

<b>STREAM ID</b> S-YZ1		<b>STREAM NAME</b> Doe Creek	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>LAT</b> 37.336487	<b>LONG</b> -80.61455	<b>DATE</b> 09/19/2016	<b>COUNTY</b> Giles
<b>INVESTIGATORS</b> S. Pilcher, S. Therkildson, S. Yarbrough			
<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>		<b>FLOW REGIME</b> Perennial <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>10.0</u> ft Top of Bank Height: _____ LB <u>3.0</u> ft RB <u>4.0</u> ft Water Depth: <u>0.00</u> in Water Width: <u>0.0</u> ft Ordinary High Water Mark (Width): <u>10.0</u> ft Ordinary High Water Mark (Height): <u>24.0</u> in Flow Direction: <u>South</u>	<b>Sinuosity</b> <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High <b>Gradient</b> <input type="checkbox"/> Flat <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft) <b>Stream Erosion</b> <input type="checkbox"/> None <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Heavy <b>Artificial, Modified or Channelized</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Within Roadside Ditch</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Culvert Present</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Culvert Material: <u>Corrugated Metal</u> Culvert Size: <u>20</u> in																																										
	<b>FLOW CHARACTERISTICS</b> <b>Water Present</b> <input checked="" type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input type="checkbox"/> Flowing water <b>Velocity</b> <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> (Only enter if water present) Riffle % Run % Pool % <b>Turbidity</b> <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Other _____																																										
<table border="1"> <thead> <tr> <th colspan="3">INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100</th> <th colspan="3">ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)</th> </tr> <tr> <th>Substrate Type</th> <th>Diameter</th> <th>% Composition in Sampling Reach</th> <th>Substrate Type</th> <th>Characteristic</th> <th>% Composition in Sampling Area</th> </tr> </thead> <tbody> <tr> <td>Bedrock</td> <td></td> <td>20</td> <td rowspan="3">Detritus</td> <td rowspan="3">sticks, wood, coarse plant materials (CPOM)</td> <td rowspan="3">10</td> </tr> <tr> <td>Boulder</td> <td>&gt; 256 mm (10")</td> <td>30</td> </tr> <tr> <td>Cobble</td> <td>64-256 mm (2.5"-10")</td> <td>30</td> </tr> <tr> <td>Gravel</td> <td>2-64 mm (0.1"-2.5")</td> <td>10</td> <td>Muck-Mud</td> <td>black, very fine organic (FPOM)</td> <td></td> </tr> <tr> <td>Sand</td> <td>0.06-2mm (gritty)</td> <td></td> <td rowspan="3">Marl</td> <td rowspan="3">grey, shell fragments</td> <td rowspan="3"></td> </tr> <tr> <td>Silt</td> <td>0.004-0.06 mm</td> <td>5</td> </tr> <tr> <td>Clay</td> <td>&lt; 0.004 mm (slick)</td> <td>5</td> </tr> </tbody> </table>			INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)			Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area	Bedrock		20	Detritus	sticks, wood, coarse plant materials (CPOM)	10	Boulder	> 256 mm (10")	30	Cobble	64-256 mm (2.5"-10")	30	Gravel	2-64 mm (0.1"-2.5")	10	Muck-Mud	black, very fine organic (FPOM)		Sand	0.06-2mm (gritty)		Marl	grey, shell fragments		Silt	0.004-0.06 mm	5	Clay	< 0.004 mm (slick)	5
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<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> ROW <input type="checkbox"/> Other: _____ <b>Canopy Cover</b> <input type="checkbox"/> Open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded		<b>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <15ft																																									

<b>MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS</b> Ground squirrels in riparian area. Also pileated woodpecker nearby and potentially tree frogs.
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## Stream Photograph Page

Stream ID S-YZ1

Date: 09/19/2016



Photograph Direction SE

Comments:

<b>STREAM ID</b> S-A34		<b>STREAM NAME</b> UNT to Doe Creek	
<b>LAT</b> 37.33772 <b>LONG</b> -80.605311		<b>DATE</b> 04/06/2015	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>INVESTIGATORS</b> Yarbrough, Stoliker, Heule			
<b>FLOW REGIME</b> Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>		<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>7.0</u> ft Top of Bank Height: LB <u>1.0</u> ft      RB <u>18.0</u> in Water Depth: <u>0.00</u> in Water Width: <u>0.0</u> ft High Water Mark: <u>1.0</u> ft Flow Direction: <u>South</u>	<b>Stream Erosion</b> <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy  <b>Artificial, Modified or Channelized</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  <b>Dam Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  <b>Sinuosity</b> <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High  <b>Gradient</b> <input type="checkbox"/> Flat (0.5/100 ft) <input type="checkbox"/> Moderate (2 ft/100 ft) <input checked="" type="checkbox"/> Severe (10 ft/100 ft)
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> <input checked="" type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input type="checkbox"/> Flowing water  <b>Velocity</b> <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> Riffle      %      Run      % Pool      %  <b>Turbidity</b> <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		40	Detritus	sticks, wood, coarse plant materials (CPOM)	70
Boulder	> 256 mm (10")	15			
Cobble	64-256 mm (2.5"-10")	5	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	20			
Sand	0.06-2mm (gritty)	20	Marl	grey, shell fragments	
Silt	0.004-0.06 mm				
Clay	< 0.004 mm (slick)				

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____  <b>Canopy Cover</b> <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open	<b>Indicate the dominant type (Check one)</b> <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous  <b>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft  <b>Wetland Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Wetland ID</b>
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<b>AQUATIC VEGETATION</b>	<b>Indicate the dominant type and record the dominant species present</b> <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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<b>MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES</b>	2015 comment: Ephemeral stream channel with lots of leafy detritus.
	Information listed on this form represents the data collected in 2015. The stream was revisited on 10/28/2019. The presence of a stream channel and OHWM was confirmed.

