STREAM ID S-G24	**STREAM NAME** UNT to Poplar Camp Creek
LAT 37.126422 **LONG** -80.121401	**DATE** 04/03/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS G. Stevens, A. Rodrian, S. Kelly	
FLOW REGIME Perennial ___ Intermittent ✔ Ephemeral ___	**WATER TYPE** TNW ___ RPW ✔ NRPW ___

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 6 ft
Top of Bank Height:
LB 2.0 ft RB 3.0 ft
Water Depth: 2.00 in
Water Width: 3.0 ft
High Water Mark: 4.0 in
Flow Direction: North

Stream Erosion
___None ✔ Moderate ___Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Dam Present ___Yes ✔ No

Sinuosity ✔ Low ___ Medium ___ High

Gradient
___ Flat (0.5/100 ft) ✔ Moderate (2 ft/100 ft) ___Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✔ Flowing water

Velocity
✔ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types
Riffle 60 % Run 30 %
Pool 10 %

Turbidity
✔ Clear ___Slightly turbid ___Turbid
___ Opaque ___Stained
___Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	20
Cobble	64-256 mm (2.5"-10")	40
Gravel	2-64 mm (0.1"-2.5")	20
Sand	0.06-2mm (gritty)	10
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	10

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	25
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✔ Forest ___ Commercial
___ Field/Pasture ___Industrial
___ Agricultural ___ Residential
___ Other:

Canopy Cover
✔ Partly open ___Partly shaded
___ Shaded ___ Open

Indicate the dominant type (Check one)
✔ Trees ___ Shrubs
___ Grasses ___Herbaceous

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✔ Narrow <16ft

Wetland Present ✔Yes ___No
Wetland ID W-B11

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
___ Rooted emergent ___Rooted submergent ___Rooted floating ___Free floating
___ Floating algae ___Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

WG1 emergent of SG24

Stream Photograph Page

Stream ID S-G24 Date: 04/03/2015

Photograph Direction NE

Comments:

STREAM ID S-G25	**STREAM NAME** UNT to Green Creek
LAT 37.126208 **LONG** -80.120723	**DATE** 04/03/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS G. Stevens, A. Rodrian, S. Kelly	
FLOW REGIME Perennial ___ Intermittent ✔ Ephemeral ___	**WATER TYPE** TNW ___ RPW ✔ NRPW ___

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 7 ft
Top of Bank Height:
LB 3.0 ft RB 3.0 ft
Water Depth: 2.00 in
Water Width: 2.0 ft
High Water Mark: 3.0 in
Flow Direction: Southwest

Stream Erosion
___None ✔ Moderate ___Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Dam Present ___Yes ✔ No

Sinuosity ✔ Low ___ Medium ___ High

Gradient
✔ Flat (0.5/100 ft) ___Moderate (2 ft/100 ft) ___Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

Water Present
___No water, stream bed dry
___Stream bed moist
___Standing water
✔ Flowing water

Velocity
___Fast ___ Moderate
✔ Slow

Proportion of Reach Represented by Stream Morphology Types
Riffle 10 % Run 80 %
Pool 10 %

Turbidity
✔ Clear ___Slightly turbid ___Turbid
___ Opaque ___Stained
___Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	10
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	80
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	10

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	95
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
___ Field/Pasture ___Industrial
___ Agricultural ___ Residential
✔ Other: Cut forest

Canopy Cover
___Partly open ___Partly shaded
___Shaded ✔ Open

Indicate the dominant type (Check one)
___ Trees ___ Shrubs
✔ Grasses ___Herbaceous

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✔ Narrow <16ft

Wetland Present ___Yes ✔ No
Wetland ID

AQUATIC VEGETATION

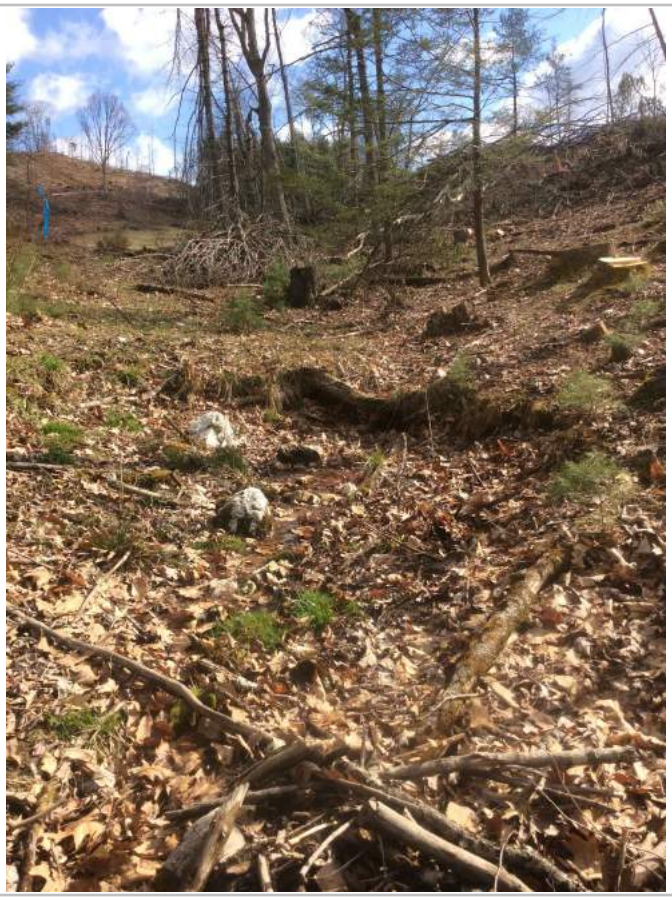
Indicate the dominant type and record the dominant species present
___Rooted emergent ___Rooted submergent ___Rooted floating ___Free floating
___Floating algae ___Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

Clear cut forest

Stream Photograph Page

Stream ID S-G25 Date: 04/03/2015



Photograph Direction NE

Comments:

STREAM ID S-RR18	**STREAM NAME** UNT to Green Creek
LAT 37.12515 **LONG** -80.113572	**DATE** 09/18/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS J. Cook, D. McCullough, R. Keyser	
FLOW REGIME Perennial ___ Intermittent ✔ Ephemeral ___	**WATER TYPE** TNW ___ RPW ✔ NRPW ___

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 2 ft
Top of Bank Height:
LB 6.0 in RB 2.0 ft
Water Depth: 1.00 in
Water Width: 1.0 ft
High Water Mark: 3.0 in
Flow Direction: South

Stream Erosion
___None ✔ Moderate ___Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Dam Present ___Yes ✔ No

Sinuosity ✔ Low ___ Medium ✔ High

Gradient
___ Flat (0.5/100 ft) ✔ Moderate (2 ft/100 ft) ___Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✔ Flowing water

Velocity
___ Fast ___ Moderate
✔ Slow

Proportion of Reach Represented by Stream Morphology Types
Riffle % Run 100 %
Pool %

Turbidity
✔ Clear ___Slightly turbid ___Turbid
___ Opaque ___Stained
___Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	10
Silt	0.004-0.06 mm	50
Clay	< 0.004 mm (slick)	40

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	15
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✔ Field/Pasture ___Industrial
___ Agricultural ___ Residential
___ Other:

Canopy Cover
___Partly open ✔ Partly shaded
___Shaded ___ Open

Indicate the dominant type (Check one)
___ Trees ___ Shrubs
___ Grasses ✔ Herbaceous

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✔ Narrow <16ft

Wetland Present ✔ Yes ___No
Wetland ID W-RR04

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
___Rooted emergent ___Rooted submergent ___Rooted floating ___Free floating
___Floating algae ___Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

original S-RR18

Stream Photograph Page

Stream ID S-RR18 Date: 09/18/2015

Photograph Direction South

Comments:

STREAM ID S-D11	**STREAM NAME** UNT to North Fork Blackwater River
LAT 37.121964 **LONG** -80.084049	**DATE** 04/06/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS A. Bensted, A. Larson, J. Kraus	
FLOW REGIME Perennial ✔ Intermittent ___ Ephemeral ___	**WATER TYPE** TNW ___ RPW ✔ NRPW ___

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 10 ft
Top of Bank Height:
LB 2.0 ft RB 0.6 ft
Water Depth: 4.00 in
Water Width: 6.0 ft
High Water Mark: 6.0 in
Flow Direction: South

Stream Erosion
___ None ✔ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Dam Present ___ Yes ✔ No

Sinuosity ___ Low ✔ Medium ___ High

Gradient
___ Flat (0.5/100 ft) ✔ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✔ Flowing water

Velocity
___ Fast ✔ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types
Riffle 90 % Run 10 %
Pool %

Turbidity
✔ Clear ___ Slightly turbid ___ Turbid
___ Opaque ___ Stained
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	30
Gravel	2-64 mm (0.1"-2.5")	10
Sand	0.06-2mm (gritty)	30
Silt	0.004-0.06 mm	15
Clay	< 0.004 mm (slick)	15

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	5
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✔ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✔ Agricultural ___ Residential
___ Other:

Canopy Cover
✔ Partly open ___ Partly shaded
___ Shaded ___ Open

Indicate the dominant type (Check one)
✔ Trees ___ Shrubs
___ Grasses ___ Herbaceous

Floodplain Width
___ Wide > 30ft ✔ Moderate 15-30ft
___ Narrow <16ft

Wetland Present ___ Yes ✔ No
Wetland ID

AQUATIC VEGETATION

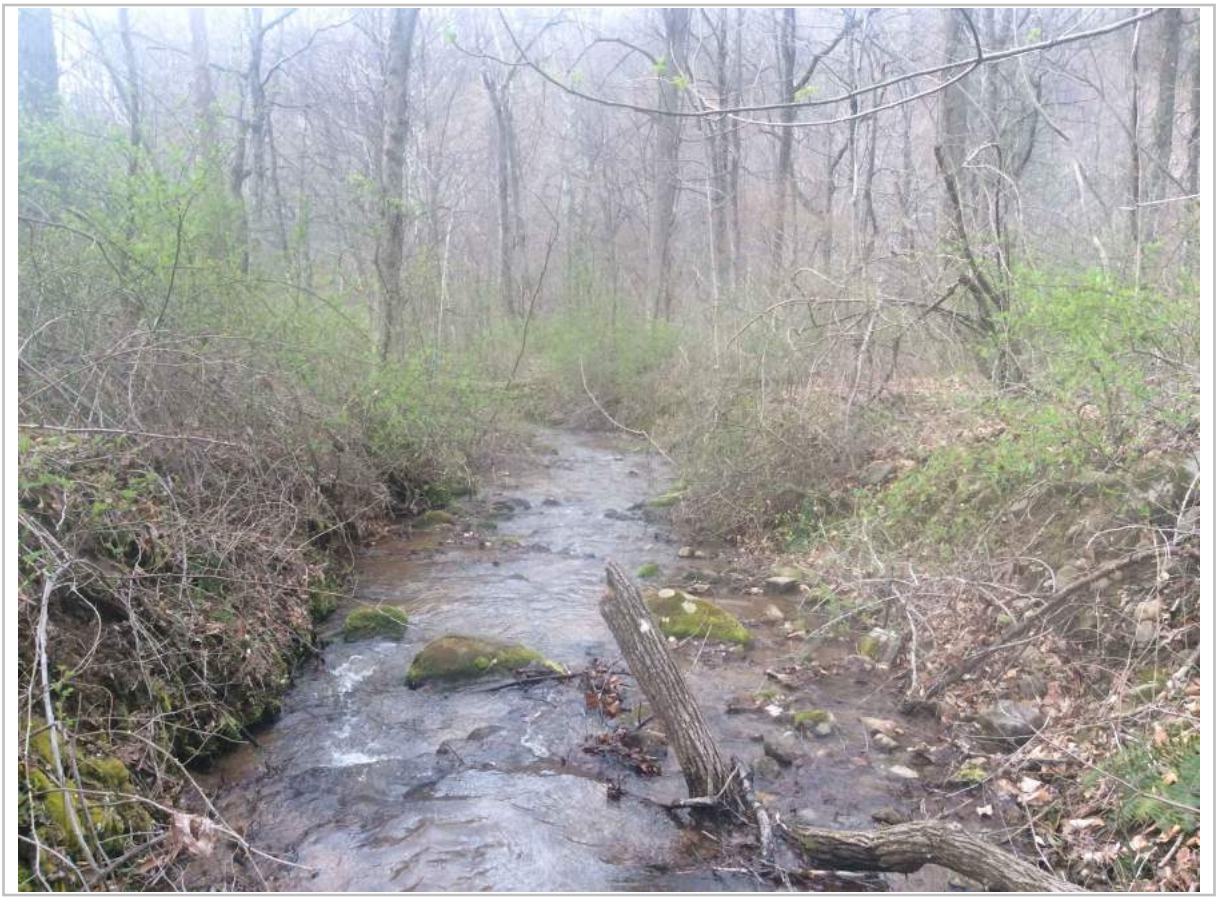
Indicate the dominant type and record the dominant species present
___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating
___ Floating algae ___ Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

Information listed on this form represents the data collected in 2015.
The stream was revisited and extended through the updated survey area on 10/7/2016. At this time the presence of an OHWM was confirmed.

Stream Photograph Page

Stream ID S-D11 Date: 04/06/2015



Photograph Direction South

Comments:

STREAM ID S-D8	**STREAM NAME** North Fork Blackwater River
LAT 37.122592 **LONG** -80.074964	**DATE** 04/04/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS A. Bensted, J. Kraus, A. Larson	
FLOW REGIME Perennial ✔ Intermittent ___ Ephemeral ___	**WATER TYPE** TNW ___ RPW ✔ NRPW ___

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 18 ft
Top of Bank Height:
LB 3.0 ft RB 3.0 ft
Water Depth: 6.00 in
Water Width: 8.0 ft
High Water Mark: 6.0 in
Flow Direction: Southeast

Stream Erosion
___ None ✔ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Dam Present ___ Yes ✔ No

Sinuosity ✔ Low ___ Medium ___ High

Gradient
✔ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✔ Flowing water

Velocity
___ Fast ✔ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types
Riffle 90 % Run 10 %
Pool %

Turbidity
✔ Clear ___ Slightly turbid ___ Turbid
___ Opaque ___ Stained
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	35
Gravel	2-64 mm (0.1"-2.5")	50
Sand	0.06-2mm (gritty)	15
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✔ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ Other:

Canopy Cover
___ Partly open ___ Partly shaded
___ Shaded ✔ Open

Indicate the dominant type (Check one)
___ Trees ___ Shrubs
✔ Grasses ___ Herbaceous

Floodplain Width
✔ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <16ft

Wetland Present ___ Yes ✔ No
Wetland ID

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating
___ Floating algae ___ Attached algae

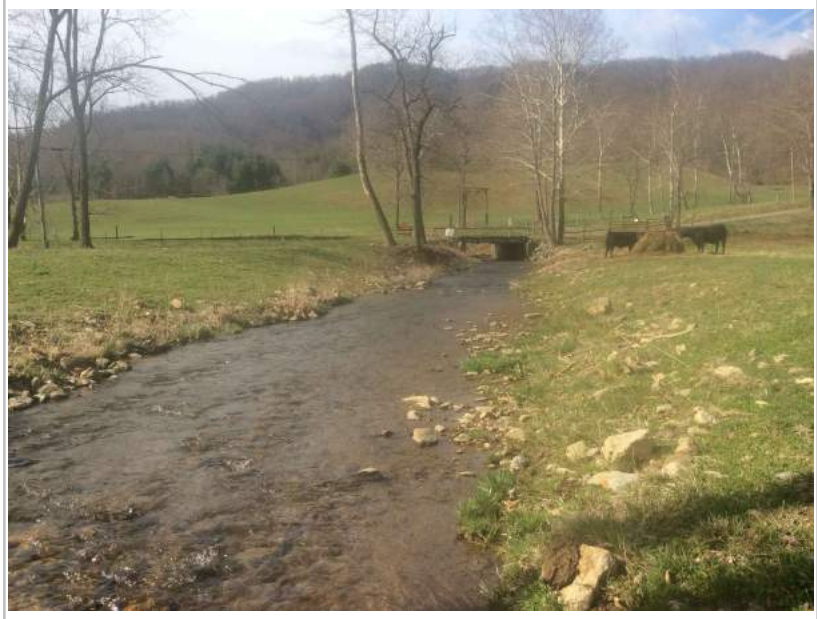
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

Cows present in field. Two intermittent streams and a wetland are in the same valley: S-D9 and S-D10, and W-D4. - 2015 comments

The stream was revisited on 2/15/2017 and the presence of a stream channel and OHWM was confirmed.

