0118761</u> |
| Official Drought Conditions at time of this survey (search DNR home page for "drought"): 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>0478666</u> | Northing (UTM Y): <u>4449642</u> | Horizontal Accuracy: (EPE / FOM / PDOP) <u>25</u> ²⁴ Meters <u>FT</u> |
| Site 11 | Easting (UTM X): <u>0478619</u> | Northing (UTM Y): <u>4449457</u> | Horizontal Accuracy: (EPE / FOM / PDOP) <u>38</u> ²⁴ Meters <u>FT</u> |

Photos:

| Photo ID# | Photo Purpose | Photo ID# | Photo Purpose | Photo ID# | Photo Purpose |
|-------------|-----------------|-------------|-------------------|-----------|---------------|
| <u>0011</u> | <u>upstream</u> | <u>0012</u> | <u>downstream</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 the 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 <i>Data Sheet D- Recreational Use Interview</i> when conducting interviews.) | | | | |

Stream Name & WBID # W. Fk. Locust #0613

Date of Survey 8/15/08

Site # 07

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

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:

Private Property

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 |

None of the above Comments / Other:

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

| | | | | | | | | |
|----------|----------|----------|-----------|--------|--------|----------|------------|-----------|
| % Cobble | <u>2</u> | % Gravel | <u>90</u> | % Sand | % Silt | <u>8</u> | % Mud/Clay | % Bedrock |
|----------|----------|----------|-----------|--------|--------|----------|------------|-----------|

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

Benthic algae abundant Diatoms abundant Willows - abundant

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 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 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 affect another use.

Stream Name & WBID # W. Fk. Locust #0613

Date of Survey 8/15/08

Site # 07

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

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) |
|-----------------|-----------------------------------|-----------|------------|------------------|---------------|
| | | | | | |
| | | NA RNC | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Comments: (Please record any additional comments here.)

Woody debris at Transects 5, 7, 8.

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

Printed Names of Personnel Collecting Data: TIFFANIE HAMILTON, JENNIFER HRABIK

Surveyor's Signature: Tiff A. Hamilton Date of Survey: 8/15/08

Organization: AE Solutions Position: Field Technician

RNC 10-16-08

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

| | |
|---|---|
| Stream Name: <u>W. Fk. Locust. Cr.</u> Waterbody ID: <u>613</u> Site #: <u>0613 07</u> Estimated Channel Incision: <u>0.2</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>478666</u> UTM Y: <u>4449642</u> +/- <u>25</u> (feet) 11 UTM X: <u>478619</u> UTM Y: <u>4449457</u> +/- <u>38</u> (feet) Average Stream Width: <u>6.2</u> (meters) Length of Survey Segment: <u>150.0</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>TAH, JRH</u> | Dissolved Oxygen |
| | Date: <u>8/15/2008</u> Time: <u>11:29</u> |
| | Dissolved Oxygen: <u>6.32</u> (mg/L) |
| | Dissolved Oxygen: <u>70.2</u> (% sat) |
| | Specific Cond: <u>387</u> (µS/cm) |
| | Water Temperature: <u>20.5</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 |
| | 0.32 | 0.20 | 0.52 | 0.13 | 0.38 | 0.30 | 0.71 | 0.12 | 0.28 | 0.08 | 0.57 | 0.14 | 0.72 | 0.10 | 1.02 | 0.55 | 1.14 | 0.20 | 0.62 | 0.15 | 0.49 | 0.08 |
| 2 | 0.64 | 0.41 | 1.04 | 0.21 | 0.76 | 0.15 | 1.42 | 0.13 | 0.56 | 0.12 | 1.14 | 0.19 | 1.44 | 0.13 | 2.04 | 0.51 | 2.28 | 0.38 | 1.24 | 0.17 | 0.98 | 0.10 |
| 3 | 0.96 | 0.52 | 1.56 | 0.24 | 1.14 | 0.10 | 2.13 | 0.02 | 0.84 | 0.10 | 1.71 | 0.20 | 2.16 | 0.06 | 3.06 | 0.57 | 3.42 | 0.58 | 1.86 | 0.20 | 1.47 | 0.24 |
| 4 | 1.28 | 0.55 | 2.08 | 0.20 | 1.52 | 0.13 | 2.84 | 0.00 | 1.12 | 0.10 | 2.28 | 0.21 | 2.88 | 0.02 | 4.08 | 0.75 | 4.56 | 0.68 | 2.48 | 0.26 | 1.96 | 0.25 |
| 5 | 1.60 | 0.42 | 2.60 | 0.22 | 1.90 | 0.26 | 3.55 | 0.00 | 1.40 | 0.10 | 2.85 | 0.15 | 3.60 | 0.02 | 5.10 | 0.90 | 5.70 | 0.70 | 3.10 | 0.28 | 2.45 | 0.26 |
| 6 | 1.92 | 0.35 | 3.12 | 0.24 | 2.28 | 0.20 | 4.26 | 0.00 | 1.68 | 0.13 | 3.42 | 0.01 | 4.32 | 0.04 | 6.12 | >1.0 | 6.84 | 0.49 | 3.72 | 0.29 | 2.94 | 0.28 |
| 7 | 2.24 | 0.25 | 3.64 | 0.23 | 2.66 | 0.17 | 4.97 | 0.00 | 1.96 | 0.13 | 3.99 | 0.02 | 5.04 | 0.08 | 7.14 | 0.82 | 7.98 | 0.34 | 4.34 | 0.30 | 3.43 | 0.30 |
| 8 | 2.56 | 0.10 | 4.16 | 0.18 | 3.04 | 0.10 | 5.68 | 0.00 | 2.24 | 0.14 | 4.56 | 0.01 | 5.76 | 0.08 | 8.16 | 0.71 | 9.12 | 0.30 | 4.96 | 0.30 | 3.92 | 0.31 |
| 9 | 2.88 | 0.02 | 4.68 | 0.12 | 3.42 | 0.06 | 6.39 | 0.10 | 2.52 | 0.12 | 5.13 | 0.03 | 6.48 | 0.10 | 9.18 | 0.53 | 10.26 | 0.46 | 5.58 | 0.25 | 4.41 | 0.24 |
| Right Bank | 3.20 | 0.00 | 5.20 | 0.00 | 3.80 | 0.00 | 7.10 | 0.00 | 2.80 | 0.00 | 5.70 | 0.00 | 7.20 | 0.00 | 10.20 | 0.00 | 11.40 | 0.00 | 6.20 | 0.00 | 4.90 | 0.00 |
| Feature Type <small>(riffle, run, or pool)</small> | Run | | Run | | Riffle | | Run | | Run | | Riffle | | Run | | Pool | | Pool | | 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 0.1 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: _____ Date: _____

WBID # 0613

Site # 0613-08

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)

(must be completed for each site)

| | |
|---|--|
| Date & Time: <u>8/15/08 12:33</u> | Location Description (e.g., road crossing): |
| Stream Name: <u>W. Fr. Locust</u> | <u>Collin rd/dri. crossing</u> |
| Current Weather Conditions: <u>Partly Sunny</u> | Facility Name(s): <u>PSF Locust ridge / Premium Standard Farms</u> |
| Weather Conditions for Past 10 days: <u>0.71" rain</u> | Permit Number(s): <u>MO 0118494 / MO 0118761</u> |
| Official Drought Conditions at time of this survey (search DNR home page for "drought"): 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>0480749</u> | Northing (UTM Y): <u>4446266</u> | Horizontal Accuracy: (EPE / FOM / PDOP) <u>14</u> Meters ²⁴ FT |
| Site 11 | Easting (UTM X): <u>0480863</u> | Northing (UTM Y): <u>4446133</u> | Horizontal Accuracy: (EPE / FOM / PDOP) <u>14</u> Meters ²⁴ FT |

Photos:

| Photo ID# | Photo Purpose | Photo ID# | Photo Purpose | Photo ID# | Photo Purpose |
|-------------|-----------------|-------------|-------------------|-----------|---------------|
| <u>0013</u> | <u>upstream</u> | <u>0014</u> | <u>downstream</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 the 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.) | | | | |

Stream Name & WBID # W. Fr. Locust 0613

Date of Survey 8/15/08

Site # 0613-08

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

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: <i>Private Property</i> | | | | |

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 |
| <input checked="" type="checkbox"/> None of the above | Comments / Other: | | | |

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

| | | | | | |
|-------------------|-------------------|------------------|-----------------|----------------------------|--------------------|
| <u>5</u> % Cobble | <u>—</u> % Gravel | <u>90</u> % Sand | <u>—</u> % Silt | <u>5</u> % <u>Mud/Clay</u> | <u>—</u> % Bedrock |
|-------------------|-------------------|------------------|-----------------|----------------------------|--------------------|

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

Benthic algae - abundant

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 checked="" type="checkbox"/> Fine sediments | <input checked="" type="checkbox"/> None | <input type="checkbox"/> Other: |
| Surface Deposit: | <input type="checkbox"/> Oil | <input type="checkbox"/> Scum | <input type="checkbox"/> Foam | <input checked="" type="checkbox"/> None | <input type="checkbox"/> Other: |

*This information is not to be used solely for removal of a recreational use designation but rather is to provide a more comprehensive understanding of water conditions. Consequently, this information is not intended to directly influence a decision on the recreation use analysis but may point to conditions that need further analysis or that affect another use.

Stream Name & WBID # W. Pr. Locust 0613

Date of Survey 8/15/08

Site # 0613-08

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

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 | BWC | | |
| | | | | | |
| | | | | | |
| | | | | | |

Comments: (Please record any additional comments here.)

N/A BWC

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

Printed Names of Personnel Collecting Data: TIFFANIE HAMILTON, JENNIFER HRABIK

Surveyor's Signature: Tiffany A. Hamilton Date of Survey: 8/15/08

Organization: AE Solutions Position: Field Technician

BWC 10-16-08

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

| | |
|---|--|
| Stream Name: <u>W. Fk. Locust. Cr.</u> Waterbody ID: <u>613</u> Site #: <u>0613 08</u> Estimated Channel Incision: <u>0.2</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>480749</u> UTM Y: <u>4446266</u> +/- <u>14</u> (feet) 11 UTM X: <u>480863</u> UTM Y: <u>4446133</u> +/- <u>14</u> (feet) Average Stream Width: <u>7.1</u> (meters) Length of Survey Segment: <u>150.0</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>TAH, JRH</u> | Dissolved Oxygen |
| | Date: <u>8/15/2008</u> Time: <u>12:33</u> Dissolved Oxygen: <u>7.59</u> (mg/L) Dissolved Oxygen: <u>86.5</u> (% sat) Specific Cond: <u>412</u> (µS/cm) Water Temperature: <u>21.7</u> (°C) |

Transect Cross-Section

| | | 01 | | 02 | | 03 | | 04 | | 05 | | 06 | | 07 | | 08 | | 09 | | 10 | | 11 | |
|--|--|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|
| Station | | 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 | |
| | | 0.37 | 0.23 | 0.46 | 0.20 | 0.36 | 0.20 | 0.99 | >1.0 | 0.89 | 0.71 | 0.57 | 0.28 | 0.75 | 0.33 | 1.07 | 0.30 | 0.73 | 0.25 | 0.82 | 0.10 | 0.75 | 0.20 |
| 2 | | 0.74 | 0.21 | 0.92 | 0.25 | 0.72 | 0.18 | 1.98 | >1.0 | 1.78 | >1.0 | 1.14 | 0.29 | 1.50 | 0.41 | 2.14 | 0.23 | 1.46 | 0.30 | 1.64 | 0.13 | 1.50 | 0.15 |
| 3 | | 1.11 | 0.19 | 1.38 | 0.28 | 1.08 | 0.15 | 2.97 | >1.0 | 2.67 | >1.0 | 1.71 | 0.33 | 2.25 | 0.46 | 3.21 | 0.19 | 2.19 | 0.31 | 2.46 | 0.24 | 2.25 | 0.14 |
| 4 | | 1.48 | 0.19 | 1.84 | 0.31 | 1.44 | 0.12 | 3.96 | >1.0 | 3.56 | >1.0 | 2.28 | 0.35 | 3.00 | 0.50 | 4.28 | 0.14 | 2.92 | 0.30 | 3.28 | 0.29 | 3.00 | 0.15 |
| 5 | | 1.85 | 0.20 | 2.30 | 0.38 | 1.80 | 0.15 | 4.95 | >1.0 | 4.45 | >1.0 | 2.85 | 0.41 | 3.75 | 0.49 | 5.35 | 0.13 | 3.65 | 0.26 | 4.10 | 0.30 | 3.75 | 0.20 |
| 6 | | 2.22 | 0.21 | 2.76 | 0.30 | 2.16 | 0.18 | 5.94 | >1.0 | 5.34 | >1.0 | 3.42 | 0.26 | 4.50 | 0.62 | 6.42 | 0.19 | 4.38 | 0.22 | 4.92 | 0.33 | 4.50 | 0.24 |
| 7 | | 2.59 | 0.21 | 3.22 | 0.28 | 2.52 | 0.20 | 6.93 | >1.0 | 6.23 | >1.0 | 3.99 | 0.29 | 5.25 | 0.66 | 7.49 | 0.21 | 5.11 | 0.24 | 5.74 | 0.36 | 5.25 | 0.19 |
| 8 | | 2.96 | 0.19 | 3.68 | 0.20 | 2.88 | 0.28 | 7.92 | >1.0 | 7.12 | 0.99 | 4.56 | 0.30 | 6.00 | 0.98 | 8.56 | 0.30 | 5.84 | 0.25 | 6.56 | 0.30 | 6.00 | 0.17 |
| 9 | | 3.33 | 0.10 | 4.14 | 0.10 | 3.24 | 0.31 | 8.91 | >1.0 | 8.01 | 0.87 | 5.13 | 0.16 | 6.75 | >1.0 | 9.63 | 0.39 | 6.57 | 0.18 | 7.38 | 0.34 | 6.75 | 0.13 |
| Right Bank | | 3.70 | 0.00 | 4.60 | 0.00 | 3.60 | 0.00 | 9.90 | 0.97 | 8.90 | 0.51 | 5.70 | 0.00 | 7.50 | 0.00 | 10.70 | 0.00 | 7.30 | 0.00 | 8.20 | 0.00 | 7.50 | 0.00 |
| Feature Type <small>(riffle, run, or pool)</small> | | Run | | Run | | Run | | Pool | |

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 0.1 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: _____ Date: _____

WBID # 0013

Site # 09

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)
(must be completed for each site)

| | |
|---|--|
| Date & Time: <u>8/15/08</u> <u>13:16</u> | Location Description (e.g., road crossing): <u>Crossing at Redwood Rd</u> |
| Stream Name: <u>W. Pk. Locust</u> | |
| Current Weather Conditions: <u>Partly sunny</u> | Facility Name(s): <u>PSF Locust ridge / Premium Standard Farms</u> |
| Weather Conditions for Past 10 days: <u>0.71" rain</u> | Permit Number(s): <u>MO 0118494 / MO 0118761</u> |
| Official Drought Conditions at time of this survey (search DNR home page for "drought"): 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>0481709</u> | Northing (UTM Y): <u>4445093</u> | Horizontal Accuracy: (EPE / FOM / PDOP) <u>16</u> ^M Meters ^{FT} FT |
| Site 11 | Easting (UTM X): <u>0481664</u> | Northing (UTM Y): <u>4444928</u> | Horizontal Accuracy: (EPE / FOM / PDOP) <u>21</u> ^M Meters ^{FT} FT |

Photos:

| Photo ID# | Photo Purpose | Photo ID# | Photo Purpose | Photo ID# | Photo Purpose |
|-------------|-----------------|-------------|-------------------|-----------|---------------|
| <u>0015</u> | <u>upstream</u> | <u>0016</u> | <u>downstream</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 the 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.) | | | | |

Stream Name & WBID # W. Fk. Locust #0613

Date of Survey 8/15/08

Site # 09

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

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:

Private Property

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 |

None of the above Comments / Other:

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

| | | | | | |
|-------------------|-------------------|------------------|-----------------|----------------------|--------------------|
| <u>—</u> % Cobble | <u>5</u> % Gravel | <u>70</u> % Sand | <u>—</u> % Silt | <u>25</u> % Mud/Clay | <u>—</u> % Bedrock |
|-------------------|-------------------|------------------|-----------------|----------------------|--------------------|

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

Diatoms-abundant

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 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 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 affect another use.

Stream Name & WBID # W. Fk. Loust #0613

Date of Survey 8/15/08

Site # 09

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

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) |
|-----------------|-----------------------------------|-----------|------------|------------------|---------------|
| | | | | | |
| | | NA BWC | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Comments: (Please record any additional comments here.)

Woody debris at Transects 3, 7
~~DATA~~

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

Printed Names of Personnel Collecting Data: TIFFANIE HAMILTON, JENNIFER HRABIK

Surveyor's Signature: Tiffanie A. Hamilton Date of Survey: 8/15/08

Organization: AE Solutions. Position: FIELD TECHNICIAN

BWC 10-16-08

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

| | |
|---|--|
| Stream Name: <u>W. Fk. Locust. Cr.</u> Waterbody ID: <u>613</u> Site #: <u>0613 09</u> Estimated Channel Incision: <u>0.2</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>481709</u> UTM Y: <u>4445093</u> +/- <u>16</u> (feet) 11 UTM X: <u>481664</u> UTM Y: <u>4444928</u> +/- <u>21</u> (feet) Average Stream Width: <u>8.0</u> (meters) Length of Survey Segment: <u>160.0</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>TAH, JRH</u> | Dissolved Oxygen |
| | Date: <u>8/15/2008</u> Time: <u>13:16</u> Dissolved Oxygen: <u>5.88</u> (mg/L) Dissolved Oxygen: <u>69</u> (% sat) Specific Cond: <u>404</u> (µS/cm) Water Temperature: <u>23.3</u> (°C) |

Transect Cross-Section

| | | 01 | | 02 | | 03 | | 04 | | 05 | | 06 | | 07 | | 08 | | 09 | | 10 | | 11 | |
|--|--|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|
| Station | | 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 | |
| | | 0.89 | 0.26 | 0.89 | 0.61 | 0.91 | 0.75 | 0.89 | 0.60 | 0.91 | 0.60 | 0.61 | 0.41 | 0.51 | 0.40 | 0.73 | 0.55 | 0.84 | 0.65 | 0.90 | 0.44 | 0.67 | 0.20 |
| 2 | | 1.78 | 0.52 | 1.78 | 0.59 | 1.82 | 0.71 | 1.78 | 0.65 | 1.82 | 0.54 | 1.22 | 0.44 | 1.02 | 0.35 | 1.46 | 0.75 | 1.68 | 0.64 | 1.80 | 0.91 | 1.34 | 0.22 |
| 3 | | 2.67 | 0.70 | 2.67 | 0.70 | 2.73 | 0.70 | 2.67 | 0.56 | 2.73 | 0.32 | 1.83 | 0.44 | 1.53 | 0.41 | 2.19 | 0.60 | 2.52 | 0.75 | 2.70 | >1.0 | 2.01 | 0.29 |
| 4 | | 3.56 | 0.81 | 3.56 | 0.66 | 3.64 | 0.68 | 3.56 | 0.44 | 3.64 | 0.47 | 2.44 | 0.43 | 2.04 | 0.45 | 2.92 | 0.60 | 3.36 | 0.59 | 3.60 | >1.0 | 2.68 | 0.25 |
| 5 | | 4.45 | 0.84 | 4.45 | 0.70 | 4.55 | 0.59 | 4.45 | 0.35 | 4.55 | 0.34 | 3.05 | 0.43 | 2.55 | 0.60 | 3.65 | 0.56 | 4.20 | 0.41 | 4.50 | >1.0 | 3.35 | 0.28 |
| 6 | | 5.34 | 0.80 | 5.34 | 0.68 | 5.46 | 0.54 | 5.34 | 0.41 | 5.46 | 0.22 | 3.66 | 0.42 | 3.06 | 0.54 | 4.38 | 0.54 | 5.04 | 0.28 | 5.40 | >1.0 | 4.02 | 0.24 |
| 7 | | 6.23 | 0.78 | 6.23 | 0.77 | 6.37 | 0.50 | 6.23 | 0.35 | 6.37 | 0.30 | 4.27 | 0.45 | 3.57 | 0.59 | 5.11 | 0.49 | 5.88 | 0.24 | 6.30 | >1.0 | 4.69 | 0.21 |
| 8 | | 7.12 | 0.79 | 7.12 | 0.89 | 7.28 | 0.54 | 7.12 | 0.25 | 7.28 | 0.30 | 4.88 | 0.39 | 4.08 | 0.53 | 5.84 | 0.45 | 6.72 | 0.28 | 7.20 | 0.84 | 5.36 | 0.22 |
| 9 | | 8.01 | 0.74 | 8.01 | 0.37 | 8.19 | 0.47 | 8.01 | 0.26 | 8.19 | 0.45 | 5.49 | 0.24 | 4.59 | 0.48 | 6.57 | 0.29 | 7.56 | 0.16 | 8.10 | 0.40 | 6.03 | 0.10 |
| Right Bank | | 8.90 | 0.00 | 8.90 | 0.00 | 9.10 | 0.00 | 8.90 | 0.00 | 9.10 | 0.00 | 6.10 | 0.00 | 5.10 | 0.34 | 7.30 | 0.00 | 8.40 | 0.00 | 9.00 | 0.00 | 6.70 | 0.00 |
| Feature Type <small>(riffle, run, or pool)</small> | | 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 (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 0.1 meter unless depth is too deep to measure (then record as > 1)

All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: _____ Date: _____

WBID # 0613

Site # 0613-0110
2011

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 1 of 3)
 (must be completed for each site)

| | |
|---|--|
| Date & Time: <u>8/15/08 1406</u> | Location Description (e.g., road crossing): <u>Hwy 6 Crossing - upstream 150 m.</u> |
| Stream Name: <u>W. Fk. Locust</u> | |
| Current Weather Conditions: <u>mostly cloudy</u> | Facility Name(s): <u>PSF locust ridge / Premium Standard Farms</u> |
| Weather Conditions for Past 10 days: <u>0.71" rain</u> | Permit Number(s): <u>MO 0118494 / MO 0118761</u> |
| Official Drought Conditions at time of this survey (search DNR home page for "drought"): 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>0481512</u> | Northing (UTM Y): <u>4443341</u> | Horizontal Accuracy: (EPE / FOM / PDOP) <u>14</u> Meters ⁷⁴ Ft |
| Site 11 | Easting (UTM X): <u>0481628</u> | Northing (UTM Y): <u>4443223</u> | Horizontal Accuracy: (EPE / FOM / PDOP) <u>20</u> Meters ⁷⁴ Ft |

Photos:

| Photo ID# | Photo Purpose | Photo ID# | Photo Purpose | Photo ID# | Photo Purpose |
|-------------|-----------------|-------------|-------------------|-----------|---------------|
| <u>0017</u> | <u>upstream</u> | <u>0018</u> | <u>downstream</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 the 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.) | | | | |

Stream Name & WBID # W. Fr. Locust 0613

Date of Survey 8/15/08

Site # 0613-0110
JCH

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 2 of 3)

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 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 |

None of the above

Comments / Other:

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

| | | | | | |
|-----------------------------------|-----------------------|------------------|---------------------------------|----------------------|------------------------------------|
| <input type="checkbox"/> % Cobble | <u>trace</u> % Gravel | <u>90</u> % Sand | <input type="checkbox"/> % Silt | <u>10</u> % Mud/Clay | <input type="checkbox"/> % Bedrock |
|-----------------------------------|-----------------------|------------------|---------------------------------|----------------------|------------------------------------|

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

Benthic algae - abundant

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 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 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 affect another use.

Stream Name & WBID # W. Fk. Locust 0613

Date of Survey 8/15/08

Site # 0613-0110
211

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B – Site Characterization (Page 3 of 3)

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) |
|-----------------|-----------------------------------|-----------|------------|------------------|---------------|
| | | | | | |
| | | NA RWC | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Comments: (Please record any additional comments here.)

Woody debris at Transects 1, 2, 4

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

Printed Names of Personnel Collecting Data: TIFFANIE HAMILTON, JENNIFER HRABIK

Surveyor's Signature: Tiffanie Hamilton Date of Survey: 8/15/08

Organization: AE Solutions Position: FIELD TECHNICIAN

RWC 10-16-08

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet C - Field Survey Results

| | |
|---|---|
| Stream Name: <u>W. Fk. Locust. Cr.</u> Waterbody ID: <u>613</u> Site #: <u>0613 10</u> Estimated Channel Incision: <u>0.2</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>481512</u> UTM Y: <u>4443341</u> +/- <u>14</u> (feet) 11 UTM X: <u>481628</u> UTM Y: <u>4443223</u> +/- <u>20</u> (feet) Average Stream Width: <u>5.7</u> (meters) Length of Survey Segment: <u>150.0</u> (meters) (To determine Length of Reach) (20x average stream width) Field Staff: <u>TAH, JRH</u> | <h4 style="text-align: center; margin: 0;">Dissolved Oxygen</h4> Date: <u>8/15/2008</u> Time: <u>14:06</u> Dissolved Oxygen: <u>7.95</u> (mg/L) Dissolved Oxygen: <u>90.8</u> (% sat) Specific Cond: <u>328</u> (µS/cm) Water Temperature: <u>22.6</u> (°C) |
|---|---|

Transect Cross-Section

| | | 01 | | 02 | | 03 | | 04 | | 05 | | 06 | | 07 | | 08 | | 09 | | 10 | | 11 | |
|--|--|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|--------------|-----------|
| Station | | 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 | |
| | | 0.31 | 0.06 | 0.58 | 0.20 | 0.44 | 0.21 | 0.31 | 0.21 | 0.78 | 0.35 | 0.70 | 0.64 | 0.53 | 0.29 | 0.54 | 0.45 | 0.50 | 0.43 | 0.47 | 0.19 | 1.10 | 0.78 |
| 2 | | 0.62 | 0.08 | 1.16 | 0.01 | 0.88 | 0.25 | 0.62 | 0.28 | 1.56 | 0.35 | 1.40 | 0.55 | 1.06 | 0.29 | 1.08 | 0.55 | 1.00 | 0.42 | 0.94 | 0.22 | 2.20 | >1.0 |
| 3 | | 0.93 | 0.10 | 1.74 | 0.19 | 1.32 | 0.29 | 0.93 | 0.31 | 2.34 | 0.34 | 2.10 | 0.47 | 1.59 | 0.28 | 1.62 | 0.51 | 1.50 | 0.36 | 1.41 | 0.18 | 3.30 | >1.0 |
| 4 | | 1.24 | 0.13 | 2.32 | 0.21 | 1.76 | 0.19 | 1.24 | 0.34 | 3.12 | 0.28 | 2.80 | 0.52 | 2.12 | 0.28 | 2.16 | 0.44 | 2.00 | 0.31 | 1.88 | 0.17 | 4.40 | >1.0 |
| 5 | | 1.55 | 0.20 | 2.90 | 0.25 | 2.20 | 0.16 | 1.55 | 0.40 | 3.90 | 0.25 | 3.50 | 0.40 | 2.65 | 0.27 | 2.70 | 0.28 | 2.50 | 0.28 | 2.35 | 0.14 | 5.50 | >1.0 |
| 6 | | 1.86 | 0.20 | 3.48 | 0.25 | 2.64 | 0.12 | 1.86 | 0.51 | 4.68 | 0.01 | 4.20 | 0.32 | 3.18 | 0.26 | 3.24 | 0.21 | 3.00 | 0.25 | 2.82 | 0.12 | 6.60 | >1.0 |
| 7 | | 2.17 | 0.25 | 4.06 | 0.20 | 3.08 | 0.09 | 2.17 | 0.51 | 5.46 | 0.19 | 4.90 | 0.29 | 3.71 | 0.24 | 3.78 | 0.19 | 3.50 | 0.20 | 3.29 | 0.13 | 7.70 | >1.0 |
| 8 | | 2.48 | 0.25 | 4.64 | 0.01 | 3.52 | 0.06 | 2.48 | 0.39 | 6.24 | 0.20 | 5.60 | 0.26 | 4.24 | 0.20 | 4.32 | 0.12 | 4.00 | 0.19 | 3.76 | 0.15 | 8.80 | >1.0 |
| 9 | | 2.79 | 0.36 | 5.22 | 0.08 | 3.96 | 0.01 | 2.79 | 0.31 | 7.02 | 0.20 | 6.30 | 0.23 | 4.77 | 0.10 | 4.86 | 0.08 | 4.50 | 0.15 | 4.23 | 0.10 | 9.90 | 0.68 |
| Right Bank | | 3.10 | 0.00 | 5.80 | 0.00 | 4.40 | 0.00 | 3.10 | 0.00 | 7.80 | 0.00 | 7.00 | 0.00 | 5.30 | 0.34 | 5.40 | 0.00 | 5.00 | 0.00 | 4.70 | 0.00 | 11.00 | 0.00 |
| Feature Type <small>(riffle, run, or pool)</small> | | 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 (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 0.1 meter unless depth is too deep to measure (then record as > 1)
 All measurements to be taken to the nearest 0.01 meter.

Surveyor's Signature: _____ Date: _____

WBID #0613

Site 1

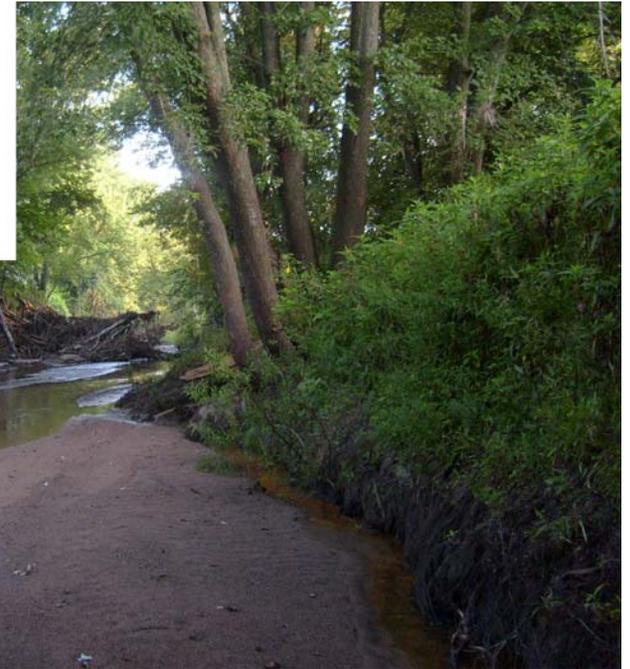
Downstream



WBID #0613

Site #2

Upstream



WBID #0613

Site 1

Upstream



WBID #0613
Site 1

Footprints b/w
Transects 1 & 2

WBID #0613

Site #2

Downstream



WBID #0613

Site #3

Downstream



WBID #0613

Site #2

Downstream



WBID #0613

Site #3

Upstream



WBID #0013

Site #4

Upstream



WBID #0013

Site #5

upstream



WBID #0013

Site #4

Upstream



WBID #0013

Site #4

Downstream



WBID #0013

Site #6

Upstream



WBID #0013

Site #6

Downstream



WBID #0013

Site #5

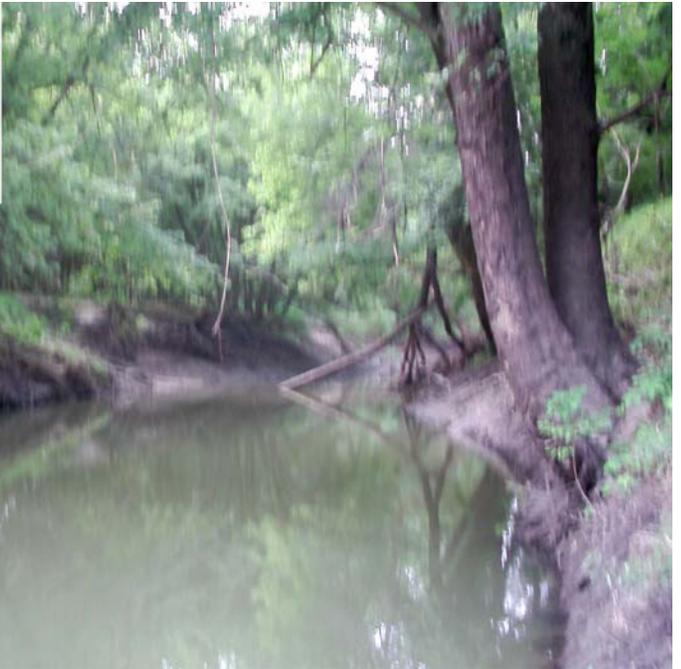
Downstream



WBID #0013

Site #6

Downstream



WBID #0013

Site #7

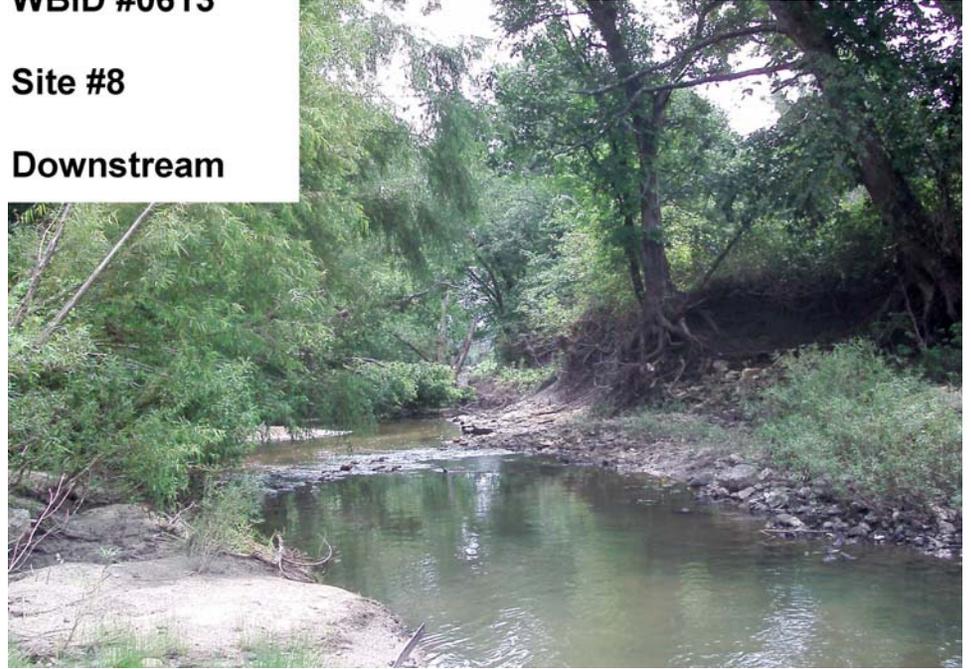
Downstream



WBID #0013

Site #8

Downstream



WBID #0013

Site #7

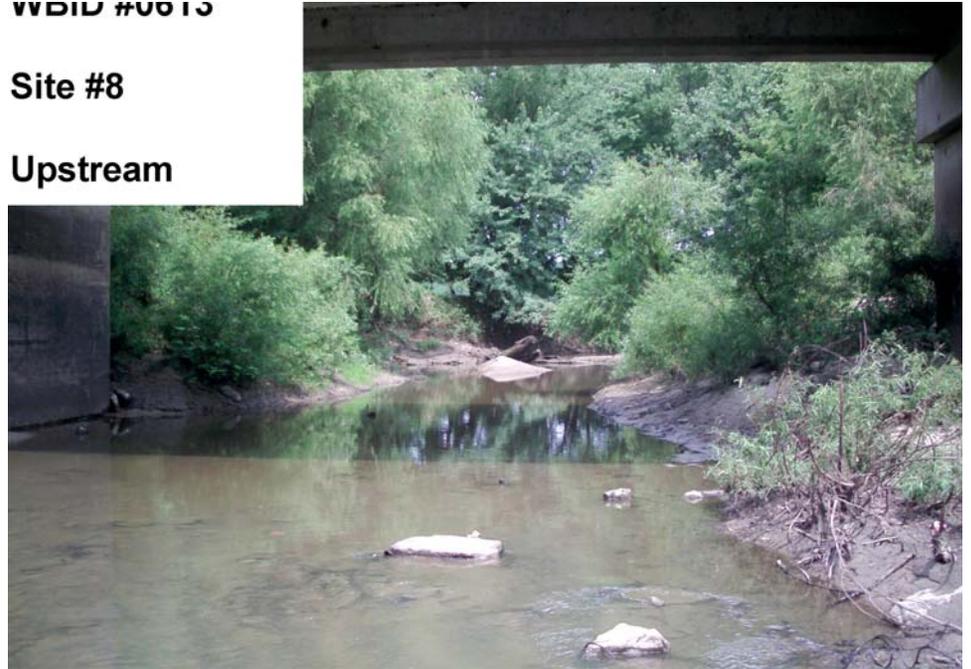
Upstream



WBID #0013

Site #8

Upstream



WBID #0013

Site #9

Downstream



WBID #0013

Site #10

Downstream



WBID #0013

Site #9

Upstream



WBID #0013

Site #10

Upstream

