



Missouri
Department of
Natural Resources

Use Attainability Analysis

for

WBID 1264 East Branch

Submitted by

Missouri Department of Natural Resources Staff

To

Missouri Department of Natural Resources
Water Protection Program

RECEIVED

2005 JUN 30 PM 3:46

WATER PROTECTION PROGRAM

Field Data Sheets for Recreational Use Stream Surveys

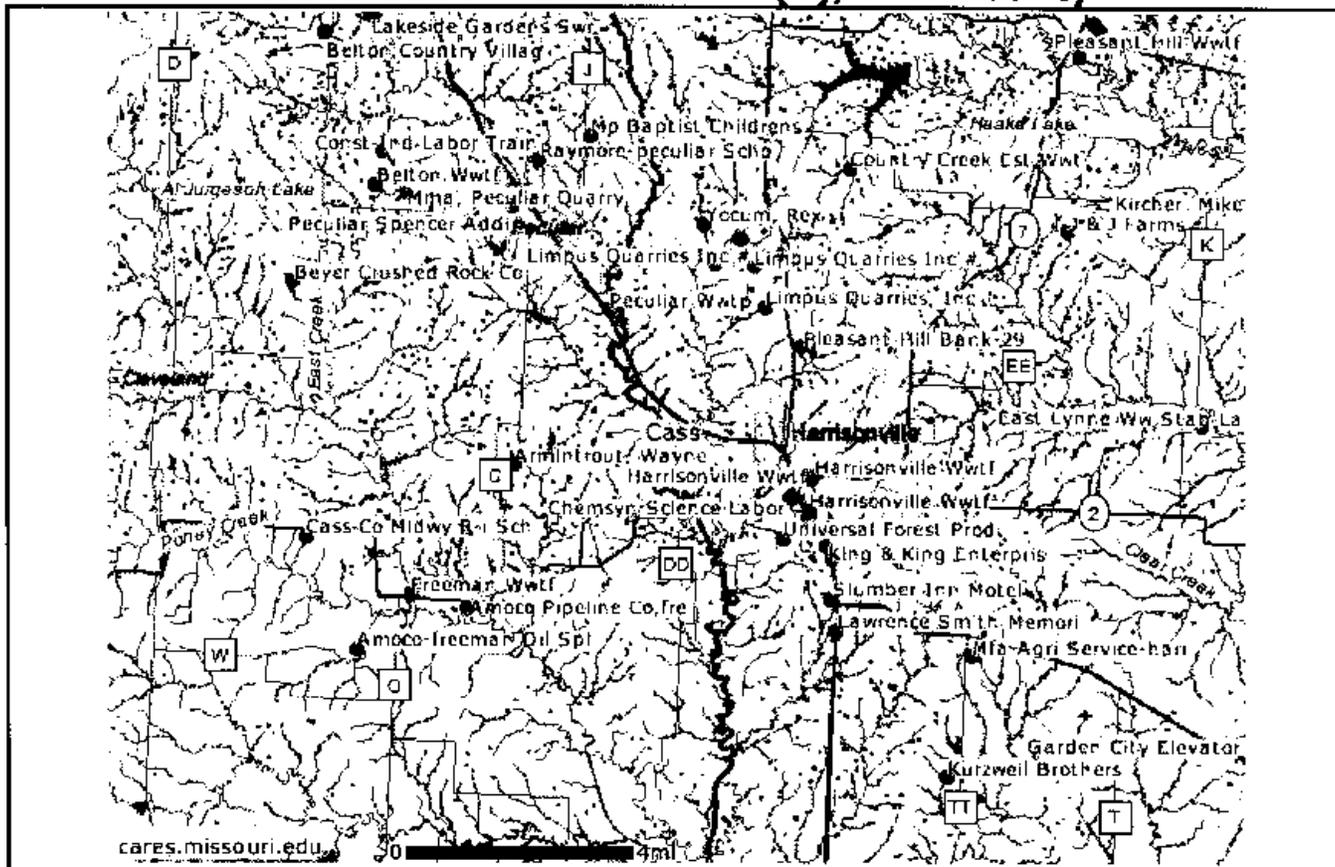
Data Sheet A - Water Body Identification

Water Body Name: (from USGS 7.5' quad)	East Branch South Grand River	
8-digit HUC:	10290108	
Missouri WBID #:	1264	
County:	Cass County	
Upstream Legal Description:	East Branch + 195 th	
Downstream Legal Description:	East Branch + 307 th	
Upstream Coordinates: (UGS 84, ddd.ddddd)	N. 38.76689	W. 094.42530
Downstream Coordinates: (UGS 84, ddd.ddddd)	N. 38.56042	W. 094.39101
Discharger Facility Name(s):	Harrisonville WWTP, Pleasant Hill Bank - 291 WW	
Discharger Permit Number(s):	M00028070, M00120723	
Number of Sites Evaluated:	6	
Name of Surveyor and Telephone Number:	Michael Cunningham / 816-381-622-7016	
Organization:	MDNR / KCRD	
Position:	E.S. 1	

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

Signed: Michael A. Cunningham Date: 6/24/05

WBID 1264 -- East Branch (C), Cass County



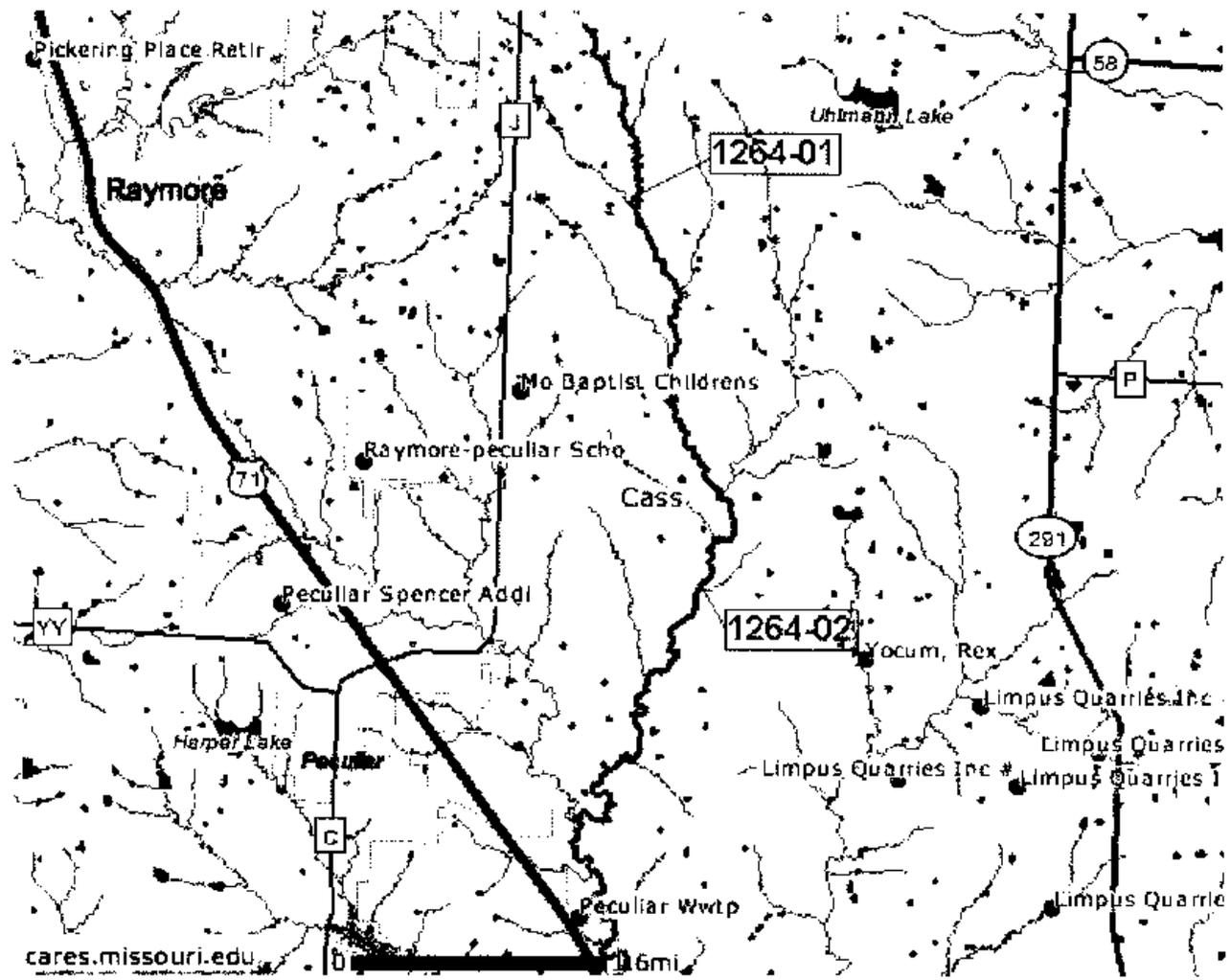
Legend

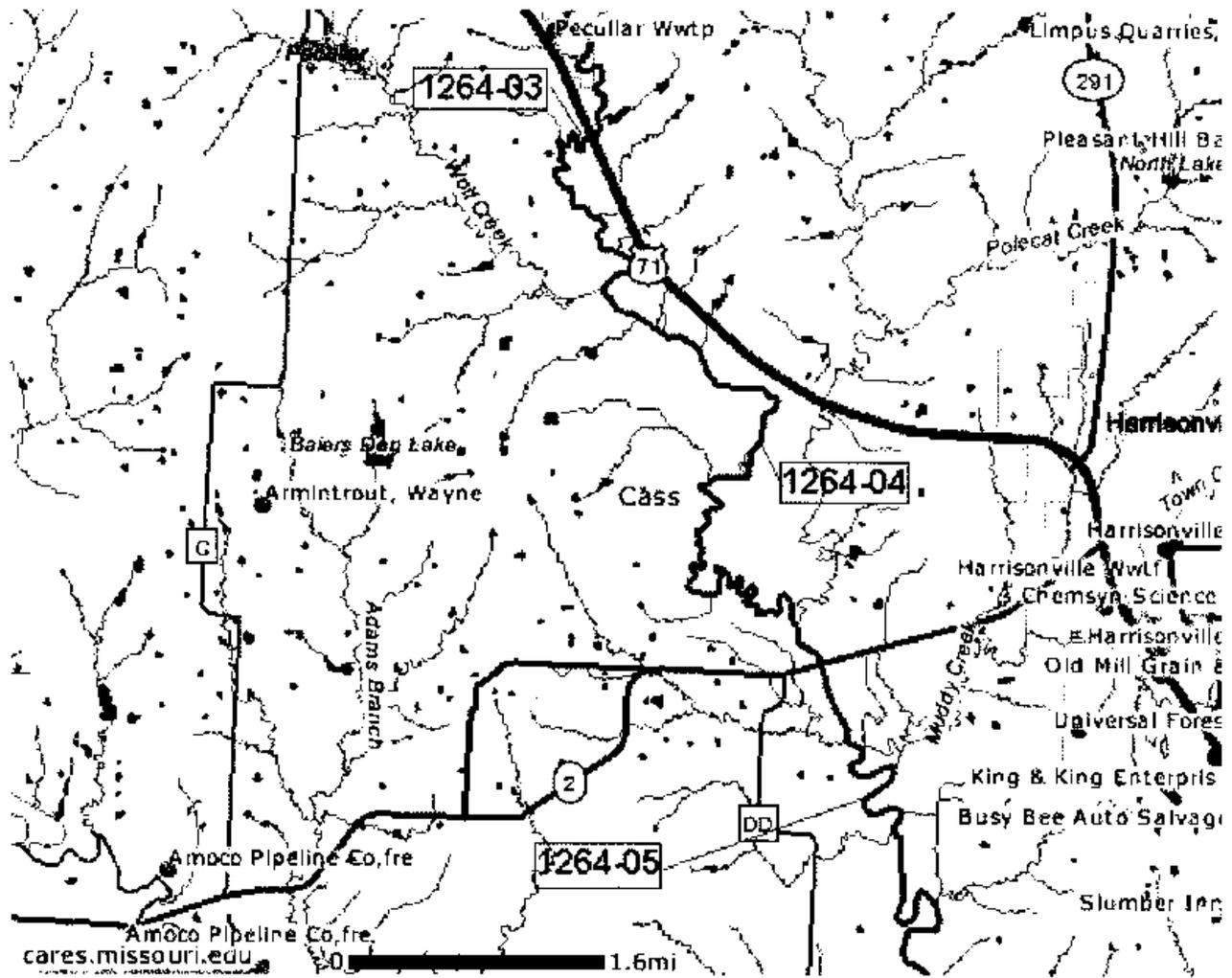
- | | |
|--|------------------------------|
| [Name] = "east branch south grand river" | Other Hydrologic Feature |
| Water Quality Information System (WQIS) | Incorporated Areas |
| Roads and Highways | City |
| Interstate | Town |
| U.S. Highway | Village |
| State Numbered Highway | Census Designated Place |
| State Lettered Highway | Other |
| County Boundaries | 1:24,000 Water Bodies |
| 1:24,000 Rivers and Streams | Lake or Pond |
| Perennial Stream/River | Lake or Pond (Intermittent) |
| Intermittent Stream/River | Reservoir |
| Artificial Path (Approx. Centerline) | Stream or River |
| Undifferentiated Stream/River | Swamp or Marsh |
| Canal or Ditch | Canal or Ditch |
| (cont) | Other Water Body |

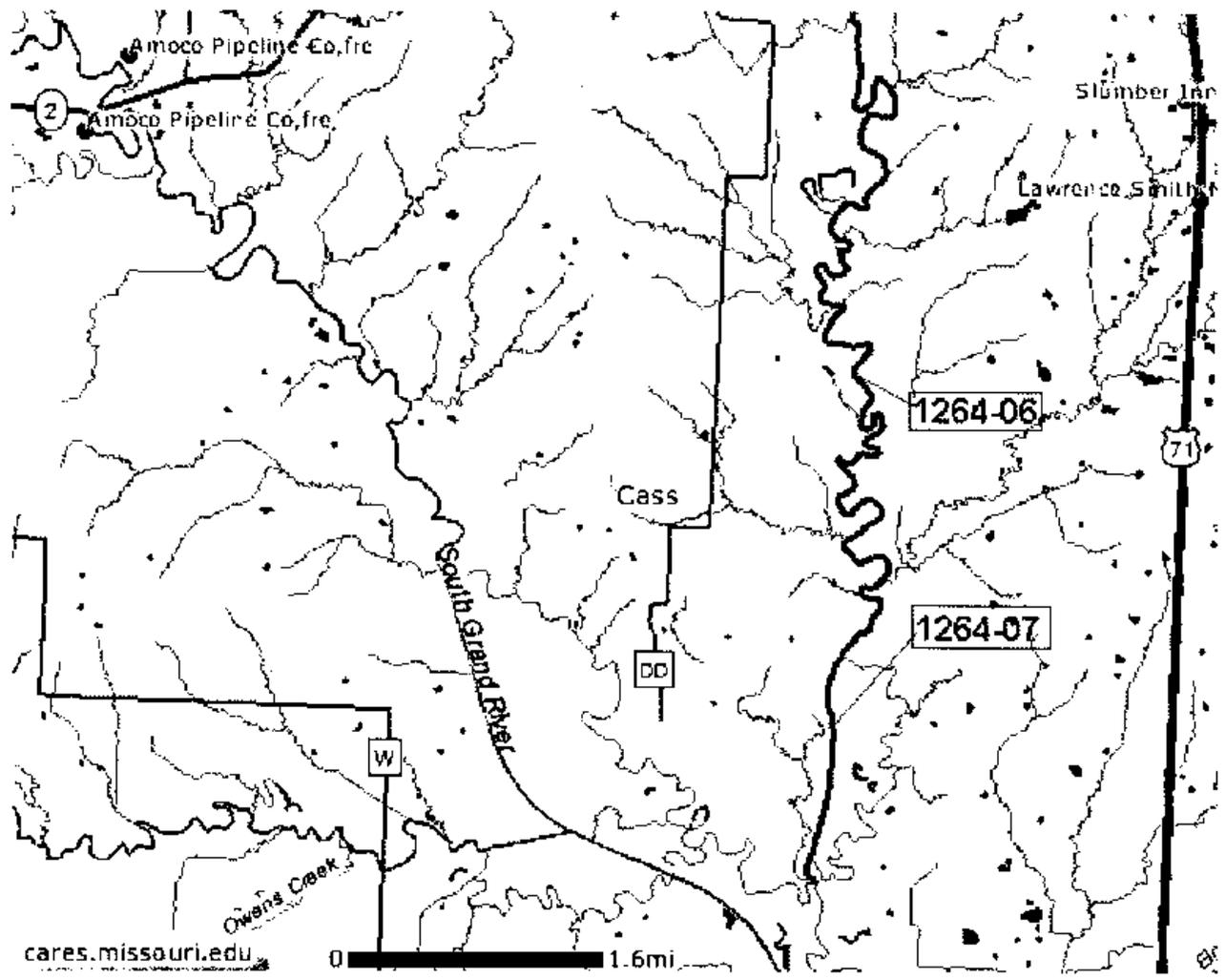
Location Map



Map prepared by:
<http://cares.missouri.edu>, 6/27/2005.







Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>3321-1264</u>	Site Location Description: <u>01</u>		
Site GPS Coordinates: <u>N. 38.76689</u> <u>W. 894.42530</u>	<u>East Branch + 195th</u>		
Date & Time: <u>6/24/05 @ 09:00</u>	Facility Name: <u>Harrisonville wwpf, Pleasant Hill Bank-29 wwp</u>		
Personnel: <u>M. Cunningham</u>	Permit Number: <u>MO 0028070, MO0120723</u>		
Current Weather Conditions: <u>75°F + Clear</u>	Weather Conditions for Past 7 days: <u>Hot + Humid</u>		
Photo Ids: Upstream: <u>1, 2, 3</u>	Downstream: <u>4, 5, 6</u>	Other: <u>—</u>	

Uses Observed*:

<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, frequency of use, photo-documentation of evidence of recreational uses, etc.)				

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"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: <u>Corn field</u> <u>Cow Pasture</u>	

Evidence of Human Use*:

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

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

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Stream Morphology:

Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>Dry</u>	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Flow Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Estimated (ft ³ /sec):	

Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>Dry</u>	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Flow Present?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Estimated (ft ³ /sec):	

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

% Cobble	% Gravel	% Sand	% Silt	<u>100</u> % Mud/Clay	% Bedrock
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Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

Water Characteristics*: (Mark all that apply.)

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

Comments: Please attach additional comments (including information from interviews) to this form.

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

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

Signed: Matt A. C. [Signature] Date: 6/24/05

Organization: MONR/MCRO Position: E.S. I

1264_001_US



1264_001_DS



Due to duplication of photos not all are displayed.

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>332+ 1264</u>	Site Location Description: <u>02</u>	
Site GPS Coordinates: <u>N. 38.73052</u> <u>W. 094.41766</u>	<u>East Branch + 215th</u>	
Date & Time: <u>6/24/05 @ 09:45</u>	Facility Name: <u>Harrisonville WWTF, Pleasant Hill Bank-291st</u>	
Personnel: <u>M. Cunningham</u>	Permit Number: <u>MO 0028070, MO01200 MO0120723</u>	
Current Weather Conditions: <u>75°F + Clear</u>	Weather Conditions for Past 7 days: <u>Hot + Humid</u>	
Photo Ids: Upstream: <u>7, 8, 9</u>	Downstream: <u>10, 11, 12</u>	Other: <u>—</u>

Uses Observed*:

<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, frequency of use, photo-documentation of evidence of recreational uses, etc.)				

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"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Fence	<input type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:	

Evidence of Human Use*:

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

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

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Stream Morphology:

Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Pool	Width (ft): <u>10</u>	Length (ft): <u>15</u>	Avg. Depth (ft): <u>1</u>	Max. Depth (ft): <u>2</u>
<input checked="" type="checkbox"/> Flow	Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Estimated (ft ³ /sec):	

Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Pool	Width (ft): <u>60</u>	Length (ft): <u>120</u>	Avg. Depth (ft): <u>4</u>	Max. Depth (ft): <u>7</u>
<input checked="" type="checkbox"/> Flow	Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Estimated (ft ³ /sec):	

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

<u>70</u> % Cobble	<u>10</u> % Gravel	<u>0</u> % Sand	<u>0</u> % Silt	<u>20</u> % Mud/Clay	<u>0</u> % Bedrock
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Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

-No
Banks mostly grass covered

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 type="checkbox"/> Clear	<input checked="" 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 checked="" type="checkbox"/> Scum	<input type="checkbox"/> Foam	<input type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach additional comments (including information from interviews) to this form.

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

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

Signed: Michael R. Cifer Jr. Date: 6/24/05

Organization: MDNR / KCRO Position: E.S. I

1264_002_US



1264_002_DS



Due to duplication of photos not all are displayed.

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>1264</u>	Site Location Description: <u>03</u>	
Site GPS Coordinates: <u>N: 39.69008</u> <u>W: 094.42720</u>	<u>East Branch + Hwy 71</u>	
Date & Time: <u>6/24/05 @ 10:15</u>	Facility Name: <u>Harrisonville WWTF, Pleasant Hill Bank 291 W</u>	
Personnel: <u>M. Cunningham</u>	Permit Number: <u>M00028070, M00120723</u>	
Current Weather Conditions: <u>80°F + Clear</u>	Weather Conditions for Past 7 days: <u>Hot + Humid</u>	
Photo Ids: Upstream: <u>13, 14, 15</u>	Downstream: <u>16, 17, 18</u>	Other: <u>—</u>

Uses Observed*:

<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, frequency of use, photo-documentation of evidence of recreational uses, etc.)				

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"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input type="checkbox"/> Steep slopes	<input type="checkbox"/> Other: <u>None</u>	

Evidence of Human Use*:

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

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

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Stream Morphology:

Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>15</u>	Length (ft): <u>200</u>	Avg. Depth (ft): <u>2</u>	Max. Depth (ft): <u>5</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>1/2 ft³/sec.</u>		

Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>25</u>	Length (ft): <u>100</u>	Avg. Depth (ft): <u>4</u>	Max. Depth (ft): <u>6</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>1/4 ft³/sec.</u>		

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

<u>60</u> % Cobble	<u>10</u> % Gravel	<u>0</u> % Sand	<u>5</u> % Silt	<u>5</u> % Mud/Clay	<u>0</u> % Bedrock
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Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

Minimal Algae growth
Banks mostly grass + brush covered.

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 type="checkbox"/> Clear	<input type="checkbox"/> Green	<input checked="" 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 - <u>Slight</u>	<input type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach additional comments (including information from interviews) to this form.

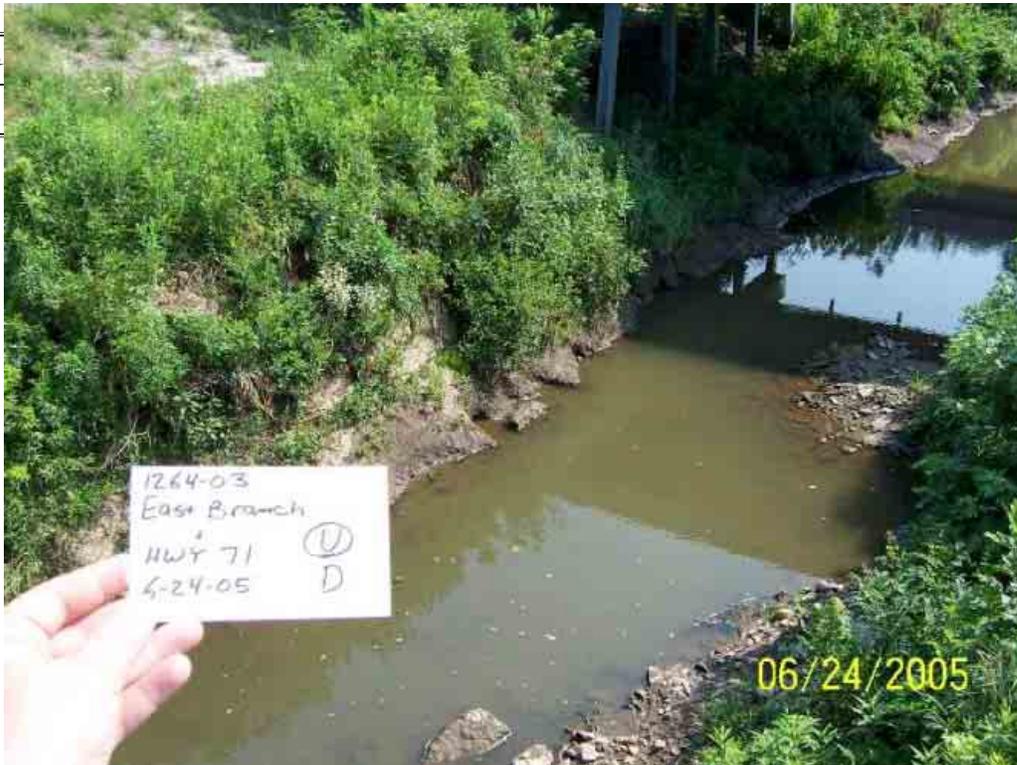
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I, the undersigned, hereby affirm to the best of my knowledge, that all information reported on this UAA datasheet is true and accurate.

Signed: Muhanna C. [Signature] Date: 6/24/05

Organization: MONR/MCRO Position: ES.1

1264_003_US



1264_003_DS



Due to duplication of photos not all are displayed.



Due to duplication of photos not all are displayed.

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: 1264	Site Location Description: 04		
Site GPS Coordinates: —	East Branch + 251 st		
Date & Time: 6/24/05 @ 11:00	Facility Name: Harrisonville WWTF, Pleasant Hill Bank-29162		
Personnel: M. Cunningham	Permit Number: MO0028070, MO0120723		
Current Weather Conditions:	Weather Conditions for Past 7 days: Hot + Humid		
Photo Ids: Upstream: —	Downstream: —	Other: —	

Uses Observed*:

<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 type="checkbox"/> None of the above	<input type="checkbox"/> Other:
Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)				
<p>— Bridge Out — Unaccessible by vehicle.</p>				

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"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:	

Evidence of Human Use*:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input type="checkbox"/> Other:				

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

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Stream Morphology:

Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Flow	Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec):	

Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Flow	Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec):	

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

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

Water Characteristics*: (Mark all that apply.)

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

Comments: Please attach additional comments (including information from interviews) to this form.

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

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

Signed: Michael A. Cristofani Date: 6/24/05

Organization: MONR / ACRO Position: E.S. I

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: 1264	Site Location Description: 05
Site GPS Coordinates: N. 38.62967 W. 89.39289	East Branch + 269th
Date & Time: 6/24/05 @ 11:15	Facility Name: Harrisonville WWTF, Pleasant Hill - 291 Bank
Personnel: M. Cunningham	Permit Number: M0028070, M00120723
Current Weather Conditions: 85°F clear	Weather Conditions for Past 7 days: Hot + Humid.
Photo Ids: Upstream: 19, 20, 21	Downstream: 22, 23, 24 Other: —

Uses Observed*:

<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 checked="" type="checkbox"/> Other:

Describe: (include number of individuals recreating, frequency of use, photo-documentation of evidence of recreational uses, etc.)
Dumping.

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"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: Corn fields	

Evidence of Human Use*:

<input type="checkbox"/> Roads	<input type="checkbox"/> Foot paths/prints	<input type="checkbox"/> Dock/platform	<input type="checkbox"/> Livestock Watering	<input type="checkbox"/> RV / ATV Tracks
<input type="checkbox"/> Rope swings	<input type="checkbox"/> Camping Sites	<input type="checkbox"/> Fire pit/ring	<input type="checkbox"/> NPDES Discharge	<input type="checkbox"/> Fishing Tackle
<input checked="" type="checkbox"/> Other: Large amount of trash (old mattress, wheels, batteries, newspaper stands, etc.) in creek.				

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

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Stream Morphology:

Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>40</u>	Length (ft): <u>80</u>	Avg. Depth (ft): <u>4</u>	Max. Depth (ft): <u>8</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Estimated (ft ³ /sec): <u>1 ft³/sec.</u>	

Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>25</u>	Length (ft): <u>50</u>	Avg. Depth (ft): <u>3</u>	Max. Depth (ft): <u>4</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow Present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Estimated (ft ³ /sec): <u>1 1/2 ft³/sec</u>	

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

<u>40</u> % Cobble	<u>10</u> % Gravel	<u>0</u> % Sand	<u>10</u> % Silt	<u>40</u> % Mud/Clay	<u>0</u> % Bedrock
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Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

<u>- none observed</u> <u>- banks partially brush covered (~60%)</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 type="checkbox"/> Clear	<input checked="" 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 - <u>Slight</u>	<input type="checkbox"/> None	<input type="checkbox"/> Other:

Comments: Please attach additional comments (including information from interviews) to this form.

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

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

Signed: Michael A. C. [Signature] Date: 6/24/05
 Organization: MONR/KCRO Position: E.S.I

1264_0005_US



1264_005_DS



Due to duplication of photos not all are displayed.

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: 1264	Site Location Description: 06
Site GPS Coordinates: N: 38.59331 W: 094.38902	East Branch + 289th
Date & Time: 6/24/05 @ 13:45	Facility Name: Harrisonville WWTF, Pleasant Hill Bank - 294 W
Personnel: M. Cunningham	Permit Number: M00028010 M0002870, M00120723
Current Weather Conditions: 90°F Clear	Weather Conditions for Past 7 days: Hot + Humid
Photo Ids: Upstream: 25, 26, 27	Downstream: 28, 29, 30 Other: —

Uses Observed*:

<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, frequency of use, photo-documentation of evidence of recreational uses, etc.)				

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"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input type="checkbox"/> Other:	

Evidence of Human Use*:

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

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

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Stream Morphology:

Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>20</u>	Length (ft): <u>150</u>	Avg. Depth (ft): <u>2</u>	Max. Depth (ft): <u>5</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>2 1/2 ft³/sec.</u>	

Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input type="checkbox"/> Run	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Pool	Width (ft): <u>10</u>	Length (ft): <u>30</u>	Avg. Depth (ft): <u>3</u>	Max. Depth (ft): <u>6</u>
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec): <u>1 ft³/sec.</u>	

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

<u>70</u> % Cobble	<u>10</u> % Gravel	<u>0</u> % Sand	<u>0</u> % Silt	<u>20</u> % Mud/Clay	<u>0</u> % Bedrock
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Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

-minimal
-banks ~ 90% grass + brush covered

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 type="checkbox"/> Clear	<input type="checkbox"/> Green	<input checked="" 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:

Comments: Please attach additional comments (including information from interviews) to this form.

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

Signed: *Michael A. Cifra* Date: 6/24/05

Organization: MDNR / KCRO Position: E.S. I

1264_0006_US



1264_006_DS



Due to duplication of photos not all are displayed.

Field Data Sheets for Recreational Use Stream Surveys

Data Sheet B - Site Characterization

(A separate data sheet must be completed for each site)

Missouri WBID #: <u>1264</u>	Site Location Description: <u>07</u>
Site GPS Coordinates: <u>N. 38.86042</u> <u>W. 094.39101</u>	<u>East Branch + 307th</u>
Date & Time: <u>6/24/06 @ 14:15</u>	Facility Name: <u>Harrisonville WWTF, Pleasant Hill Bank-2014W</u>
Personnel: <u>M. Cunningham</u>	Permit Number: <u>MO 0026070, MO 0120723</u>
Current Weather Conditions: <u>95°F + Clear</u>	Weather Conditions for Past 7 days: <u>Hot + Humid</u>
Photo Ids: Upstream: <u>31, 32, 33</u>	Downstream: <u>34, 35, 36</u> Other: <u>37, 38</u>

Uses Observed*:

<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, frequency of use, photo-documentation of evidence of recreational uses, etc.)				

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"/> Campgrounds
<input type="checkbox"/> Boating accesses	<input type="checkbox"/> State parks	<input type="checkbox"/> National forests	<input type="checkbox"/> Nature trails	<input type="checkbox"/> Stairs/walkway
<input type="checkbox"/> No trespass sign	<input checked="" type="checkbox"/> Fence	<input checked="" type="checkbox"/> Steep slopes	<input checked="" type="checkbox"/> Other: <u>Small pond immediately east of creek.</u>	

Evidence of Human Use*:

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

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

*Some of this information is not intended to directly influence a decision on any one particular recreational use analysis but may point to conditions that need further analysis or that effect another use.

Stream Morphology:

Upstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>15</u>	Length (ft): <u>150</u>	Avg. Depth (ft): <u>3</u>	Max. Depth (ft): <u>5</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec):	<u>1/2 ft³/sec.</u>

Downstream View Physical Dimensions:

<input type="checkbox"/> Riffle	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Run	Width (ft): <u>25</u>	Length (ft): <u>150</u>	Avg. Depth (ft): <u>4</u>	Max. Depth (ft): <u>6</u>
<input type="checkbox"/> Pool	Width (ft):	Length (ft):	Avg. Depth (ft):	Max. Depth (ft):
<input checked="" type="checkbox"/> Flow	Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Estimated (ft ³ /sec):	<u>1/2 ft³/sec.</u>

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

<u>20</u> % Cobble	<u>10</u> % Gravel	<u>0</u> % Sand	<u>0</u> % Silt	<u>40</u> % Mud/Clay	<u>30</u> % Bedrock
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Aquatic Vegetation*: (note amount of vegetation or algal growth at the assessment site)

Minimal
Banks mostly grass & brush cover. Heavy trees along banks.

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 type="checkbox"/> Clear	<input checked="" 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:

Comments: Please attach additional comments (including information from interviews) to this form.

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

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

Signed: Melinda A. Cifuentes Date: 6/24/05

Organization: MDNR/KCRO Position: E.S. I

1264_0007_US



1264_007_DS



Due to duplication of photos not all are displayed.

1264_007



1264_007



Due to duplication of photos not all are displayed.