Stream Photograph Page

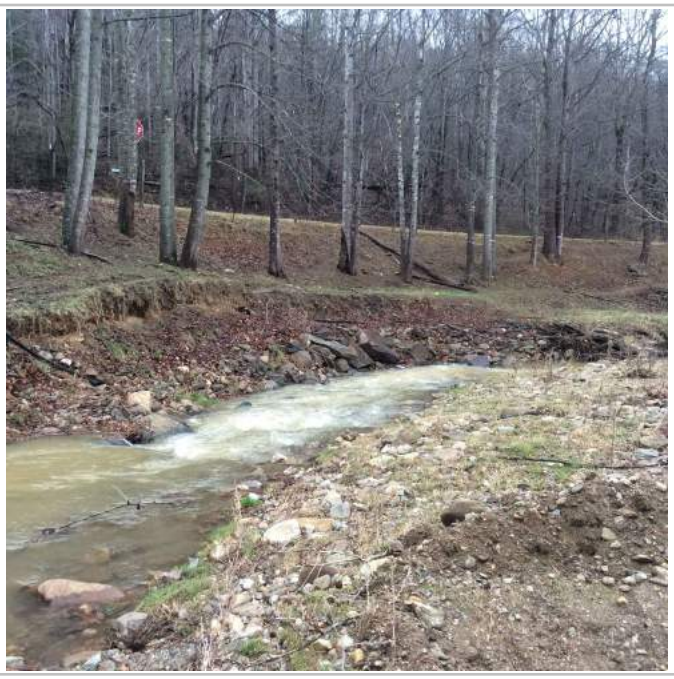
Stream ID S-D8



Photograph Direction SSE

Date: 04/04/2015

Comments: 2015 stream identification.



Photograph Direction SE

Date: 02/15/2017

Comments: 2017 stream extension

STREAM ID S-D12	**STREAM NAME** UNT to North Fork Blackwater River
LAT 37.121684 **LONG** -80.085818	**DATE** 04/06/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS A. Bensted, A. Larson, J. Kraus	
FLOW REGIME Perennial ___ Intermittent ✔ Ephemeral ___	**WATER TYPE** TNW ___ RPW ✔ NRPW ___

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 6 ft
Top of Bank Height:
LB 6.0 in RB 6.0 in
Water Depth: 2.00 in
Water Width: 1.0 ft
High Water Mark: 5.0 in
Flow Direction: South

Stream Erosion
✔ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Dam Present ___ Yes ✔ No

Sinuosity ___ Low ✔ Medium ___ High

Gradient
✔ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✔ Flowing water

Velocity
___ Fast ___ Moderate
✔ Slow

Proportion of Reach Represented by Stream Morphology Types
Riffle 90 % Run 10 %
Pool %

Turbidity
___ Clear ___ Slightly turbid ✔ Turbid
___ Opaque ___ Stained
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	50
Silt	0.004-0.06 mm	25
Clay	< 0.004 mm (slick)	25

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	15
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✔ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ Other:

Canopy Cover
___ Partly open ✔ Partly shaded
___ Shaded ___ Open

Indicate the dominant type (Check one)
✔ Trees ___ Shrubs
___ Grasses ___ Herbaceous

Floodplain Width
✔ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <16ft

Wetland Present ✔ Yes ___ No
Wetland ID W-D7

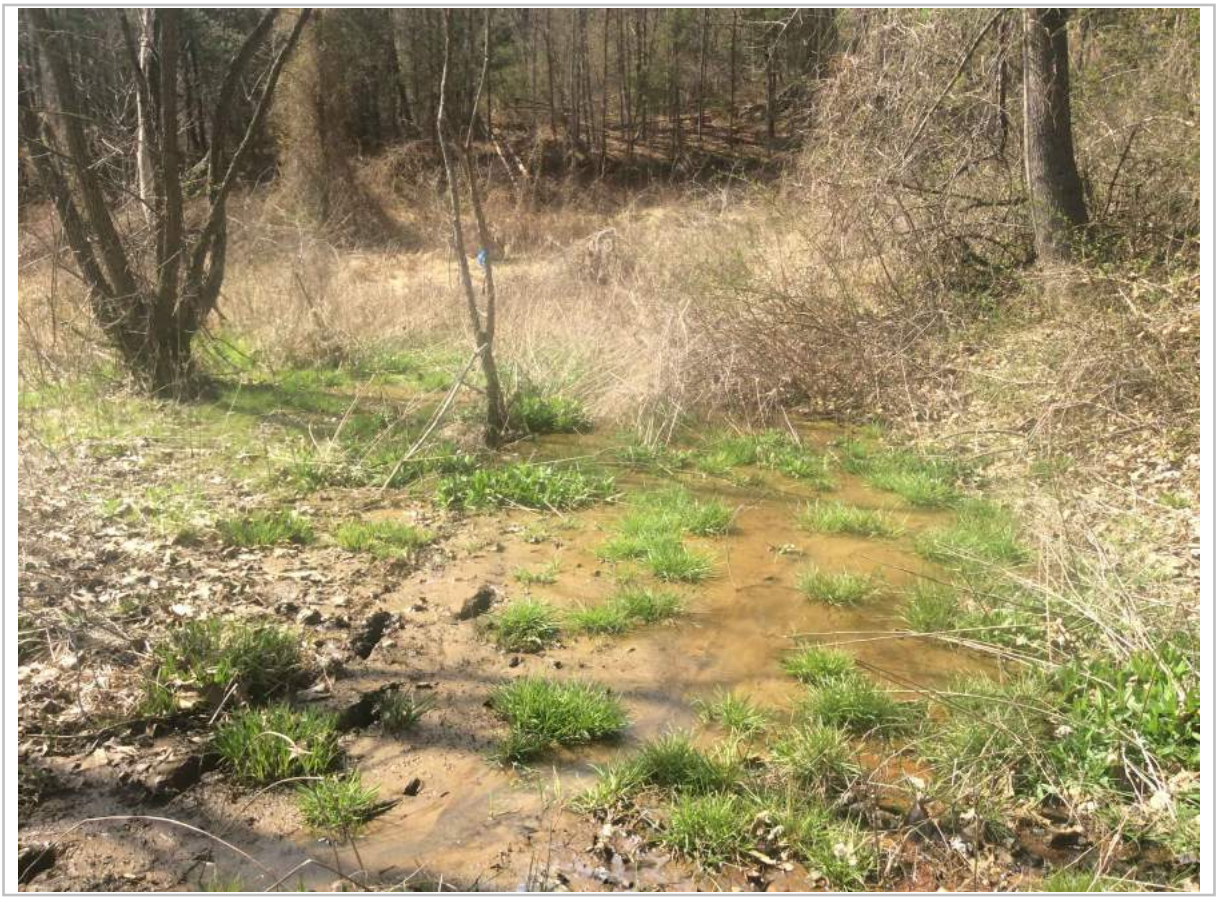
AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating
___ Floating algae ✔ Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

Stream Photograph Page

Stream ID S-D12 Date: 04/06/2015



Photograph Direction North

Comments:

STREAM ID S-D13	**STREAM NAME** UNT to North Fork Blackwater River
LAT 37.121534 **LONG** -80.085861	**DATE** 04/06/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS A. Bensted, A. Larson, J. Kraus	
FLOW REGIME Perennial ___ Intermittent ✔ Ephemeral ___	**WATER TYPE** TNW ___ RPW ✔ NRPW ___

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 4 ft
Top of Bank Height:
LB 3.0 ft RB 6.0 ft
Water Depth: 1.00 in
Water Width: 1.5 ft
High Water Mark: 3.0 in
Flow Direction: Southeast

Stream Erosion
___ None ✔ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Dam Present ___ Yes ✔ No

Sinuosity ___ Low ✔ Medium ___ High

Gradient
___ Flat (0.5/100 ft) ✔ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✔ Flowing water

Velocity
___ Fast ___ Moderate
✔ Slow

Proportion of Reach Represented by Stream Morphology Types
Riffle 100 % Run % Pool %

Turbidity
___ Clear ✔ Slightly turbid ___ Turbid
___ Opaque ___ Stained
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	70
Silt	0.004-0.06 mm	30
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	60
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✔ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ Other:

Canopy Cover
___ Partly open ✔ Partly shaded
___ Shaded ___ Open

Indicate the dominant type (Check one)
✔ Trees ___ Shrubs
___ Grasses ___ Herbaceous

Floodplain Width
✔ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <16ft

Wetland Present ✔ Yes ___ No
Wetland ID W-D1

AQUATIC VEGETATION

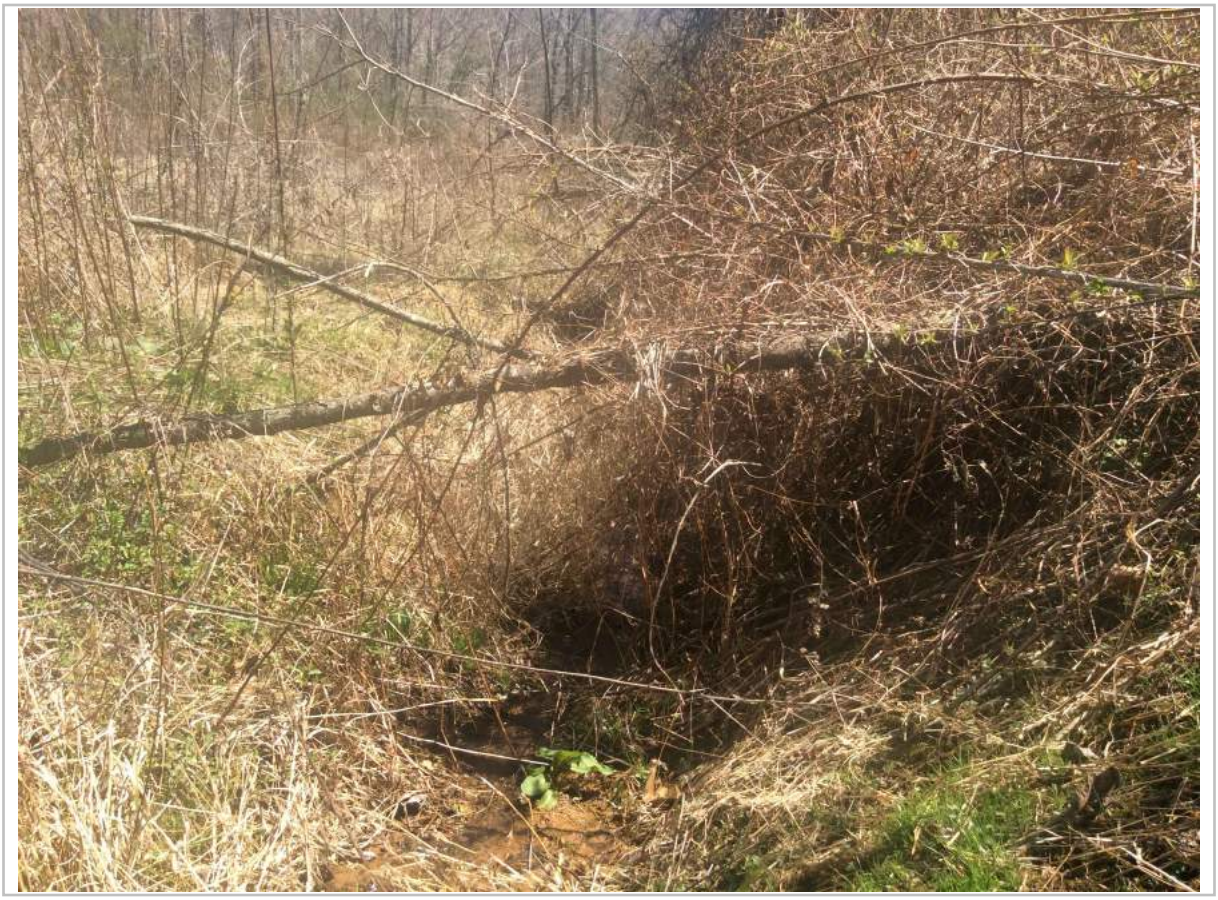
Indicate the dominant type and record the dominant species present
___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating
___ Floating algae ___ Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

Steam runs through abandon yard/small farm. Stream source is a small pipe (from spring?) at the northern corridor boundary. PEM wetland stretches from the left bank of this stream, north beyond stream S-D12. S-D12 joins S-D 13 then passes through a culvert within the project boundary.

Stream Photograph Page

Stream ID S-D13 Date: 04/06/2015



Photograph Direction SE

Comments:

STREAM ID S-D14	**STREAM NAME** UNT to North Fork Blackwater River
LAT 37.12088 **LONG** -80.087263	**DATE** 04/06/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS A. Bensted, A. Larson, J. Kraus	
FLOW REGIME Perennial ___ Intermittent ✔ Ephemeral ___	**WATER TYPE** TNW ___ RPW ✔ NRPW ___

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3 ft
Top of Bank Height:
LB 1.0 ft RB 6.0 in
Water Depth: 0.10 in
Water Width: 6.0 in
High Water Mark: 6.0 in
Flow Direction: East

Stream Erosion
___ None ✔ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Dam Present ___ Yes ✔ No

Sinuosity ✔ Low ___ Medium ___ High

Gradient
___ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ✔ Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
✔ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Opaque ___ Stained
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	20
Gravel	2-64 mm (0.1"-2.5")	5
Sand	0.06-2mm (gritty)	70
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	5

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	10
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✔ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ Other:

Canopy Cover
✔ Partly open ___ Partly shaded
___ Shaded ___ Open

Indicate the dominant type (Check one)
✔ Trees ___ Shrubs
___ Grasses ___ Herbaceous

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✔ Narrow <16ft

Wetland Present ___ Yes ✔ No
Wetland ID

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating
___ Floating algae ___ Attached algae

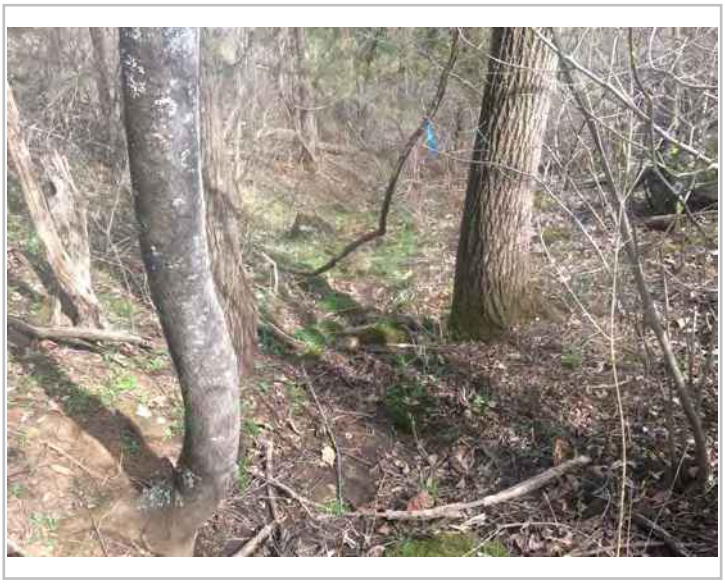
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

2015 notes:
Drainage feature turns into intermittent stream at small seep. There is approx 20 feet of moist soil and standing water. Evidence of deposition. Downstream of project boundary, flow goes subsurface. Upslope of seep, a man-made trench directs flow off of road into drainage. Stream likely has flow for a limited period during the year, but was determined to be intermittent based in groundwater source.

2019 notes:
During a field visit on May 9th, 2019 the USACE Norfolk District confirmed that stream S-D17 likely had a historic connection to stream S-D14 and that diverting S-D17 into S-D14 would restore the natural hydrology of these features. It appears that historic disturbances, not associated with the Project, had diverted water flow from S-D14 into what was mapped as S-D17 in 2015.

Photograph Page

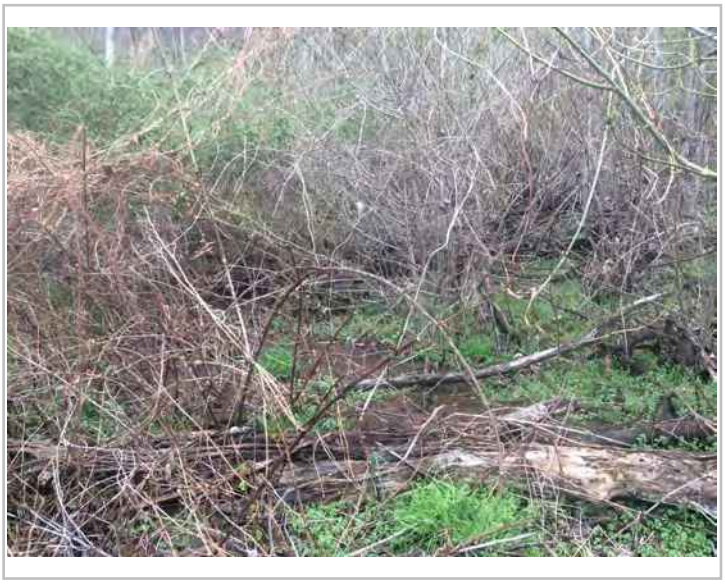
Stream ID S-D14 Date 04/06/2015



Photograph Number 1

Photograph Direction SE

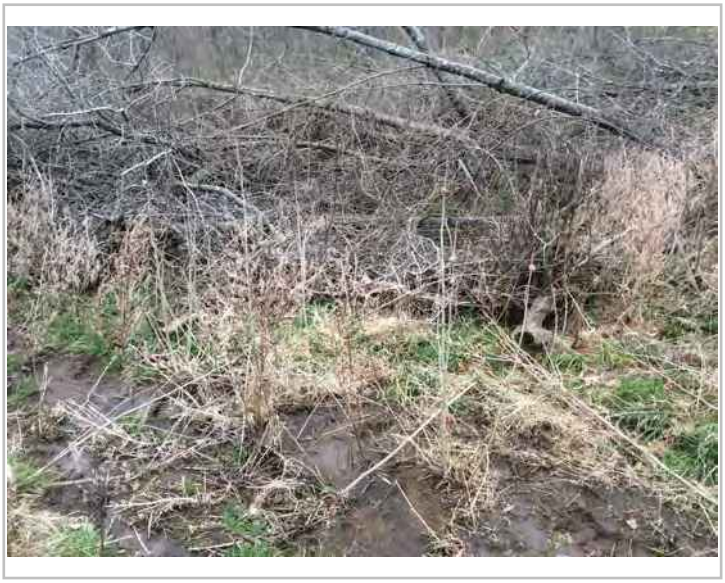
Comments: 2015 survey of S-D14, facing downstream.



Photograph Number 2

Photograph Direction NW

Comments: 2015 survey of S-D17, facing upstream.



Photograph Number 3

Photograph Direction South

Comments: 2019 survey of S-D17, facing downstream, showing soil fill and downed woody debris separating S-D17 and S-D14.

Photograph Number 4

Photograph Direction SE

Comments: 2019 survey of S-D14, facing downstream, just downslope of soil fill and downed woody debris separating S-D17 and S-D14.

STREAM ID S-ii4	**STREAM NAME** UNT to North Fork Blackwater River
LAT 37.115811 **LONG** -80.060411	**DATE** 08/11/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS A. Lands, K. Larsen, L. Sexton	
FLOW REGIME Perennial ✔ Intermittent ___ Ephemeral ___	**WATER TYPE** TNW ___ RPW ✔ NRPW ___

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 15.0 ft
Top of Bank Height:
LB 3.0 in RB 1.5 ft
Water Depth: 4.00 in
Water Width: 5.0 ft
High Water Mark: 6.0 in
Flow Direction: S

Stream Erosion
___None ✔Moderate ___Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Dam Present ___Yes ✔ No

Sinuosity ✔ Low ___ Medium ___ High

Gradient
___ Flat (0.5/100 ft) ✔ Moderate (2 ft/100 ft) ___Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✔ Flowing water

Velocity
___ Fast ✔ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types
Riffle 40 % Run 50 %
Pool 10 %

Turbidity
✔ Clear ___Slightly turbid ___Turbid
___ Opaque ___Stained
___Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	5
Cobble	64-256 mm (2.5"-10")	25
Gravel	2-64 mm (0.1"-2.5")	40
Sand	0.06-2mm (gritty)	30
Silt	0.004-0.06 mm	10
Clay	< 0.004 mm (slick)	0

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	15
Muck-Mud	black, very fine organic (FPOM)	0
Marl	grey, shell fragments	0

WATERSHED FEATURES

Predominant Surrounding Landuse
✔ Forest ___ Commercial
✔ Field/Pasture ___Industrial
___ Agricultural ___ Residential
___ Other:

Canopy Cover
___Partly open ___Partly shaded
✔ Shaded ___ Open

Indicate the dominant type (Check one)
✔ Trees ___ Shrubs
___ Grasses ___Herbaceous

Floodplain Width
✔ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <16ft

Wetland Present ___Yes ✔ No
Wetland ID

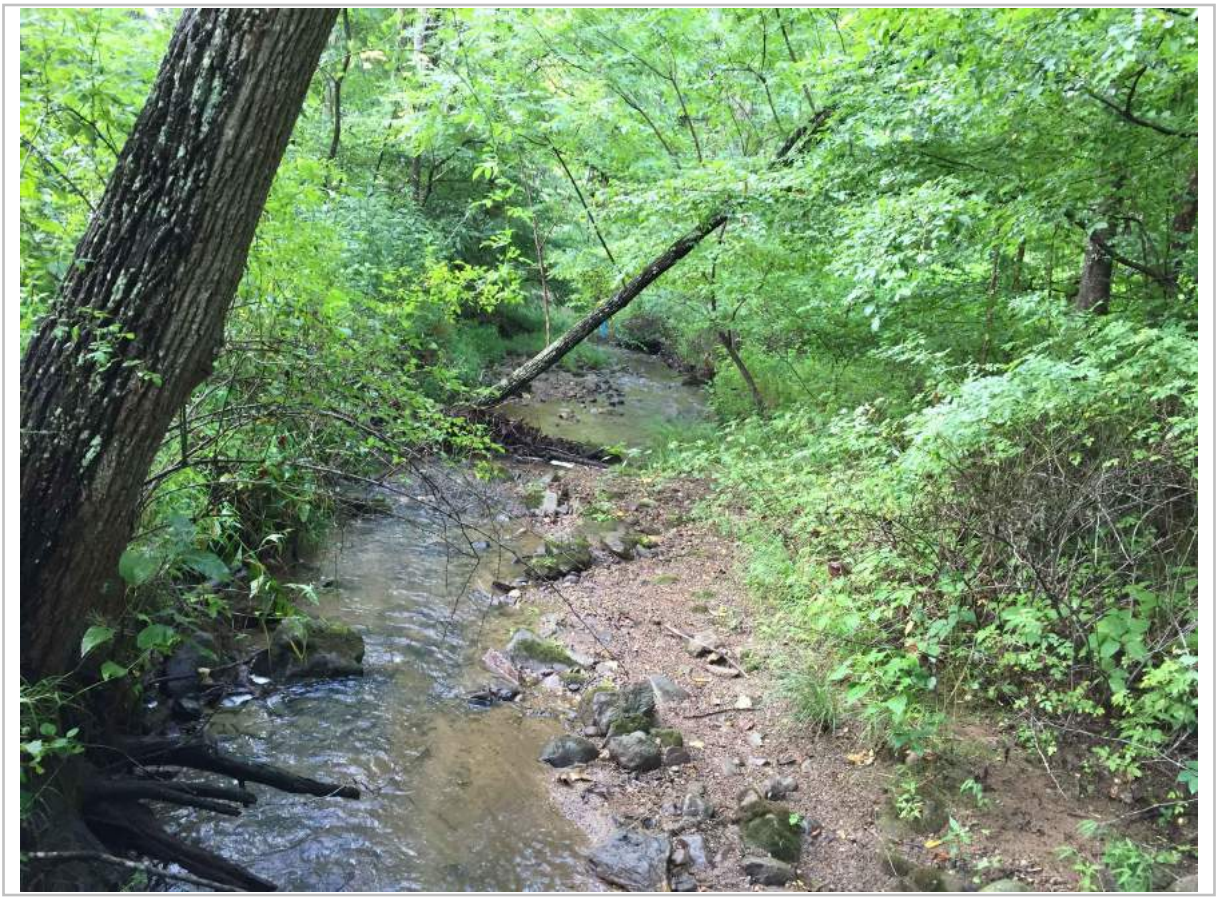
AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
___Rooted emergent ___Rooted submergent ___Rooted floating ___Free floating
___Floating algae ___Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES	Small fish, crayfish chimneys

Stream Photograph Page

Stream ID S-ii4 Date: 08/11/2015



Photograph Direction South

Comments:

STREAM ID S-GH7		**STREAM NAME** UNT to North Fork Blackwater River	
CLIENT MVP		**PROJECT NAME** MVP	
LAT 37.106863	**LONG** -80.053772	**DATE** 04/08/2016	**COUNTY** Franklin
INVESTIGATORS K. Larsen, S. Therkildson, J. Bittner			
WATER TYPE TNW ☐ RPW ☑ NRPW ☐		**FLOW REGIME** Perennial ☑ Intermittent ☐ Ephemeral ☐	

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 20.0 ft
Top of Bank Height:
LB 3.0 ft RB 5.0 ft
Water Depth: 6.00 in
Water Width: 8.0 ft
Ordinary High Water Mark (Width): 9.0 ft
Ordinary High Water Mark (Height): 24.0 in
Flow Direction: Southwest

Sinuosity ___ Low ✔ Medium ___ High

Gradient ___ Flat (0.5/100 ft) ✔ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
___ None ✔ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Within Roadside Ditch
___ Yes ✔ No

Culvert Present ___ Yes ✔ No
Culvert Material:_____
Culvert Size: _____in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✔ Flowing water

Velocity
___ Fast ✔ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle 20 % Run 80 %
Pool 0 %

Turbidity
✔ Clear ___ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		0
Boulder	> 256 mm (10")	10
Cobble	64-256 mm (2.5"-10")	35
Gravel	2-64 mm (0.1"-2.5")	20
Sand	0.06-2mm (gritty)	30
Silt	0.004-0.06 mm	5
Clay	< 0.004 mm (slick)	0

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	5
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✔ Field/Pasture ___ Industrial
___ Agricultural ✔ Residential
___ ROW ___ Other:

Canopy Cover
___ Open ✔ Partly shaded
___ Shaded

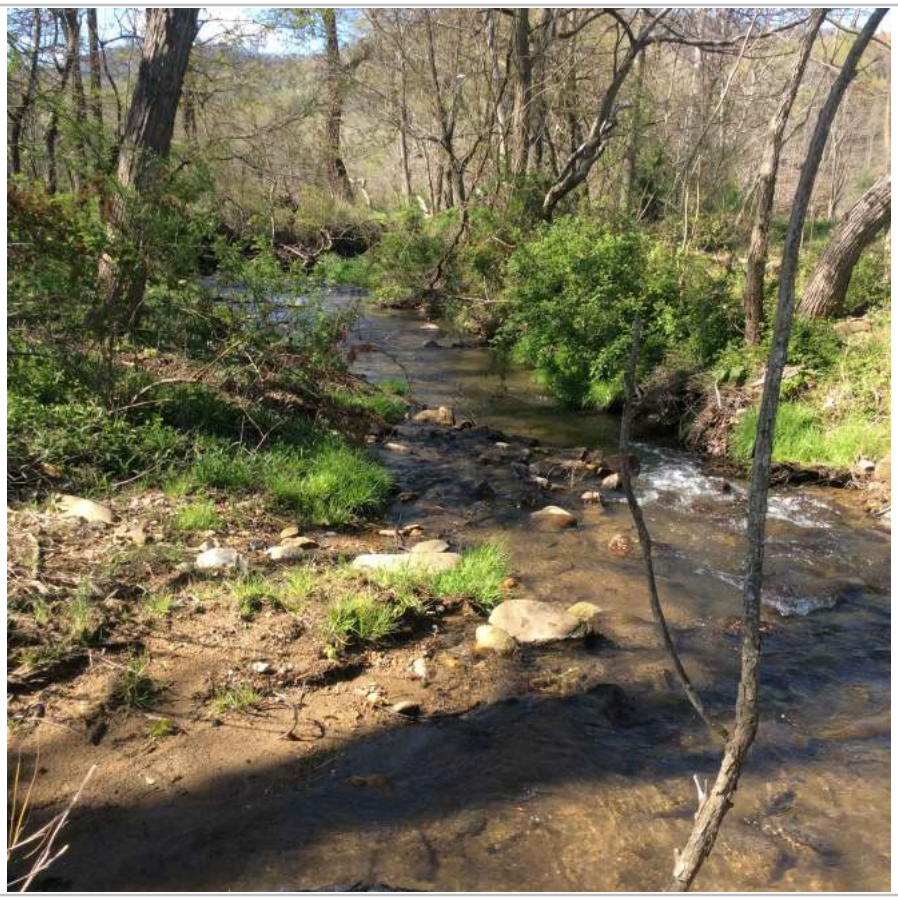
Floodplain Width
___ Wide > 30ft ✔ Moderate 15-30ft
___ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Damsel fly nymphs. Small braid within TOB.

Stream Photograph Page

Stream ID S-GH7 Date: 04/08/2016



Photograph Direction SW

Comments:

STREAM ID S-GH15		**STREAM NAME** UNT to North Fork Blackwater River	
CLIENT MVP		**PROJECT NAME** MVP	
LAT 37.106131	**LONG** -80.050116	**DATE** 04/09/2016	**COUNTY** Franklin
INVESTIGATORS K. Larsen, S. Therkildson, J. Bittner			
WATER TYPE TNW ☐ RPW ☑ NRPW ☐		**FLOW REGIME** Perennial ☐ Intermittent ☑ Ephemeral ☐	

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 5.0 ft
Top of Bank Height:
LB 1.0 ft RB 1.0 ft
Water Depth: 1.00 in
Water Width: 1.0 ft
Ordinary High Water Mark (Width): 4.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: South

Sinuosity ☑ Low ☐ Medium ☐ High

Gradient ☐ Flat (0.5/100 ft) ☑ Moderate (2 ft/100 ft) ☐ Severe (10 ft/100 ft)

Stream Erosion
☐ None ☑ Moderate ☐ Heavy

Artificial, Modified or Channelized
☐ Yes ☑ No

Within Roadside Ditch
☐ Yes ☑ No

Culvert Present ☐ Yes ☑ No
Culvert Material: _____
Culvert Size: _____ in

FLOW CHARACTERISTICS

Water Present
☐ No water, stream bed dry
☐ Stream bed moist
☐ Standing water
☑ Flowing water

Velocity
☐ Fast ☐ Moderate
☑ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle 10 % Run 90 %
Pool %

Turbidity
☑ Clear ☐ Slightly turbid ☐ Turbid
☐ Other _____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	10
Silt	0.004-0.06 mm	80
Clay	< 0.004 mm (slick)	10

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	60
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
☑ Forest ☐ Commercial
☑ Field/Pasture ☐ Industrial
☐ Agricultural ☐ Residential
☐ ROW ☐ Other:

Floodplain Width
☐ Wide > 30ft ☐ Moderate 15-30ft
☑ Narrow <15ft

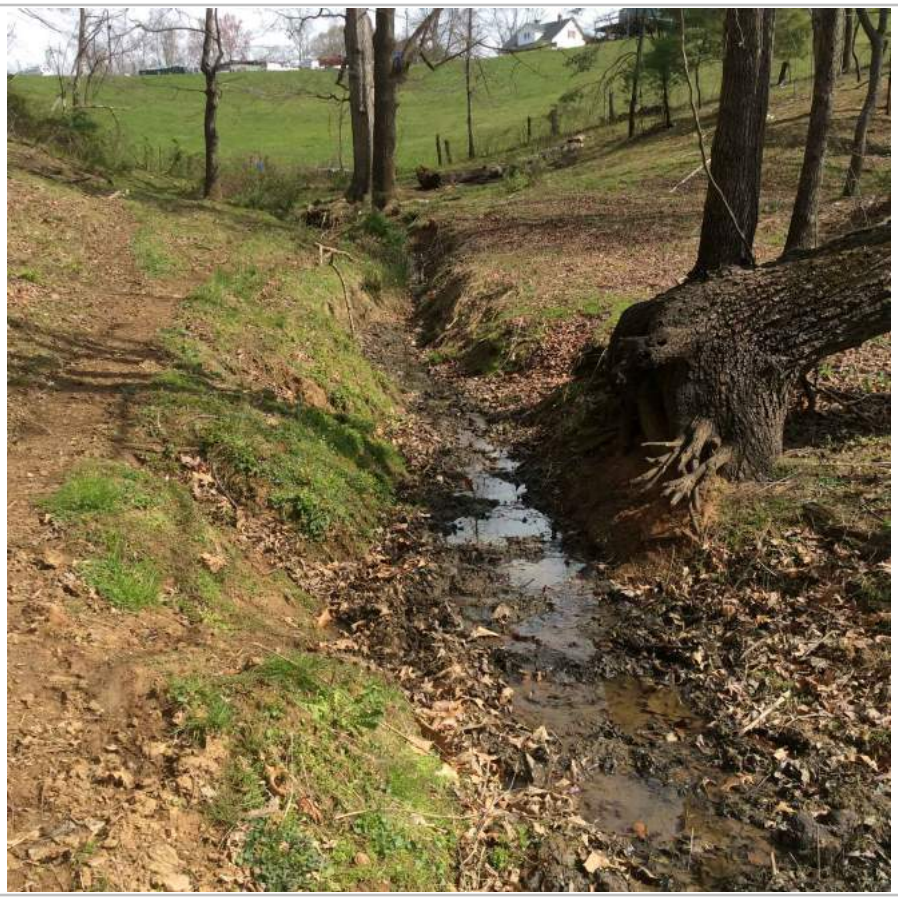
Canopy Cover
☐ Open ☑ Partly shaded
☐ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Intermittent stream flows out of a seep near corridor edge.

Stream Photograph Page

Stream ID S-GH15 Date: 04/09/2016



Photograph Direction North

Comments:

STREAM ID S-GH14		**STREAM NAME** UNT to North Fork Blackwater River	
CLIENT MVP		**PROJECT NAME** MVP	
LAT 37.105847	**LONG** -80.0489	**DATE** 04/09/2016	**COUNTY** Franklin
INVESTIGATORS K. Larsen, S. Therkildson, J. Bittner			
WATER TYPE TNW ☐ RPW ☑ NRPW ☐		**FLOW REGIME** Perennial ☑ Intermittent ☐ Ephemeral ☐	

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 20.0 ft
Top of Bank Height:
LB 8.0 ft RB 8.0 ft
Water Depth: 3.00 in
Water Width: 3.0 ft
Ordinary High Water Mark (Width): 4.0 ft
Ordinary High Water Mark (Height): 12.0 in
Flow Direction: Southwest

Sinuosity ___ Low ✔ Medium ___ High

Gradient ___ Flat (0.5/100 ft) ✔ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
___ None ✔ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Within Roadside Ditch
___ Yes ✔ No

Culvert Present ___ Yes ___ No
Culvert Material:_____
Culvert Size: _____in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✔ Flowing water

Velocity
___ Fast ✔ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle 10 % Run 90 %
Pool %

Turbidity
✔ Clear ___ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	10
Sand	0.06-2mm (gritty)	20
Silt	0.004-0.06 mm	60
Clay	< 0.004 mm (slick)	10

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	5
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✔ Forest ___ Commercial
✔ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Canopy Cover
___ Open ✔ Partly shaded
___ Shaded

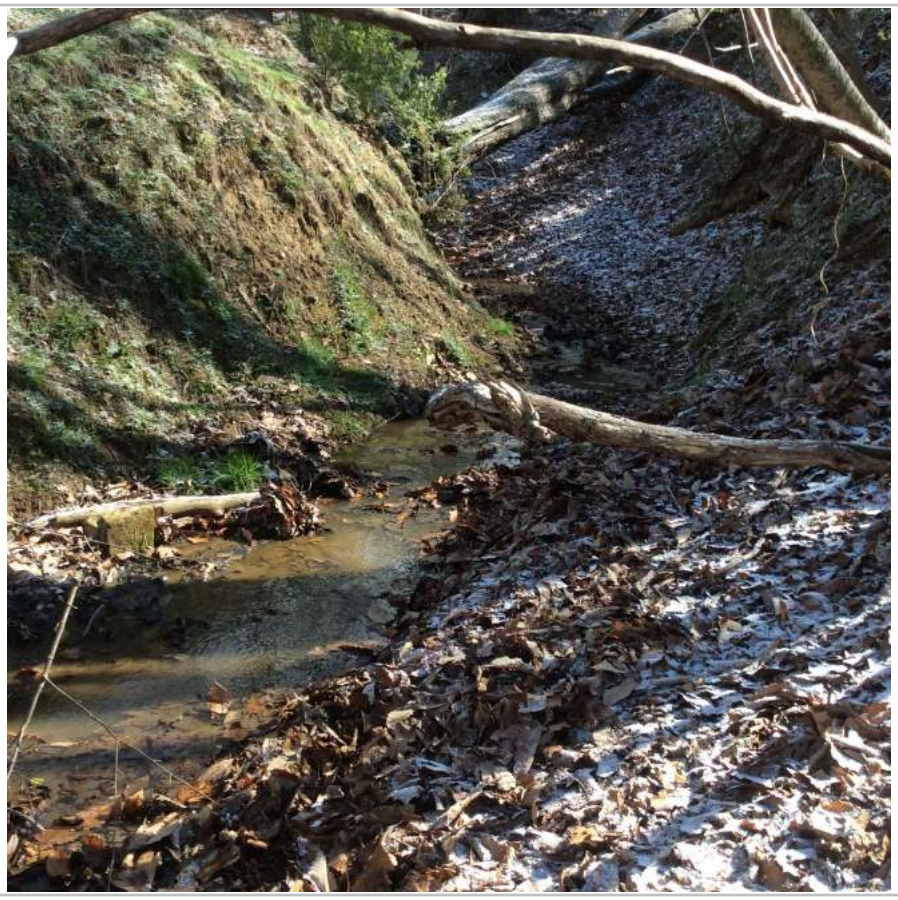
Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✔ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Perennial stream on boundary between pasture and forest.

Stream Photograph Page

Stream ID S-GH14 Date: 04/09/2016



Photograph Direction North

Comments:

STREAM ID S-GH11		**STREAM NAME** UNT to North Fork Blackwater River	
CLIENT MVP		**PROJECT NAME** MVP	
LAT 37.104798	**LONG** -80.046176	**DATE** 04/09/2016	**COUNTY** Franklin
INVESTIGATORS K. Larsen, S. Therkildson, J. Bittner			
WATER TYPE TNW ☐ RPW ☑ NRPW ☐		**FLOW REGIME** Perennial ☐ Intermittent ☑ Ephemeral ☐	

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 10.0 ft
Top of Bank Height:
LB 3.0 ft RB 3.0 ft
Water Depth: 1.00 in
Water Width: 1.0 ft
Ordinary High Water Mark (Width): 3.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: South

Sinuosity ☑ Low ☐ Medium ☐ High

Gradient ☐ Flat (0.5/100 ft) ☑ Moderate (2 ft/100 ft) ☐ Severe (10 ft/100 ft)

Stream Erosion
☐ None ☑ Moderate ☐ Heavy

Artificial, Modified or Channelized
☐ Yes ☑ No

Within Roadside Ditch
☐ Yes ☑ No

Culvert Present ☑ Yes ☐ No
Culvert Material: Corrugated Metal
Culvert Size: 24 in

FLOW CHARACTERISTICS

Water Present
☐ No water, stream bed dry
☐ Stream bed moist
☐ Standing water
☑ Flowing water

Velocity
☐ Fast ☑ Moderate
☐ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle 90 % Run 10 %
Pool %

Turbidity
☑ Clear ☐ Slightly turbid ☐ Turbid
☐ Other

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	20
Sand	0.06-2mm (gritty)	60
Silt	0.004-0.06 mm	20
Clay	< 0.004 mm (slick)	0

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	5
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
☐ Forest ☐ Commercial
☑ Field/Pasture ☐ Industrial
☐ Agricultural ☐ Residential
☐ ROW ☐ Other:

Floodplain Width
☐ Wide > 30ft ☑ Moderate 15-30ft
☐ Narrow <15ft

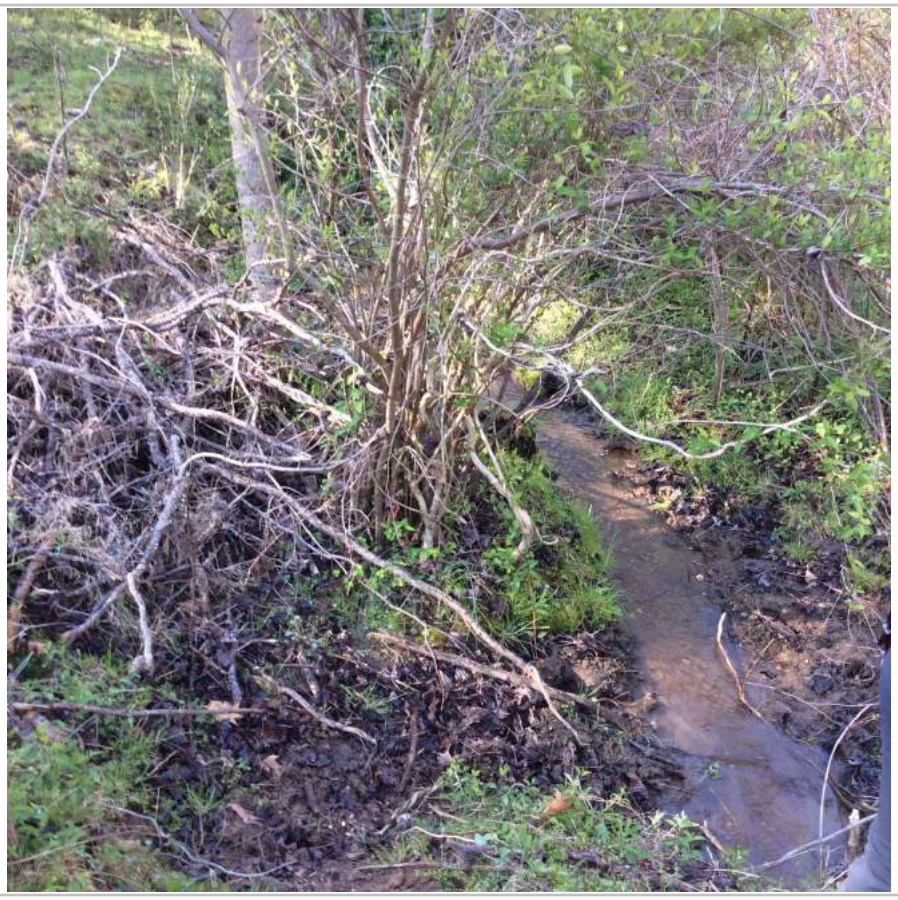
Canopy Cover
☐ Open ☑ Partly shaded
☐ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Cow pasture stream with culvert for equipment.

Stream Photograph Page

Stream ID S-GH11 Date: 04/09/2016



Photograph Direction South

Comments:

STREAM ID S-GH9		**STREAM NAME** UNT to North Fork Blackwater River	
CLIENT MVP		**PROJECT NAME** MVP	
LAT 37.104419	**LONG** -80.045213	**DATE** 04/09/2016	**COUNTY** Franklin
INVESTIGATORS K. Larsen, S. Therkildson, J. Bittner			
WATER TYPE TNW ☐ RPW ☑ NRPW ☐		**FLOW REGIME** Perennial ☑ Intermittent ☐ Ephemeral ☐	

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 18.0 ft
Top of Bank Height:
LB 4.0 ft RB 7.0 ft
Water Depth: 3.00 in
Water Width: 3.0 ft
Ordinary High Water Mark (Width): 4.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: Southwest

Sinuosity ___ Low ✔ Medium ___ High

Gradient ___ Flat (0.5/100 ft) ✔ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
___ None ✔ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Within Roadside Ditch
___ Yes ✔ No

Culvert Present ___ Yes ✔ No
Culvert Material:_____
Culvert Size: _____in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✔ Flowing water

Velocity
___ Fast ✔ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle 20 % Run 80 %
Pool %

Turbidity
✔ Clear ___ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	10
Cobble	64-256 mm (2.5"-10")	15
Gravel	2-64 mm (0.1"-2.5")	25
Sand	0.06-2mm (gritty)	40
Silt	0.004-0.06 mm	10
Clay	< 0.004 mm (slick)	0

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	10
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✔ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Canopy Cover
___ Open ___ Partly shaded
✔ Shaded

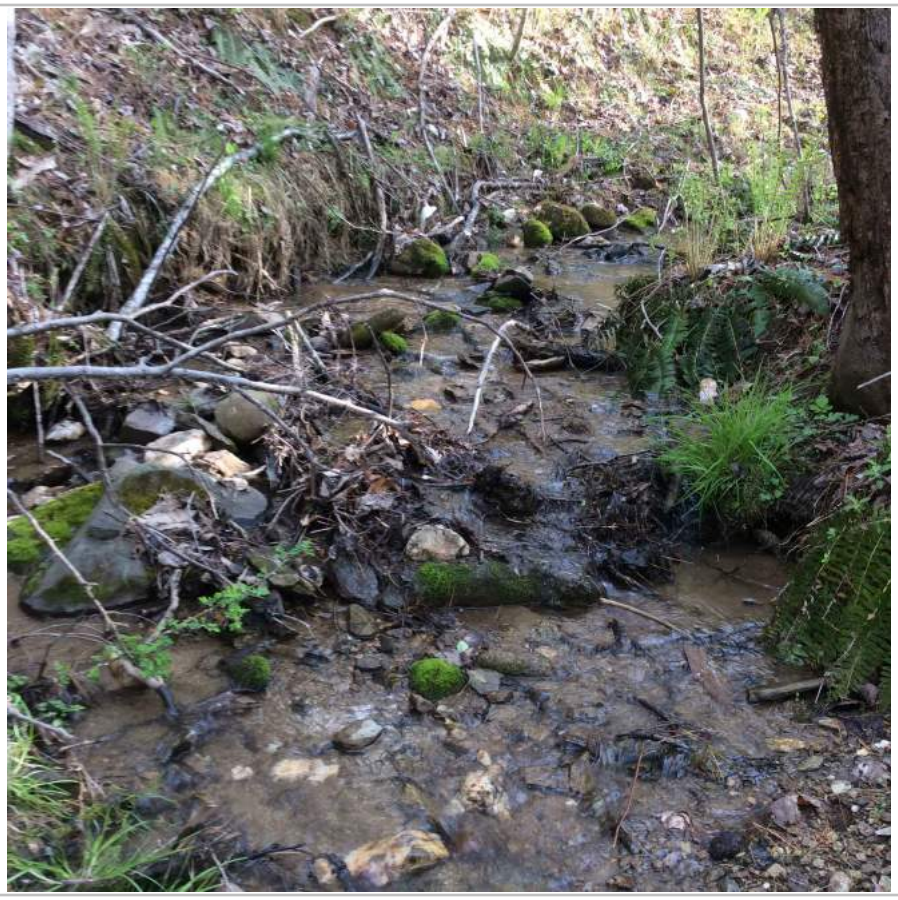
Floodplain Width
___ Wide > 30ft ✔ Moderate 15-30ft
___ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Caddisfly nymphs and crayfish burrows.

Stream Photograph Page

Stream ID S-GH9 Date: 04/09/2016



Photograph Direction North

Comments:

STREAM ID S-RR08	**STREAM NAME** UNT to North Fork Blackwater River
LAT 37.103275 **LONG** -80.041886	**DATE** 09/13/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS J. Cook, D. McCullough, R. Keyser	
FLOW REGIME Perennial ___ Intermittent___ Ephemeral ✔	**WATER TYPE** TNW ___ RPW ___ NRPW ✔

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 8 ft
Top of Bank Height:
LB 19.0 in RB 29.0 in
Water Depth: 0.00 in
Water Width: 0.0 ft
High Water Mark: 1.0 in
Flow Direction: Southwest

Stream Erosion
✔ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Dam Present ___ Yes ✔ No

Sinuosity ___ Low ✔ Medium ✔ High

Gradient
___ Flat (0.5/100 ft) ✔ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

Water Present
✔ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types
Riffle % Run %
Pool %

Turbidity
___ Clear ___ Slightly turbid ___ Turbid
___ Opaque ___ Stained
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	5
Cobble	64-256 mm (2.5"-10")	30
Gravel	2-64 mm (0.1"-2.5")	40
Sand	0.06-2mm (gritty)	25
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	20
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✔ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ Other:

Canopy Cover
✔ Partly open ___ Partly shaded
___ Shaded ___ Open

Indicate the dominant type (Check one)
✔ Trees ___ Shrubs
___ Grasses ___ Herbaceous

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✔ Narrow <16ft

Wetland Present ___ Yes ✔ No
Wetland ID

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating
___ Floating algae ___ Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

Drains down to road, crosses underneath with culvert. Bankful width undulated.

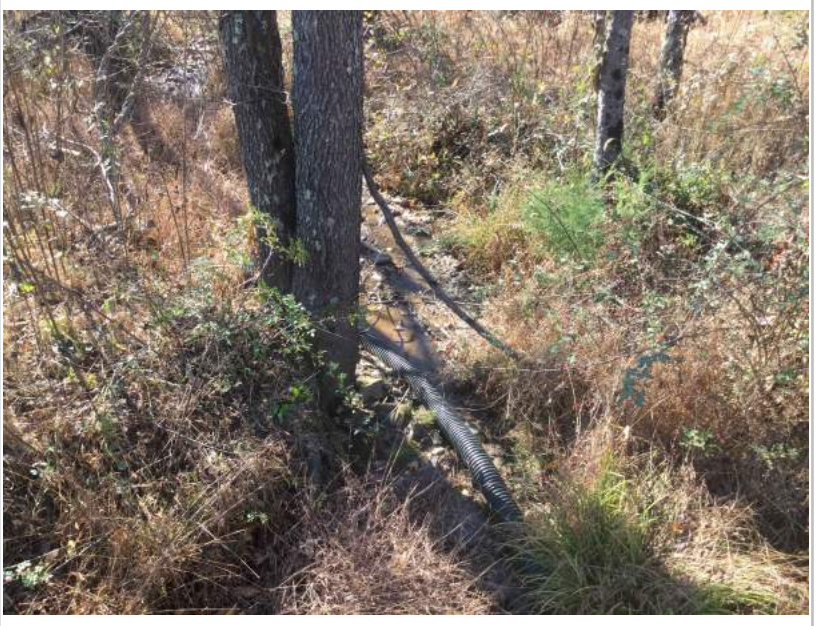
Stream Photograph Page

Stream ID S-RR08

Photograph Direction NE

Date: 09/13/2015

Comments: 2015 stream identification.



Photograph Direction NE

Date: 11/06/2019

Comments: 2019 stream identification confirmation.

STREAM ID S-RR09	**STREAM NAME** UNT to North Fork Blackwater River
LAT 37.102483 **LONG** -80.041053	**DATE** 09/13/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS J. Cook, D. McCullough, R. Keyser	
FLOW REGIME Perennial ___ Intermittent___ Ephemeral ✔	**WATER TYPE** TNW ___ RPW ___ NRPW ✔

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 9 ft
Top of Bank Height:
LB 2.0 ft RB 1.0 ft
Water Depth: 0.00 in
Water Width: 0.0 ft
High Water Mark: 2.0 in
Flow Direction: Southwest

Stream Erosion
___None ✔ Moderate ___Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Dam Present ___Yes ✔ No

Sinuosity ___ Low ✔ Medium ✔ High

Gradient
___ Flat (0.5/100 ft) ✔ Moderate (2 ft/100 ft) ___Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

Water Present
✔ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types
Riffle % Run %
Pool %

Turbidity
___ Clear ___Slightly turbid ___Turbid
___ Opaque ___Stained
___Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	40
Gravel	2-64 mm (0.1"-2.5")	20
Sand	0.06-2mm (gritty)	40
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	20
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✔ Forest ___ Commercial
___ Field/Pasture ___Industrial
___ Agricultural ___ Residential
___ Other:

Canopy Cover
✔ Partly open ___Partly shaded
___ Shaded ___ Open

Indicate the dominant type (Check one)
✔ Trees ___ Shrubs
___ Grasses ___ Herbaceous

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✔ Narrow <16ft

Wetland Present ___Yes ✔ No
Wetland ID

AQUATIC VEGETATION

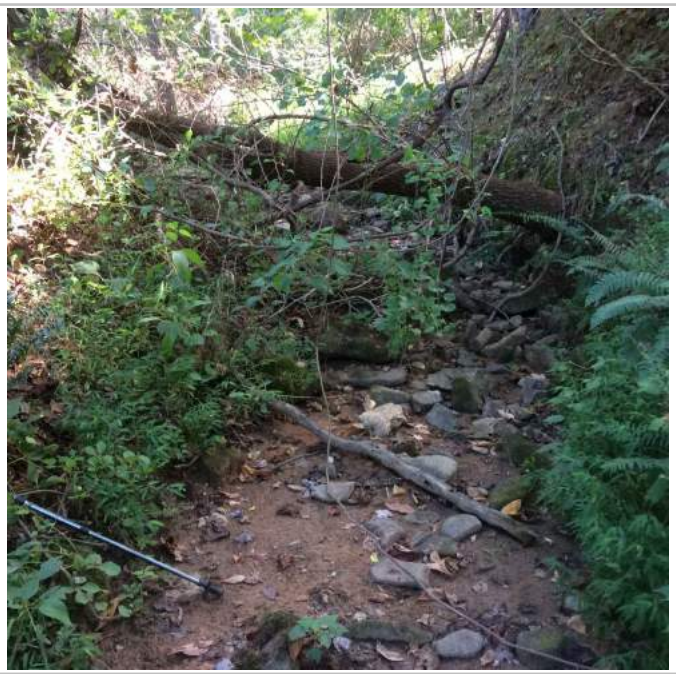
Indicate the dominant type and record the dominant species present
___ Rooted emergent ___Rooted submergent ___Rooted floating ___Free floating
___ Floating algae ___Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

Flows sw to paved road. Not currently mapped on NHD.

Stream Photograph Page

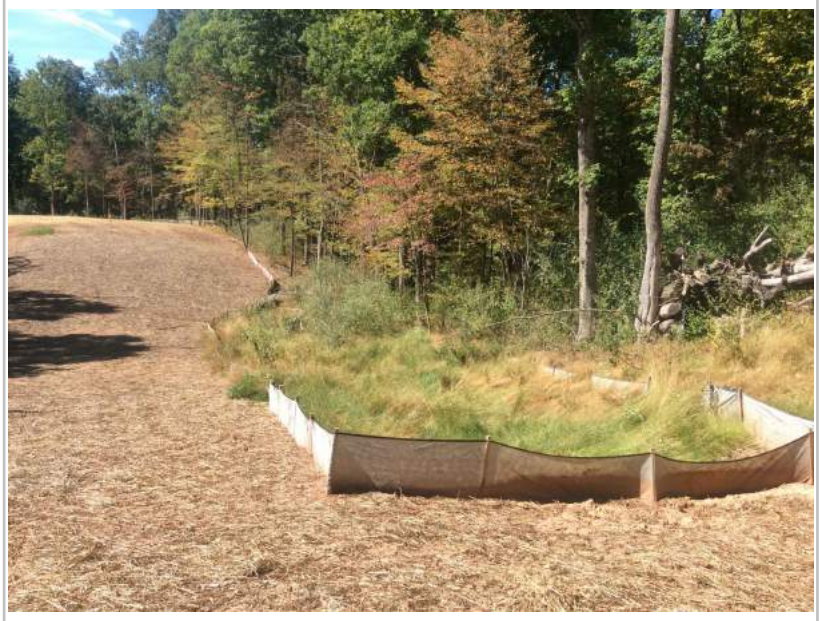
Stream ID S-RR09



Photograph Direction NE

Date: 09/13/2015

Comments: 2015 stream identification.



Photograph Direction West

Date: 05/20/2015

Comments: 2019 stream identification confirmation.

STREAM ID S-RR11	**STREAM NAME** UNT to North Fork Blackwater River
LAT 37.101125 **LONG** -80.039656	**DATE** 09/13/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS J. Cook, D. McCullough, R. Keyser	
FLOW REGIME Perennial ___ Intermittent___ Ephemeral ✔	**WATER TYPE** TNW ___ RPW ___ NRPW ✔

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 7 ft
Top of Bank Height:
LB 12.0 in RB 30.0 in
Water Depth: 0.00 in
Water Width: 0.0 ft
High Water Mark: 4.0 in
Flow Direction: Southwest

Stream Erosion
___None ✔ Moderate ___Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Dam Present ___Yes ✔ No

Sinuosity ___ Low ✔ Medium ✔ High

Gradient
___ Flat (0.5/100 ft) ✔ Moderate (2 ft/100 ft) ___Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

Water Present
✔ No water, stream bed dry
___ Stream bed moist
___ Standing water
___ Flowing water

Velocity
___ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types
Riffle % Run %
Pool %

Turbidity
___ Clear ___Slightly turbid ___Turbid
___ Opaque ___Stained
___Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	15
Cobble	64-256 mm (2.5"-10")	30
Gravel	2-64 mm (0.1"-2.5")	25
Sand	0.06-2mm (gritty)	30
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✔ Forest ___ Commercial
___ Field/Pasture ___Industrial
___ Agricultural ___ Residential
___ Other:

Canopy Cover
✔ Partly open ___Partly shaded
___ Shaded ___ Open

Indicate the dominant type (Check one)
✔ Trees ___ Shrubs
___ Grasses ___ Herbaceous

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✔ Narrow <16ft

Wetland Present ___Yes ✔ No
Wetland ID

AQUATIC VEGETATION

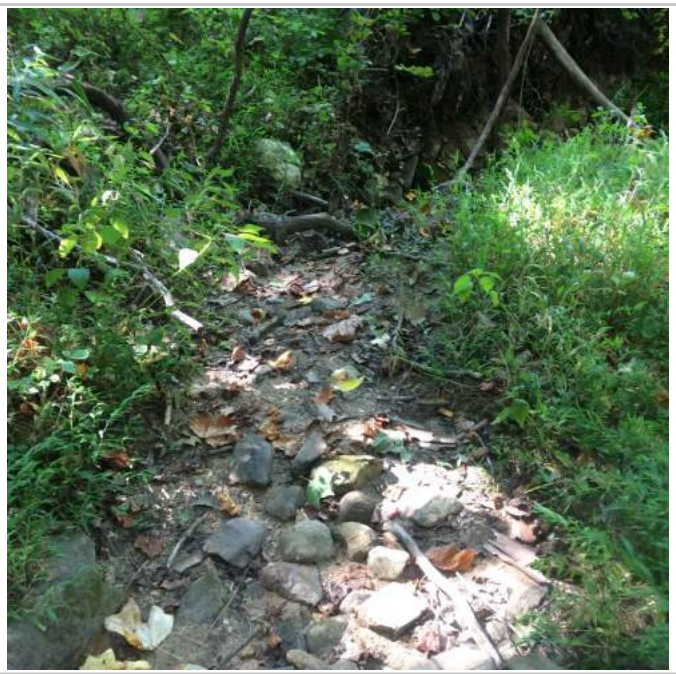
Indicate the dominant type and record the dominant species present
___ Rooted emergent ___Rooted submergent ___Rooted floating ___Free floating
___ Floating algae ___Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

Likely jurisdictional given presence of OHWM.

Stream Photograph Page

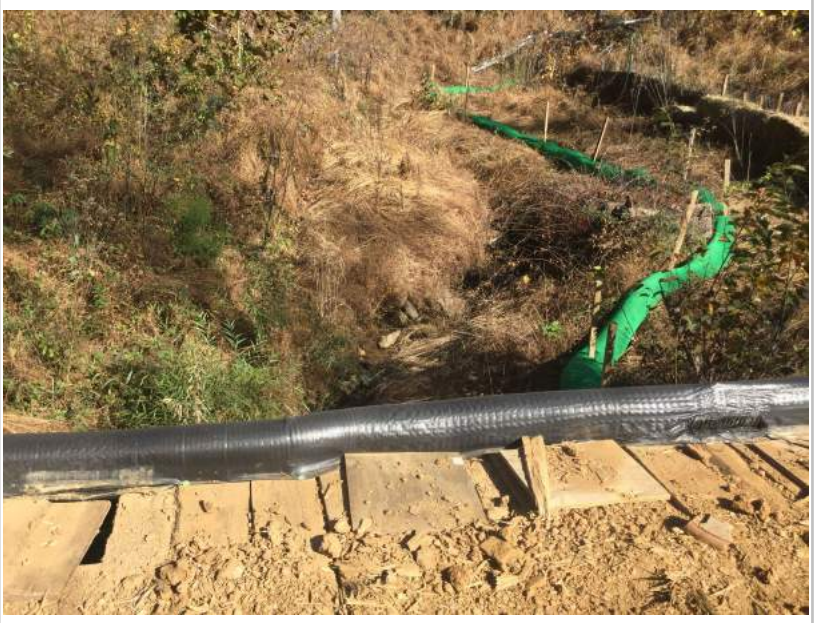
Stream ID S-RR11



Photograph Direction SSW

Date: 09/13/2015

Comments: 2015 stream identification.



Photograph Direction NNE

Date: 11/06/2019

Comments: 2019 stream identification confirmation.

STREAM ID S-IJ1		**STREAM NAME** UNT to North Fork Blackwater River	
CLIENT MVP		**PROJECT NAME** MVP	
LAT 37.092897	**LONG** -80.027733	**DATE** 04/05/2016	**COUNTY** Franklin
INVESTIGATORS E. Foster, S. Lieb, J. Niergarth			
WATER TYPE TNW ☐ RPW ☑ NRPW ☐		**FLOW REGIME** Perennial ☑ Intermittent ☐ Ephemeral ☐	

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 14.0 ft
Top of Bank Height:
LB 1.5 ft RB 1.5 ft
Water Depth: 3.00 in
Water Width: 12.0 ft
Ordinary High Water Mark (Width): 12.0 ft
Ordinary High Water Mark (Height): 7.0 in
Flow Direction: Southeast

Sinuosity ___ Low ✔ Medium ___ High

Gradient ✔ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✔ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Within Roadside Ditch
___ Yes ✔ No

Culvert Present ✔ Yes ___ No
Culvert Material: Corrugated Metal
Culvert Size: 60 in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✔ Flowing water

Velocity
___ Fast ✔ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle 60 % Run 20 %
Pool 20 %

Turbidity
___ Clear ✔ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	10
Cobble	64-256 mm (2.5"-10")	30
Gravel	2-64 mm (0.1"-2.5")	15
Sand	0.06-2mm (gritty)	40
Silt	0.004-0.06 mm	5
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	5
Muck-Mud	black, very fine organic (FPOM)	1
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✔ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

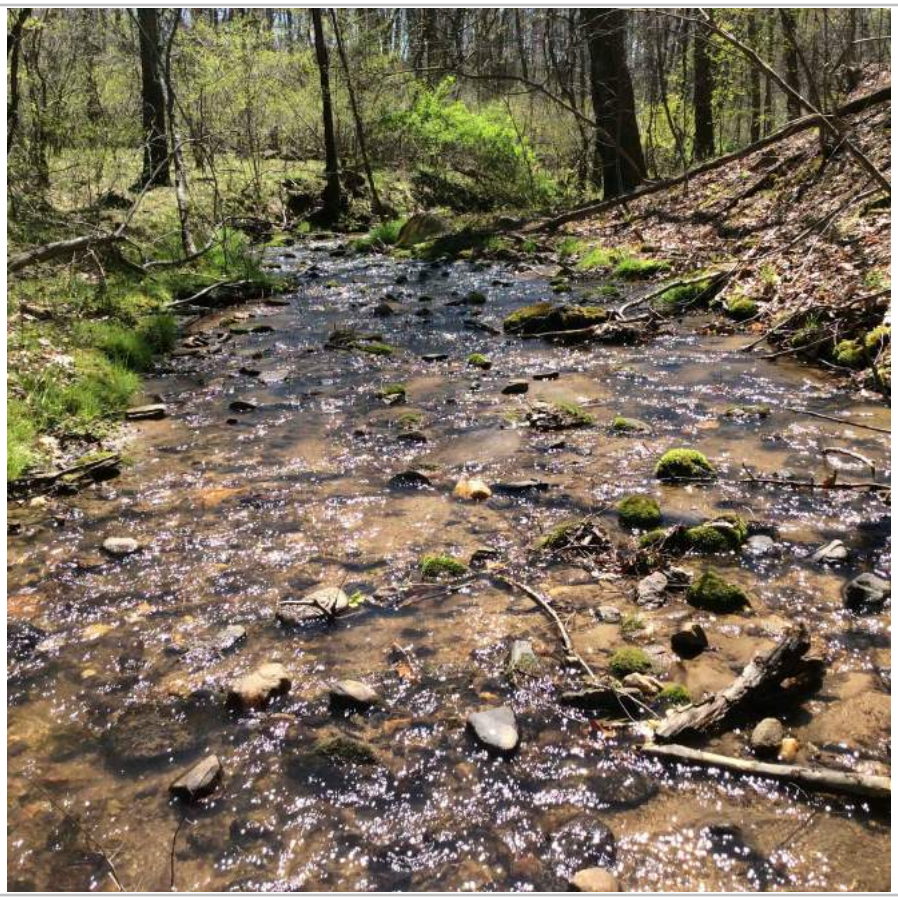
Floodplain Width
___ Wide > 30ft ✔ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
___ Open ___ Partly shaded
✔ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Stream Photograph Page

Stream ID S-IJ1 Date: 04/05/2016



Photograph Direction SE

Comments:

STREAM ID S-IJ2		**STREAM NAME** UNT to North Fork Blackwater River	
CLIENT MVP		**PROJECT NAME** MVP	
LAT 37.092862	**LONG** -80.027629	**DATE** 04/05/2016	**COUNTY** Franklin
INVESTIGATORS E. Foster, S. Lieb, J. Niergarth			
WATER TYPE TNW ☐ RPW ☑ NRPW ☐		**FLOW REGIME** Perennial ☐ Intermittent ☑ Ephemeral ☐	

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 4.0 ft
Top of Bank Height:
LB 1.0 ft RB 1.0 ft
Water Depth: 1.00 in
Water Width: 2.0 ft
Ordinary High Water Mark (Width): 2.5 ft
Ordinary High Water Mark (Height): 2.0 in
Flow Direction: Southwest

Sinuosity ✔ Low ___Medium ___High

Gradient ✔ Flat (0.5/100 ft) ___Moderate (2 ft/100 ft) ___Severe (10 ft/100 ft)

Stream Erosion
✔None ___Moderate ___Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Within Roadside Ditch
___ Yes ✔ No

Culvert Present ___Yes ✔ No
Culvert Material:_____
Culvert Size: _____in

FLOW CHARACTERISTICS

Water Present
___No water, stream bed dry
___Stream bed moist
___Standing water
✔ Flowing water

Velocity
___Fast ___ Moderate
✔ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle 50 % Run 50 %
Pool %

Turbidity
✔ Clear ___Slightly turbid ___Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	60
Gravel	2-64 mm (0.1"-2.5")	20
Sand	0.06-2mm (gritty)	20
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	5
Muck-Mud	black, very fine organic (FPOM)	20
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✔ Forest ___ Commercial
___ Field/Pasture ___Industrial
___ Agricultural ___ Residential
___ ROW ___Other:

Canopy Cover
___Open ✔ Partly shaded
___ Shaded

Floodplain Width
✔ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Vegetation growing within stream banks

Stream Photograph Page

Stream ID S-IJ2 Date: 04/05/2016

Photograph Direction NE

Comments:

STREAM ID S-II6	**STREAM NAME** UNT to Little Creek
LAT 37.092636 **LONG** -79.978425	**DATE** 08/13/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS A. Lands, K. Larsen, L. Sexton	
FLOW REGIME Perennial ___ Intermittent ✔ Ephemeral ___	**WATER TYPE** TNW ___ RPW ✔ NRPW ___

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 3 ft
Top of Bank Height:
LB 2.0 ft RB 4.0 ft
Water Depth: 0.50 in
Water Width: 1.0 ft
High Water Mark: 6.0 in
Flow Direction: Southwest

Stream Erosion
___None ___Moderate ✔ Heavy

Artificial, Modified or Channelized
✔ Yes ___ No

Dam Present ___Yes ✔ No

Sinuosity ✔ Low ___ Medium ___ High

Gradient
___ Flat (0.5/100 ft) ___Moderate (2 ft/100 ft) ✔ Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✔ Flowing water

Velocity
___ Fast ___ Moderate
✔ Slow

Proportion of Reach Represented by Stream Morphology Types
Riffle 90 % Run 10 %
Pool %

Turbidity
✔ Clear ___Slightly turbid ___Turbid
___ Opaque ___Stained
___Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	10
Cobble	64-256 mm (2.5"-10")	10
Gravel	2-64 mm (0.1"-2.5")	10
Sand	0.06-2mm (gritty)	
Silt	0.004-0.06 mm	30
Clay	< 0.004 mm (slick)	40

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	30
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✔ Field/Pasture ___Industrial
___ Agricultural ___ Residential
___ Other:

Canopy Cover
___Partly open ___Partly shaded
✔ Shaded ___ Open

Indicate the dominant type (Check one)
___ Trees ___ Shrubs
✔ Grasses ___Herbaceous

Floodplain Width
✔ Wide > 30ft ___ Moderate 15-30ft
___ Narrow <16ft

Wetland Present ✔Yes ___No
Wetland ID W-II7

AQUATIC VEGETATION

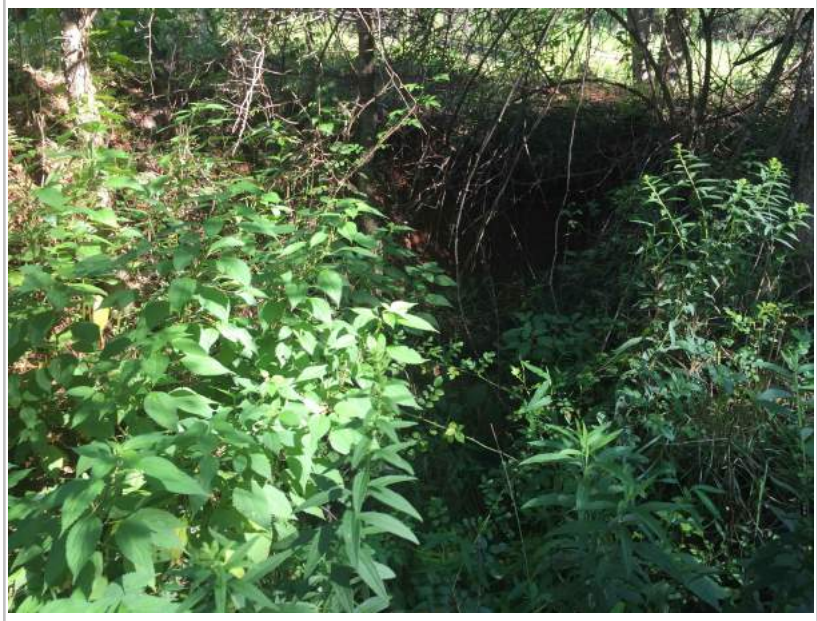
Indicate the dominant type and record the dominant species present
___ Rooted emergent ___Rooted submergent ___Rooted floating ___Free floating
___ Floating algae ___Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

Small heavily eroded intermittent stream with wetlands where flat (W-ii7)

Stream Photograph Page

Stream ID S-II6



Photograph Direction SSW

Date: 08/13/2015

Comments: 2015 stream identification.

Photograph Direction SSW

Date: 11/07/2019

Comments: 2019 stream identification confirmation.

STREAM ID S-IJ3		**STREAM NAME** UNT to North Fork Blackwater River	
CLIENT MVP		**PROJECT NAME** MVP	
LAT 37.09254	**LONG** -80.027335	**DATE** 04/06/2016	**COUNTY** Franklin
INVESTIGATORS E. Foster, S. Zabowski-Lieb, J. Niergarth			
WATER TYPE TNW ☐ RPW ☑ NRPW ☐		**FLOW REGIME** Perennial ☐ Intermittent ☑ Ephemeral ☐	

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 8.0 ft
Top of Bank Height:
LB 2.5 ft RB 2.5 ft
Water Depth: 2.00 in
Water Width: 5.0 ft
Ordinary High Water Mark (Width): 5.0 ft
Ordinary High Water Mark (Height): 3.0 in
Flow Direction: Southwest

Sinuosity ✔ Low ___Medium ___High

Gradient ✔ Flat (0.5/100 ft) ___Moderate (2 ft/100 ft) ___Severe (10 ft/100 ft)

Stream Erosion
✔ None ___Moderate ___Heavy

Artificial, Modified or Channelized
✔ Yes ___No

Within Roadside Ditch
✔ Yes ___No

Culvert Present ___Yes ✔ No
Culvert Material:_____
Culvert Size: _____in

FLOW CHARACTERISTICS

Water Present
___No water, stream bed dry
___Stream bed moist
___Standing water
✔ Flowing water

Velocity
___Fast ___ Moderate
✔ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle % Run 100 %
Pool %

Turbidity
___ Clear ✔ Slightly turbid ___Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	20
Silt	0.004-0.06 mm	80
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	30
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✔ Forest ___ Commercial
___ Field/Pasture ___Industrial
___ Agricultural ___ Residential
___ ROW ✔Other: Roadside

Floodplain Width
___ Wide > 30ft ✔ Moderate 15-30ft
___ Narrow <15ft

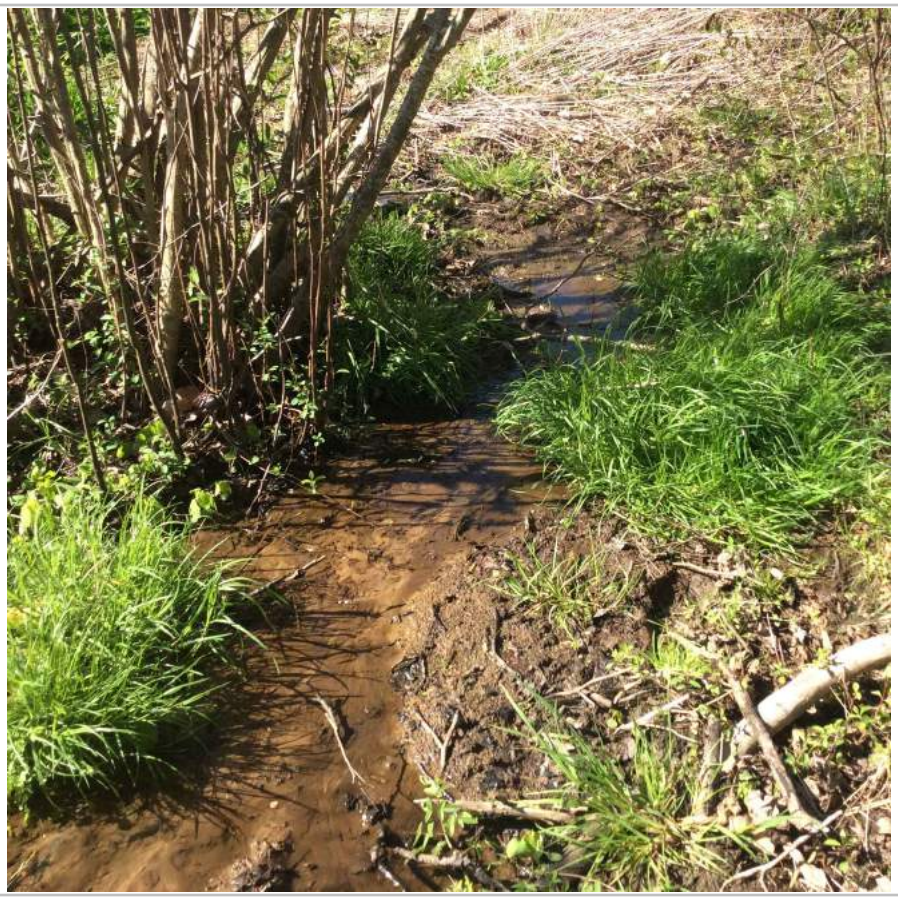
Canopy Cover
___Open ✔ Partly shaded
___Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Seep source transitions to roadside artificial channel

Stream Photograph Page

Stream ID S-IJ3 Date: 04/06/2016



Photograph Direction SW

Comments:

STREAM ID S-GH6		**STREAM NAME** UNT to Little Creek	
CLIENT MVP		**PROJECT NAME** MVP	
LAT 37.092391	**LONG** -79.983225	**DATE** 04/06/2016	**COUNTY** Franklin
INVESTIGATORS K. Larsen, S. Therkildson, J. Bittner, D. Richardson			
WATER TYPE TNW ☐ RPW ☑ NRPW ☐		**FLOW REGIME** Perennial ☑ Intermittent ☐ Ephemeral ☐	

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 8.0 ft
Top of Bank Height:
LB 2.0 ft RB 3.0 ft
Water Depth: 3.00 in
Water Width: 2.0 ft
Ordinary High Water Mark (Width): 3.0 ft
Ordinary High Water Mark (Height): 12.0 in
Flow Direction: South

Sinuosity ✔ Low ___Medium ___High

Gradient ✔ Flat (0.5/100 ft) ___Moderate (2 ft/100 ft) ___Severe (10 ft/100 ft)

Stream Erosion
___None ✔Moderate ___Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Within Roadside Ditch
___ Yes ✔No

Culvert Present ___Yes ✔ No
Culvert Material:_____
Culvert Size: _____in

FLOW CHARACTERISTICS

Water Present
___No water, stream bed dry
___Stream bed moist
___Standing water
✔ Flowing water

Velocity
___Fast ___ Moderate
✔ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle 40 % Run 60 %
Pool 0 %

Turbidity
✔ Clear ___Slightly turbid ___Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		0
Boulder	> 256 mm (10")	0
Cobble	64-256 mm (2.5"-10")	10
Gravel	2-64 mm (0.1"-2.5")	20
Sand	0.06-2mm (gritty)	60
Silt	0.004-0.06 mm	10
Clay	< 0.004 mm (slick)	0

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	20
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✔ Field/Pasture ___Industrial
___ Agricultural ✔ Residential
___ ROW ___Other:

Canopy Cover
___Open ✔Partly shaded
___ Shaded

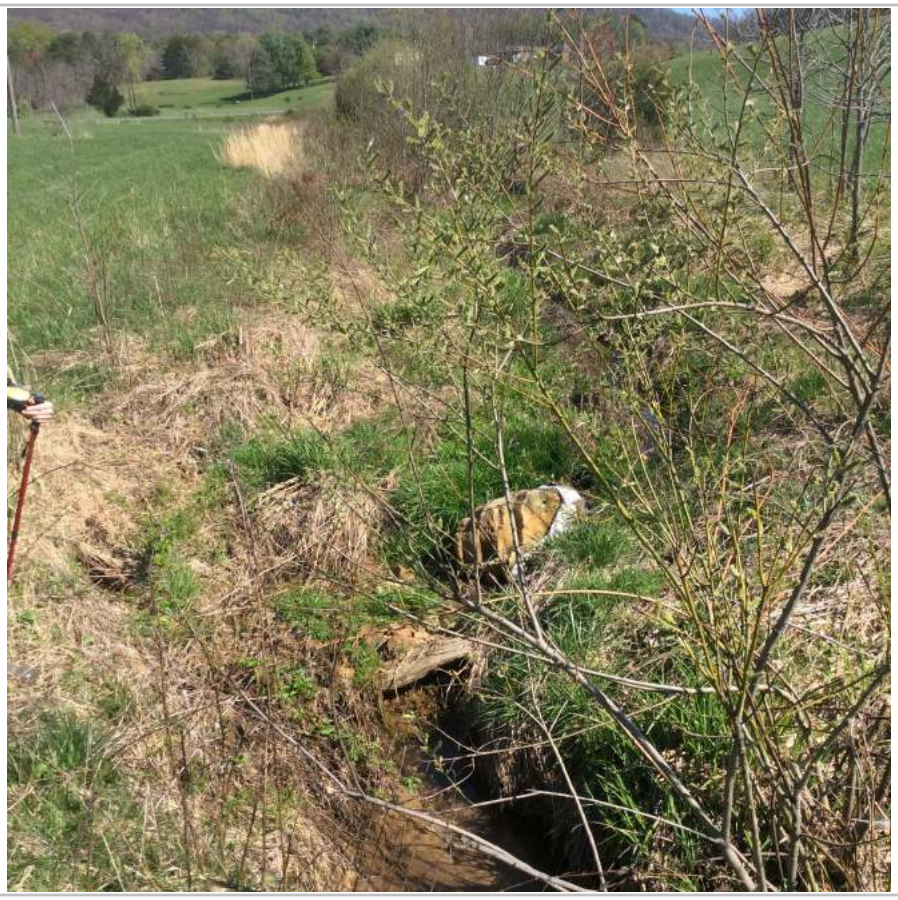
Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✔ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Crayfish, dragonfly nymphs.

Stream Photograph Page

Stream ID S-GH6 Date: 04/06/2016



Photograph Direction North

Comments:

STREAM ID S-II12	**STREAM NAME** UNT to Little Creek
LAT 37.091577 **LONG** -79.987852	**DATE** 08/13/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS A. Lands, K. Larsen, L. Sexton	
FLOW REGIME Perennial ___ Intermittent ✔ Ephemeral ___	**WATER TYPE** TNW ___ RPW ✔ NRPW ___

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 2 ft
Top of Bank Height:
LB 1.0 ft RB 1.0 ft
Water Depth: 1.00 in
Water Width: 1.0 ft
High Water Mark: 2.0 in
Flow Direction: Southwest

Stream Erosion
✔ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Dam Present ___ Yes ✔ No

Sinuosity ✔ Low ___ Medium ___ High

Gradient
✔ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✔ Flowing water

Velocity
___ Fast ___ Moderate
✔ Slow

Proportion of Reach Represented by Stream Morphology Types
Riffle 100 % Run % Pool %

Turbidity
✔ Clear ___ Slightly turbid ___ Turbid
___ Opaque ___ Stained
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	30
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	50
Silt	0.004-0.06 mm	20
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	90
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✔ Forest ___ Commercial
___ Field/Pasture ___ Industrial
✔ Agricultural ___ Residential
___ Other:

Canopy Cover
___ Partly open ✔ Partly shaded
___ Shaded ___ Open

Indicate the dominant type (Check one)
___ Trees ✔ Shrubs
___ Grasses ___ Herbaceous

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✔ Narrow <16ft

Wetland Present ___ Yes ✔ No
Wetland ID

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating
___ Floating algae ___ Attached algae

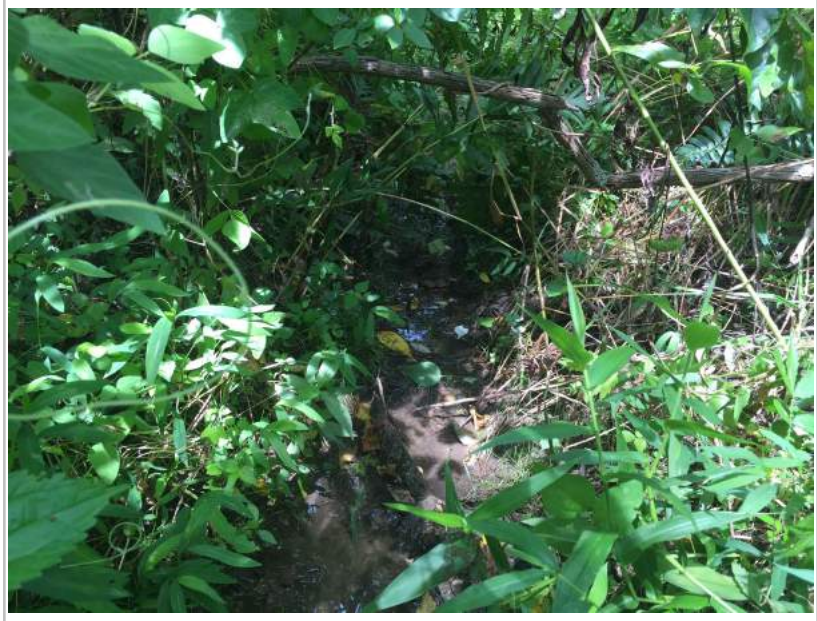
MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

Small unnamed intermittent stream feeding S-ii11. Begins within corridor at a spring with man-made rock cistern. Heavily filled with muck and CPOM during 2015 survey.

Information listed on this form represents the data collected in 2015. The stream was revisited on 11/05/2019. The presence of a stream channel and OHWM was confirmed.

Stream Photograph Page

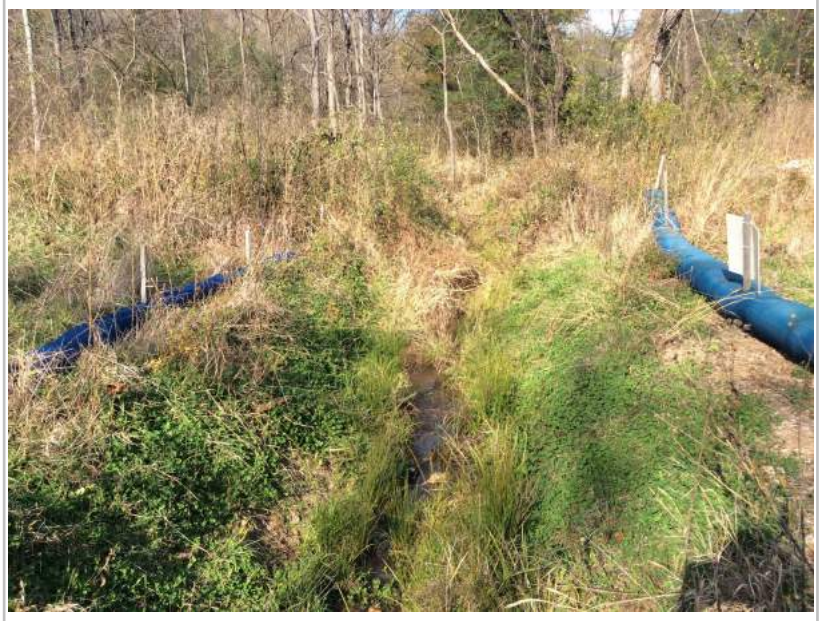
Stream ID S-II12



Photograph Direction NE

Date: 08/13/2015

Comments: 2015 stream identification.



Photograph Direction North

Date: 11/05/2019

Comments: 2019 stream identification confirmation.

STREAM ID S-II11	**STREAM NAME** UNT to Little Creek
LAT 37.091512 **LONG** -79.987994	**DATE** 08/13/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS A. Lands, K. Larsen, L. Sexton	
FLOW REGIME Perennial ✔ Intermittent ___ Ephemeral ___	**WATER TYPE** TNW ___ RPW ✔ NRPW ___

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 4 ft
Top of Bank Height:
LB 2.0 ft RB 1.0 ft
Water Depth: 2.00 in
Water Width: 3.0 ft
High Water Mark: 4.0 in
Flow Direction: South

Stream Erosion
___None ✔ Moderate ___Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Dam Present ___Yes ✔ No

Sinuosity ___ Low ✔ Medium ___ High

Gradient
✔ Flat (0.5/100 ft) ___Moderate (2 ft/100 ft) ___Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

Water Present
___No water, stream bed dry
___Stream bed moist
___Standing water
✔ Flowing water

Velocity
___Fast ___ Moderate
✔ Slow

Proportion of Reach Represented by Stream Morphology Types
Riffle 50 % Run 50 %
Pool %

Turbidity
✔ Clear ___Slightly turbid ___Turbid
___ Opaque ___Stained
___Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	5
Cobble	64-256 mm (2.5"-10")	30
Gravel	2-64 mm (0.1"-2.5")	10
Sand	0.06-2mm (gritty)	50
Silt	0.004-0.06 mm	5
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	90
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✔ Forest ___ Commercial
___ Field/Pasture ___Industrial
✔ Agricultural ___ Residential
___ Other:

Canopy Cover
✔ Partly open ___Partly shaded
___Shaded ___ Open

Indicate the dominant type (Check one)
✔ Trees ___ Shrubs
___ Grasses ___Herbaceous

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✔ Narrow <16ft

Wetland Present ___Yes ✔ No
Wetland ID

AQUATIC VEGETATION

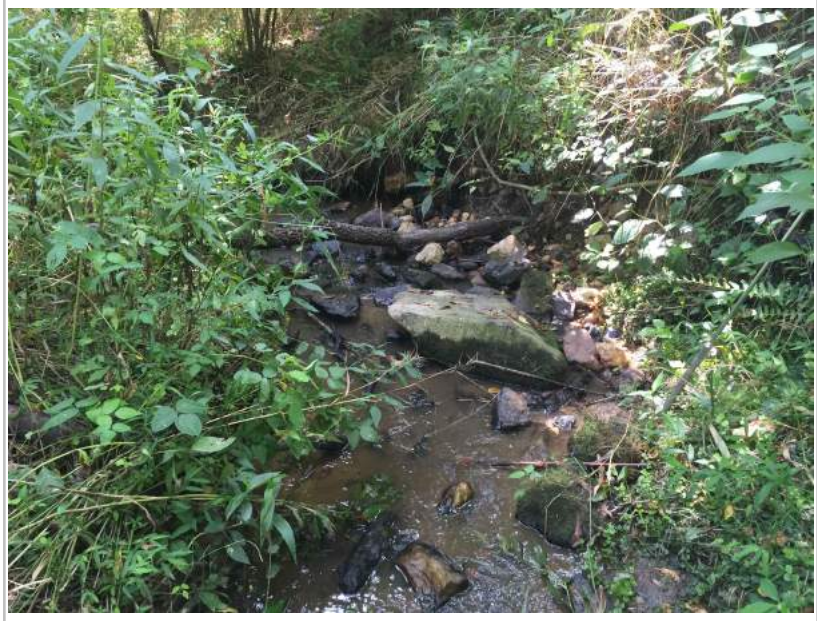
Indicate the dominant type and record the dominant species present
___Rooted emergent ___Rooted submergent ___Rooted floating ___Free floating
___Floating algae ___Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

Small perennial stream. Crayfish chimneys, small fish.

Stream Photograph Page

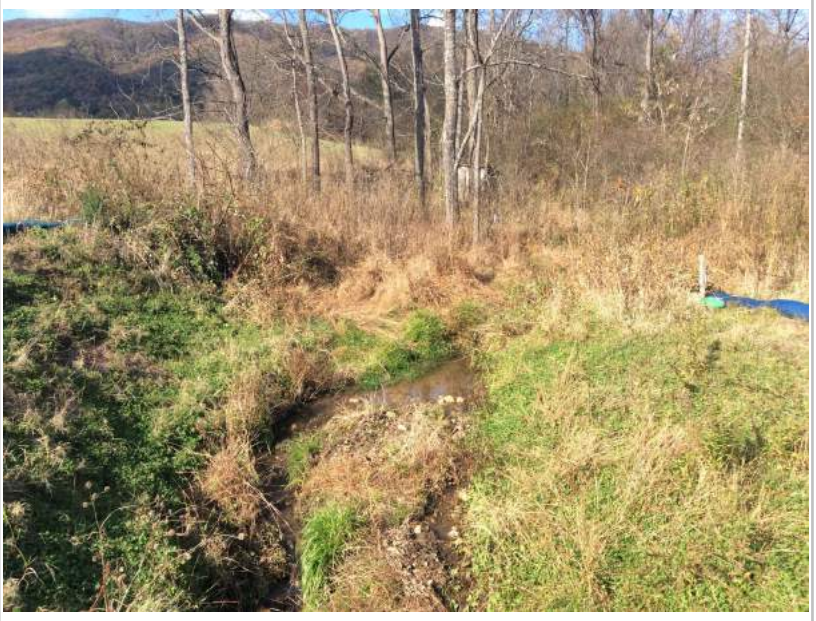
Stream ID S-II11



Photograph Direction SSW

Date: 08/13/2015

Comments: 2015 stream identification.



Photograph Direction West

Date: 11/05/2019

Comments: 2019 stream identification confirmation.

STREAM ID S-II8	**STREAM NAME** UNT to Little Creek
LAT 37.091494 **LONG** -79.993899	**DATE** 08/13/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS A. Lands, K. Larsen, L. Sexton	
FLOW REGIME Perennial ___ Intermittent ✔ Ephemeral ___	**WATER TYPE** TNW ___ RPW ✔ NRPW ___

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 2 ft
Top of Bank Height:
LB 10.0 in RB 10.0 in
Water Depth: 2.00 in
Water Width: 1.0 ft
High Water Mark: 6.0 in
Flow Direction: Southwest

Stream Erosion
___None ✔ Moderate ___Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Dam Present ___Yes ✔ No

Sinuosity ✔ Low ___ Medium ___ High

Gradient
✔ Flat (0.5/100 ft) ___Moderate (2 ft/100 ft) ___Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

Water Present
___No water, stream bed dry
___Stream bed moist
___Standing water
✔ Flowing water

Velocity
___Fast ___ Moderate
✔ Slow

Proportion of Reach Represented by Stream Morphology Types
Riffle 40 % Run 60 %
Pool %

Turbidity
✔ Clear ___Slightly turbid ___Turbid
___ Opaque ___Stained
___Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	30
Gravel	2-64 mm (0.1"-2.5")	
Sand	0.06-2mm (gritty)	70
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	10
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✔ Forest ___ Commercial
✔ Field/Pasture ___Industrial
___ Agricultural ___ Residential
___ Other:

Canopy Cover
___Partly open ___Partly shaded
✔ Shaded ___ Open

Indicate the dominant type (Check one)
✔ Trees ___ Shrubs
___ Grasses ___Herbaceous

Floodplain Width
___ Wide > 30ft ✔ Moderate 15-30ft
✔ Narrow <16ft

Wetland Present ___Yes ✔ No
Wetland ID

AQUATIC VEGETATION

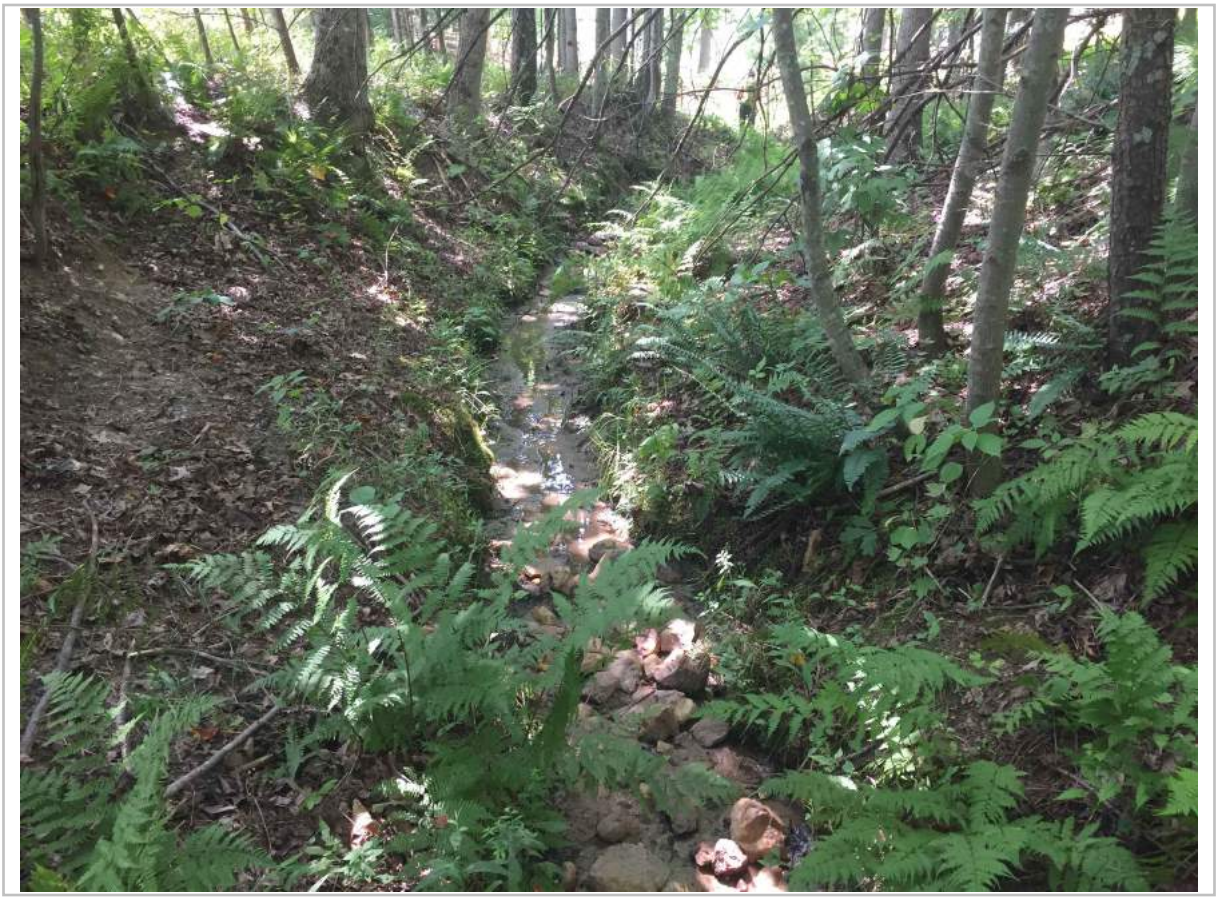
Indicate the dominant type and record the dominant species present
___Rooted emergent ___Rooted submergent ___Rooted floating ___Free floating
___Floating algae ___Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

Small intermittent stream with well defined channel. Flow begins within corridor.

Stream Photograph Page

Stream ID S-II8 Date: 08/13/2015



Photograph Direction South

Comments:

STREAM ID S-II9	**STREAM NAME** UNT to Little Creek
LAT 37.091338 **LONG** -79.990635	**DATE** 08/13/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS A. Lands, K. Larsen, L. Sexton	
FLOW REGIME Perennial ✔ Intermittent ___ Ephemeral ___	**WATER TYPE** TNW ___ RPW ✔ NRPW ___

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 20 ft
Top of Bank Height:
LB 2.0 ft RB 4.0 ft
Water Depth: 3.00 in
Water Width: 5.0 ft
High Water Mark: 6.0 in
Flow Direction: Southwest

Stream Erosion
✔ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Dam Present ___ Yes ✔ No

Sinuosity ___ Low ✔ Medium ___ High

Gradient
✔ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✔ Flowing water

Velocity
___ Fast ___ Moderate
✔ Slow

Proportion of Reach Represented by Stream Morphology Types
Riffle 60 % Run 40 %
Pool %

Turbidity
✔ Clear ___ Slightly turbid ___ Turbid
___ Opaque ___ Stained
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	5
Cobble	64-256 mm (2.5"-10")	45
Gravel	2-64 mm (0.1"-2.5")	10
Sand	0.06-2mm (gritty)	35
Silt	0.004-0.06 mm	5
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	10
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✔ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ Other:

Canopy Cover
___ Partly open ___ Partly shaded
✔ Shaded ___ Open

Indicate the dominant type (Check one)
✔ Trees ___ Shrubs
___ Grasses ___ Herbaceous

Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✔ Narrow <16ft

Wetland Present ___ Yes ✔ No
Wetland ID

AQUATIC VEGETATION

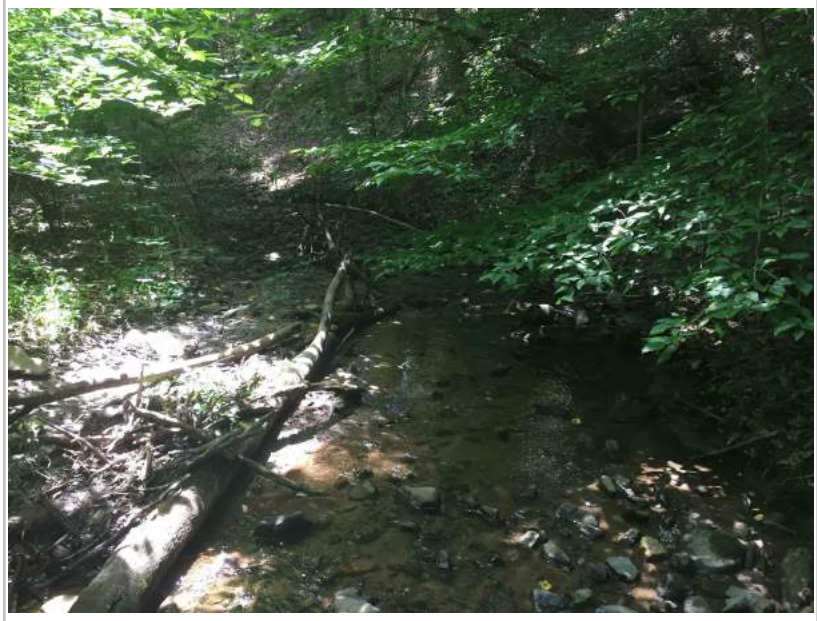
Indicate the dominant type and record the dominant species present
___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating
___ Floating algae ___ Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

Small perennial stream with well defined channel. Small fish, crayfish chimneys, raccoon tracks, water striders.

Stream Photograph Page

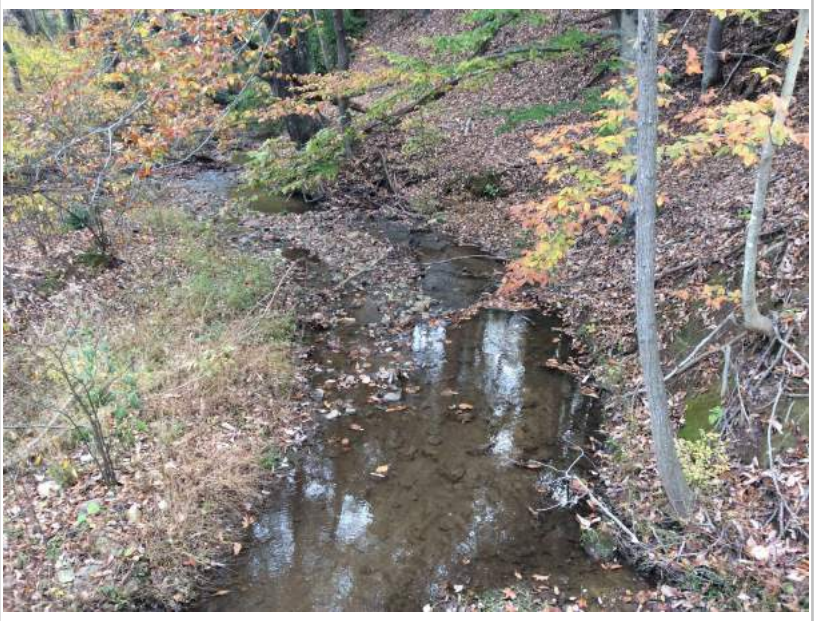
Stream ID S-II9



Photograph Direction SSE

Date: 08/13/2015

Comments: 2015 stream identification.



Photograph Direction South

Date: 11/05/2019

Comments: 2019 stream identification confirmation.

STREAM ID S-II7	**STREAM NAME** UNT to Little Creek
LAT 37.091447 **LONG** -79.991994	**DATE** 08/13/2015
CLIENT MVP	**PROJECT NAME** MVP
INVESTIGATORS A. Lands, K. Larsen, L. Sexton	
FLOW REGIME Perennial ___ Intermittent ✔ Ephemeral ___	**WATER TYPE** TNW ___ RPW ✔ NRPW ___

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 4 ft
Top of Bank Height:
LB 2.0 ft RB 3.0 ft
Water Depth: 2.00 in
Water Width: 1.5 ft
High Water Mark: 6.0 in
Flow Direction: South

Stream Erosion
___ None ✔ Moderate ✔ Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Dam Present ___ Yes ✔ No

Sinuosity ✔ Low ___ Medium ___ High

Gradient
✔ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✔ Flowing water

Velocity
___ Fast ___ Moderate
✔ Slow

Proportion of Reach Represented by Stream Morphology Types
Riffle 10 % Run 90 %
Pool %

Turbidity
✔ Clear ___ Slightly turbid ___ Turbid
___ Opaque ___ Stained
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%)

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	15
Gravel	2-64 mm (0.1"-2.5")	15
Sand	0.06-2mm (gritty)	50
Silt	0.004-0.06 mm	20
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	10
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✔ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ Other:

Canopy Cover
___ Partly open ✔ Partly shaded
___ Shaded ___ Open

Indicate the dominant type (Check one)
___ Trees ___ Shrubs
✔ Grasses ___ Herbaceous

Floodplain Width
___ Wide > 30ft ✔ Moderate 15-30ft
___ Narrow <16ft

Wetland Present ✔ Yes ___ No
Wetland ID W-II8

AQUATIC VEGETATION

Indicate the dominant type and record the dominant species present
___ Rooted emergent ___ Rooted submergent ___ Rooted floating ___ Free floating
___ Floating algae ___ Attached algae

MACROINVERTEBRATES OR OTHER WILDLIFE OBSERVED/OTHER OBSERVATIONS AND NOTES

Small intermittent stream starting to channelize from (and fed by) wetland (W-ii8). Stream starts in open field, but flows into forested area.

Stream Photograph Page

Stream ID S-II7 Date: 08/13/2015

Photograph Direction North

Comments:

STREAM ID S-IJ4		**STREAM NAME** UNT to North Fork Blackwater River	
CLIENT MVP		**PROJECT NAME** MVP	
LAT 37.091189	**LONG** -80.024332	**DATE** 04/06/2016	**COUNTY** Franklin
INVESTIGATORS E. Foster, S. Zabowski-Lieb, J. Niergarth			
WATER TYPE TNW ☐ RPW ☑ NRPW ☐		**FLOW REGIME** Perennial ☑ Intermittent ☐ Ephemeral ☐	

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 10.0 ft
Top of Bank Height:
LB 3.0 ft RB 3.0 ft
Water Depth: 4.00 in
Water Width: 4.0 ft
Ordinary High Water Mark (Width): 4.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: Southwest

Sinuosity ___ Low ✔ Medium ___ High

Gradient ✔ Flat (0.5/100 ft) ___ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
✔ None ___ Moderate ___ Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Within Roadside Ditch
___ Yes ✔ No

Culvert Present ✔ Yes ___ No
Culvert Material: Smooth Metal
Culvert Size: 48 in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✔ Flowing water

Velocity
✔ Fast ___ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle 50 % Run 30 %
Pool 20 %

Turbidity
___ Clear ✔ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	40
Gravel	2-64 mm (0.1"-2.5")	20
Sand	0.06-2mm (gritty)	30
Silt	0.004-0.06 mm	10
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
✔ Forest ___ Commercial
___ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Floodplain Width
___ Wide > 30ft ✔ Moderate 15-30ft
___ Narrow <15ft

Canopy Cover
___ Open ___ Partly shaded
✔ Shaded

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Stream Photograph Page

Stream ID S-IJ4 Date: 04/06/2016

Photograph Direction South

Comments:

STREAM ID S-KL2		**STREAM NAME** UNT to Little Creek	
CLIENT MVP		**PROJECT NAME** MVP	
LAT 37.090451	**LONG** -79.996417	**DATE** 04/06/2016	**COUNTY** Franklin
INVESTIGATORS J. Cook, D. McCullough, L. Sexton			
WATER TYPE TNW ☐ RPW ☑ NRPW ☐		**FLOW REGIME** Perennial ☑ Intermittent ☐ Ephemeral ☐	

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 10.0 ft
Top of Bank Height:
LB 3.0 ft RB 5.0 ft
Water Depth: 1.00 in
Water Width: 3.0 ft
Ordinary High Water Mark (Width): 3.7 ft
Ordinary High Water Mark (Height): 10.0 in
Flow Direction: Southeast

Sinuosity ___ Low ___ Medium ✔ High

Gradient ___ Flat (0.5/100 ft) ✔ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
___ None ✔ Moderate ___ Heavy

Artificial, Modified or Channelized
✔ Yes ___ No

Within Roadside Ditch
___ Yes ✔ No

Culvert Present ✔ Yes ___ No
Culvert Material: Corrugated Metal
Culvert Size: 12 in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✔ Flowing water

Velocity
___ Fast ✔ Moderate
___ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle 5 % Run 95 %
Pool %

Turbidity
✔ Clear ___ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		
Boulder	> 256 mm (10")	
Cobble	64-256 mm (2.5"-10")	10
Gravel	2-64 mm (0.1"-2.5")	10
Sand	0.06-2mm (gritty)	80
Silt	0.004-0.06 mm	
Clay	< 0.004 mm (slick)	

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	5
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✔ Field/Pasture ___ Industrial
___ Agricultural ___ Residential
___ ROW ___ Other:

Canopy Cover
✔ Open ___ Partly shaded
___ Shaded

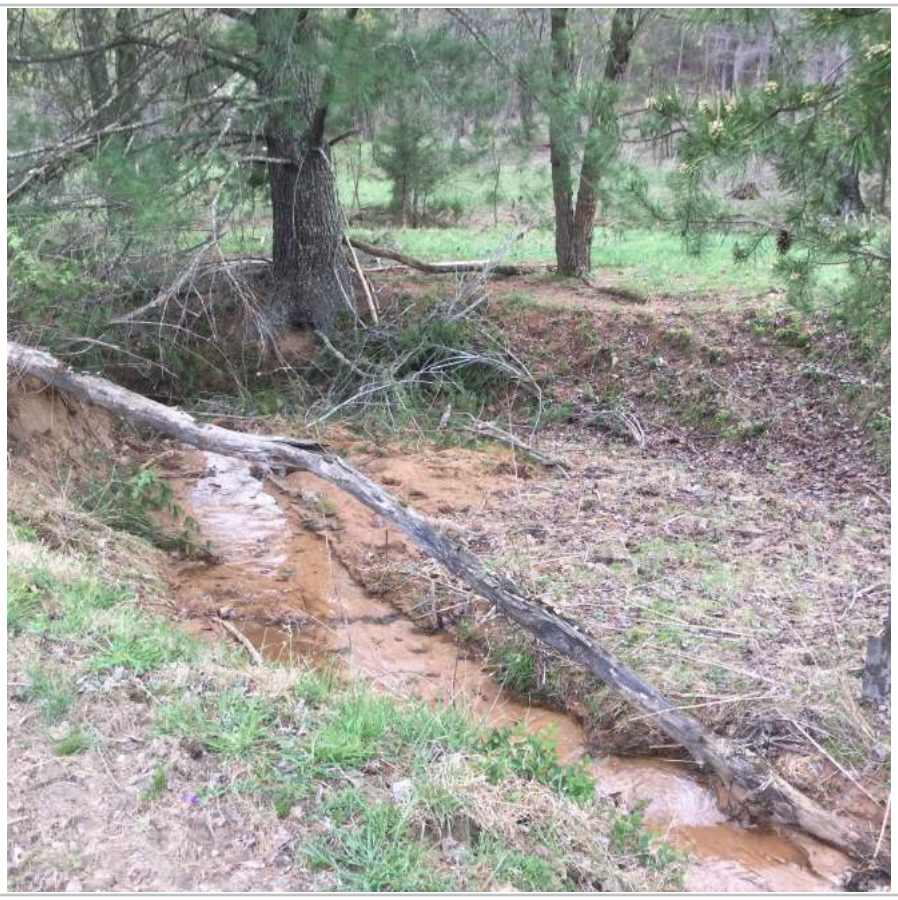
Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✔ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

No macro, culverted and drains under road. S-KL1 flows into this feature.

Stream Photograph Page

Stream ID S-KL2 Date: 04/06/2016



Photograph Direction North

Comments:

STREAM ID S-GH2		**STREAM NAME** UNT to Teel Creek	
CLIENT MVP		**PROJECT NAME** MVP	
LAT 37.089909	**LONG** -79.954037	**DATE** 04/05/2016	**COUNTY** Franklin
INVESTIGATORS K. Larsen, S. Therkildson, J. Bittner			
WATER TYPE TNW ☐ RPW ☑ NRPW ☐		**FLOW REGIME** Perennial ☐ Intermittent ☑ Ephemeral ☐	

CHANNEL FEATURES

Estimate Measurements
Top of Bank Width: 8.0 ft
Top of Bank Height:
LB 3.0 ft RB 3.0 ft
Water Depth: 2.00 in
Water Width: 1.5 ft
Ordinary High Water Mark (Width): 2.0 ft
Ordinary High Water Mark (Height): 6.0 in
Flow Direction: South

Sinuosity ___ Low ✔ Medium ___ High

Gradient ___ Flat (0.5/100 ft) ✔ Moderate (2 ft/100 ft) ___ Severe (10 ft/100 ft)

Stream Erosion
___ None ___ Moderate ✔ Heavy

Artificial, Modified or Channelized
___ Yes ✔ No

Within Roadside Ditch
___ Yes ✔ No

Culvert Present ___ Yes ✔ No
Culvert Material:_____
Culvert Size: _____in

FLOW CHARACTERISTICS

Water Present
___ No water, stream bed dry
___ Stream bed moist
___ Standing water
✔ Flowing water

Velocity
___ Fast ___ Moderate
✔ Slow

Proportion of Reach Represented by Stream Morphology Types (Only enter if water present)
Riffle 40 % Run 60 %
Pool 0 %

Turbidity
✔ Clear ___ Slightly turbid ___ Turbid
___ Other_____

INORGANIC SUBSTRATE COMPONENTS (should add up to 100%) 100

Substrate Type	Diameter	% Composition in Sampling Reach
Bedrock		0
Boulder	> 256 mm (10")	0
Cobble	64-256 mm (2.5"-10")	15
Gravel	2-64 mm (0.1"-2.5")	20
Sand	0.06-2mm (gritty)	35
Silt	0.004-0.06 mm	20
Clay	< 0.004 mm (slick)	10

ORGANIC SUBSTRATE COMPONENTS (does not necessarily add up to 100%)

Substrate Type	Characteristic	% Composition in Sampling Area
Detritus	sticks, wood, coarse plant materials (CPOM)	10
Muck-Mud	black, very fine organic (FPOM)	
Marl	grey, shell fragments	

WATERSHED FEATURES

Predominant Surrounding Landuse
___ Forest ___ Commercial
✔ Field/Pasture ___ Industrial
✔ Agricultural ✔ Residential
___ ROW ___ Other:

Canopy Cover
___ Open ✔ Partly shaded
___ Shaded

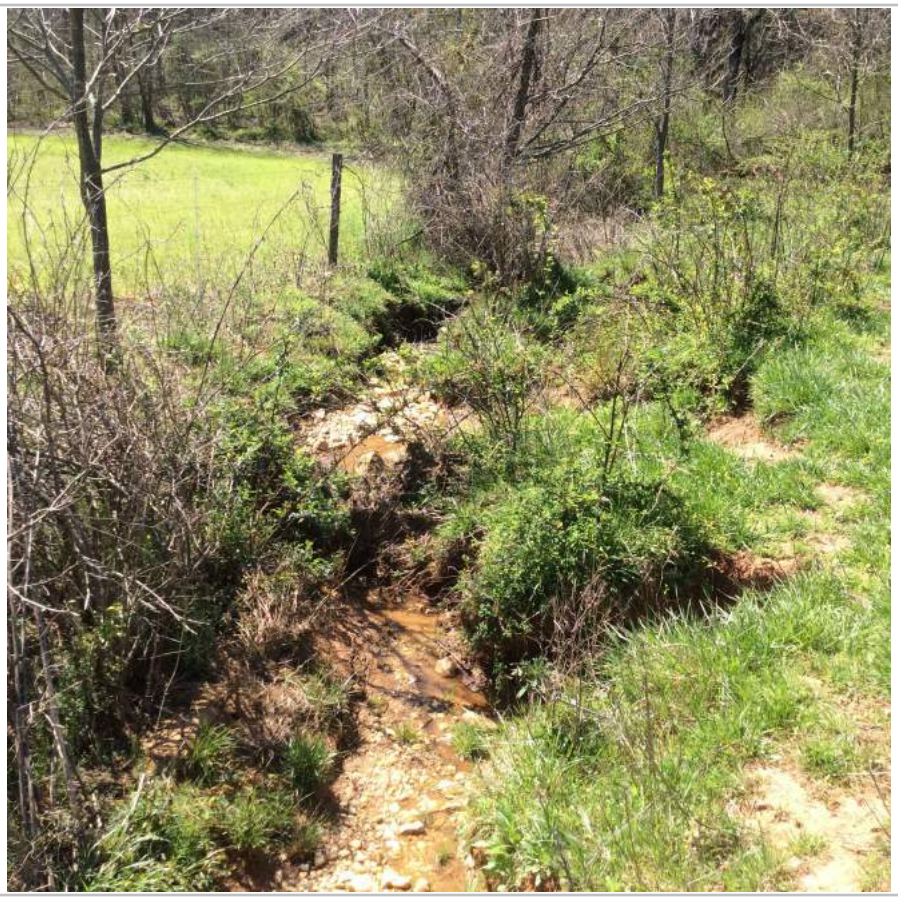
Floodplain Width
___ Wide > 30ft ___ Moderate 15-30ft
✔ Narrow <15ft

MACROINVERTEBRATES/OTHER WILDLIFE OBSERVED OR OTHER NOTES AND OBSERVATIONS

Algal growth, crayfish burrows.

Stream Photograph Page

Stream ID S-GH2 Date: 04/05/2016



Photograph Direction South

Comments: