

Birch Run stream survey 12-21-2015

Data Collectors:

Kelsey Hensley – *data recorder*

Jon Markovich – *photographer*

Micka Peck – *stadia rod holder*

Jen Sincock – *channel depth reader*

Measurements and observations recorded using the “Protocol for collecting eroding streambank and channel attributes” (2014).

STREAMBANK EROSION DATA SHEET - Measurement and Observation

Header Information

Watershed/Stream Name: Birch Run/ Mainstem Date: 12/21/2015
 Location: Site #1 - off Hollow Rd (upstream of French Creek confluence)
 GPS time: 12:33:28 GPS Lat/Long: N40° 8.8615 W75° 37.2522
 Data Collectors: K.Hensley, J.Markovich, M. Peck, J.Sincock

Current weather: Precipitation No Precipitation
 Past weather (last 24hrs): Precipitation No Precipitation

Streambank/Channel Observations

Flow Condition	Dry	Stagnant	Slow	Moderate	Fast
	no water in the channel	very little water in the channel, mostly present as standing pools; no visual flow	Water moving slowly, with a smooth, unbroken surface	Water moving, with small ripples, waves and eddies	Water movement rapid and turbulent, surface with intermittent whitewater with breaking waves
Predominant Land Uses	Agriculture	Open	Mixed	Residential	Wooded
	RL RR	RL RR	RL RR	RL RR	RL RR
	agricultural lands with minimal riparian buffers	open space such as parks and golf courses	highly impervious areas (industrial land use, parking lots, STPs, etc.)	individual houses or housing developments with large open lawns; minimal riparian buffer width	prominent riparian buffers with minimal human impact (no development, lots of woody vegetation)
Riparian Vegetation	Optimal	Sub-Optimal	Marginal	Poor	
	RL RR	RL RR	RL RR	RL RR	
	Surrounding area consists of several sizes of trees, shrubs, and grasses; streambank buffer width >5m	Surrounding area consists of several sizes of trees, shrubs, and grasses; streambank buffer width 1-5m	Surrounding area consists of either trees OR shrubs; buffer ranges from 1m to >5m	Surrounding area consists of short grasses and/or bare soil; no streambank buffer	
Bank Angle	Shallow	Steep	Overhang		
	RL RR	RL RR	RL RR		
	0 - 45 degrees	45 - 90 degrees	> 90 degrees		
Surface Protection	0 - 50%	> 50%			
	RL RR	RL RR			

Streambank/Channel Measurements

Channel Depth (m) 1.1 RR / .6 RL Water Depth (m) .3 Est. Channel Length (m) 300

*** RL= river left, RR= river right ***

STREAMBANK EROSION DATA SHEET - Measurement and Observation

Header Information

Watershed/Stream Name: Birch Run/Mainstem Date: 12/21/2015

Location: Site 2a - upstream of Flowing Springs Rd

GPS time: 10:04:16 GPS Lat/Long: N 40° 7.8685' W 75° 38.426

Data Collectors: K.Hensley, J.Markovich, M. Peck, J.Sincock

Current weather:

Precipitation

No Precipitation

Past weather (last 24hrs):

Precipitation

No Precipitation

Streambank/Channel Observations

Flow Condition	Dry	Stagnant	Slow	Moderate	Fast
	no water in the channel	very little water in the channel, mostly present as standing pools; no visual flow	Water moving slowly, with a smooth, unbroken surface	Water moving, with small ripples, waves and eddies	Water movement rapid and turbulent, surface with intermittent whitewater with breaking waves
Predominant Land Uses	Agriculture	Open	Mixed	Residential	Wooded
	RL RR	RL RR	RL RR	RL RR	RL RR
	agricultural lands with minimal riparian buffers	open space such as parks and golf courses	highly impervious areas (industrial land use, parking lots, STPs, etc.)	individual houses or housing developments with large open lawns; minimal riparian buffer width	prominent riparian buffers with minimal human impact (no development, lots of woody vegetation)
Riparian Vegetation	Optimal	Sub-Optimal	Marginal	Poor	
	RL RR	RL RR	RL RR	RL RR	
	Surrounding area consists of several sizes of trees, shrubs, and grasses; streambank buffer width >5m	Surrounding area consists of several sizes of trees, shrubs, and grasses; streambank buffer width 1-5m	Surrounding area consists of either trees OR shrubs; buffer ranges from 1m to >5m	Surrounding area consists of short grasses and/or bare soil; no streambank buffer	
Bank Angle	Shallow	Steep	Overhang		
	RL RR	RL RR	RL RR		
	0 - 45 degrees	45 - 90 degrees	> 90 degrees		
Surface Protection	0 - 50%	> 50%			
	RL RR	RL RR			

upstream of road x5ing

Streambank/Channel Measurements

Channel Depth (m) 1.1 0.8 Water Depth (m) 2.1 Est. Channel Length (m) 2.0
 RL RR

*** RL= river left, RR= river right ***

STREAMBANK EROSION DATA SHEET - Measurement and Observation

Header Information

Watershed/Stream Name: Birch Run/ mainstem 12/21/2015

Location: Site 2b at bridge on Birch Run Rd (upstream)