## Stream Photograph Page

Stream ID S-A34



Photograph Direction NE

Date: 04/06/2015

Comments: 2015 stream identification.



Photograph Direction ENE

Date: 10/28/2019

Comments: 2019 stream identification confirmation.



<b>STREAM ID</b> S-A33		<b>STREAM NAME</b> UNT to Doe Creek	
<b>LAT</b> 37.33772 <b>LONG</b> -80.605311		<b>DATE</b> 04/06/2015	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>INVESTIGATORS</b> Yarbrough, Stoliker, Heule			
<b>FLOW REGIME</b> Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>		<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>7.0</u> ft	<b>Stream Erosion</b> <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy
	Top of Bank Height:	<b>Artificial, Modified or Channelized</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	LB <u>12.0</u> in      RB <u>16.0</u> in	<b>Dam Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Water Depth: <u>0.00</u> in	<b>Sinuosity</b> <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
	Water Width: <u>0.0</u> ft	<b>Gradient</b> <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)
	High Water Mark: <u>12.0</u> ft	
Flow Direction: <u>West</u>		

<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> <input checked="" type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input type="checkbox"/> Flowing water	<b>Proportion of Reach Represented by Stream Morphology Types</b> Riffle      %      Run      % Pool      %
	<b>Velocity</b> <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	<b>Turbidity</b> <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	100
Boulder	> 256 mm (10")	10			
Cobble	64-256 mm (2.5"-10")				
Gravel	2-64 mm (0.1"-2.5")	20	Muck-Mud	black, very fine organic (FPOM)	
Sand	0.06-2mm (gritty)	40			
Silt	0.004-0.06 mm	30	Marl	grey, shell fragments	
Clay	< 0.004 mm (slick)				

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:	<b>Indicate the dominant type (Check one)</b> <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous
	<b>Canopy Cover</b> <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open	<b>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft
		<b>Wetland Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		<b>Wetland ID</b>

<b>AQUATIC VEGETATION</b>	<b>Indicate the dominant type and record the dominant species present</b> <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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<b>MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES</b>	<p>2015 comment: Ephemeral stream. No flow. Leaf-covered channel. Forested overstory.</p> <p>Information listed on this form represents the data collected in 2015. The stream was revisited on 10/28/2019. The presence of a stream channel and OHWM was confirmed.</p>
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## Stream Photograph Page

Stream ID S-A33



Photograph Direction SE

Date: 04/06/2015

Comments: 2015 stream identification.



Photograph Direction ENE

Date: 10/28/2019

Comments: 2019 stream identification confirmation.

<b>STREAM ID</b> S-A32		<b>STREAM NAME</b> UNT to Doe Creek	
<b>LAT</b> 37.335181 <b>LONG</b> -80.59686		<b>DATE</b> 04/06/2015	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>INVESTIGATORS</b> Yarbrough, Stoliker, Heule			
<b>FLOW REGIME</b> Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>		<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>16.0</u> ft Top of Bank Height: LB <u>1.0</u> ft      RB <u>2.0</u> ft Water Depth: <u>2.00</u> in Water Width: <u>5.0</u> ft High Water Mark: <u>1.0</u> ft Flow Direction: <u>Soyth</u>	<b>Stream Erosion</b> <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy  <b>Artificial, Modified or Channelized</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  <b>Dam Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  <b>Sinuosity</b> <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High  <b>Gradient</b> <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water  <b>Velocity</b> <input type="checkbox"/> Fast <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> Riffle 40 %   Run 30 % Pool 30 %  <b>Turbidity</b> <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		30	Detritus	sticks, wood, coarse plant materials (CPOM)	5
Boulder	> 256 mm (10")	20			
Cobble	64-256 mm (2.5"-10")	25	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	20			
Sand	0.06-2mm (gritty)	5	Marl	grey, shell fragments	
Silt	0.004-0.06 mm				
Clay	< 0.004 mm (slick)				

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input checked="" type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____  <b>Canopy Cover</b> <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input checked="" type="checkbox"/> Open	<b>Indicate the dominant type (Check one)</b> <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input checked="" type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous  <b>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft  <b>Wetland Present</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>Wetland ID</b> See below.
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<b>AQUATIC VEGETATION</b>	<b>Indicate the dominant type and record the dominant species present</b> <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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<b>MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES</b>	2015 comment: Perennial stream. Very minor wetland fringe development within bankfull width.  Information listed on this form represents the data collected in 2015. The stream was revisited on 10/28/2019. The presence of a stream channel and OHWM was confirmed.
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## Stream Photograph Page

Stream ID S-A32



Photograph Direction South

Date: 04/06/2015

Comments: 2015 stream identification.



Photograph Direction South

Date: 10/28/2019

Comments: 2019 stream identification confirmation.



<b>STREAM ID</b> S-QQ2		<b>STREAM NAME</b> Sinking Creek	
<b>LAT</b> 37.333112 <b>LONG</b> -80.429428		<b>DATE</b> 09/11/2015	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>INVESTIGATORS</b> A lands, S Therkildson			
<b>FLOW REGIME</b> Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>		<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>35.0</u> ft Top of Bank Height: LB <u>3.0</u> ft      RB <u>4.0</u> ft Water Depth: <u>10.00</u> in Water Width: <u>25.0</u> ft High Water Mark: <u>1.0</u> ft Flow Direction: <u>West</u>	<b>Stream Erosion</b> <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy  <b>Artificial, Modified or Channelized</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  <b>Dam Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  <b>Sinuosity</b> <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High  <b>Gradient</b> <input checked="" type="checkbox"/> Flat <input type="checkbox"/> Moderate <input type="checkbox"/> Severe (0.5/100 ft)    (2 ft/100 ft)    (10 ft/100 ft)
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water  <b>Velocity</b> <input checked="" type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> Riffle 50 %    Run 50 % Pool    %  <b>Turbidity</b> <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	5
Boulder	> 256 mm (10")	10			
Cobble	64-256 mm (2.5"-10")	30	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	30			
Sand	0.06-2mm (gritty)	30	Marl	grey, shell fragments	
Silt	0.004-0.06 mm				
Clay	< 0.004 mm (slick)				

