



Missouri  
Department of  
Natural Resources

Use Attainability Analysis

for

WBID 1028 Callahan Creek

Submitted by  
SES, Inc.

to

Missouri Department of Natural Resources  
Water Protection Program

Date Received: September 10, 2007

**Field Data Sheets for Recreation Use Stream Surveys**  
**Data Sheet A - Water Body Identification**  
 (For water body being surveyed)

**Water Body Information**

Water Body Name: Callahan Creek	WBID: 1028
8 digit HUC code: 10300102	County: Boone
Upstream Legal Description 50N 14W 23	
Downstream Legal Description 48N 13W 5	
Number of Sites Evaluated 4	
List all site numbers, listed upstream to downstream	
1, 2, 3, 4	

**Discharger Facility Information**

Discharger Facility Name(s):	BCSD Rollingwood sub P#1, Carlos Acres, Midway Heights Elem School
Discharger Permit Number(s):	MO0038792, MO0118290, MO0122696

**UAA Surveyor**

Name of Surveyor: Gilisa Gould	Telephone Number: (913)307-0054
Organization/Employer: SES, Inc.	
Position: Field Team Leader	

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

SES surveyed the lower portion of Callahan Creek in May of 2007. The data that they collected was not representative of the entire water body since all of the sites were in the lower portion of the stream.

Missouri Department of Natural Resources staff members were sent to complete the survey by gathering data from the upper portion of the water body. MDNR conducted their portion of the survey in October of 2007.

Together, these two data sets provide a representation of the entire water body.

The following map, constructed by DNR staff shows all of the sites surveyed together on one page.

# Callahan Creek WBID# 1028 UAA#2614



This map was created by DNR staff to show all sites at once JL 11/19/07

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

WBID                    1028  
 Site #                    1

Date and Time:            5/24/2007 16:30

Current Weather Conditions            cloudy, rainy

Weather Conditions for Past 10 days:    1.19 inches rainfall

Drought Conditions? No

Site Location (e.g. road crossing)            At Halton Chapel crossing

GPS Mark:            19

Upstream Photo                                    52                                    Downstream Photo                                    53

**Uses Observed (Uses actually observed at time of survey) Circle**

Swimming	Skin Diving	SCUBA diving	Tubing
Water Skiing	Wind Surfing	Kayaking	Boating
Wading	Rafting	Hunting	Trapping
Fishing	<u><b>None of the Above</b></u>	Other	

**Surrounding Conditions**

City/county parks	Playgrounds	MDC conservation lands	Urban areas
Campgrounds	Boating accesses	State parks	National Forests
Nature trails	Stairs/walkway	No trespass sign	Fence
Steep slopes	<u><b>None of the Above</b></u>	Other	

**Indications of Human Use**

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

**WBID #** 1028                      **Site #** 1  
**Mark #** 19                              **Dissolved Oxygen (ppm)** 5.9  
**Upstream Views Physical Dimensions:** Is there any water present at this view?      yes

If so, is there an obvious current?                      yes

**Select one of the following channel features:**

	% of Channel Feature				
Riffle	18				
Run	0				
Pool	82				

**Downstream View's Physical Dimensions:** Is there any water present at this view?      yes

If so, is there an obvious current?                      no


Substrate:

0% Cobble	0% Gravel	100% Sand	0% Silt
0% Mud/Clay	0% Bedrock		

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

n/a

**Water Characteristics**

Odor	Sewage	Musky	Chemical	<b><u>None</u></b>	Other
Color	<b><u>Clear</u></b>	Green	Gray	Milky	Other
Bottom Deposit	Sludge	Solids	Fine Sed.	None	<b><u>Other : Leaves</u></b>
Surface Deposit	Oil	Scum	Foam	<b><u>None</u></b>	Other

**Data Sheet C: Cross-Sectional Depth Measurements (for estimation of median depth)**  
**(Median Depth Shown in Bold)**

Site # 1SES

Mark # 19

WBID # 1028

	Depth (m)
<b>Transect 1</b>	0.00
Substrate:	0.05
Sand	0.10
Water Clarity:	0.20
Clear	0.05
Channel Feature:	0.10
Riffle	0.05
Channel Width:	0.05
7 yards	0.00
<b>0.05</b>	<b>0.10</b>
<b>Transect 2</b>	0.20
Substrate:	0.55
Sand	0.55
Water Clarity:	0.55
Clear	0.50
Channel Feature:	0.55
Pool	0.60
Channel Width:	0.60
6 yards	0.45
<b>0.55</b>	<b>0.30</b>
<b>Transect 3</b>	0.20
Substrate:	0.25
Sand	0.30
Water Clarity:	0.40
Clear	0.40
Channel Feature:	0.35
Pool	0.35
Channel Width:	0.40
7 yards	0.35
<b>0.35</b>	<b>0.20</b>
<b>Transect 4</b>	0.05
Substrate:	0.00
Sand	0.20
Water Clarity:	0.40
none	0.45
Channel Feature:	0.55
pool	0.55
Channel Width:	0.60
7 yards	0.55
<b>0.43</b>	<b>0.35</b>

	Depth (m)
<b>Transect 5</b>	0.10
Substrate:	0.05
Sand	0.20
Water Clarity:	0.40
Clear	0.50
Channel Feature:	0.55
Pool	0.55
Channel Width:	0.50
6 yards	0.25
<b>0.33</b>	<b>0.10</b>
<b>Transect 6</b>	0.00
Substrate:	0.05
Sand	0.05
Water Clarity:	0.10
Clear	0.10
Channel Feature:	0.20
Pool	0.20
Channel Width:	0.20
4 yards	0.35
<b>0.15</b>	<b>0.30</b>
<b>Transect 7</b>	0.00
Substrate:	0.05
Sand	0.05
Water Clarity:	0.10
Clear	0.20
Channel Feature:	0.20
Pool	0.30
Channel Width:	0.35
4 yards	0.15
<b>0.13</b>	<b>0.05</b>
<b>Transect 8</b>	0.00
Substrate:	0.10
Sand	0.15
Water Clarity:	0.15
Clear	0.20
Channel Feature:	0.25
Pool	0.30
Channel Width:	0.35
4 yards	0.35
<b>0.23</b>	<b>0.25</b>

	Depth (m)
<b>Transect 9</b>	0.05
Substrate:	0.10
Sand	0.20
Water Clarity:	0.20
Clear	0.25
Channel Feature:	0.25
Pool	0.25
Channel Width:	0.30
6 yards	0.20
<b>0.20</b>	<b>0.10</b>
<b>Transect 10</b>	0.05
Substrate:	0.10
Sand	0.15
Water Clarity:	0.20
Clear	0.25
Channel Feature:	0.20
Pool	0.15
Channel Width:	0.10
6 yards	0.05
<b>0.13</b>	<b>0.00</b>
<b>Transect 11</b>	0.05
Substrate:	0.05
Sand	0.15
Water Clarity:	0.10
Clear	0.05
Channel Feature:	0.00
Riffle	0.00
Channel Width:	0.00
7 yards	0.05
<b>0.05</b>	<b>0.10</b>
MAXIMUM	0.60
MEDIAN	0.20





**Data Sheet C: Cross-Sectional Depth Measurements (for estimation of median depth)**  
**(Median Depth Shown in Bold)**

Site # 2 SES

Mark # 3

WBID# 1028

	Depth (m)
<b>Transect 1</b>	0.05
Substrate:	0.10
sand	0.00
Water Clarity:	0.00
clear	0.00
Channel Feature:	0.00
pool	0.00
Channel Width:	0.00
11 yards	0.00
<b>0.00</b>	<b>0.00</b>
<b>Transect 2</b>	0.10
Substrate:	0.20
sand	0.10
Water Clarity:	0.00
cloudy	0.00
Channel Feature:	0.00
pool	0.05
Channel Width:	0.10
7 yards	0.00
<b>0.03</b>	<b>0.00</b>
<b>Transect 3</b>	0.00
Substrate:	0.00
sand	0.15
Water Clarity:	0.00
cloudy	0.00
Channel Feature:	0.00
pool	0.00
Channel Width:	0.10
16 yards	0.20
<b>0.00</b>	<b>0.00</b>
<b>Transect 4</b>	0.35
Substrate:	0.60
sand	0.30
Water Clarity:	0.30
cloudy	0.25
Channel Feature:	0.30
pool	0.30
Channel Width:	0.25
7 yards	0.15
<b>0.30</b>	<b>0.10</b>

	Depth (m)
<b>Transect 5</b>	0.15
Substrate:	0.25
sand	0.20
Water Clarity:	0.30
clear	0.30
Channel Feature:	0.30
pool	0.35
Channel Width:	0.30
8 yards	0.20
<b>0.28</b>	<b>0.10</b>
<b>Transect 6</b>	0.05
Substrate:	0.00
sand	0.00
Water Clarity:	0.00
some	0.00
Channel Feature:	0.00
pool	0.00
Channel Width:	0.00
7 yards	0.00
<b>0.00</b>	<b>0.00</b>
<b>Transect 7</b>	0.20
Substrate:	0.20
sand	0.50
Water Clarity:	0.55
some	0.45
Channel Feature:	0.40
pool	0.40
Channel Width:	0.25
8 yards	0.10
<b>0.33</b>	<b>0.00</b>
<b>Transect 8</b>	0.05
Substrate:	0.00
sand	0.10
Water Clarity:	0.30
cloudy	0.40
Channel Feature:	0.25
pool	0.30
Channel Width:	0.10
7 yards	0.20
<b>0.15</b>	<b>0.10</b>

	Depth (m)
<b>Transect 9</b>	0.05
Substrate:	0.15
sand	0.30
Water Clarity:	0.30
clear	0.30
Channel Feature:	0.35
pool	0.30
Channel Width:	0.15
7 yards	0.05
<b>0.23</b>	<b>0.00</b>
<b>Transect 10</b>	0.15
Substrate:	0.35
sand	0.30
Water Clarity:	0.30
none	0.30
Channel Feature:	0.35
pool	0.50
Channel Width:	0.40
7 yards	0.25
<b>0.30</b>	<b>0.10</b>
<b>Transect 11</b>	0.30
Substrate:	0.50
sand	0.85
Water Clarity:	0.80
none	0.60
Channel Feature:	0.35
pool	0.15
Channel Width:	0.20
8 yards	0.10
<b>0.33</b>	<b>0.10</b>
MAXIMUM	0.85
MEDIAN	0.15

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

WBID                    1028  
Site #                    3

Date and Time:        7.31.07    3:40pm

Current Weather Conditions    clear

Weather Conditions for Past 10 days:        clear

Drought Conditions? No

Site Location (e.g. road crossing)            upstream marked house on Yeager

GPS Mark:    4

Upstream Photo                                    7    Downstream Photo                                    8

**Uses Observed (Uses actually observed at time of survey) Circle**

Swimming	Skin Diving	SCUBA diving	Tubing
Water Skiing	Wind Surfing	Kayaking	Boating
Wading	Rafting	Hunting	Trapping
Fishing	None of the Above	<u>Other</u>	<u>dogs playing/running</u>

**Surrounding Conditions**

City/county parks	Playgrounds	MDC conservation lands	<u>Urban areas</u>
Campgrounds	Boating accesses	State parks	National Forests
Nature trails	Stairs/walkway	No trespass sign	Fence
Steep slopes	None of the Above	<u>Other</u>	<u>foot trails behind houses</u>

**Indications of Human Use**

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



**Data Sheet C: Cross-Sectional Depth Measurements (for estimation of median depth)**  
**(Median Depth Shown in Bold)**

Site # 3 SES

Mark # 4

WBID# 1028

	Depth (m)
<b>Transect 1</b>	0.05
Substrate:	0.10
sand	0.20
Water Clarity:	0.15
clear	0.10
Channel Feature:	0.00
riffle	0.00
Channel Width:	0.00
7 yards	0.05
<b>0.05</b>	<b>0.00</b>
<b>Transect 2</b>	0.10
Substrate:	0.10
sand	0.10
Water Clarity:	0.10
clear	0.05
Channel Feature:	0.00
riffle	0.00
Channel Width:	0.00
4 yards	0.00
<b>0.03</b>	<b>0.00</b>
<b>Transect 3</b>	0.20
Substrate:	0.35
silty sand	0.40
Water Clarity:	0.35
clear	0.20
Channel Feature:	0.25
pool	0.15
Channel Width:	0.05
8 yards	0.10
<b>0.20</b>	<b>0.00</b>
<b>Transect 4</b>	0.10
Substrate:	0.15
silty sand	0.20
Water Clarity:	0.15
clear	0.05
Channel Feature:	0.00
pool	0.00
Channel Width:	0.00
8 yards	0.00
<b>0.03</b>	<b>0.00</b>

	Depth (m)
<b>Transect 5</b>	0.00
Substrate:	0.00
clay and sand	0.05
Water Clarity:	0.00
clear	0.00
Channel Feature:	0.00
pool	0.00
Channel Width:	0.05
8 yards	0.10
<b>0.00</b>	<b>0.10</b>
<b>Transect 6</b>	0.10
Substrate:	0.30
sand	0.35
Water Clarity:	0.30
clear	0.10
Channel Feature:	0.05
pool	0.00
Channel Width:	0.00
7 yards	0.00
<b>0.08</b>	<b>0.00</b>
<b>Transect 7</b>	0.05
Substrate:	0.10
sand	0.20
Water Clarity:	0.35
clear	0.25
Channel Feature:	0.10
pool	0.10
Channel Width:	0.05
7 yards	0.00
<b>0.10</b>	<b>0.00</b>
<b>Transect 8</b>	0.10
Substrate:	0.15
sand	0.20
Water Clarity:	0.20
clear	0.15
Channel Feature:	0.20
pool	0.10
Channel Width:	0.00
4 yards	0.00
<b>0.13</b>	<b>0.10</b>

	Depth (m)
<b>Transect 9</b>	0.10
Substrate:	0.15
sand	0.05
Water Clarity:	0.00
clear	0.00
Channel Feature:	0.00
riffle	0.00
Channel Width:	0.00
9 yards	0.00
<b>0.00</b>	<b>0.00</b>
<b>Transect 10</b>	0.05
Substrate:	0.10
sand	0.10
Water Clarity:	0.10
clear	0.10
Channel Feature:	0.05
pool	0.05
Channel Width:	0.05
4 yards	0.05
<b>0.05</b>	<b>0.05</b>
<b>Transect 11</b>	0.05
Substrate:	0.05
sandy clay	0.05
Water Clarity:	0.00
clear	0.05
Channel Feature:	0.05
riffle	0.05
Channel Width:	0.05
4 yards	0.05
<b>0.05</b>	<b>0.00</b>
MAXIMUM	0.40
MEDIAN	0.05

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

WBID                    1028  
 Site #                    4

Date and Time:            7.31.07    5:00pm

Current Weather Conditions    clear

Weather Conditions for Past 10 days:    clear

Drought Conditions? No

Site Location (e.g. road crossing)            downstream marked house on Yeager

GPS Mark:    5

Upstream Photo                                    9    Downstream Photo                                    10

**Uses Observed (Uses actually observed at time of survey) Circle**

Swimming	Skin Diving	SCUBA diving	Tubing
Water Skiing	Wind Surfing	Kayaking	Boating
Wading	Rafting	Hunting	Trapping
Fishing	<u><b>None of the Above</b></u>	Other	

**Surrounding Conditions**

City/county parks	Playgrounds	MDC conservation lands	Urban areas
Campgrounds	Boating accesses	State parks	National Forests
Nature trails	Stairs/walkway	No trespass sign	Fence
Steep slopes	<u><b>None of the Above</b></u>	Other	

**Indications of Human Use**

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



**Data Sheet C: Cross-Sectional Depth Measurements (for estimation of median depth)**  
**(Median Depth Shown in Bold)**

Site # 4 SES

Mark # 5

WBID# 1028

	Depth (m)
<b>Transect 1</b>	0.05
Substrate:	0.05
silt	0.05
Water Clarity:	0.05
clear	0.05
Channel Feature:	0.00
riffle	0.05
Channel Width:	0.00
6 yards	0.05
<b>0.05</b>	<b>0.05</b>
<b>Transect 2</b>	0.10
Substrate:	0.10
silty clay	0.10
Water Clarity:	0.05
clear	0.00
Channel Feature:	0.00
pool	0.00
Channel Width:	0.00
9 yards	0.00
<b>0.00</b>	<b>0.00</b>
<b>Transect 3</b>	0.10
Substrate:	0.15
silty clay	0.15
Water Clarity:	0.10
clear	0.10
Channel Feature:	0.15
pool	0.05
Channel Width:	0.05
4 yards	0.05
<b>0.10</b>	<b>0.00</b>
<b>Transect 4</b>	0.10
Substrate:	0.10
silty clay	0.10
Water Clarity:	0.15
clear	0.15
Channel Feature:	0.15
pool	0.15
Channel Width:	0.10
5 yards	0.10
<b>0.10</b>	<b>0.05</b>

	Depth (m)
<b>Transect 5</b>	0.20
Substrate:	0.35
silt	0.50
Water Clarity:	0.50
none	0.60
Channel Feature:	0.55
pool	0.55
Channel Width:	0.55
7 yards	0.60
<b>0.53</b>	<b>0.25</b>
<b>Transect 6</b>	0.00
Substrate:	0.00
silty sand	0.00
Water Clarity:	0.00
clear	0.00
Channel Feature:	0.05
pool	0.05
Channel Width:	0.10
5 yards	0.05
<b>0.03</b>	<b>0.05</b>
<b>Transect 7</b>	0.00
Substrate:	0.05
silty sand	0.05
Water Clarity:	0.10
clear	0.10
Channel Feature:	0.15
pool	0.15
Channel Width:	0.15
5 yards	0.10
<b>0.10</b>	<b>0.05</b>
<b>Transect 8</b>	0.05
Substrate:	0.05
sand	0.10
Water Clarity:	0.05
clear	0.05
Channel Feature:	0.05
riffle	0.05
Channel Width:	0.05
4 yards	0.05
<b>0.05</b>	<b>0.05</b>

	Depth (m)
<b>Transect 9</b>	0.05
Substrate:	0.10
sand	0.05
Water Clarity:	0.05
clear	0.05
Channel Feature:	0.06
riffle	0.05
Channel Width:	0.10
5 yards	0.05
<b>0.05</b>	<b>0.00</b>
<b>Transect 10</b>	0.05
Substrate:	0.05
silty sand	0.05
Water Clarity:	0.05
clear	0.10
Channel Feature:	0.10
pool	0.10
Channel Width:	0.10
4 yards	0.05
<b>0.05</b>	<b>0.00</b>
<b>Transect 11</b>	0.00
Substrate:	0.05
silt	0.05
Water Clarity:	0.05
clear	0.05
Channel Feature:	0.05
pool	0.05
Channel Width:	0.05
4 yards	0.10
<b>0.05</b>	<b>0.05</b>
MAXIMUM	0.60
MEDIAN	0.05

**WBID# 1028**



**Site# 1 SES Photo ID# 52, Upstream**



**Site# 1 SES Photo ID# 53, Downstream**



**Site# 2 SES Photo ID# 6, Upstream**



**Site# 2 SES Photo ID# 5, Downstream**

**WBID# 1028**



**Site# 3 SES Photo ID# 7, Upstream**



**Site#3 SES Photo ID# 8, Downstream**



**Site# 4 SES Photo ID# 9, Upstream**



**Site# 4 SES Photo ID# 10, Downstream**