GPS time: 10:30:15 GPS Lat/Long: N ° W °

Data Collectors: K.Hensley, J.Markovich, M. Peck, J.Sincock

Current weather:

Precipitation

No Precipitation

Past weather (last 24hrs):

Precipitation

No Precipitation

Streambank/Channel Observations

Flow Condition	Dry	Stagnant	Slow	Moderate	Fast
	no water in the channel	very little water in the channel, mostly present as standing pools; no visual flow	Water moving slowly, with a smooth, unbroken surface	Water moving, with small ripples, waves and eddies	Water movement rapid and turbulent, surface with intermittent whitewater with breaking waves
Predominant Land Uses	Agriculture	Open	Mixed	Residential	Wooded
	RL RR	RL RR	RL RR	RL RR	RL RR
	agricultural lands with minimal riparian buffers	open space such as parks and golf courses	highly impervious areas (industrial land use, parking lots, STPs, etc.)	individual houses or housing developments with large open lawns; minimal riparian buffer width	prominent riparian buffers with minimal human impact (no development, lots of woody vegetation)
Riparian Vegetation	Optimal	Sub-Optimal	Marginal	Poor	
	RL RR	RL RR	RL RR	RL RR	
	Surrounding area consists of several sizes of trees, shrubs, and grasses; streambank buffer width >5m	Surrounding area consists of several sizes of trees, shrubs, and grasses; streambank buffer width 1-5m	Surrounding area consists of either trees OR shrubs; buffer ranges from 1m to >5m	Surrounding area consists of short grasses and/or bare soil; no streambank buffer	
Bank Angle	Shallow	Steep	Overhang		
	RL RR	RL RR	RL RR		
	0 - 45 degrees	45 - 90 degrees	> 90 degrees		
Surface Protection	0 - 50%	> 50%			
	RL RR	RL RR			

Photo 0007

Streambank/Channel Measurements

Channel Depth (m) 1.1^{RR} 1.1^{RL} (1) 1.1^{RR} 1.1^{RL} (2) 1.1^{RR} 1.1^{RL} (3) Estimated Channel Length (m) 200

Water Depth (m) .51

*** RL= river left, RR= river right ***

Additional Comments (note water appearance, odor, algal growth, substrate embeddedness)

- Leaf packs and fine sediment near banks

-

STREAMBANK EROSION DATA SHEET - Measurement and Observation

Header Information

Watershed/Stream Name: Birch Run/ mainstem

Date: 12/21/2015

Location: Site 3 - mainstem off Hollow Rd (upstream)

GPS time: 10:51:45

GPS Lat/Long: N 40° 7.2825 W 75° 39.2195

Data Collectors: K.Hensley, J.Markovich, M. Peck, J.Sincock

Current weather:

Precipitation

No Precipitation

Past weather (last 24hrs):

Precipitation

No Precipitation

Streambank/Channel Observations

Flow Condition	Dry	Stagnant	Slow	Moderate	Fast
	no water in the channel	very little water in the channel, mostly present as standing pools; no visual flow	Water moving slowly, with a smooth, unbroken surface	Water moving, with small ripples, waves and eddies	Water movement rapid and turbulent, surface with intermittent whitewater with breaking waves
Predominant Land Uses	Agriculture	Open	Mixed	Residential	Wooded
	RL RR	RL RR	RL RR	RL RR	RL RR
	agricultural lands with minimal riparian buffers	open space such as parks and golf courses	highly impervious areas (industrial land use, parking lots, STPs, etc.)	individual houses or housing developments with large open lawns; minimal riparian buffer width	prominent riparian buffers with minimal human impact (no development, lots of woody vegetation)
Riparian Vegetation	Optimal	Sub-Optimal	Marginal	Poor	
	RL RR	RL RR	RL RR	RL RR	
	Surrounding area consists of several sizes of trees, shrubs, and grasses; streambank buffer width >5m	Surrounding area consists of several sizes of trees, shrubs, and grasses; streambank buffer width 1-5m	Surrounding area consists of either trees OR shrubs; buffer ranges from 1m to >5m	Surrounding area consists of short grasses and/or bare soil; no streambank buffer	
Bank Angle	Shallow	Steep	Overhang		
	RL RR	RL RR	RL RR		
	0 - 45 degrees	45 - 90 degrees	> 90 degrees		
Surface Protection	0 - 50%	> 50%			
	RL RR	RL RR			

Streambank/Channel Measurements

Channel Depth (m) 0.2 RL 0.3 RR Water Depth (m) 0.1 Est. Channel Length (m) 200

*** RL= river left, RR= river right ***

Additional Comments (note water apperance, odor, algal growth, substrate embeddedness)