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____  <b>Canopy Cover</b> <input type="checkbox"/> Partly open <input checked="" type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open	<b>Indicate the dominant type (Check one)</b> <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input checked="" type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous  <b>Floodplain Width</b> <input checked="" type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft  <b>Wetland Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Wetland ID</b> _____
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<b>AQUATIC VEGETATION</b>	<b>Indicate the dominant type and record the dominant species present</b> <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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<b>MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES</b>	Small fish, water beetles, crawfish, clam shells, raccoon tracks observed.  Water depths up to 2 ft were observed in stream, but outside corridor
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## Stream Photograph Page

Stream ID S-QQ2

Date: 09/11/2015



Photograph Direction West

Comments:

<b>STREAM ID</b> S-MN11-Upstream		<b>STREAM NAME</b> UNT to Sinking Creek	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>LAT</b> 37.332807	<b>LONG</b> -80.559237	<b>DATE</b> 09/14/2016	<b>COUNTY</b> Giles
<b>INVESTIGATORS</b> S Ryan, M Whitten, S Therkildson			
<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>		<b>FLOW REGIME</b> Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>4.0</u> ft Top of Bank Height: LB <u>0.5</u> ft RB <u>0.5</u> ft Water Depth: <u>0.00</u> in Water Width: <u>0.0</u> ft Ordinary High Water Mark (Width): <u>2.0</u> ft Ordinary High Water Mark (Height): <u>3.0</u> in Flow Direction: <u>Southwest</u>	<b>Sinuosity</b> <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High <b>Gradient</b> <input type="checkbox"/> Flat (0.5/100 ft) <input type="checkbox"/> Moderate (2 ft/100 ft) <input checked="" type="checkbox"/> Severe (10 ft/100 ft) <b>Stream Erosion</b> <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy <b>Artificial, Modified or Channelized</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>Within Roadside Ditch</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Culvert Present</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Culvert Material: <u>Corrugated Metal</u> Culvert Size: <u>18</u> in																																										
	<b>Water Present</b> <input checked="" type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input type="checkbox"/> Flowing water  <b>Velocity</b> <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> (Only enter if water present) Riffle % Run % Pool %  <b>Turbidity</b> <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Other _____																																										
<table border="1"> <thead> <tr> <th colspan="3">INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100</th> <th colspan="3">ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)</th> </tr> <tr> <th>Substrate Type</th> <th>Diameter</th> <th>% Composition in Sampling Reach</th> <th>Substrate Type</th> <th>Characteristic</th> <th>% Composition in Sampling Area</th> </tr> </thead> <tbody> <tr> <td>Bedrock</td> <td></td> <td></td> <td rowspan="2">Detritus</td> <td rowspan="2">sticks, wood, coarse plant materials (CPOM)</td> <td rowspan="2">10</td> </tr> <tr> <td>Boulder</td> <td>&gt; 256 mm (10")</td> <td>5</td> </tr> <tr> <td>Cobble</td> <td>64-256 mm (2.5"-10")</td> <td>0</td> <td rowspan="2">Muck-Mud</td> <td rowspan="2">black, very fine organic (FPOM)</td> <td rowspan="2">0</td> </tr> <tr> <td>Gravel</td> <td>2-64 mm (0.1"-2.5")</td> <td>15</td> </tr> <tr> <td>Sand</td> <td>0.06-2mm (gritty)</td> <td>40</td> <td rowspan="3">Marl</td> <td rowspan="3">grey, shell fragments</td> <td rowspan="3">0</td> </tr> <tr> <td>Silt</td> <td>0.004-0.06 mm</td> <td>40</td> </tr> <tr> <td>Clay</td> <td>&lt; 0.004 mm (slick)</td> <td></td> </tr> </tbody> </table>			INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)			Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area	Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	10	Boulder	> 256 mm (10")	5	Cobble	64-256 mm (2.5"-10")	0	Muck-Mud	black, very fine organic (FPOM)	0	Gravel	2-64 mm (0.1"-2.5")	15	Sand	0.06-2mm (gritty)	40	Marl	grey, shell fragments	0	Silt	0.004-0.06 mm	40	Clay	< 0.004 mm (slick)	
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<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> ROW <input type="checkbox"/> Other: _____  <b>Canopy Cover</b> <input type="checkbox"/> Open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded		<b>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <15ft																																									

<b>MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS</b>  Stream crosses AR in two locations. This is form for eastern (upstream) crossing. This is the head water origin of stream with culvert as source. Culvert emerges from under Mt Lake Road and flows over AR to where bed/bank begin.
---



## Stream Photograph Page

Stream ID S-MN11-Upstream Date: 09/14/2016



Photograph Direction NE

Comments:

<b>STREAM ID</b> S-MN11-Downstream		<b>STREAM NAME</b> UNT to Sinking Creek	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>LAT</b> 37.332085	<b>LONG</b> -80.560323	<b>DATE</b> 09/14/2016	<b>COUNTY</b> Giles
<b>INVESTIGATORS</b> S Ryan, M Whitten, S Therkildson			
<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>		<b>FLOW REGIME</b> Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>5.0</u> ft Top of Bank Height: LB <u>1.0</u> ft RB <u>1.0</u> ft Water Depth: <u>0.00</u> in Water Width: <u>0.0</u> ft Ordinary High Water Mark (Width): <u>3.0</u> ft Ordinary High Water Mark (Height): <u>5.0</u> in Flow Direction: <u>West</u>	<b>Sinuosity</b> <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High <b>Gradient</b> <input type="checkbox"/> Flat (0.5/100 ft) <input type="checkbox"/> Moderate (2 ft/100 ft) <input checked="" type="checkbox"/> Severe (10 ft/100 ft) <b>Stream Erosion</b> <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy <b>Artificial, Modified or Channelized</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Within Roadside Ditch</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Culvert Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Culvert Material: _____ Culvert Size: _____ in																																										
	<b>FLOW CHARACTERISTICS</b> <b>Water Present</b> <input checked="" type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input type="checkbox"/> Flowing water <b>Velocity</b> <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> (Only enter if water present) Riffle % Run % Pool % <b>Turbidity</b> <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Other _____																																										
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<b>MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS</b>  Stream crosses AR in two locations. This is form for western (downstream) crossing. Variable bed/bank characteristics. Incised near existing road with a wider bed (nearing sheet flow) near the downstream edge of access road. Stream ID taken in middle to represent average. No culvert under access road - stream crosses over road.
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## Stream Photograph Page

Stream ID S-MN11-Downstream Date: 09/14/2016



Photograph Direction West

Comments:



<b>STREAM ID</b> S-Y03		<b>STREAM NAME</b> UNT to Doe Creek	
<b>LAT</b> 37.331883 <b>LONG</b> -80.583153		<b>DATE</b> 07/11/2015	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>INVESTIGATORS</b> D. Hadersbeck K. Lew G. Buda J. Swilik			
<b>FLOW REGIME</b> Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>		<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>10.0</u> ft	<b>Stream Erosion</b> <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy
	Top of Bank Height:	<b>Artificial, Modified or Channelized</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	LB <u>2.0</u> ft      RB <u>2.0</u> ft	<b>Dam Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	Water Depth: <u>0.00</u> ft	<b>Sinuosity</b> <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High
	Water Width: <u>0.0</u> ft	<b>Gradient</b> <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)
	High Water Mark: <u>10.0</u> ft	
	Flow Direction: <u>Southwest</u>	

<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> <input checked="" type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input type="checkbox"/> Flowing water	<b>Proportion of Reach Represented by Stream Morphology Types</b> Riffle      %      Run      % Pool      %
	<b>Velocity</b> <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	<b>Turbidity</b> <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	15
Boulder	> 256 mm (10")	20			
Cobble	64-256 mm (2.5"-10")	15	Muck-Mud	black, very fine organic (FPOM)	10
Gravel	2-64 mm (0.1"-2.5")	25			
Sand	0.06-2mm (gritty)	35	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	5			
Clay	< 0.004 mm (slick)				

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:	<b>Indicate the dominant type (Check one)</b> <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous
	<b>Canopy Cover</b> <input checked="" type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open	<b>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft
		<b>Wetland Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		<b>Wetland ID</b>

<b>AQUATIC VEGETATION</b>	<b>Indicate the dominant type and record the dominant species present</b> <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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<b>MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES</b>	Connects into S-Y02. This stream runs through ATWS_471
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## Stream Photograph Page

Stream ID S-Y03

Date: 07/11/2015



Photograph Direction SW

Comments:

<b>STREAM ID</b> S-Y02		<b>STREAM NAME</b> Doe Creek	
<b>LAT</b> 37.331339 <b>LONG</b> -80.583546		<b>DATE</b> 07/11/2015	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>INVESTIGATORS</b> LC, KG, KB			
<b>FLOW REGIME</b> Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>		<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>25.0</u> ft Top of Bank Height: LB <u>2.0</u> ft      RB <u>2.0</u> ft Water Depth: <u>1.50</u> ft Water Width: <u>11.0</u> ft High Water Mark: <u>25.0</u> ft Flow Direction: <u>W/Sw</u>	<b>Stream Erosion</b> <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy  <b>Artificial, Modified or Channelized</b> <input type="checkbox"/> Yes <input type="checkbox"/> No  <b>Dam Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  <b>Sinuosity</b> <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High  <b>Gradient</b> <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water  <b>Velocity</b> <input type="checkbox"/> Fast <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> Riffle 20 %   Run 60 % Pool 20 %  <b>Turbidity</b> <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	10
Boulder	> 256 mm (10")	10			
Cobble	64-256 mm (2.5"-10")	20			
Gravel	2-64 mm (0.1"-2.5")	20	Muck-Mud	black, very fine organic (FPOM)	10
Sand	0.06-2mm (gritty)	30			
Silt	0.004-0.06 mm	20	Marl	grey, shell fragments	
Clay	< 0.004 mm (slick)				

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____  <b>Canopy Cover</b> <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open	<b>Indicate the dominant type (Check one)</b> <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous  <b>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft  <b>Wetland Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Wetland ID</b> _____
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<b>AQUATIC VEGETATION</b>	<b>Indicate the dominant type and record the dominant species present</b> <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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<b>MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES</b>	Stream was revisited and extended on 4/15/2016. The presence of a stream channel and OHWM was confirmed.
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## Stream Photograph Page

Stream ID S-Y02

Date: 07/11/2015



Photograph Direction WSW

Comments:

<b>STREAM ID</b> S-PP04		<b>STREAM NAME</b> UNT to Sinking Creek	
<b>LAT</b> 37.328285 <b>LONG</b> -80.42281		<b>DATE</b> 08/26/2015	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>INVESTIGATORS</b> J. Swilik, D Hadersbeck, C. Carver			
<b>FLOW REGIME</b> Perennial <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>		<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: 2.0 ft Top of Bank Height: LB 6.0 in      RB 6.0 in Water Depth: 1.00 in Water Width: 1.0 ft High Water Mark: 1.5 ft Flow Direction: North	<b>Stream Erosion</b> <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy  <b>Artificial, Modified or Channelized</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  <b>Dam Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  <b>Sinuosity</b> <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High  <b>Gradient</b> <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water  <b>Velocity</b> <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> Riffle 10 %    Run 80 % Pool 10 %  <b>Turbidity</b> <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	40
Boulder	> 256 mm (10")	5			
Cobble	64-256 mm (2.5"-10")	5	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	0			
Sand	0.06-2mm (gritty)	5	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	85			
Clay	< 0.004 mm (slick)				

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other:	<b>Indicate the dominant type (Check one)</b> <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous
	<b>Canopy Cover</b> <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input checked="" type="checkbox"/> Open	<b>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft  <b>Wetland Present</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>Wetland ID</b> W-PP04

<b>AQUATIC VEGETATION</b>	<b>Indicate the dominant type and record the dominant species present</b> <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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<b>MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES</b>	2015 comment: Stream fed by spring and impacted by cattle. One braid also mapped  Information listed on this form represents the data collected in 2015. The stream was revisited on 10/29/2019. The presence of a stream channel and OHWM was confirmed.
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## Stream Photograph Page

Stream ID S-PP04



Photograph Direction NW

Date: 08/26/2015

Comments: 2015 stream identification.



Photograph Direction NNW

Date: 10/29/2019

Comments: 2019 stream identification confirmation.

<b>STREAM ID</b> S-PP03		<b>STREAM NAME</b> UNT to Sinking Creek	
<b>LAT</b> 37.326821 <b>LONG</b> -80.426006		<b>DATE</b> 08/26/2015	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>INVESTIGATORS</b> J. Swilik, D. Hadersbeck, C. Carver			
<b>FLOW REGIME</b> Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>		<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>3.0</u> ft Top of Bank Height: LB <u>6.0</u> in      RB <u>6.0</u> in Water Depth: <u>1.00</u> in Water Width: <u>1.0</u> ft High Water Mark: <u>1.5</u> ft Flow Direction: <u>Northwest</u>		<b>Stream Erosion</b> <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy  <b>Artificial, Modified or Channelized</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  <b>Dam Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  <b>Sinuosity</b> <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High  <b>Gradient</b> <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)		
	<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water  <b>Velocity</b> <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slow		<b>Proportion of Reach Represented by Stream Morphology Types</b> Riffle 20 %    Run 70 % Pool 10 %  <b>Turbidity</b> <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____	
<b>INORGANIC SUBSTRATE COMPONENTS</b> (should add up to 100%)		<b>ORGANIC SUBSTRATE COMPONENTS</b> (does not necessarily add up to 100%)			
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	35
Boulder	> 256 mm (10")	20			
Cobble	64-256 mm (2.5"-10")	20	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	30			
Sand	0.06-2mm (gritty)	25	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	5			
Clay	< 0.004 mm (slick)				
<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____  <b>Canopy Cover</b> <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input checked="" type="checkbox"/> Open		<b>Indicate the dominant type (Check one)</b> <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous  <b>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft  <b>Wetland Present</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>Wetland ID</b> W-PP03		
	<b>AQUATIC VEGETATION</b>	<b>Indicate the dominant type and record the dominant species present</b> <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae			

<b>MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES</b>	2015 comment: Stream fed by spring
	Information listed on this form represents the data collected in 2015. The stream was revisited on 10/29/2019. The presence of a stream channel and OHWM was confirmed.



## Stream Photograph Page

Stream ID S-PP03



Photograph Direction NW

Date: 08/26/2015

Comments: 2015 stream identification.



Photograph Direction NW

Date: 10/29/2019

Comments: 2019 stream identification confirmation.

<b>STREAM ID</b> S-RR4	<b>STREAM NAME</b> UNT to Sinking Creek
<b>LAT</b> 37.32604946 <b>LONG</b> -80.55678783	<b>DATE</b> 09/10/2015
<b>CLIENT</b> MVP	<b>PROJECT NAME</b> MVP
<b>INVESTIGATORS</b> J. Cook, R. Keyser, D. McCullough	
<b>FLOW REGIME</b> Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>	<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: 3 ft Top of Bank Height: LB 5.0 in RB 5.0 in Water Depth: 3.00 in Water Width: 2.0 ft High Water Mark: 3.0 in Flow Direction: Southwest		<b>Stream Erosion</b> <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy <b>Artificial, Modified or Channelized</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Dam Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Sinuosity</b> <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input checked="" type="checkbox"/> High <b>Gradient</b> <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)		
	<b>Water Present</b> <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water <b>Velocity</b> <input checked="" type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow		<b>Proportion of Reach Represented by Stream Morphology Types</b> Riffle 50 % Run % Pool 50 % <b>Turbidity</b> <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input checked="" type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other		
<b>INORGANIC SUBSTRATE COMPONENTS</b> (should add up to 100%)			<b>ORGANIC SUBSTRATE COMPONENTS</b> (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	30
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")	35	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	35			
Sand	0.06-2mm (gritty)	30	Marl	grey, shell fragments	
Silt	0.004-0.06 mm				
Clay	< 0.004 mm (slick)				
<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input checked="" type="checkbox"/> Other: Road/easment <b>Canopy Cover</b> <input type="checkbox"/> Partly open <input checked="" type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open		<b>Indicate the dominant type (Check one)</b> <input type="checkbox"/> Trees <input checked="" type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous <b>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft <b>Wetland Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Wetland ID</b>		
	<b>AQUATIC VEGETATION</b> <b>Indicate the dominant type and record the dominant species present</b> <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

<b>MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES</b>	Information listed on this form represents the data collected in 2015. The stream was revisited on 10/28/2019. The presence of a stream channel and OHWM was confirmed.
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## Stream Photograph Page

Stream ID S-RR4



Photograph Direction SW

Date: 09/10/2015

Comments: 2015 stream identification.



Photograph Direction NNE

Date: 10/28/2019

Comments: 2019 stream identification confirmation.



<b>STREAM ID</b> S-E24		<b>STREAM NAME</b> UNT to Sinking Creek	
<b>LAT</b> 37.325768 <b>LONG</b> -80.565048		<b>DATE</b> 04/06/2015	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>INVESTIGATORS</b> S. Ryan, A. Mengel, L. Sexton, S. Kelly			
<b>FLOW REGIME</b> Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>		<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>20.0</u> ft Top of Bank Height: LB <u>8.0</u> ft      RB <u>10.0</u> ft Water Depth: <u>2.00</u> in Water Width: <u>4.0</u> ft High Water Mark: <u>5.0</u> in Flow Direction: <u>SW</u>	<b>Stream Erosion</b> <input checked="" type="checkbox"/> None <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy <b>Artificial, Modified or Channelized</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Dam Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Sinuosity</b> <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High <b>Gradient</b> <input type="checkbox"/> Flat (0.5/100 ft) <input type="checkbox"/> Moderate (2 ft/100 ft) <input checked="" type="checkbox"/> Severe (10 ft/100 ft)
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water <b>Velocity</b> <input type="checkbox"/> Fast <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> Riffle 80 %    Run 20 % Pool % <b>Turbidity</b> <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock		0	Detritus	sticks, wood, coarse plant materials (CPOM)	25
Boulder	> 256 mm (10")	25			
Cobble	64-256 mm (2.5"-10")	15			
Gravel	2-64 mm (0.1"-2.5")	30	Muck-Mud	black, very fine organic (FPOM)	
Sand	0.06-2mm (gritty)	30			
Silt	0.004-0.06 mm		Marl	grey, shell fragments	
Clay	< 0.004 mm (slick)				

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____ <b>Canopy Cover</b> <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open	<b>Indicate the dominant type (Check one)</b> <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous <b>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft <b>Wetland Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Wetland ID</b>
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<b>AQUATIC VEGETATION</b>	<b>Indicate the dominant type and record the dominant species present</b> <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input checked="" type="checkbox"/> Attached algae
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<b>MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES</b>	
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## Stream Photograph Page

Stream ID S-E24

Date: 04/06/2015



Photograph Direction South

Comments:

<b>STREAM ID</b> S-E25 Upstream		<b>STREAM NAME</b> UNT to Sinking Creek	
<b>LAT</b> 37.325663 <b>LONG</b> -80.563954		<b>DATE</b> 04/06/2015	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>INVESTIGATORS</b> S. Ryan, A. Mengel, L. Sexton, S. Kelly			
<b>FLOW REGIME</b> Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>		<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>10.0</u> ft Top of Bank Height: LB <u>3.0</u> ft      RB <u>3.0</u> ft Water Depth: <u>3.00</u> in Water Width: <u>4.0</u> ft High Water Mark: <u>8.0</u> in Flow Direction: <u>West</u>	<b>Stream Erosion</b> <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy  <b>Artificial, Modified or Channelized</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  <b>Dam Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  <b>Sinuosity</b> <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High  <b>Gradient</b> <input type="checkbox"/> Flat (0.5/100 ft) <input type="checkbox"/> Moderate (2 ft/100 ft) <input checked="" type="checkbox"/> Severe (10 ft/100 ft)
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water  <b>Velocity</b> <input checked="" type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> Riffle 90 %   Run 10 % Pool   %  <b>Turbidity</b> <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	15
Boulder	> 256 mm (10")	35			
Cobble	64-256 mm (2.5"-10")	20	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	30			
Sand	0.06-2mm (gritty)	15	Marl	grey, shell fragments	
Silt	0.004-0.06 mm				
Clay	< 0.004 mm (slick)				

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____	<b>Indicate the dominant type (Check one)</b> <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous
	<b>Canopy Cover</b> <input type="checkbox"/> Partly open <input checked="" type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open	<b>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft  <b>Wetland Present</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>Wetland ID</b> W-E6

<b>AQUATIC VEGETATION</b>	<b>Indicate the dominant type and record the dominant species present</b> <input checked="" type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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<b>MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES</b>	Two data forms because the stream is very diverse in characteristics.
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## Stream Photograph Page

Stream ID S-E25 Upst



Photograph Direction NE

Date: 04/06/2015

Comments: 2015 stream identification.



Photograph Direction East

Date: 11/04/2019

Comments: 2019 stream identification confirmation.

<b>STREAM ID</b> S-E25 Downstream		<b>STREAM NAME</b> UNT to Sinking Creek	
<b>LAT</b> 37.325663 <b>LONG</b> -80.563954		<b>DATE</b> 04/06/2015	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>INVESTIGATORS</b> S. Ryan, A. Mengel, L. Sexton, S. Kelly			
<b>FLOW REGIME</b> Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>		<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>6.0</u> ft Top of Bank Height: LB <u>6.0</u> in      RB <u>10.0</u> in Water Depth: <u>2.00</u> in Water Width: <u>2.5</u> ft High Water Mark: <u>10.0</u> in Flow Direction: <u>West</u>	<b>Stream Erosion</b> <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy  <b>Artificial, Modified or Channelized</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  <b>Dam Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  <b>Sinuosity</b> <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High  <b>Gradient</b> <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water  <b>Velocity</b> <input type="checkbox"/> Fast <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> Riffle 55 %   Run 30 % Pool 15 %  <b>Turbidity</b> <input checked="" type="checkbox"/> Clear <input checked="" type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	15
Boulder	> 256 mm (10")	30			
Cobble	64-256 mm (2.5"-10")		Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	35			
Sand	0.06-2mm (gritty)	30	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	5			
Clay	< 0.004 mm (slick)				

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____  <b>Canopy Cover</b> <input type="checkbox"/> Partly open <input checked="" type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open	<b>Indicate the dominant type (Check one)</b> <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous  <b>Floodplain Width</b> <input checked="" type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft  <b>Wetland Present</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>Wetland ID</b> W-E6
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<b>AQUATIC VEGETATION</b>	<b>Indicate the dominant type and record the dominant species present</b> <input checked="" type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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<b>MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES</b>	Two data forms because the stream is very diverse in characteristics
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## Stream Photograph Page

Stream ID S-E25 Dowl



Photograph Direction NE

Date: 04/06/2015

Comments: 2015 stream identification.



Photograph Direction East

Date: 11/04/2019

Comments: 2019 stream identification confirmation.

<b>STREAM ID</b> S-PP01		<b>STREAM NAME</b> UNT to Sinking Creek	
<b>LAT</b> 37.324752 <b>LONG</b> -80.431347		<b>DATE</b> 08/26/2015	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>INVESTIGATORS</b> J. Swilik, D. Hadersbeck, C. Carver			
<b>FLOW REGIME</b> Perennial <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>		<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>2.5</u> ft Top of Bank Height: LB <u>1.0</u> ft      RB <u>1.0</u> ft Water Depth: <u>0.00</u> in Water Width: <u>0.0</u> ft High Water Mark: <u>2.0</u> ft Flow Direction: <u>Northwest</u>		<b>Stream Erosion</b> <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy  <b>Artificial, Modified or Channelized</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  <b>Dam Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  <b>Sinuosity</b> <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High  <b>Gradient</b> <input type="checkbox"/> Flat (0.5/100 ft) <input type="checkbox"/> Moderate (2 ft/100 ft) <input checked="" type="checkbox"/> Severe (10 ft/100 ft)			
	<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> <input checked="" type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input type="checkbox"/> Flowing water  <b>Velocity</b> <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow		<b>Proportion of Reach Represented by Stream Morphology Types</b> Riffle      %    Run      % Pool      %  <b>Turbidity</b> <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____		
<b>INORGANIC SUBSTRATE COMPONENTS</b> (should add up to 100%)		<b>ORGANIC SUBSTRATE COMPONENTS</b> (does not necessarily add up to 100%)				
	Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
	Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	70
	Boulder	> 256 mm (10")				
	Cobble	64-256 mm (2.5"-10")	20	Muck-Mud	black, very fine organic (FPOM)	
	Gravel	2-64 mm (0.1"-2.5")	30			
	Sand	0.06-2mm (gritty)	25	Marl	grey, shell fragments	
	Silt	0.004-0.06 mm	25			
	Clay	< 0.004 mm (slick)				
<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____  <b>Canopy Cover</b> <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open			<b>Indicate the dominant type (Check one)</b> <input checked="" type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input type="checkbox"/> Herbaceous  <b>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft  <b>Wetland Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Wetland ID</b> _____		
	<b>AQUATIC VEGETATION</b>	<b>Indicate the dominant type and record the dominant species present</b> <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae				

<b>MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES</b>	
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## Stream Photograph Page

Stream ID S-PP01

Date: 08/26/2015



Photograph Direction SE

Comments:



<b>STREAM ID</b> S-RR5	<b>STREAM NAME</b> UNT to Sinking Creek
<b>LAT</b> 37.32359137 <b>LONG</b> -80.55561674	<b>DATE</b> 09/10/2015
<b>CLIENT</b> MVP	<b>PROJECT NAME</b> MVP
<b>INVESTIGATORS</b> J. Cook, R. Keyser, D. McCullough	
<b>FLOW REGIME</b> Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>	<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>10</u> ft Top of Bank Height: LB <u>1.0</u> ft RB <u>2.0</u> ft Water Depth: <u>3.00</u> in Water Width: <u>4.0</u> ft High Water Mark: <u>8.0</u> in Flow Direction: <u>South</u>	<b>Stream Erosion</b> <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy <b>Artificial, Modified or Channelized</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Dam Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Sinuosity</b> <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input checked="" type="checkbox"/> High <b>Gradient</b> <input checked="" type="checkbox"/> Flat (0.5/100 ft) <input type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft)
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water <b>Velocity</b> <input checked="" type="checkbox"/> Fast <input type="checkbox"/> Moderate <input type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> Riffle 30 % Run 30 % Pool 20 % <b>Turbidity</b> <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Opaque <input type="checkbox"/> Stained <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)			ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)		
Substrate Type	Diameter	% Composition in Sampling Reach	Substrate Type	Characteristic	% Composition in Sampling Area
Bedrock			Detritus	sticks, wood, coarse plant materials (CPOM)	10
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")	25	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	25			
Sand	0.06-2mm (gritty)	50	Marl	grey, shell fragments	
Silt	0.004-0.06 mm				
Clay	< 0.004 mm (slick)				

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input checked="" type="checkbox"/> Forest <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Field/Pasture <input type="checkbox"/> Industrial <input type="checkbox"/> Agricultural <input type="checkbox"/> Residential <input type="checkbox"/> Other: _____ <b>Canopy Cover</b> <input checked="" type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open	<b>Indicate the dominant type (Check one)</b> <input type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input checked="" type="checkbox"/> Herbaceous <b>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <16ft <b>Wetland Present</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>Wetland ID</b> VV-KR02
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<b>AQUATIC VEGETATION</b>	<b>Indicate the dominant type and record the dominant species present</b> <input type="checkbox"/> Rooted emergent <input type="checkbox"/> Rooted submergent <input type="checkbox"/> Rooted floating <input type="checkbox"/> Free floating <input type="checkbox"/> Floating algae <input type="checkbox"/> Attached algae
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<b>MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES</b>	
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## Stream Photograph Page

Stream ID S-RR5



Photograph Direction NNW

Date: 09/10/2015

Comments: 2015 stream identification.



Photograph Direction SSE

Date: 11/04/2019

Comments: 2019 stream identification confirmation.

<b>STREAM ID</b> S-PA07		<b>STREAM NAME</b> UNT to Sinking Creek	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>LAT</b> 37.323533	<b>LONG</b> -80.555257	<b>STATE</b> Virginia	<b>COUNTY</b> Giles
<b>INVESTIGATORS</b> KP RA		<b>DATE</b> 02/11/2020	
<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>		<b>FLOW REGIME</b> Perennial <input type="checkbox"/> Intermittent <input checked="" type="checkbox"/> Ephemeral <input type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>2.0</u> ft Top of Bank Height: _____ LB <u>1.0</u> ft RB <u>1.0</u> ft Water Depth: <u>2.50</u> in Water Width: <u>1.0</u> ft Ordinary High Water Mark (Width): <u>1.5</u> ft Ordinary High Water Mark (Height): <u>5.0</u> in Flow Direction: <u>Southwest</u>	<b>Sinuosity</b> <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High <b>Gradient</b> <input type="checkbox"/> Flat <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft) <b>Stream Erosion</b> <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy <b>Artificial, Modified or Channelized</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Within Roadside Ditch</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Culvert Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Culvert Material: _____ Culvert Size: _____ in																																										
	<b>FLOW CHARACTERISTICS</b> <b>Water Present</b> <input type="checkbox"/> No water, stream bed dry <input type="checkbox"/> Stream bed moist <input type="checkbox"/> Standing water <input checked="" type="checkbox"/> Flowing water <b>Velocity</b> <input type="checkbox"/> Fast <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> (Only enter if water present) Riffle <u>100</u> % Run <u>      </u> % Pool <u>      </u> % <b>Turbidity</b> <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Other _____																																										
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<b>MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS</b> Note - heavy precipitation 24-36hrs prior to survey The Environmental Inspector on site, who spoke with the land tenant of the property, said that the stream is being sourced by a spring upslope, outside the current LOD. The stream has a defined bed and bank as well as an OHWM. Channelization appears to be present upslope and downslope, outside the LOD and ROW clearing. The stream meets the confluence with an adjacent perennial tributary (S-RR5). A shallow water line runs parallel with the stream channel as indicated by the placement of blue pin flags and a marked out sign. The stream currently flows under a aerial timber bridge span and its banks have being reinforced with ECD controls (silt fencing).
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## Stream Photograph Page

Stream ID S-PA07 Date 02/11/2020



Photograph Number 1

Photograph Direction SW

Comments: Facing downstream



Photograph Number 2

Photograph Direction NE

Comments: Facing upstream  
Blue pin flags indicate shallow waterline location



Photograph Number 3

Photograph Direction North

Comments: Facing upstream



Photograph Number 4

Photograph Direction West

Comments: Substrate  
OHWM present

<b>STREAM ID</b> S-IJ18-EPH		<b>STREAM NAME</b> UNT to Sinking Creek	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>LAT</b> 37.322743	<b>LONG</b> -80.552397	<b>DATE</b> 03/03/2018	<b>COUNTY</b> Giles
<b>INVESTIGATORS</b> S. Ryan			
<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>		<b>FLOW REGIME</b> Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>6.0</u> ft Top of Bank Height: _____ LB <u>2.5</u> ft RB <u>2.5</u> ft Water Depth: <u>4.00</u> in Water Width: <u>3.0</u> ft Ordinary High Water Mark (Width): <u>5.0</u> ft Ordinary High Water Mark (Height): <u>12.0</u> in Flow Direction: <u>South</u>	<b>Sinuosity</b> <input type="checkbox"/> Low <input checked="" type="checkbox"/> Medium <input type="checkbox"/> High <b>Gradient</b> <input type="checkbox"/> Flat (0.5/100 ft) <input checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input type="checkbox"/> Severe (10 ft/100 ft) <b>Stream Erosion</b> <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy <b>Artificial, Modified or Channelized</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Within Roadside Ditch</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>Culvert Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Culvert Material: _____ Culvert Size: _____ in																																										
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<b>MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS</b>  Flow is high and fast. Extension of previously identified stream S-IJ18 designated as Ephemeral based on previous assessments, recent heavy rains, and stream morphology.
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## Stream Photograph Page

Stream ID S-IJ18-EPH



Photograph Direction NE

Date: 03/03/2018

Comments:



Photograph Direction South

Date: 03/03/2018

Comments:

<b>STREAM ID</b> S-IJ19		<b>STREAM NAME</b> UNT to Sinking Creek	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>LAT</b> 37.321838	<b>LONG</b> -80.553129	<b>DATE</b> 04/14/2016	<b>COUNTY</b> Giles
<b>INVESTIGATORS</b> E. Foster, S. Lieb, J. Niergarth			
<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input type="checkbox"/> NRPW <input checked="" type="checkbox"/>		<b>FLOW REGIME</b> Perennial <input type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input checked="" type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>4.0</u> ft Top of Bank Height: _____ LB <u>2.0</u> ft RB <u>2.0</u> ft Water Depth: <u>1.00</u> in Water Width: <u>1.5</u> ft Ordinary High Water Mark (Width): <u>2.0</u> ft Ordinary High Water Mark (Height): <u>3.0</u> in Flow Direction: <u>South</u>	<b>Sinuosity</b> <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High <b>Gradient</b> <input type="checkbox"/> Flat <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft) <b>Stream Erosion</b> <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy <b>Artificial, Modified or Channelized</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Within Roadside Ditch</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Culvert Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Culvert Material: _____ Culvert Size: _____ in																																										
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<b>MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS</b> previously mapped as drainage change to ephemeral stream
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## Stream Photograph Page

Stream ID S-IJ19

Date: 04/14/2016



Photograph Direction NE

Comments: