

<b>STREAM ID</b> S-EF34b		<b>STREAM NAME</b> UNT to Bottom Creek	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>LAT</b> 37.181385	<b>LONG</b> -80.149140	<b>DATE</b> 09/27/2016	<b>COUNTY</b> Roanoke
<b>INVESTIGATORS</b> D Hadersbeck C Wieman J Niergarth			
<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>		<b>FLOW REGIME</b> Perennial <input checked="" type="checkbox"/> Intermittent <input 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>2.0</u> ft RB <u>2.0</u> ft Water Depth: <u>4.00</u> in Water Width: <u>5.0</u> ft Ordinary High Water Mark (Width): <u>7.0</u> ft Ordinary High Water Mark (Height): <u>6.0</u> in Flow Direction: <u>East</u>	<b>Sinuosity</b> ___ Low <input checked="" type="checkbox"/> Medium ___ High <b>Gradient</b> ___ Flat ___ Moderate <input checked="" type="checkbox"/> Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft) <b>Stream Erosion</b> ___ None <input checked="" type="checkbox"/> Moderate ___ Heavy <b>Artificial, Modified or Channelized</b> ___ Yes <input checked="" type="checkbox"/> No <b>Within Roadside Ditch</b> ___ Yes <input checked="" type="checkbox"/> No <b>Culvert Present</b> ___ Yes <input checked="" type="checkbox"/> No Culvert Material: _____ Culvert Size: _____ in
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> ___ No water, stream bed dry ___ Stream bed moist ___ Standing water <input checked="" type="checkbox"/> Flowing water <b>Velocity</b> ___ Fast <input checked="" type="checkbox"/> Moderate ___ Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> (Only enter if water present) Riffle 35 % Run 55 % Pool 10 % <b>Turbidity</b> <input checked="" type="checkbox"/> Clear ___ Slightly turbid ___ Turbid ___ Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) <sup>100</sup>			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)	20
Boulder	> 256 mm (10")	15			
Cobble	64-256 mm (2.5"-10")	25	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	40			
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 ___ Commercial ___ Field/Pasture ___ Industrial ___ Agricultural ___ Residential ___ ROW ___ Other:	<b>Floodplain Width</b> ___ Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft ___ Narrow <15ft
	<b>Canopy Cover</b> ___ Open ___ Partly shaded <input checked="" type="checkbox"/> Shaded	

<b>MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS</b>

# Stream Photograph Page

Stream ID S-EF34b

Date: 09/27/2016



Photograph Direction ESE

Comments:

<b>STREAM ID</b> S-EF33		<b>STREAM NAME</b> UNT to Bottom Creek	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>LAT</b> 37.179205	<b>LONG</b> -80.140961	<b>DATE</b> 07/14/2016	<b>COUNTY</b> Roanoke
<b>INVESTIGATORS</b> D Hadersbeck S Ryan S Pilcher			
<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>9.0</u> ft Top of Bank Height: LB <u>2.0</u> ft RB <u>1.0</u> ft Water Depth: <u>2.00</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>8.0</u> in Flow Direction: <u>East</u>	<b>Sinuosity</b> ___ Low <input checked="" type="checkbox"/> Medium ___ High <b>Gradient</b> ___ Flat <input checked="" type="checkbox"/> Moderate ___ Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft) <b>Stream Erosion</b> ___ None <input checked="" type="checkbox"/> Moderate ___ Heavy <b>Artificial, Modified or Channelized</b> ___ Yes <input checked="" type="checkbox"/> No <b>Within Roadside Ditch</b> ___ Yes <input checked="" type="checkbox"/> No <b>Culvert Present</b> ___ Yes <input checked="" type="checkbox"/> No Culvert Material: _____ Culvert Size: _____ in
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> ___ No water, stream bed dry ___ Stream bed moist ___ Standing water <input checked="" type="checkbox"/> Flowing water <b>Velocity</b> ___ Fast <input checked="" type="checkbox"/> Moderate ___ Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> (Only enter if water present) Riffle 25 % Run 75 % Pool % <b>Turbidity</b> <input checked="" type="checkbox"/> Clear ___ Slightly turbid ___ Turbid ___ Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) <sup>100</sup>			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)	30
Boulder	> 256 mm (10")	10			
Cobble	64-256 mm (2.5"-10")	15	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	25			
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 ___ Commercial ___ Field/Pasture ___ Industrial ___ Agricultural ___ Residential ___ ROW ___ Other:	<b>Floodplain Width</b> ___ Wide > 30ft ___ Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <15ft
	<b>Canopy Cover</b> ___ Open ___ Partly shaded <input checked="" type="checkbox"/> Shaded	

<b>MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS</b>
Flows into S-EF32

# Stream Photograph Page

Stream ID S-EF33

Date: 07/14/2016



Photograph Direction East

Comments:



<b>STREAM ID</b> S-IJ82		<b>STREAM NAME</b> UNT to Bottom Creek	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>LAT</b> 37.17081	<b>LONG</b> -80.137934	<b>DATE</b> 08/28/2017	<b>COUNTY</b> Roanoke
<b>INVESTIGATORS</b> E. Foster, K. Pulver, S. Pilcher			
<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>15.0</u> ft Top of Bank Height: LB <u>2.0</u> ft RB <u>3.0</u> ft Water Depth: <u>0.00</u> in Water Width: <u>0.0</u> ft Ordinary High Water Mark (Width): <u>5.0</u> ft Ordinary High Water Mark (Height): <u>6.0</u> in Flow Direction: <u>Southwest</u>	<b>Sinuosity</b> ___ Low <input checked="" type="checkbox"/> Medium ___ High <b>Gradient</b> ___ Flat <input checked="" type="checkbox"/> Moderate ___ Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft) <b>Stream Erosion</b> <input checked="" type="checkbox"/> None ___ Moderate ___ Heavy <b>Artificial, Modified or Channelized</b> ___ Yes <input checked="" type="checkbox"/> No <b>Within Roadside Ditch</b> ___ Yes <input checked="" type="checkbox"/> No <b>Culvert Present</b> ___ Yes <input checked="" type="checkbox"/> No Culvert Material: _____ Culvert Size: _____ in
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> ___ No water, stream bed dry ___ Stream bed moist <input checked="" type="checkbox"/> Standing water ___ Flowing water <b>Velocity</b> ___ Fast ___ Moderate ___ Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> (Only enter if water present) Riffle % Run % Pool % <b>Turbidity</b> ___ Clear ___ Slightly turbid ___ Turbid ___ Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) <sup>100</sup>			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")	5	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")				
Sand	0.06-2mm (gritty)	60	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	35			
Clay	< 0.004 mm (slick)				