Braided channel

STREAMBANK EROSION DATA SHEET - Measurement and Observation

Header Information

Watershed/Stream Name: Birch Run/ mainstem

Date: 12/21/2015

Location: Site 4 - upstream of Horseshoe Trail

GPS time: 11:04:48

GPS Lat/Long: N ° W °

Data Collectors: K.Hensley, J.Markovich, M. Peck, J.Sincock

Current weather:

Precipitation

No Precipitation

Past weather (last 24hrs):

Precipitation

No Precipitation

Streambank/Channel Observations

Flow Condition	Dry	Stagnant	<u>Slow</u>	Moderate	Fast
	no water in the channel	very little water in the channel, mostly present as standing pools; no visual flow	Water moving slowly, with a smooth, unbroken surface	Water moving, with small ripples, waves and eddies	Water movement rapid and turbulent, surface with intermittent whitewater with breaking waves
Predominant Land Uses	Agriculture	<u>Open</u>	Mixed	<u>Residential</u>	Wooded
	RL RR	RL RR	RL RR	RL RR	RL RR
	agricultural lands with minimal riparian buffers	open space such as parks and golf courses	highly impervious areas (industrial land use, parking lots, STPs, etc.)	individual houses or housing developments with large open lawns; minimal riparian buffer width	prominent riparian buffers with minimal human impact (no development, lots of woody vegetation)
Riparian Vegetation	Optimal	Sub-Optimal	Marginal	<u>Poor</u>	
	RL RR	RL RR	RL RR	RL RR	
	Surrounding area consists of several sizes of trees, shrubs, and grasses; streambank buffer width >5m	Surrounding area consists of several sizes of trees, shrubs, and grasses; streambank buffer width 1-5m	Surrounding area consists of either trees OR shrubs; buffer ranges from 1m to >5m	Surrounding area consists of short grasses and/or bare soil; no streambank buffer	
Bank Angle	<u>Shallow</u>	<u>Steep</u>	Overhang		
	RL RR	RL RR	RL RR		
	0 - 45 degrees	45 - 90 degrees	> 90 degrees		
Surface Protection	<u>0 - 50%</u>	> 50%			
	RL RR	RL RR			

Streambank/Channel Measurements

Channel Depth (m) 0.7^{RR} 1.0^{RL}

Water Depth (m) 0.2

Est. Channel Length (m) 200

*** RL= river left, RR= river right ***

STREAMBANK EROSION DATA SHEET - Measurement and Observation

Header Information

Watershed/Stream Name: Birch Run/ *mainstem* Date: 12/21/2015
 Location: *Site 5 - off Fellowship Rd*
 GPS time: *11:15:41* GPS Lat/Long: *N 40° 7.1158 W 75° 39.9778*
 Data Collectors: K.Hensley, J.Markovich, M. Peck, J.Sincock

Current weather:

Precipitation

No Precipitation

Past weather (last 24hrs):

Precipitation

No Precipitation

Streambank/Channel Observations

Flow Condition	Dry	Stagnant	<u>Slow</u>	Moderate	Fast
	no water in the channel	very little water in the channel, mostly present as standing pools; no visual flow	Water moving slowly, with a smooth, unbroken surface	Water moving, with small ripples, waves and eddies	Water movement rapid and turbulent, surface with intermittent whitewater with breaking waves
Predominant Land Uses	Agriculture	Open	Mixed	Residential	<u>Wooded</u>
	RL RR	RL RR	RL RR	RL RR	RL RR
	agricultural lands with minimal riparian buffers	open space such as parks and golf courses	highly impervious areas (industrial land use, parking lots, STPs, etc.)	individual houses or housing developments with large open lawns; minimal riparian buffer width	prominent riparian buffers with minimal human impact (no development, lots of woody vegetation)
Riparian Vegetation	<u>Optimal</u>	Sub-Optimal	Marginal	Poor	
	RL RR	RL RR	RL RR	RL RR	
	Surrounding area consists of several sizes of trees, shrubs, and grasses; streambank buffer width >5m	Surrounding area consists of several sizes of trees, shrubs, and grasses; streambank buffer width 1-5m	Surrounding area consists of either trees OR shrubs; buffer ranges from 1m to >5m	Surrounding area consists of short grasses and/or bare soil; no streambank buffer	
Bank Angle	<u>Shallow</u>	Steep	Overhang		
	RL RR	RL RR	RL RR		
	0 - 45 degrees	45 - 90 degrees	> 90 degrees		
Surface Protection	0 - 50%	<u>> 50%</u>			
	RL RR	RL RR			

Downstream of rd

Streambank/Channel Measurements

Channel Depth (m) *0.4 RL / 0.8 RR* Water Depth (m) *0.15* Est. Channel Length (m) *300*

*** RL= river left, RR= river right ***

STREAMBANK EROSION DATA SHEET - Measurement and Observation

Header Information

Watershed/Stream Name: Birch Run/ UNT Date: 12/21/2015
 Location: Site 6 - upstream of Fellowship Rd
 GPS time: 11:24:36 GPS Lat/Long: N46° 6.8145 W 75° 40.6677
 Data Collectors: K.Hensley, J.Markovich, M. Peck, J.Sincock

Current weather: Precipitation No Precipitation
 Past weather (last 24hrs): Precipitation No Precipitation

Streambank/Channel Observations

Flow Condition	Dry	Stagnant	Slow	Moderate	Fast
	no water in the channel	very little water in the channel, mostly present as standing pools; no visual flow	Water moving slowly, with a smooth, unbroken surface	Water moving, with small ripples, waves and eddies	Water movement rapid and turbulent, surface with intermittent whitewater with breaking waves
Predominant Land Uses	Agriculture	Open	Mixed	Residential	Wooded
	RL RR	RL RR	RL RR	RL RR	RL RR
	agricultural lands with minimal riparian buffers	open space such as parks and golf courses	highly impervious areas (industrial land use, parking lots, STPs, etc.)	individual houses or housing developments with large open lawns; minimal riparian buffer width	prominent riparian buffers with minimal human impact (no development, lots of woody vegetation)
Riparian Vegetation	Optimal	Sub-Optimal	Marginal	Poor	
	RL RR	RL RR	RL RR	RL RR	
	Surrounding area consists of several sizes of trees, shrubs, and grasses; streambank buffer width >5m	Surrounding area consists of several sizes of trees, shrubs, and grasses; streambank buffer width 1-5m	Surrounding area consists of either trees OR shrubs; buffer ranges from 1m to >5m	Surrounding area consists of short grasses and/or bare soil; no streambank buffer	
Bank Angle	Shallow	Steep	Overhang		
	RL RR	RL RR	RL RR		
	0 - 45 degrees	45 - 90 degrees	> 90 degrees		
Surface Protection	0 - 50%	> 50%			
	RL RR	RL RR			

Streambank/Channel Measurements

Channel Depth (m) 0.16 / 0.16 Water Depth (m) 0.12 Est. Channel Length (m) 100

*** RL= river left, RR= river right ***

Additional Comments (note water apperance, odor, algal growth, substrate embeddedness)

Sandy & coarse pebble ^{channel} bottom

STREAMBANK EROSION DATA SHEET - Measurement and Observation

Header Information

Watershed/Stream Name: Birch Run/ mainstem Date: 12/21/2015
 Location: Site 7 - off Westover Ln (upstream)
 GPS time: 11:36:26 GPS Lat/Long: N40° 7.2081 W 75° 41.1297
 Data Collectors: K.Hensley, J.Markovich, M. Peck, J.Sincock

Current weather: Precipitation No Precipitation
 Past weather (last 24hrs): Precipitation No Precipitation

Streambank/Channel Observations

Flow Condition	Dry	Stagnant	Slow	Moderate	Fast
	no water in the channel	very little water in the channel, mostly present as standing pools; no visual flow	Water moving slowly, with a smooth, unbroken surface	Water moving, with small ripples, waves and eddies	Water movement rapid and turbulent, surface with intermittent whitewater with breaking waves
Predominant Land Uses	Agriculture	Open	Mixed	Residential	Wooded
	RL RR	RL RR	RL RR	RL RR	RL RR
	agricultural lands with minimal riparian buffers	open space such as parks and golf courses	highly impervious areas (industrial land use, parking lots, STPs, etc.)	individual houses or housing developments with large open lawns; minimal riparian buffer width	prominent riparian buffers with minimal human impact (no development, lots of woody vegetation)
Riparian Vegetation	Optimal	Sub-Optimal	Marginal	Poor	
	RL RR	RL RR	RL RR	RL RR	
	Surrounding area consists of several sizes of trees, shrubs, and grasses; streambank buffer width >5m	Surrounding area consists of several sizes of trees, shrubs, and grasses; streambank buffer width 1-5m	Surrounding area consists of either trees OR shrubs; buffer ranges from 1m to >5m	Surrounding area consists of short grasses and/or bare soil; no streambank buffer	
Bank Angle	Shallow	Steep	Overhang		
	RL RR	RL RR	RL RR		
	0 - 45 degrees	45 - 90 degrees	> 90 degrees		
Surface Protection	0 - 50%	> 50%			
	RL RR	RL RR			

Site 7a chosen for site 7

Streambank/Channel Measurements

Channel Depth (m) 0.5^{RL} / 0.6^{RR} Water Depth (m) 0.2 Est. Channel Length (m) 400

*** RL= river left, RR= river right ***

STREAMBANK EROSION DATA SHEET - Measurement and Observation

Header Information

Watershed/Stream Name: Birch Run/UNT Date: 12/21/2015
 Location: Site 8 - upstream of Green Ln
 GPS time: 11:52:32 GPS Lat/Long: N40° 8.2617 W 75° 40.2771
 Data Collectors: K.Hensley, J.Markovich, M. Peck, J.Sincock

Current weather: Precipitation No Precipitation
 Past weather (last 24hrs): Precipitation No Precipitation

Streambank/Channel Observations

Flow Condition	Dry	Stagnant	Slow	Moderate	Fast
	no water in the channel	very little water in the channel, mostly present as standing pools; no visual flow	Water moving slowly, with a smooth, unbroken surface	Water moving, with small ripples, waves and eddies	Water movement rapid and turbulent, surface with intermittent whitewater with breaking waves
Predominant Land Uses	Agriculture	Open	Mixed	Residential	Wooded
	RL RR	RL RR	RL RR	RL RR	RL RR
	agricultural lands with minimal riparian buffers	open space such as parks and golf courses	highly impervious areas (industrial land use, parking lots, STPs, etc.)	individual houses or housing developments with large open lawns; minimal riparian buffer width	prominent riparian buffers with minimal human impact (no development, lots of woody vegetation)
Riparian Vegetation	Optimal	Sub-Optimal	Marginal	Poor	
	RL RR	RL RR	RL RR	RL RR	
	Surrounding area consists of several sizes of trees, shrubs, and grasses; streambank buffer width >5m	Surrounding area consists of several sizes of trees, shrubs, and grasses; streambank buffer width 1-5m	Surrounding area consists of either trees OR shrubs; buffer ranges from 1m to >5m	Surrounding area consists of short grasses and/or bare soil; no streambank buffer	
Bank Angle	Shallow	Steep	Overhang		
	RL RR	RL RR	RL RR		
	0 - 45 degrees	45 - 90 degrees	> 90 degrees		
Surface Protection	0 - 50%	> 50%			
	RL RR	RL RR			

Site 8a chosen for site 8

Streambank/Channel Measurements

Channel Depth (m) 0.9 RR / 0.2 Water Depth (m) 0.1 Est. Channel Length (m) 200

*** RL= river left, RR= river right ***

Additional Comments (note water appearance, odor, algal growth, substrate embeddedness)

- Sampled upstream of Green Ln
- muddy bottom / siltation

STREAMBANK EROSION DATA SHEET - Measurement and Observation

Header Information

Watershed/Stream Name: Birch Run/ UNT Date: 12/21/2015
 Location: Site 9 - off Birch Run Rd (upstream of rd)
 GPS time: 12:09:00 GPS Lat/Long: N40° 8.3341 W75° 31.7941
 Data Collectors: K.Hensley, J.Markovich, M. Peck, J.Sincock

Current weather: Precipitation No Precipitation
 Past weather (last 24hrs): Precipitation No Precipitation

Streambank/Channel Observations

Flow Condition	Dry	Stagnant	<u>Slow</u>	Moderate	Fast
	no water in the channel	very little water in the channel, mostly present as standing pools; no visual flow	Water moving slowly, with a smooth, unbroken surface	Water moving, with small ripples, waves and eddies	Water movement rapid and turbulent, surface with intermittent whitewater with breaking waves
Predominant Land Uses	Agriculture	Open	Mixed	Residential	<u>Wooded</u>
	RL RR	RL RR	RL RR	RL RR	RL RR
	agricultural lands with minimal riparian buffers	open space such as parks and golf courses	highly impervious areas (industrial land use, parking lots, STPs, etc.)	individual houses or housing developments with large open lawns; minimal riparian buffer width	prominent riparian buffers with minimal human impact (no development, lots of woody vegetation)
Riparian Vegetation	Optimal	Sub-Optimal	<u>Marginal</u>	Poor	
	RL RR	RL RR	RL RR	RL RR	
	Surrounding area consists of several sizes of trees, shrubs, and grasses; streambank buffer width >5m	Surrounding area consists of several sizes of trees, shrubs, and grasses; streambank buffer width 1-5m	Surrounding area consists of either trees OR shrubs; buffer ranges from 1m to >5m	Surrounding area consists of short grasses and/or bare soil; no streambank buffer	
Bank Angle	<u>Shallow</u>	Steep	Overhang		
	RL RR	RL RR	RL RR		
	0 - 45 degrees	45 - 90 degrees	> 90 degrees		
Surface Protection	0 - 50%	<u>> 50%</u>			
	RL RR	RL RR			

Streambank/Channel Measurements

Channel Depth (m) 5^{RR} / .4^{RL} Water Depth (m) 1 Est. Channel Length (m) 200

*** RL= river left, RR= river right ***

STREAMBANK EROSION DATA SHEET - Measurement and Observation

Header Information

Watershed/Stream Name: Birch Run/ UNT Date: 12/21/2015
 Location: Site 10 - off Jaine Ln (upstream of rd)
 GPS time: 12:16:45 GPS Lat/Long: N 40° 8.0011 W 75° 39.4705
 Data Collectors: K.Hensley, J.Markovich, M. Peck, J.Sincock

Current weather: Precipitation No Precipitation
 Past weather (last 24hrs): Precipitation No Precipitation

Streambank/Channel Observations

Flow Condition	Dry	Stagnant	Slow	Moderate	Fast
	no water in the channel	very little water in the channel, mostly present as standing pools; no visual flow	Water moving slowly, with a smooth, unbroken surface	Water moving, with small ripples, waves and eddies	Water movement rapid and turbulent, surface with intermittent whitewater with breaking waves
Predominant Land Uses	Agriculture	Open	Mixed	Residential	Wooded
	RL RR	RL RR	RL RR	RL RR	RL RR
	agricultural lands with minimal riparian buffers	open space such as parks and golf courses	highly impervious areas (industrial land use, parking lots, STPs, etc.)	individual houses or housing developments with large open lawns; minimal riparian buffer width	prominent riparian buffers with minimal human impact (no development, lots of woody vegetation)
Riparian Vegetation	Optimal	Sub-Optimal	Marginal	Poor	
	RL RR	RL RR	RL RR	RL RR	
	Surrounding area consists of several sizes of trees, shrubs, and grasses; streambank buffer width >5m	Surrounding area consists of several sizes of trees, shrubs, and grasses; streambank buffer width 1-5m	Surrounding area consists of either trees OR shrubs; buffer ranges from 1m to >5m	Surrounding area consists of short grasses and/or bare soil; no streambank buffer	
Bank Angle	Shallow	Steep	Overhang		
	RL RR	RL RR	RL RR		
	0 - 45 degrees	45 - 90 degrees	> 90 degrees		
Surface Protection	0 - 50%	> 50%			
	RL RR	RL RR			

Streambank/Channel Measurements

Channel Depth (m) 0.6 RR / 0.5 RL Water Depth (m) 0.2 Est. Channel Length (m) 100

*** RL= river left, RR= river right ***

Additional Comments (note water apperance, odor, algal growth, substrate embeddedness)

slippery with algae

STREAMBANK EROSION DATA SHEET - Photo

Header Information

Photo ID: 101-0001
GPS time (HH:MM:SS) 10:14:46

Site: 02a
Date: 12/21/2015

Direction, *circle one* Upstream Downstream Overall (Land Use)

Bank, *circle one* River Left River Right
(facing downstream)

Photo description: GPS

Header Information

Photo ID: 101-0002
GPS time (HH:MM:SS) _____

Site: 2a
Date: 12/21/2015

Direction, *circle one* Upstream Downstream Overall (Land Use)

Bank, *circle one* River Left River Right
(facing downstream)

Photo description: _____

Header Information

Photo ID: 101-0003
GPS time (HH:MM:SS) _____

Site: 2a
Date: 12/21/2015

Direction, *circle one* Upstream Downstream Overall (Land Use)

Bank, *circle one* River Left River Right facing
(facing downstream)

Photo description: Channel depth measurement

STREAMBANK EROSION DATA SHEET - Photo

Header Information

Photo ID:

101 - 0004

Site:

2b

GPS time (HH:MM:SS)

10:30:15

Date:

12/21/2015Direction, *circle one*

Upstream

Downstream

Overall (Land Use)

Bank, *circle one*
(facing downstream)

River Left

River Right

Photo description:

GPS

Header Information

Photo ID:

101 - 0005

Site:

2b

GPS time (HH:MM:SS)

10:30:15

Date:

12/21/2015Direction, *circle one*

Upstream

Downstream

Overall (Land Use)

Bank, *circle one*
(facing downstream)

River Left

River Right

Photo description:

Upstream of bridge on Birch Run Rd

Header Information

Photo ID:

101 - 0006

Site:

2b

GPS time (HH:MM:SS)

10:30:15

Date:

12/21/2015Direction, *circle one*

Upstream

Downstream

Overall (Land Use)

Bank, *circle one*
(facing downstream)

River Left

River Right

Photo description:

Downstream of bridge on Birch Run Rd

STREAMBANK EROSION DATA SHEET - Photo

Header Information

Photo ID: 101-0008Site: 2b

GPS time (HH:MM:SS) _____

Date: 12/21/2015Direction, *circle one*

Upstream

Downstream

Overall (Land Use)

Bank, *circle one*

(facing downstream)

River Left

River Right

facing

Photo description:

Channel depth measurement

Header Information

Photo ID: 0009/0010Site: 3GPS time (HH:MM:SS) 10:51:45Date: 12/21/2015Direction, *circle one*

Upstream

Downstream

Overall (Land Use)

Bank, *circle one*

(facing downstream)

River Left

River Right

Photo description:

0009 - GPS10 - Field Sheet

Header Information

Photo ID: 0011Site: 3

GPS time (HH:MM:SS) _____

Date: 12/21/2015Direction, *circle one*

Upstream

Downstream

Overall (Land Use)

Bank, *circle one*

(facing downstream)

River Left

River Right

facing

Photo description:

Channel depth measurement

STREAMBANK EROSION DATA SHEET - Photo

Header Information

Photo ID: 101-0012

Site: 3

GPS time (HH:MM:SS) _____

Date: 12/21/2015

Direction, *circle one*

Upstream

Downstream

Overall (Land Use)

Bank, *circle one*
(facing downstream)

River Left

River Right

Photo description:

Land use

Header Information

Photo ID: 101-0013

Site: 3

GPS time (HH:MM:SS) _____

Date: 12/21/2015

Direction, *circle one*

Upstream

Downstream

Overall (Land Use)

Bank, *circle one*
(facing downstream)

River Left

River Right

Photo description:

GPS

Header Information

Photo ID: 101-0014

Site: 3

GPS time (HH:MM:SS) _____

Date: 12/21/2015

Direction, *circle one*

Upstream

Downstream

Overall (Land Use)

Bank, *circle one*
(facing downstream)

River Left

River Right

Photo description:

Channel depth measurement (cm)

STREAMBANK EROSION DATA SHEET - Photo

Header Information

Photo ID: 101-0015Site: 4GPS time (HH:MM:SS) 11:04:48Date: 12/21/2015Direction, *circle one*

Upstream

Downstream

Overall (Land Use)

Bank, *circle one*
(facing downstream)

River Left

River Right

Photo description:

Header Information

Photo ID: 101-0016Site: 4

GPS time (HH:MM:SS) _____

Date: 12/21/2015Direction, *circle one*

Upstream

Downstream

Overall (Land Use)

Bank, *circle one*
(facing downstream)

River Left

River Right

Photo description:

Field Sheet

Header Information

Photo ID: 101-0017/18Site: 5GPS time (HH:MM:SS) 11:15:41Date: 12/21/2015Direction, *circle one*

Upstream

Downstream

Overall (Land Use)

Bank, *circle one*
(facing downstream)

River Left

River Right

Photo description:

GPSField Sheet (FS)

STREAMBANK EROSION DATA SHEET - Photo

Header Information

Photo ID:

101-0019

Site:

5

GPS time (HH:MM:SS)

Date:

12/21/2015

Direction, circle one

Upstream

Downstream

Overall (Land Use)

Bank, circle one
(facing downstream)

River Left

River Right

Photo description:

CM

Header Information

Photo ID:

101-0020/21

Site:

5

GPS time (HH:MM:SS)

Date:

12/21/2015

Direction, circle one

Upstream

Downstream

Overall (Land Use)

Bank, circle one
(facing downstream)

River Left

River Right

Photo description:

Header Information

Photo ID:

101-0022/23

Site:

6

GPS time (HH:MM:SS)

11:24:36

Date:

12/21/2015

Direction, circle one

Upstream

Downstream

Overall (Land Use)

Bank, circle one
(facing downstream)

River Left

River Right

Photo description:

GPS - 0022
Field - 0023

STREAMBANK EROSION DATA SHEET - Photo

Header Information

Photo ID: 101-0024/25
GPS time (HH:MM:SS) _____

Site: 6
Date: 12/21/2015

Direction, *circle one* Upstream Downstream Overall (Land Use)

Bank, *circle one* River Left River Right
(facing downstream)

Photo description:

0024 - facing upstream
0025 - facing downstream

Header Information

Photo ID: 101-0026
GPS time (HH:MM:SS) _____

Site: 6
Date: 12/21/2015

Direction, *circle one* Upstream Downstream Overall (Land Use)

Bank, *circle one* River Left River Right
(facing downstream)

Photo description:

CM

Header Information

Photo ID: 101-0027/28/29
GPS time (HH:MM:SS) 11:36:26

Site: 7
Date: 12/21/2015

Direction, *circle one* Upstream Downstream Overall (Land Use)

Bank, *circle one* River Left River Right
(facing downstream)

Photo description:

GPS - 0027

FS - 0028

FS - 0028

STREAMBANK EROSION DATA SHEET - Photo

Header Information

Photo ID: 101-0030Site: 7

GPS time (HH:MM:SS) _____

Date: 12/21/2015Direction, *circle one*Upstream

Downstream

Overall (Land Use)Bank, *circle one*
(facing downstream)

River Left

River Right

Photo description:

Header Information

Photo ID: 101-0031Site: 7

GPS time (HH:MM:SS) _____

Date: 12/21/2015Direction, *circle one*Upstream

Downstream

Overall (Land Use)Bank, *circle one*
(facing downstream)

River Left

River Right

Photo description:

Header Information

Photo ID: 101-0032Site: 7

GPS time (HH:MM:SS) _____

Date: 12/21/2015Direction, *circle one*

Upstream

Downstream

Overall (Land Use)

Bank, *circle one*
(facing downstream)River Left

River Right

Photo description:

CM

STREAMBANK EROSION DATA SHEET - Photo

Header Information

Photo ID: 101-0033/35Site: 8GPS time (HH:MM:SS) 11:52:32Date: 12/21/2015Direction, *circle one*

Upstream

Downstream

Overall (Land Use)

Bank, *circle one*
(facing downstream)

River Left

River Right

Photo description:

0033 - GPS0035 - FS

Header Information

Photo ID: 101-0034Site: 8

GPS time (HH:MM:SS) _____

Date: 12/21/2015Direction, *circle one*Upstream

Downstream

Overall (Land Use)Bank, *circle one*
(facing downstream)

River Left

River Right

Photo description:

Header Information

Photo ID: 101-0036Site: 8

GPS time (HH:MM:SS) _____

Date: 12/21/2015Direction, *circle one*

Upstream

DownstreamOverall (Land Use)Bank, *circle one*
(facing downstream)

River Left

River Right

Photo description:

STREAMBANK EROSION DATA SHEET - Photo

Header Information

Photo ID: 101-0037 Site: 8
GPS time (HH:MM:SS) _____ Date: 12/21/2015

Direction, *circle one* Upstream Downstream Overall (Land Use)

Bank, *circle one* River Left River Right
(facing downstream)

Photo description: CM

Header Information

Photo ID: 101-0038 Site: 8
GPS time (HH:MM:SS) _____ Date: 12/21/2015

Direction, *circle one* Upstream Downstream Overall (Land Use)

Bank, *circle one* River Left River Right
(facing downstream)

Photo description: Siltation in UNT

Header Information

Photo ID: _____ Site: _____
GPS time (HH:MM:SS) _____ Date: 12/21/2015

Direction, *circle one* Upstream Downstream Overall (Land Use)

Bank, *circle one* River Left River Right
(facing downstream)

Photo description: _____

STREAMBANK EROSION DATA SHEET - Photo

Header Information

Photo ID: 101-0039/0040Site: 9GPS time (HH:MM:SS) 12:09:00Date: 12/21/2015Direction, *circle one*

Upstream

Downstream

Overall (Land Use)

Bank, *circle one*

(facing downstream)

River Left

River Right

Photo description:

39 - GPS40 - FS

Header Information

Photo ID: 101-0041Site: 9

GPS time (HH:MM:SS) _____

Date: 12/21/2015Direction, *circle one*Upstream

Downstream

Overall (Land Use)Bank, *circle one*

(facing downstream)

River Left

River Right

Photo description:

Header Information

Photo ID: 101-0042Site: 9

GPS time (HH:MM:SS) _____

Date: 12/21/2015Direction, *circle one*

Upstream

DownstreamOverall (Land Use)Bank, *circle one*

(facing downstream)

River Left

River Right

Photo description:

STREAMBANK EROSION DATA SHEET - Photo

Header Information

Photo ID: 101-0043Site: 9

GPS time (HH:MM:SS) _____

Date: 12/21/2015Direction, *circle one*

Upstream

Downstream

Overall (Land Use)

Bank, *circle one*
(facing downstream)

River Left

River Right

Photo description:

CM

Header Information

Photo ID: 101-0044/45Site: 10GPS time (HH:MM:SS) 12:16:45Date: 12/21/2015Direction, *circle one*

Upstream

Downstream

Overall (Land Use)

Bank, *circle one*
(facing downstream)

River Left

River Right

Photo description:

0044 - GPS0045 - FS

Header Information

Photo ID: 101-0046Site: 10

GPS time (HH:MM:SS) _____

Date: 12/21/2015Direction, *circle one*

Upstream

Downstream

Overall (Land Use)

Bank, *circle one*
(facing downstream)

River Left

River Right

Photo description:

STREAMBANK EROSION DATA SHEET - Photo

Header Information

Photo ID: 101-0047Site: 10

GPS time (HH:MM:SS) _____

Date: 12/21/2015Direction, circle one Upstream Downstream Overall (Land Use)Bank, circle one
(facing downstream) River Left River RightPhoto description: _____

Header Information

Photo ID: 101-0048Site: 10

GPS time (HH:MM:SS) _____

Date: 12/21/2015

Direction, circle one Upstream Downstream Overall (Land Use)

Bank, circle one
(facing downstream) River Left River RightPhoto description: CM _____

_____★ 49 (covered bridge)
from 1850s

Header Information

Photo ID: 101-0050/51Site: 1GPS time (HH:MM:SS) 12:33:28Date: 12/21/2015

Direction, circle one Upstream Downstream Overall (Land Use)

Bank, circle one
(facing downstream) River Left River RightPhoto description: 0050 - GPS _____
0051 - FS _____

STREAMBANK EROSION DATA SHEET - Photo

Header Information

Photo ID: 101-0052 Site: 1
GPS time (HH:MM:SS) _____ Date: 12/21/2015

Direction, *circle one* Upstream Downstream Overall (Land Use)

Bank, *circle one* River Left River Right
(facing downstream)

Photo description: CM

Header Information

Photo ID: 101-0053 Site: 1
GPS time (HH:MM:SS) _____ Date: 12/21/2015

Direction, *circle one* Upstream Downstream Overall (Land Use)

Bank, *circle one* River Left River Right
(facing downstream)

Photo description: _____

Header Information

Photo ID: 101-0054 Site: 1
GPS time (HH:MM:SS) _____ Date: 12/21/2015

Direction, *circle one* Upstream Downstream Overall (Land Use)

Bank, *circle one* River Left River Right
(facing downstream)

Photo description: Confluence