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input checked="" type="checkbox"/> Forest ___ Commercial ___ Field/Pasture ___ Industrial ___ Agricultural ___ Residential ___ ROW ___ Other:	<b>Floodplain Width</b> ___ Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft ___ Narrow <15ft
	<b>Canopy Cover</b> ___ Open ___ Partly shaded <input checked="" type="checkbox"/> Shaded	

<b>MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS</b>
No macroinvertebrates observed. Some standing water, some moist bed. Likely groundwater fed.
Loses bed and bank definition at southwest end in wetland.

# Stream Photograph Page

Stream ID S-IJ82

Date: 08/28/2017



Photograph Direction SW

Comments:

<b>STREAM ID</b> S-IJ85		<b>STREAM NAME</b> UNT to Bottom Creek	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>LAT</b> 37.169583	<b>LONG</b> -80.130428	<b>DATE</b> 08/29/2017	<b>COUNTY</b> Roanoke
<b>INVESTIGATORS</b> E. Foster, K. Pulver, S. Pilcher			
<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>		<b>FLOW REGIME</b> Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>8.0</u> ft Top of Bank Height: LB <u>1.5</u> ft RB <u>1.5</u> ft Water Depth: <u>2.00</u> in Water Width: <u>4.0</u> ft Ordinary High Water Mark (Width): <u>5.0</u> ft Ordinary High Water Mark (Height): <u>4.0</u> in Flow Direction: <u>South</u>	<b>Sinuosity</b> ___ Low <input checked="" type="checkbox"/> Medium ___ High <b>Gradient</b> ___ Flat <input checked="" type="checkbox"/> Moderate ___ Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft) <b>Stream Erosion</b> ___ None ___ Moderate ___ Heavy <b>Artificial, Modified or Channelized</b> ___ Yes <input checked="" type="checkbox"/> No <b>Within Roadside Ditch</b> ___ Yes <input checked="" type="checkbox"/> No <b>Culvert Present</b> ___ Yes <input checked="" type="checkbox"/> No Culvert Material: _____ Culvert Size: _____ in
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> ___ No water, stream bed dry ___ Stream bed moist ___ Standing water <input checked="" type="checkbox"/> Flowing water <b>Velocity</b> ___ Fast <input checked="" type="checkbox"/> Moderate ___ Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> (Only enter if water present) Riffle 25 % Run 60 % Pool 15 % <b>Turbidity</b> ___ Clear <input checked="" type="checkbox"/> Slightly turbid ___ Turbid ___ Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) <sup>100</sup>			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)	
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")		Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	20			
Sand	0.06-2mm (gritty)	70	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	10			
Clay	< 0.004 mm (slick)				

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input checked="" type="checkbox"/> Forest ___ Commercial ___ Field/Pasture ___ Industrial ___ Agricultural ___ Residential ___ ROW <input checked="" type="checkbox"/> Other: Unimproved road	<b>Floodplain Width</b> <input checked="" type="checkbox"/> Wide > 30ft ___ Moderate 15-30ft ___ Narrow <15ft
	<b>Canopy Cover</b> ___ Open ___ Partly shaded ___ Shaded	

<b>MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS</b>
No macros. Small fish in pools



# Stream Photograph Page

Stream ID S-IJ85

Date: 08/29/2017



Photograph Direction South

Comments:



<b>STREAM ID</b> S-IJ83		<b>STREAM NAME</b> UNT to Bottom Creek	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>LAT</b> 37.169406	<b>LONG</b> -80.138303	<b>DATE</b> 08/28/2017	<b>COUNTY</b> Roanoke
<b>INVESTIGATORS</b> E. Foster, K. Pulver, S. Pilcher			
<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>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>1.5</u> ft Ordinary High Water Mark (Height): <u>4.0</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 (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 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
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> <input type="checkbox"/> No water, stream bed dry <input checked="" 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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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) <sup>100</sup>			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)	
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")		Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	30			
Sand	0.06-2mm (gritty)	50	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	10			
Clay	< 0.004 mm (slick)	10			

<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 checked="" type="checkbox"/> Residential <input type="checkbox"/> ROW <input checked="" type="checkbox"/> Other: Crosses private road	<b>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <15ft
	<b>Canopy Cover</b> <input type="checkbox"/> Open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded	

<b>MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS</b>
No macroinvertebrates.

# Stream Photograph Page

Stream ID S-IJ83

Date: 08/28/2017



Photograph Direction South

Comments:

<b>STREAM ID</b> S-IJ88		<b>STREAM NAME</b> Bottom Creek	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>LAT</b> 37.167408	<b>LONG</b> -80.139098	<b>DATE</b> 08/30/2017	<b>COUNTY</b> Roanoke
<b>INVESTIGATORS</b> E. Foster, K. Pulver, S. Pilche			
<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>		<b>FLOW REGIME</b> Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <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>2.5</u> ft RB <u>2.5</u> ft Water Depth: <u>5.00</u> in Water Width: <u>13.0</u> ft Ordinary High Water Mark (Width): <u>15.0</u> ft Ordinary High Water Mark (Height): <u>10.0</u> in Flow Direction: <u>Southwest</u>	<b>Sinuosity</b> ___ Low <input checked="" type="checkbox"/> Medium ___ High <b>Gradient</b> ___ Flat ___ Moderate <input checked="" type="checkbox"/> Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft) <b>Stream Erosion</b> ___ None <input checked="" type="checkbox"/> Moderate ___ Heavy <b>Artificial, Modified or Channelized</b> ___ Yes <input checked="" type="checkbox"/> No <b>Within Roadside Ditch</b> ___ Yes <input checked="" type="checkbox"/> No <b>Culvert Present</b> ___ Yes <input checked="" type="checkbox"/> No Culvert Material: _____ Culvert Size: _____ in
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> ___ No water, stream bed dry ___ Stream bed moist ___ Standing water <input checked="" type="checkbox"/> Flowing water <b>Velocity</b> <input checked="" type="checkbox"/> Fast ___ Moderate ___ Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> (Only enter if water present) Riffle 35 % Run 35 % Pool 30 % <b>Turbidity</b> ___ Clear <input checked="" type="checkbox"/> Slightly turbid ___ Turbid ___ Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) <sup>100</sup>			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)	
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)	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 ___ Commercial ___ Field/Pasture ___ Industrial ___ Agricultural ___ Residential ___ ROW ___ Other:	<b>Floodplain Width</b> <input checked="" type="checkbox"/> Wide > 30ft ___ Moderate 15-30ft ___ Narrow <15ft
	<b>Canopy Cover</b> ___ Open <input checked="" type="checkbox"/> Partly shaded ___ Shaded	

<b>MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS</b>
Within large PSS wetland complex. Macros observed- dragonfly.



# Stream Photograph Page

Stream ID S-IJ88

Date: 08/30/2017



Photograph Direction NE

Comments:



<b>STREAM ID</b> S-IJ84		<b>STREAM NAME</b> UNT to Bottom Creek	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>LAT</b> 37.168513	<b>LONG</b> -80.138509	<b>DATE</b> 08/28/2017	<b>COUNTY</b> Roanoke
<b>INVESTIGATORS</b> E. Foster, K. Pulver, S. Pilcher			
<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>		<b>FLOW REGIME</b> Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>15.0</u> ft Top of Bank Height: _____ LB <u>2.0</u> ft RB <u>2.0</u> ft Water Depth: <u>3.00</u> in Water Width: <u>5.0</u> ft Ordinary High Water Mark (Width): <u>6.0</u> ft Ordinary High Water Mark (Height): <u>6.0</u> in Flow Direction: <u>Southeast</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 checked="" type="checkbox"/> Moderate (2 ft/100 ft) <input 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
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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 checked="" type="checkbox"/> Standing water <input 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> (Only enter if water present) Riffle % Run 30 % Pool 70 % <b>Turbidity</b> <input type="checkbox"/> Clear <input type="checkbox"/> Slightly turbid <input checked="" type="checkbox"/> Turbid <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) <sup>100</sup>			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)	
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")		Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")				
Sand	0.06-2mm (gritty)	50	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	40			
Clay	< 0.004 mm (slick)	10			

<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>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft <input type="checkbox"/> Narrow <15ft
	<b>Canopy Cover</b> <input type="checkbox"/> Open <input checked="" type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded	

<b>MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS</b>
Very slow flow. Tributary to Bottom Creek. Within large wetland complex associated with Bottom Creek. Channel largely obscured due to dense vegetation.

# Stream Photograph Page

Stream ID S-IJ84

Date: 08/28/2017



Photograph Direction SSW

Comments:

<b>STREAM ID</b> S-IJ89		<b>STREAM NAME</b> UNT to Bottom Creek	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>LAT</b> 37.165786	<b>LONG</b> -80.139154	<b>DATE</b> 08/30/2017	<b>COUNTY</b> Roanoke
<b>INVESTIGATORS</b> E. Foster, K. Pulver, S. Pilcher			
<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>		<b>FLOW REGIME</b> Perennial <input checked="" type="checkbox"/> Intermittent <input 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>3.0</u> ft Water Depth: <u>1.50</u> in Water Width: <u>2.0</u> ft Ordinary High Water Mark (Width): <u>3.5</u> ft Ordinary High Water Mark (Height): <u>4.0</u> in Flow Direction: <u>Northwest</u>	<b>Sinuosity</b> ___ Low <input checked="" type="checkbox"/> Medium ___ High <b>Gradient</b> ___ Flat <input checked="" type="checkbox"/> Moderate ___ Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft) <b>Stream Erosion</b> <input checked="" type="checkbox"/> None ___ Moderate ___ Heavy <b>Artificial, Modified or Channelized</b> ___ Yes <input checked="" type="checkbox"/> No <b>Within Roadside Ditch</b> ___ Yes <input checked="" type="checkbox"/> No <b>Culvert Present</b> ___ Yes <input checked="" type="checkbox"/> No Culvert Material: _____ Culvert Size: _____ in
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> ___ No water, stream bed dry ___ Stream bed moist ___ Standing water <input checked="" type="checkbox"/> Flowing water <b>Velocity</b> ___ Fast <input checked="" type="checkbox"/> Moderate ___ Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> (Only enter if water present) Riffle 60 % Run 20 % Pool 20 % <b>Turbidity</b> <input checked="" type="checkbox"/> Clear ___ Slightly turbid ___ Turbid ___ Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) <sup>100</sup>			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)	
Boulder	> 256 mm (10")	15			
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)	35	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 ___ Commercial ___ Field/Pasture ___ Industrial ___ Agricultural ___ Residential ___ ROW ___ Other:	<b>Floodplain Width</b> ___ Wide > 30ft ___ Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <15ft
	<b>Canopy Cover</b> ___ Open ___ Partly shaded <input checked="" type="checkbox"/> Shaded	

<b>MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS</b>
No macros observed. Within dense rhododendron thicket.



# Stream Photograph Page

Stream ID S-IJ89

Date: 08/30/2017



Photograph Direction NW

Comments:



<b>STREAM ID</b> S-IJ90		<b>STREAM NAME</b> UNT to Bottom Creek	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>LAT</b> 37.165672	<b>LONG</b> -80.139335	<b>DATE</b> 08/30/2017	<b>COUNTY</b> Roanoke
<b>INVESTIGATORS</b> E. Foster, K. Pulver, S. Pilcher			
<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>7.0</u> ft Top of Bank Height: LB <u>2.5</u> ft RB <u>2.5</u> ft Water Depth: <u>0.50</u> in Water Width: <u>4.0</u> ft Ordinary High Water Mark (Width): <u>5.0</u> ft Ordinary High Water Mark (Height): <u>3.0</u> in Flow Direction: <u>Northwest</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 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
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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> (Only enter if water present) Riffle 100 % Run % Pool % <b>Turbidity</b> <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) <sup>100</sup>			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)	
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")	30	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	35			
Sand	0.06-2mm (gritty)	35	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"/> ROW <input type="checkbox"/> Other:	<b>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <15ft
	<b>Canopy Cover</b> <input type="checkbox"/> Open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded	

<b>MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS</b>
Tributary in dense rhododendron thicket.

# Stream Photograph Page

Stream ID S-IJ90

Date: 08/30/2017



Photograph Direction SE

Comments:

<b>STREAM ID</b> S-KL25		<b>STREAM NAME</b> UNT to Mill Creek	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>LAT</b> 37.160196	<b>LONG</b> -80.134799	<b>DATE</b> 07/11/2016	<b>COUNTY</b> Roanoke
<b>INVESTIGATORS</b> J. Cook, A. Mengel, K. Pulver			
<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>5.0</u> ft Top of Bank Height: LB <u>1.0</u> ft RB <u>3.0</u> ft Water Depth: <u>1.00</u> in Water Width: <u>2.0</u> ft Ordinary High Water Mark (Width): <u>3.0</u> ft Ordinary High Water Mark (Height): <u>4.0</u> in Flow Direction: <u>South</u>	<b>Sinuosity</b> ___ Low <input checked="" type="checkbox"/> Medium ___ High <b>Gradient</b> <input checked="" type="checkbox"/> Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft) <b>Stream Erosion</b> <input checked="" type="checkbox"/> None ___ Moderate ___ Heavy <b>Artificial, Modified or Channelized</b> ___ Yes <input checked="" type="checkbox"/> No <b>Within Roadside Ditch</b> ___ Yes <input checked="" type="checkbox"/> No <b>Culvert Present</b> ___ Yes <input checked="" type="checkbox"/> No Culvert Material: _____ Culvert Size: _____ in
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> ___ No water, stream bed dry ___ Stream bed moist ___ Standing water <input checked="" type="checkbox"/> Flowing water <b>Velocity</b> ___ Fast ___ Moderate <input checked="" type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> (Only enter if water present) Riffle 20 % Run 80 % Pool % <b>Turbidity</b> <input checked="" type="checkbox"/> Clear ___ Slightly turbid ___ Turbid ___ Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) <sup>100</sup>			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)	
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")		Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	30			
Sand	0.06-2mm (gritty)	20	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	50			
Clay	< 0.004 mm (slick)				

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input checked="" type="checkbox"/> Forest ___ Commercial ___ Field/Pasture ___ Industrial ___ Agricultural ___ Residential ___ ROW ___ Other:	<b>Floodplain Width</b> ___ Wide > 30ft ___ Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <15ft
	<b>Canopy Cover</b> ___ Open ___ Partly shaded <input checked="" type="checkbox"/> Shaded	

<b>MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS</b>
No macroinvertebrates, due to lack of suitable substrate



# Stream Photograph Page

Stream ID S-KL25

Date: 07/11/2016



Photograph Direction North

Comments:



<b>STREAM ID</b> S-ST9b		<b>STREAM NAME</b> UNT to Mill Creek	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>LAT</b> 37.154464	<b>LONG</b> -80.129223	<b>DATE</b> 05/15/2017	<b>COUNTY</b> Roanoke
<b>INVESTIGATORS</b> S Ryan, K Pulver, H Phelan			
<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>		<b>FLOW REGIME</b> Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>8.0</u> ft Top of Bank Height: LB <u>2.0</u> ft RB <u>2.0</u> ft Water Depth: <u>5.00</u> in Water Width: <u>5.0</u> ft Ordinary High Water Mark (Width): <u>6.5</u> ft Ordinary High Water Mark (Height): <u>9.0</u> in Flow Direction: <u>Southeast</u>	<b>Sinuosity</b> ___ Low <input checked="" type="checkbox"/> Medium ___ High <b>Gradient</b> <input checked="" type="checkbox"/> Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft) <b>Stream Erosion</b> ___ None <input checked="" type="checkbox"/> Moderate ___ Heavy <b>Artificial, Modified or Channelized</b> <input checked="" type="checkbox"/> Yes ___ No <b>Within Roadside Ditch</b> ___ Yes <input checked="" type="checkbox"/> No <b>Culvert Present</b> <input checked="" type="checkbox"/> Yes ___ No Culvert Material: <u>Concrete</u> Culvert Size: <u>48</u> in
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> ___ No water, stream bed dry ___ Stream bed moist ___ Standing water <input checked="" type="checkbox"/> Flowing water <b>Velocity</b> ___ Fast <input checked="" type="checkbox"/> Moderate ___ Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> (Only enter if water present) Riffle 25 % Run 50 % Pool 25 % <b>Turbidity</b> <input checked="" type="checkbox"/> Clear ___ Slightly turbid ___ Turbid ___ Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) <sup>100</sup>			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")		Muck-Mud	black, very fine organic (FPOM)	0
Gravel	2-64 mm (0.1"-2.5")	10			
Sand	0.06-2mm (gritty)	80	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	10			
Clay	< 0.004 mm (slick)				

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input checked="" type="checkbox"/> Forest ___ Commercial ___ Field/Pasture ___ Industrial ___ Agricultural ___ Residential ___ ROW ___ Other:	<b>Floodplain Width</b> <input checked="" type="checkbox"/> Wide > 30ft ___ Moderate 15-30ft ___ Narrow <15ft
	<b>Canopy Cover</b> ___ Open ___ Partly shaded <input checked="" type="checkbox"/> Shaded	

<b>MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS</b>
Flow from culvert washed out area around culvert. Bed/bank normalizes approximately 25' from culvert. Attributes above represent normalized characteristics.

# Stream Photograph Page

Stream ID S-ST9b

Date: 05/15/2017



Photograph Direction West

Comments:

<b>STREAM ID</b> S-KL55		<b>STREAM NAME</b> UNT to Mill Creek	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>LAT</b> 37.150003	<b>LONG</b> -80.132423	<b>DATE</b> 05/15/2017	<b>COUNTY</b> Roanoke
<b>INVESTIGATORS</b> E. Foster, J. Cook, K. Gracie			
<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>		<b>FLOW REGIME</b> Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>15.0</u> ft Top of Bank Height: LB <u>2.0</u> ft RB <u>2.0</u> ft Water Depth: <u>3.00</u> in Water Width: <u>2.0</u> ft Ordinary High Water Mark (Width): <u>10.0</u> ft Ordinary High Water Mark (Height): <u>7.0</u> in Flow Direction: <u>Southeast</u>	<b>Sinuosity</b> ___ Low ___ Medium <input checked="" type="checkbox"/> High <b>Gradient</b> <input checked="" type="checkbox"/> Flat ___ Moderate ___ Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft) <b>Stream Erosion</b> <input checked="" type="checkbox"/> None ___ Moderate ___ Heavy <b>Artificial, Modified or Channelized</b> ___ Yes <input checked="" type="checkbox"/> No <b>Within Roadside Ditch</b> ___ Yes <input checked="" type="checkbox"/> No <b>Culvert Present</b> ___ Yes <input checked="" type="checkbox"/> No Culvert Material: _____ Culvert Size: _____ in
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> ___ No water, stream bed dry ___ Stream bed moist ___ Standing water <input checked="" type="checkbox"/> Flowing water <b>Velocity</b> ___ Fast ___ Moderate <input checked="" type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> (Only enter if water present) Riffle 20 % Run 70 % Pool 10 % <b>Turbidity</b> <input checked="" type="checkbox"/> Clear ___ Slightly turbid ___ Turbid ___ Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) <sup>100</sup>			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)	0
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")		Muck-Mud	black, very fine organic (FPOM)	0
Gravel	2-64 mm (0.1"-2.5")	20			
Sand	0.06-2mm (gritty)	70	Marl	grey, shell fragments	0
Silt	0.004-0.06 mm	10			
Clay	< 0.004 mm (slick)				

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input checked="" type="checkbox"/> Forest ___ Commercial <input checked="" type="checkbox"/> Field/Pasture ___ Industrial ___ Agricultural ___ Residential ___ ROW ___ Other:	<b>Floodplain Width</b> ___ Wide > 30ft ___ Moderate 15-30ft ___ Narrow <15ft
	<b>Canopy Cover</b> ___ Open ___ Partly shaded <input checked="" type="checkbox"/> Shaded	

<b>MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS</b>



# Stream Photograph Page

Stream ID S-KL55

Date: 05/15/2017



Photograph Direction West

Comments:

<b>STREAM ID</b> S-IJ12		<b>STREAM NAME</b> UNT to Mill Creek	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>LAT</b> 37.148329	<b>LONG</b> -80.133913	<b>DATE</b> 04/09/2016	<b>COUNTY</b> Roanoke
<b>INVESTIGATORS</b> E. Foster, S. Lieb, J. Niergarth			
<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>		<b>FLOW REGIME</b> Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>13.0</u> ft Top of Bank Height: LB <u>1.0</u> ft RB <u>1.0</u> ft Water Depth: <u>2.00</u> in Water Width: <u>2.5</u> ft Ordinary High Water Mark (Width): <u>3.5</u> ft Ordinary High Water Mark (Height): <u>8.0</u> in Flow Direction: <u>Southeast</u>	<b>Sinuosity</b> ___ Low <input checked="" type="checkbox"/> Medium ___ High <b>Gradient</b> ___ Flat <input checked="" type="checkbox"/> Moderate ___ Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft) <b>Stream Erosion</b> <input checked="" type="checkbox"/> None ___ Moderate ___ Heavy <b>Artificial, Modified or Channelized</b> ___ Yes <input checked="" type="checkbox"/> No <b>Within Roadside Ditch</b> ___ Yes <input checked="" type="checkbox"/> No <b>Culvert Present</b> ___ Yes <input checked="" type="checkbox"/> No Culvert Material: _____ Culvert Size: _____ in
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> ___ No water, stream bed dry ___ Stream bed moist ___ Standing water <input checked="" type="checkbox"/> Flowing water <b>Velocity</b> ___ Fast <input checked="" type="checkbox"/> Moderate ___ Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> (Only enter if water present) Riffle 45 % Run 45 % Pool 10 % <b>Turbidity</b> <input checked="" type="checkbox"/> Clear ___ Slightly turbid ___ Turbid ___ Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) <sup>100</sup>			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")		Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	10			
Sand	0.06-2mm (gritty)	60	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	30			
Clay	< 0.004 mm (slick)				

<b>WATERSHED FEATURES</b>	<b>Predominant Surrounding Landuse</b> <input checked="" type="checkbox"/> Forest ___ Commercial <input checked="" type="checkbox"/> Field/Pasture ___ Industrial ___ Agricultural ___ Residential ___ ROW ___ Other:	<b>Floodplain Width</b> ___ Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft ___ Narrow <15ft
	<b>Canopy Cover</b> ___ Open <input checked="" type="checkbox"/> Partly shaded ___ Shaded	

<b>MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS</b>
Algae

# Stream Photograph Page

Stream ID S-IJ12

Date: 04/09/2016



Photograph Direction South

Comments:



<b>STREAM ID</b> S-EF44		<b>STREAM NAME</b> UNT to Bottom Creek	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>LAT</b> 37.14299	<b>LONG</b> -80.138339	<b>DATE</b> 08/23/2016	<b>COUNTY</b> Roanoke
<b>INVESTIGATORS</b> D Hadersbeck, S Therkildson, K Pulver			
<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>7.0</u> ft Top of Bank Height: LB <u>0.5</u> ft RB <u>0.5</u> ft Water Depth: <u>1.00</u> in Water Width: <u>5.0</u> ft Ordinary High Water Mark (Width): <u>5.0</u> ft Ordinary High Water Mark (Height): <u>3.0</u> in Flow Direction: <u>West</u>	<b>Sinuosity</b> ___ Low <input checked="" type="checkbox"/> Medium ___ High <b>Gradient</b> ___ Flat <input checked="" type="checkbox"/> Moderate ___ Severe (0.5/100 ft) (2 ft/100 ft) (10 ft/100 ft) <b>Stream Erosion</b> <input checked="" type="checkbox"/> None ___ Moderate ___ Heavy <b>Artificial, Modified or Channelized</b> ___ Yes <input checked="" type="checkbox"/> No <b>Within Roadside Ditch</b> ___ Yes <input checked="" type="checkbox"/> No <b>Culvert Present</b> ___ Yes <input checked="" type="checkbox"/> No Culvert Material: _____ Culvert Size: _____ in
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<b>FLOW CHARACTERISTICS</b>	<b>Water Present</b> ___ No water, stream bed dry ___ Stream bed moist ___ Standing water <input checked="" type="checkbox"/> Flowing water <b>Velocity</b> ___ Fast ___ Moderate <input checked="" type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> (Only enter if water present) Riffle 30 % Run 70 % Pool % <b>Turbidity</b> ___ Clear ___ Slightly turbid ___ Turbid <input checked="" type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) <sup>100</sup>			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)	20
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")	50			
Sand	0.06-2mm (gritty)	10	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 ___ Commercial ___ Field/Pasture ___ Industrial ___ Agricultural ___ Residential ___ ROW ___ Other:	<b>Floodplain Width</b> ___ Wide > 30ft <input checked="" type="checkbox"/> Moderate 15-30ft ___ Narrow <15ft
	<b>Canopy Cover</b> ___ Open ___ Partly shaded <input checked="" type="checkbox"/> Shaded	

<b>MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS</b>
Apparently spring sourced.

# Stream Photograph Page

Stream ID S-EF44

Date: 08/23/2016



Photograph Direction NE

Comments:

<b>STREAM ID</b> S-IJ43		<b>STREAM NAME</b> Mill Creek	
<b>CLIENT</b> MVP		<b>PROJECT NAME</b> MVP	
<b>LAT</b> 37.13885	<b>LONG</b> -80.139409	<b>DATE</b> 07/11/2016	<b>COUNTY</b> Roanoke
<b>INVESTIGATORS</b> E. Foster, K. Lew, J. Bittner			
<b>WATER TYPE</b> TNW <input type="checkbox"/> RPW <input checked="" type="checkbox"/> NRPW <input type="checkbox"/>		<b>FLOW REGIME</b> Perennial <input checked="" type="checkbox"/> Intermittent <input type="checkbox"/> Ephemeral <input type="checkbox"/>	

<b>CHANNEL FEATURES</b>	<b>Estimate Measurements</b> Top of Bank Width: <u>18.0</u> ft Top of Bank Height: LB <u>2.0</u> ft RB <u>2.0</u> ft Water Depth: <u>6.00</u> in Water Width: <u>12.0</u> ft Ordinary High Water Mark (Width): <u>15.0</u> ft Ordinary High Water Mark (Height): <u>12.0</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 checked="" type="checkbox"/> Flat <input type="checkbox"/> Moderate <input type="checkbox"/> Severe (0.5/100 ft) (2 ft/100 ft) (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
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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> (Only enter if water present) Riffle 30 % Run 60 % Pool 10 % <b>Turbidity</b> <input type="checkbox"/> Clear <input checked="" type="checkbox"/> Slightly turbid <input type="checkbox"/> Turbid <input type="checkbox"/> Other _____
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INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) <sup>100</sup>			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")				
Cobble	64-256 mm (2.5"-10")	30	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	10			
Sand	0.06-2mm (gritty)	60	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"/> ROW <input checked="" type="checkbox"/> Other: Valley	<b>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <15ft
	<b>Canopy Cover</b> <input type="checkbox"/> Open <input checked="" type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded	

<b>MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS</b>
Darters, aquatic snails.



# Stream Photograph Page

Stream ID S-IJ43

Date: 07/11/2016



Photograph Direction SW

Comments:

<b>STREAM ID</b> S-Y09	<b>STREAM NAME</b> UNT to Mill Creek
<b>LAT</b> 37.134572 <b>LONG</b> -80.137649	<b>DATE</b> 07/14/2015
<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 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: 4.0 ft Top of Bank Height: LB 1.0 ft      RB 0.5 ft Water Depth: 0.50 in Water Width: 3.5 ft High Water Mark: 4.0 ft Flow Direction: South	<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>Dam Present</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <b>Sinuosity</b> <input checked="" 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 20 %    Run 80 % Pool % <b>Turbidity</b> <input 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)	90
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")		Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")				
Sand	0.06-2mm (gritty)		Marl	grey, shell fragments	
Silt	0.004-0.06 mm	90			
Clay	< 0.004 mm (slick)	10			

<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>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>Canopy Cover</b> <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open	

<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 to S-Y07. Black pipe emerged from creek bed and supplying water to creek. Cinder block structure at head of feature during 2015 survey.  Information listed on this form represents the data collected in 2015. The stream was not accessible for survey in 2019 to reconfirm the presence of a stream channel and OHWM.
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# Stream Photograph Page

Stream ID S-Y09

Date: 07/14/2015



Photograph Direction South

Comments:



<b>STREAM ID</b> S-Y7	<b>STREAM NAME</b> UNT to Mill Creek
<b>LAT</b> 37.134315 <b>LONG</b> -80.137151	<b>DATE</b> 07/14/2015
<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 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: 4.0 ft Top of Bank Height: LB 0.5 ft      RB 1.0 ft Water Depth: 1.00 in Water Width: 3.0 ft High Water Mark: 3.5 ft Flow Direction: East	<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 <input checked="" 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 type="checkbox"/> Fast <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> Riffle 60 %    Run 40 % Pool %  <b>Turbidity</b> <input 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		0	Detritus	sticks, wood, coarse plant materials (CPOM)	35
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")	5	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	5			
Sand	0.06-2mm (gritty)	40	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	40			
Clay	< 0.004 mm (slick)	10			

<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>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft
	<b>Canopy Cover</b> <input type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input checked="" type="checkbox"/> Shaded <input type="checkbox"/> Open	<b>Wetland Present</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>Wetland ID</b> W-Z10; W-Y1; W-Y2

<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 to S-Y08
	Information listed on this form represents the data collected in 2015. The stream was not accessible for survey in 2019 to reconfirm the presence of a stream channel and OHWM.

# Stream Photograph Page

Stream ID S-Y7

Date: 07/14/2015



Photograph Direction SE

Comments:

<b>STREAM ID</b> S-Y8	<b>STREAM NAME</b> UNT to Mill Creek
<b>LAT</b> 37.13415 <b>LONG</b> -80.137552	<b>DATE</b> 07/14/2015
<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 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: 4.0 ft Top of Bank Height: LB 1.0 ft      RB 0.5 ft Water Depth: 1.00 in Water Width: 3.5 ft High Water Mark: 4.0 ft Flow Direction: East	<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 75 %    Run 25 % 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)	15
Boulder	> 256 mm (10")				
Cobble	64-256 mm (2.5"-10")	5	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	5			
Sand	0.06-2mm (gritty)	40	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	40			
Clay	< 0.004 mm (slick)	10			

<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>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-Y1; W-Y2
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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>	Information listed on this form represents the data collected in 2015. The stream was not accessible for survey in 2019 to reconfirm the presence of a stream channel and OHWM.
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# Stream Photograph Page

Stream ID S-Y8

Date: 07/14/2015



Photograph Direction NE

Comments:

<b>STREAM ID</b> S-B22	<b>STREAM NAME</b> UNT to Mill Creek
<b>LAT</b> 37.129067 <b>LONG</b> -80.133446	<b>DATE</b> 04/09/2015
<b>CLIENT</b> MVP	<b>PROJECT NAME</b> MVP
<b>INVESTIGATORS</b> C. Ansari, J. Rodriguez, M. Whitten	
<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: 4.0 ft Top of Bank Height: LB 4.0 ft      RB 2.0 ft Water Depth: 8.00 in Water Width: 2.5 ft High Water Mark: 12.0 in Flow Direction: Northeast	<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 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 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 10 % 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
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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)	5
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	0	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	0			
Sand	0.06-2mm (gritty)	90	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	10			
Clay	< 0.004 mm (slick)	0			

<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 type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input checked="" 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-B25 PEM

<b>AQUATIC VEGETATION</b>	<b>Indicate the dominant type and record the dominant species present</b> <input checked="" type="checkbox"/> Rooted emergent <input checked="" 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 feature located is a highly disturbed field. Area previously forested. The area was recently clear cut.
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# Stream Photograph Page

Stream ID S-B22

Date: 04/09/2015



Photograph Direction NE

Comments:



<b>STREAM ID</b> S-B23	<b>STREAM NAME</b> UNT to Mill Creek
<b>LAT</b> 37.128843 <b>LONG</b> -80.133958	<b>DATE</b> 04/09/2015
<b>CLIENT</b> MVP	<b>PROJECT NAME</b> MVP
<b>INVESTIGATORS</b> C. Ansari, J. Rodriguez, M. Whitten	
<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>2.0</u> ft Top of Bank Height: LB <u>4.0</u> ft      RB <u>2.0</u> ft Water Depth: <u>2.00</u> in Water Width: <u>18.0</u> in High Water Mark: <u>3.0</u> ft Flow Direction: <u>East</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 (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 type="checkbox"/> Fast <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> Riffle 70 %    Run 30 % 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)	10
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	10	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	20			
Sand	0.06-2mm (gritty)	60	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	10			
Clay	< 0.004 mm (slick)	0			

<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 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 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>

<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>	Feature is a tributary to S-B22.
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# Stream Photograph Page

Stream ID S-B23

Date: 04/09/2015



Photograph Direction ESE

Comments:

<b>STREAM ID</b> S-B25	<b>STREAM NAME</b> UNT to Mill Creek
<b>LAT</b> 37.128835 <b>LONG</b> -80.132768	<b>DATE</b> 04/10/2015
<b>CLIENT</b> MVP	<b>PROJECT NAME</b> MVP
<b>INVESTIGATORS</b> C.Ansari, J. Rodriguez, M. Whitten	
<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: 5.0 ft Top of Bank Height: LB 3.0 ft      RB 3.0 ft Water Depth: 1.00 in Water Width: 1.0 ft High Water Mark: 2.0 in 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 checked="" type="checkbox"/> Yes <input 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 type="checkbox"/> Fast <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> Riffle 15 %    Run 15 % Pool 70 % <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)	30
Boulder	> 256 mm (10")	0			
Cobble	64-256 mm (2.5"-10")	0	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	0			
Sand	0.06-2mm (gritty)	10	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	70			
Clay	< 0.004 mm (slick)	20			

<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 type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input checked="" 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 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-B25 PSS/PEM

<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>	Information listed on this form represents the data collected in 2015 and 2019. The stream was revisited on 11/2/2019 and 9/9/20 and the presence of a stream channel and OHWM was confirmed. 2019 and 2020 surveys changed the flow regime to intermittent. 2019 notes: OHWM width = 1ft OHWM depth = 1 inch  2015 notes: Highly disturbed from recent clear cut.
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## Stream Photograph Page

Stream ID S-B25



Photograph Direction South

Date: 04/10/2015

Comments: 2015 stream identification.



Photograph Direction South

Date: 11/02/2019

Comments: 2019 stream identification confirmation.

<b>STREAM ID</b> S-B21	<b>STREAM NAME</b> UNT to Mill Creek
<b>LAT</b> 37.128601 <b>LONG</b> -80.131051	<b>DATE</b> 04/09/2015
<b>CLIENT</b> MVP	<b>PROJECT NAME</b> MVP
<b>INVESTIGATORS</b> C. Ansari, J. Rodriguez, M. Whitten	
<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: 4.0 ft Top of Bank Height: LB 12.0 in      RB 8.0 in Water Depth: 6.00 in Water Width: 2.0 ft High Water Mark: 8.0 ft Flow Direction: Nw	<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 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 type="checkbox"/> Fast <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Slow	<b>Proportion of Reach Represented by Stream Morphology Types</b> Riffle 60 %    Run 30 % 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
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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")				
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)	60	Marl	grey, shell fragments	
Silt	0.004-0.06 mm	10			
Clay	< 0.004 mm (slick)	5			

<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 type="checkbox"/> Trees <input type="checkbox"/> Shrubs <input type="checkbox"/> Grasses <input checked="" 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 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-b24

<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>	This is a mapped NHD feature with fish present. The feature runs parallel to Bent Mountain Rd in the project corridor. The area is highly disturbed from a recent clear cut of the adjacent lands.
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# Stream Photograph Page

Stream ID S-B21

Date: 04/09/2015



Photograph Direction NW

Comments:



<b>STREAM ID</b> S-H1	<b>STREAM NAME</b> Green Creek
<b>LAT</b> 37.12775 <b>LONG</b> -80.116772	<b>DATE</b> 03/28/2015
<b>CLIENT</b> MVP	<b>PROJECT NAME</b> MVP
<b>INVESTIGATORS</b> A. Grech, A. Stott, H. Heist	
<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: 10 ft Top of Bank Height: LB 1.2 ft      RB 3.0 ft Water Depth: 3.00 in Water Width: 5.0 ft High Water Mark: 4.0 in Flow Direction: South	<b>Stream Erosion</b> <input type="checkbox"/> None <input checked="" type="checkbox"/> Moderate <input type="checkbox"/> Heavy <b>Artificial, Modified or Channelized</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <b>Dam Present</b> <input checked="" type="checkbox"/> Yes <input 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 90 %   Run   % 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 _____
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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)	50
Boulder	> 256 mm (10")	30			
Cobble	64-256 mm (2.5"-10")	20	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	15			
Sand	0.06-2mm (gritty)	35	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 checked="" 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>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>Canopy Cover</b> <input checked="" type="checkbox"/> Partly open <input type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open	

<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>	Logging area on West Bank
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## Stream Photograph Page

Stream ID S-H1



Photograph Direction South

Date: 03/28/2015

Comments: 2015 stream identification.



Photograph Direction South

Date: 11/05/2019

Comments: 2019 stream identification confirmation.

<b>STREAM ID</b> S-G26	<b>STREAM NAME</b> UNT to Green Creek
<b>LAT</b> 37.127049 <b>LONG</b> -80.111388	<b>DATE</b> 04/04/2015
<b>CLIENT</b> MVP	<b>PROJECT NAME</b> MVP
<b>INVESTIGATORS</b> G. Stevens, A. Rodrian, S. Kelly	
<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: 7 ft Top of Bank Height: LB 2.0 ft      RB 4.0 ft Water Depth: 3.00 in Water Width: 4.0 ft High Water Mark: 5.0 in Flow Direction: South	<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 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 60 %   Run 30 % 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
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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)	75
Boulder	> 256 mm (10")	30			
Cobble	64-256 mm (2.5"-10")	20	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	20			
Sand	0.06-2mm (gritty)	15	Marl	grey, shell fragments	
Silt	0.004-0.06 mm				
Clay	< 0.004 mm (slick)	5			

<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>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft
	<b>Canopy Cover</b> <input type="checkbox"/> Partly open <input checked="" type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open	<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>	Confluences with SG27
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# Stream Photograph Page

Stream ID S-G26

Date: 04/04/2015



Photograph Direction South

Comments:

<b>STREAM ID</b> S-G27	<b>STREAM NAME</b> UNT to Green Creek
<b>LAT</b> 37.127027 <b>LONG</b> -80.111013	<b>DATE</b> 04/04/2015
<b>CLIENT</b> MVP	<b>PROJECT NAME</b> MVP
<b>INVESTIGATORS</b> G. Stevens, A. Rodrian, 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: 7 ft Top of Bank Height: LB 2.0 ft      RB 4.0 ft Water Depth: 3.00 in Water Width: 4.0 ft High Water Mark: 5.0 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 checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input 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 60 %   Run 30 % 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
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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)	70
Boulder	> 256 mm (10")	30			
Cobble	64-256 mm (2.5"-10")	20	Muck-Mud	black, very fine organic (FPOM)	
Gravel	2-64 mm (0.1"-2.5")	20			
Sand	0.06-2mm (gritty)	15	Marl	grey, shell fragments	
Silt	0.004-0.06 mm				
Clay	< 0.004 mm (slick)	5			

<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>Floodplain Width</b> <input type="checkbox"/> Wide > 30ft <input type="checkbox"/> Moderate 15-30ft <input checked="" type="checkbox"/> Narrow <16ft
	<b>Canopy Cover</b> <input type="checkbox"/> Partly open <input checked="" type="checkbox"/> Partly shaded <input type="checkbox"/> Shaded <input type="checkbox"/> Open	<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>	Confluences with SG26 and into a culvert
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# Stream Photograph Page

Stream ID S-G27

Date: 04/04/2015



Photograph Direction SW

Comments: