Annual Monitoring Report

Monitoring Year 1 of 7

FINAL

Project Name: Pee Dee Stream Restoration Site
NCDMS Contract No.: 004644
NCDMS Project No.: 95350

Montgomery County, North Carolina
Data Collected: October 2015
Date Submitted: December 2015

Submitted to:

North Carolina Division of Mitigation Services

NCDENR-DMS, 1652 Mail Service Center Raleigh NC 27699-1652

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Prepared for:

302 Jefferson Street, Suite 110
Raleigh, North Carolina 27605

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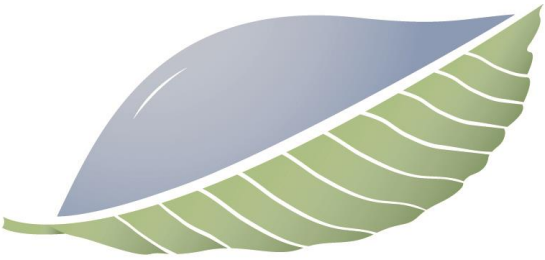

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37 Haywood Street, Suite 100
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Contents

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1.0 PROJECT SUMMARY

The project goals address stressors identified in the TLW and include the following:

- Improve water quality within the restored channel reaches and downstream watercourses by reducing sediment and nutrient inputs and increasing dissolved oxygen levels
- Improve local aquatic and terrestrial ecological function via stream shading, habitat complexities, and organic/woody material introduction
- Improve aquatic and benthic macroinvertebrate habitat and associated stream bed form
- Improve site hydrology and attenuate flood flows on-site and downstream
- Provide approximately 18.6 acres of riparian area restoration with a native plant community
- Protect stream and riparian improvements with livestock best management practices
- Protect the site in perpetuity with a permanent conservation easement

The project goals will be addressed through the following project objectives:

- Implement Priority I or II restoration of 5,992 feet of stream and enhancement of 625 feet of stream
- Implement appropriate changes in dimension, pattern and/or profile to create geomorphologically stable conditions along project area reaches
- Modify degraded stream channels to enable proper sediment transport capacity and improved stream bed character
- Construct a floodplain bench that is accessible at the proposed bankfull channel elevation.
- Remove a major impoundment
- Integrate in-stream structures and native bank vegetation
- Plant native woody and herbaceous riparian vegetation with a minimum width of 50 feet from the edge of the restored channels
- Eradicate invasive, exotic or undesirable plant species
- Install cattle exclusion fencing, two new wells, two new cattle drinking stations, and upgrade eight existing cattle drinking stations

The Pee Dee Stream Restoration Site (Site) encompasses approximately 21.0 acres of predominately agricultural land and includes three tributaries to Clarks Creek – Thompson Creek, Dale Branch, and Jerry Branch. The Site is located in the Yadkin River Watershed (NCDWR sub-basin 03-07-10 and HUC 03040104020020) approximately 1 mile south of the town of Pee Dee, NC in Montgomery County (Figure 1). Clarks Creek is listed as Class C water (NCDWR) and flows into the Pee Dee River. The Site is located within a NCDMS targeted local watershed.

Monitoring Year 1 (MY1) data was collected during October 2015. Monitoring activities included visual assessment of all reaches and the surrounding easement, 16 permanent photo stations, 14 permanent vegetation monitoring plots, 22 cross-sections, and 12 pebble counts.

Visual assessment of the easement (Appendix B - Table 6, Figure 2) indicates that herbaceous vegetation has become well established throughout the project. Monitoring of permanent vegetation monitoring plots (n = 14) was completed during October 2015. Summary tables and photographs associated with MY1 monitoring efforts are located in Appendix C. Monitoring data collected during MY1 indicates that

all vegetation monitoring plots are on track to meet the MY3 interim success criteria of 320 planted stems per acre. Stem densities ranged from 445 to 1,052 stems per acre with a mean of 737 stems per acre across all plots. A total of 21 woody plant species were documented within the monitoring plots. When volunteer stems are included, densities ranged between 445 and 4,654 stems per acre with a mean of 1,879 stems per acre across all plots.

Visual assessment of the stream was performed to document signs of channel instability, such as eroding banks, structural instability, or excessive sedimentation. No indication of instability was observed during the visual assessment (Table 5 and Figure 2). Structures are intact and performing as designed. Geomorphic data for MY1 was collected during October 2015. Summary tables and cross-section plots related to stream morphology are located in Appendix D. MY1 Stream morphology data indicate that, in general, the stream is stable and lacking in any significant change. Several small changes were noted in the cross-section dimensions, however these are relatively minor and do not exceed expectations of adjustment within the channel, particularly for the first year of monitoring. Cross-sections 1, 2, 5, 14, 16, 17, 18, and 19 showed small decreases or increases in bankfull width, and subsequently cross-sectional area and W/D ratio. Additionally, deposition in the pool at cross-section 10 decreased maximum depth by 1.0 foot. Bank pin arrays indicate that slight erosion occurred during MY1 at cross-sections 18 and 19 at a rate of 0.04 feet/year (Table 12). These rates are considered minor and do not exceed natural rates of erosion. Initial substrate monitoring was performed during MY1. Riffle D_{50} ranged from fine sand to very coarse gravel on Jerry Branch, very fine gravel to very coarse gravel on Dale Branch, and fine sand to coarse gravel on Thompson Branch. Substrate will be monitored in future years for shifts in size composition. Documented shifts in stream morphology do not exceed expectations between MY0 and MY1 as the constructed stream adjusts to conditions at the site. The project is meeting success criteria regarding stable dimension as well as substrate and sediment transport.

Since project completion in April 2015 one bankfull event was documented on each reach of the project site (Table 13). Based on precipitation data, the suspected date is October 3, 2015. The project has received multiple heavy precipitation events in October and November with no degradation to the channel or structures.

Summary information/data related to the occurrence of items such as beaver or easement encroachment and statistics related to performance of various project and monitoring elements can be found in the tables and figures in the report appendices. Narrative background and supporting information formerly found in these reports can be found in the Baseline Monitoring Report (formerly Mitigation Plan) and in the Mitigation Plan (formerly Restoration Plan) documents available on NCDMS' website. All raw data supporting the tables and figures in the appendices is available from NCDMS upon request.

2.0 METHODS

For MY1, visual assessment was performed during the geomorphic and vegetation data collection event. For future monitoring years, visual assessment of the project will be performed at the beginning and end of the monitoring year. Permanent photo station photos were also collected during the geomorphic and vegetation data collection event; however for future monitoring years permanent photo station photos will be taken during the initial visual assessment during leaf-off conditions. Additional photos of vegetation or stream problem areas were documented with photographs throughout the project area.

Geomorphic measurements were taken during low flow conditions using a Nikon NPR 332 Total Station. Three-dimensional coordinates associated with cross-section and profile data were collected in the field and geo-referenced (NAD83 State Plane feet FIPS 3200). Geomorphic data were taken at 22 cross-sections. Survey data was imported into CAD, ArcGIS®, and Microsoft Excel® for data processing and analysis. Channel substrate was characterized using a Wolman Pebble Count outlined in the Harrelson et al. (1994) and processed using Microsoft Excel.

Vegetation success is being monitored at 14 permanent monitoring plots. Vegetation monitoring follows the CVS-EEP Level 2 Protocol for Recording Vegetation, version 4.2 (Lee et al. 2008) and includes analysis of composition and density of planted species. Data are processed using the CVS data entry tool. In the field, the four corners of each plot were permanently marked with rebar and photos of each plot are taken from the origin each monitoring year.

Precipitation data was collected using an Onset HOBO Data Logging Rain Gauge. Three crest gauges were installed to document bankfull events, one each on Jerry, Dale, and Thompson branches. During quarterly visits to the site, the height of the corkline was recorded and cross-referenced with known bankfull elevations at each crest gauge.

3.0 REFERENCES

Harrelson, Cheryl, C. Rawlins and J. Potyondy. 1994. Stream Channel Reference Sites: An Illustrated Guide to Field Technique. Gen. Tech. Rep. RM-245. Rocky Mountain Forest and Range Experiment Station. USDA Forest Service. Fort Collins, Colorado

Lee, M.T., R.K. Peet, S.D. Roberts, and T.R. Wentworth. 2008. CVS-EEP Protocol for Recording Vegetation. Version 4.2. http://cvs.bio.unc.edu/methods.htm; accessed November 2008.

Appendix A
General Tables and Figures

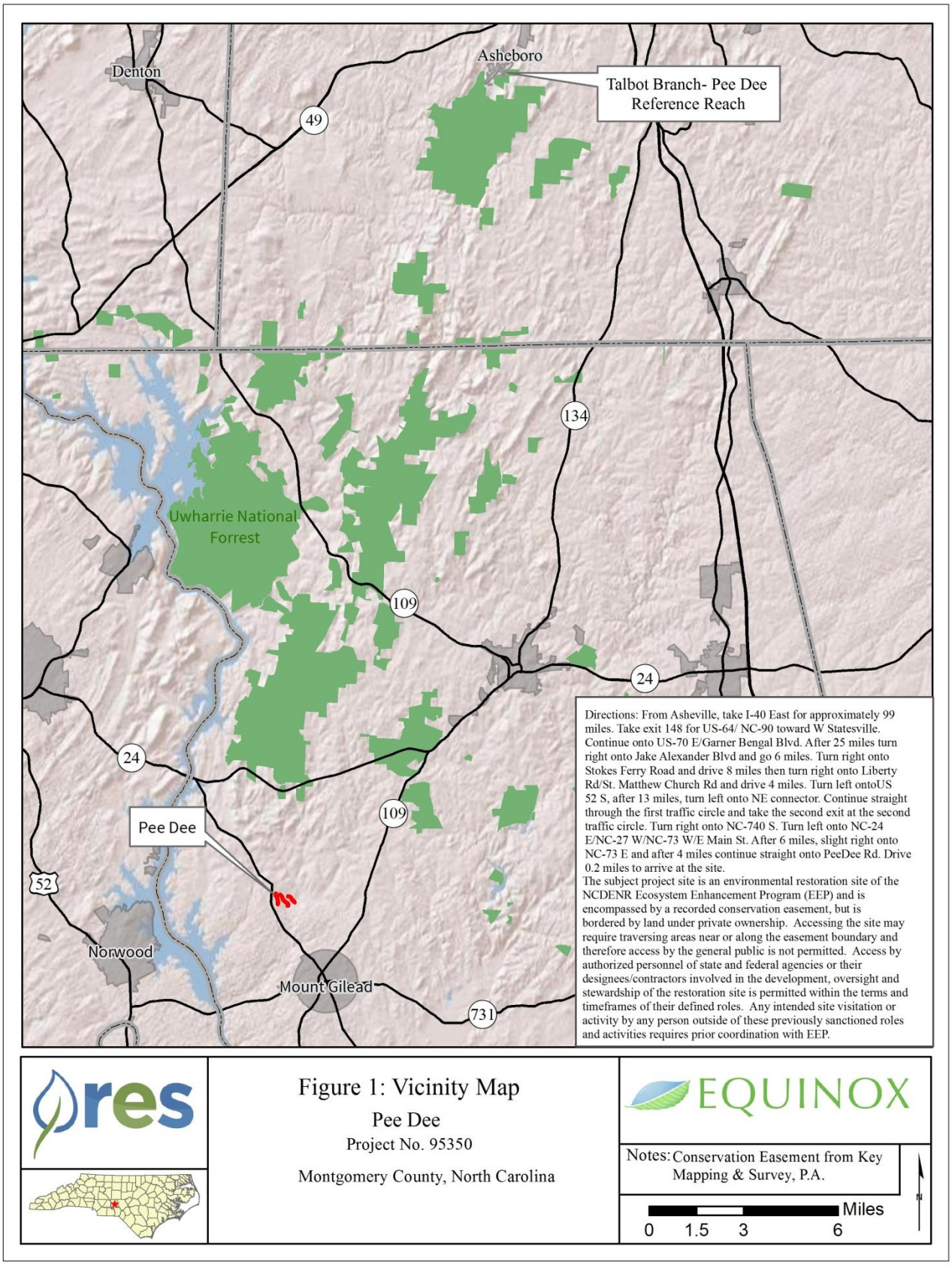
Asheboro
Denton
Talbot Branch- Pee Dee Reference Reach
49
134
Uwharrie National Forrest
109
24
24
109
Pee Dee
52
Norwood
Mount Gilead
731
Directions: From Asheville, take I-40 East for approximately 99 miles. Take exit 148 for US-64/ NC-90 toward W Statesville. Continue onto US-70 E/Garner Bengal Blvd. After 25 miles turn right onto Jake Alexander Blvd and go 6 miles. Turn right onto Stokes Ferry Road and drive 8 miles then turn right onto Liberty Rd/St. Matthew Church Rd and drive 4 miles. Turn left ontoUS 52 S, after 13 miles, turn left onto NE connector. Continue straight through the first traffic circle and take the second exit at the second traffic circle. Turn right onto NC-740 S. Turn left onto NC-24 E/NC-27 W/NC-73 W/E Main St. After 6 miles, slight right onto NC-73 E and after 4 miles continue straight onto PeeDee Rd. Drive 0.2 miles to arrive at the site.
The subject project site is an environmental restoration site of the NCDENR Ecosystem Enhancement Program (EEP) and is encompassed by a recorded conservation easement, but is bordered by land under private ownership. Accessing the site may require traversing areas near or along the easement boundary and therefore access by the general public is not permitted. Access by authorized personnel of state and federal agencies or their designees/contractors involved in the development, oversight and stewardship of the restoration site is permitted within the terms and timeframes of their defined roles. Any intended site visitation or activity by any person outside of these previously sanctioned roles and activities requires prior coordination with EEP.
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Figure 1: Vicinity Map
Pee Dee
Project No. 95350
Montgomery County, North Carolina
Notes: Conservation Easement from Key Mapping & Survey, P.A.
Miles
0 1.5 3 6
N

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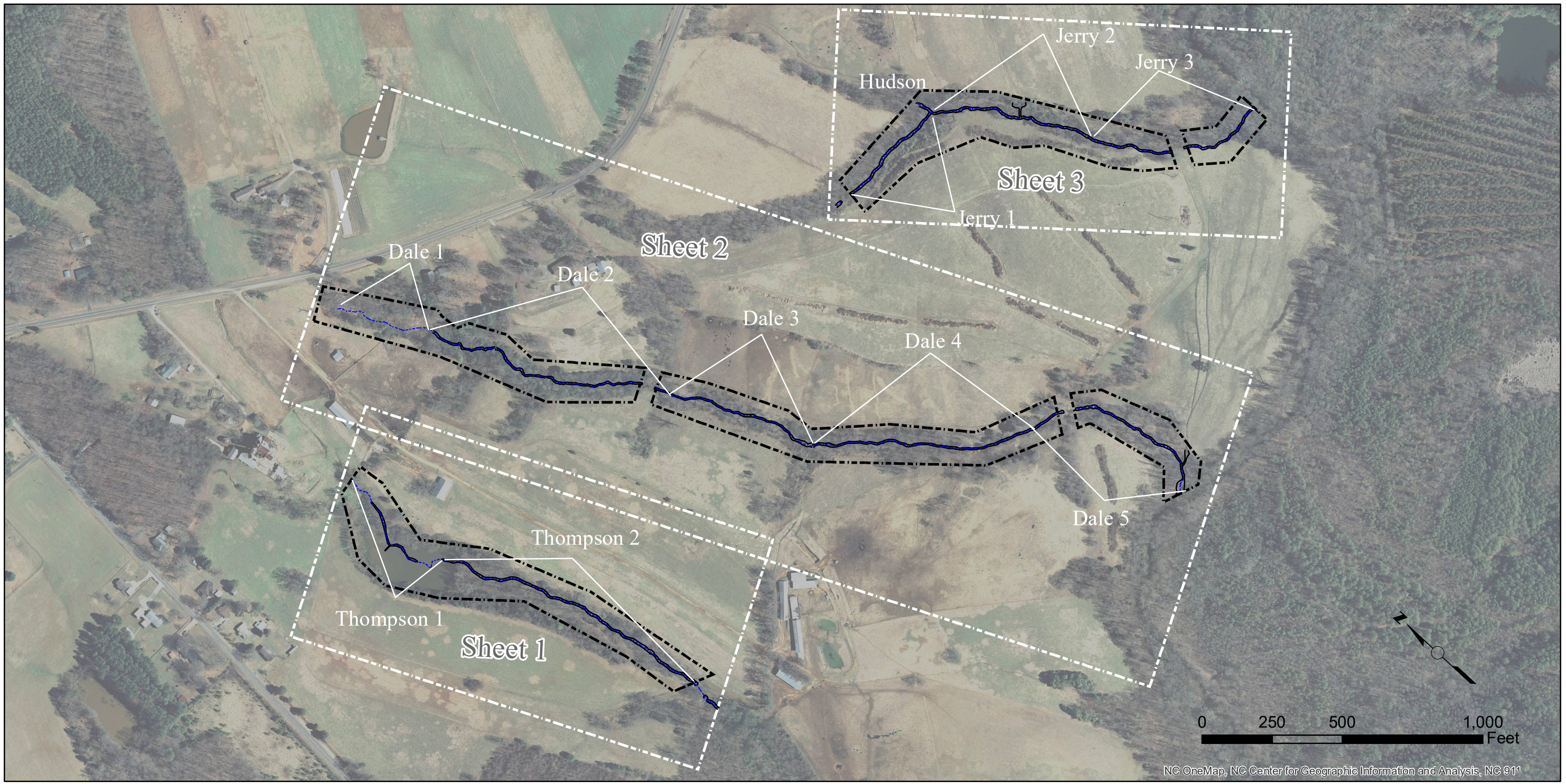

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Figure 3. Baseline Monitoring Features Overview

Pee Dee Stream Restoration Project
Montgomery County, NC
NCDMS Contract No. 004644
NCDMS Project No.: 95350
November 2015

As-Built Thalweg
Top of Bank
Conservation Easement

Notes:
1) This is not a survey and should not be construed as such.
2) Baseline Data Provided by Kee Mapping
3) Orthoimagery provided by NCOneMap (2010)

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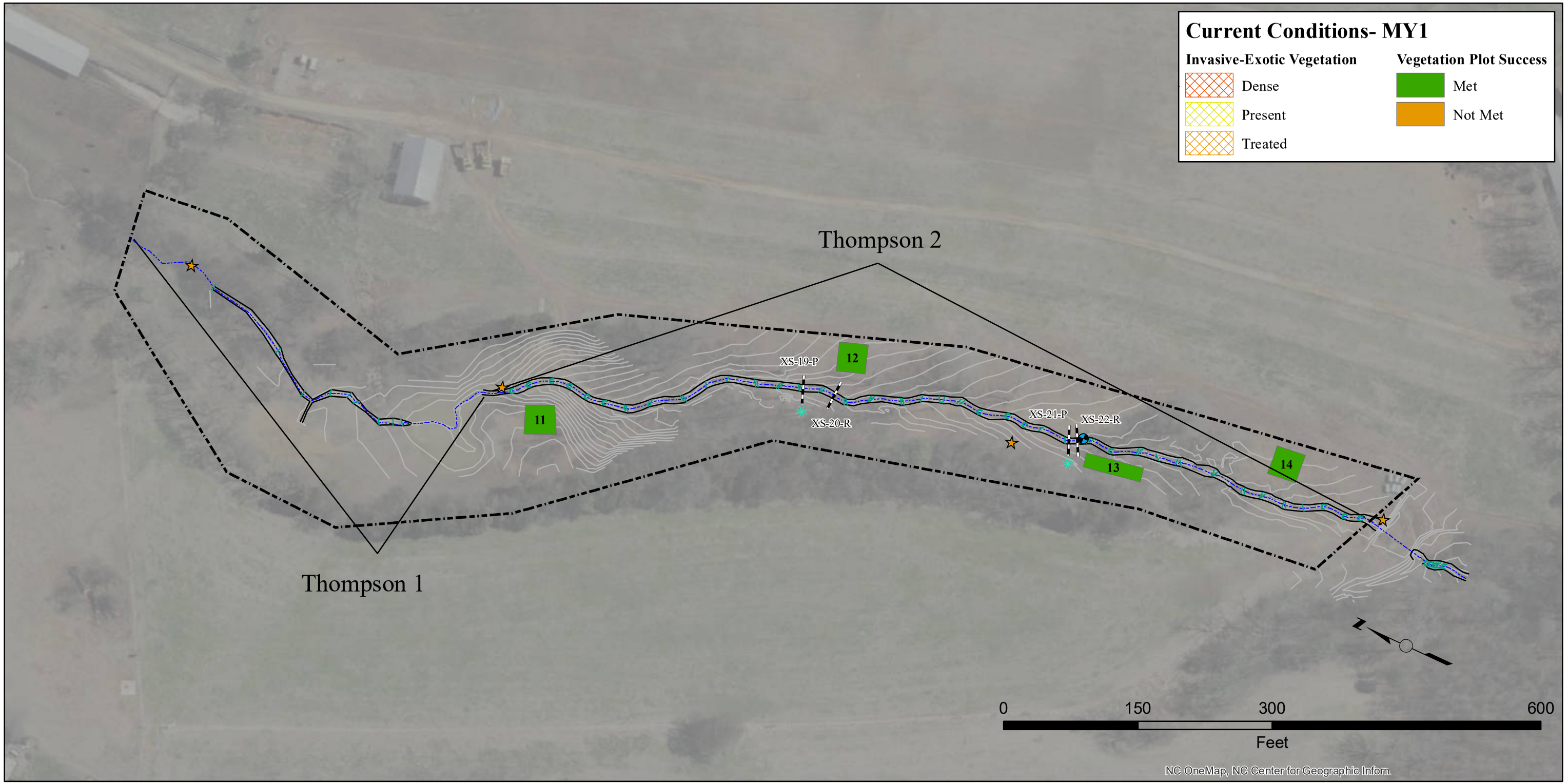

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Figure 3. Baseline Monitoring Features Map (Sheet 1 of 3)

Pee Dee Stream Restoration Project
Montgomery County, NC
NCDMS Contract No. 004644
NCDMS Project No.: 95350
November 2015

- Crest Gauge
- Rain Gauge
- Photo Points
- Bank Pin Array
- Cross-Section
- As-Built Centerline
- Top of Bank
- Contour (1 ft.)
- Conservation Easement
- Boulder Arch
- Log Sill

Notes:
1) This is not a survey and should not be construed as such.
2) Baseline Data Provided by Kee Mapping
3) Orthoimagery provided by NCOneMap (2010)

Prepared by:

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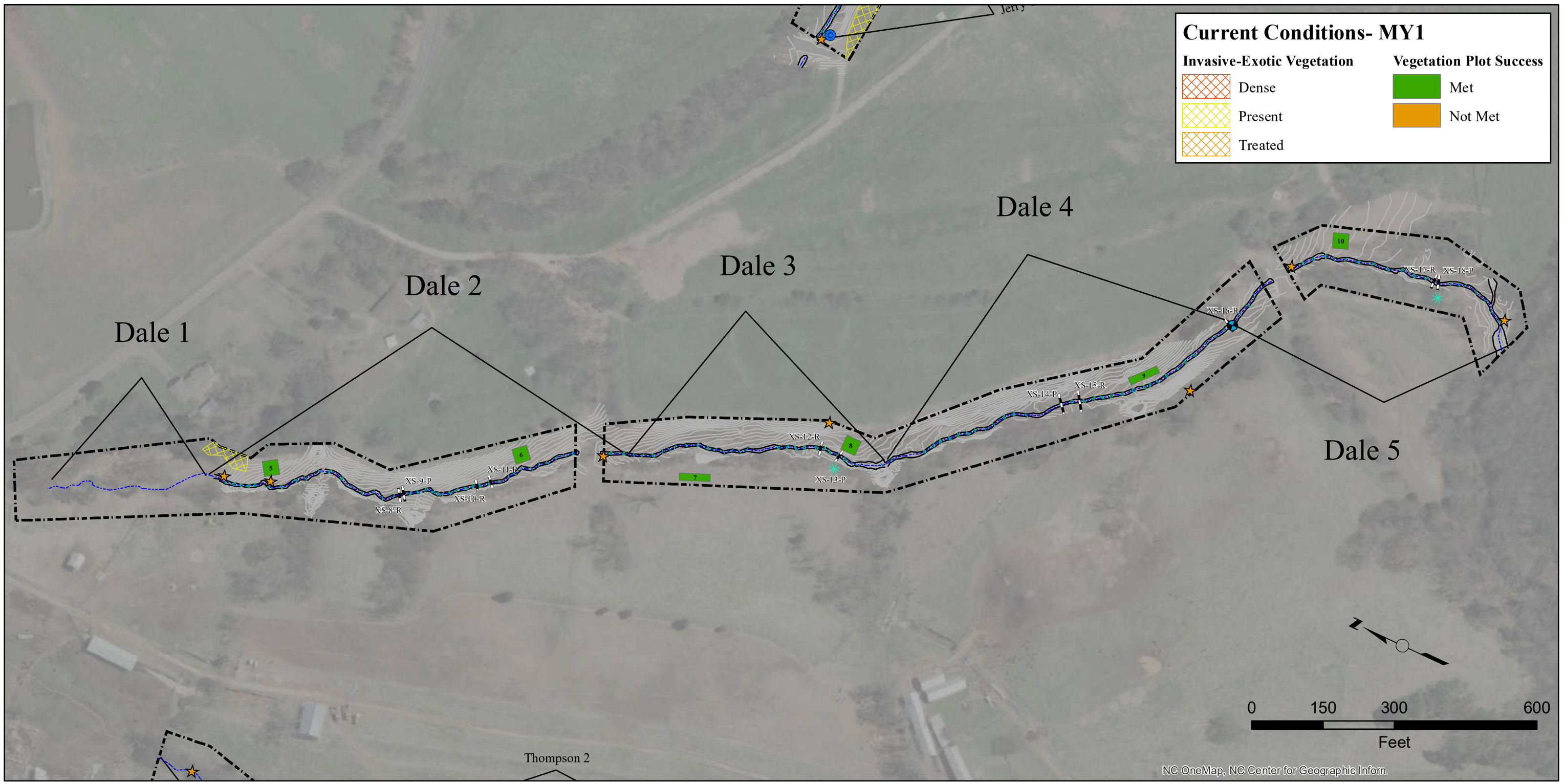

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Figure 3. Baseline Monitoring Features Map (Sheet 2 of 3)

Pee Dee Stream Restoration Project
Montgomery County, NC
NCDMS Contract No. 004644
NCDMS Project No.: 95350
November 2015

- Crest Gauge
- Rain Gauge
- Photo Points
- Bank Pin Array
- Cross-Section
- As-Built Centerline
- Top of Bank
- Contour (1 ft.)
- Conservation Easement
- Boulder Arch
- Log Sill

Notes:
1) This is not a survey and should not be construed as such.
2) Baseline Data Provided by Kee Mapping
3) Orthoimagery provided by NCOneMap (2010)

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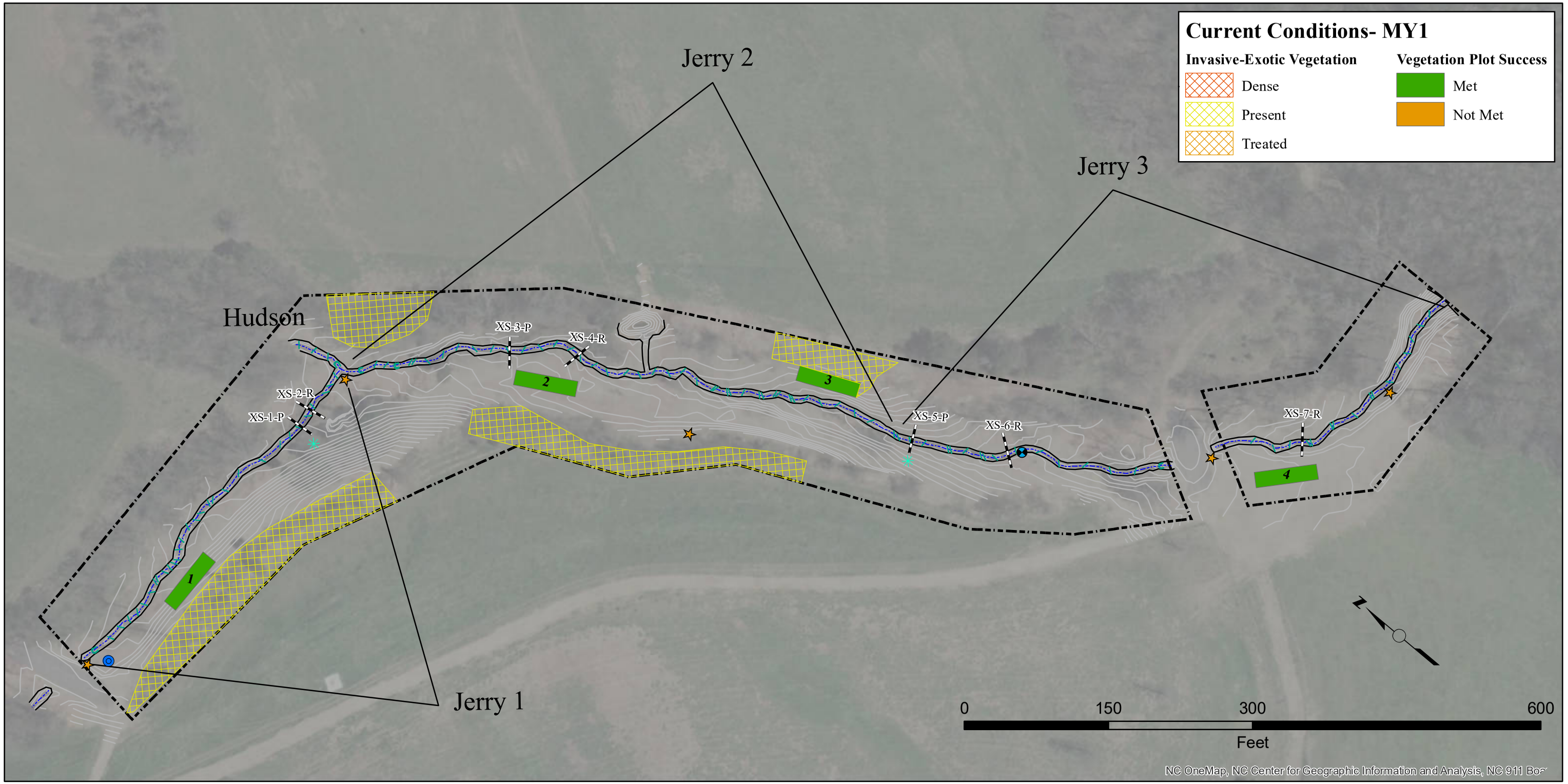

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Figure 3. Baseline Monitoring Features Map (Sheet 3 of 3)

Pee Dee Stream Restoration Project
Montgomery County, NC
NCDMS Contract No. 004644
NCDMS Project No.: 95350
November 2015

- Crest Gauge
- Rain Gauge
- Photo Points
- Bank Pin Array
- Cross-Section
- As-Built Centerline
- Top of Bank
- Contour (1 ft.)
- Conservation Easement
- Boulder Arch
- Log Sill

Notes:
1) This is not a survey and should not be construed as such.
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Table 1. Project Components and Mitigation Credits

Pee Dee Stream Restoration Site

Mitigation Credits

	Stream		Riparian Wetland		Non-riparian Wetland		Buffer	Nitrogen Nutrient Offset	Phosphorous Nutrient Offset
Type	R	RE	R	RE	R	RE			
Totals	**6,504**						-	-	-

Project Components

Project Component -or- Reach ID	Stationing/Location	Existing Footage/Acreage	Approach (PI, PII etc.)	Restoration -or- Restoration Equivalent	Restoration Footage or Acreage[1]	Mitigation Ratio
Thompson Creek 1	100+7 - 102 + 50	250	PI	EI	243	1.5
Thompson Creek 1 - 2	102+50 - 117+05	1346	PI	R	1349	1
Dale Branch 1	200+00 - 203+95	375	PI	EI	375	1.5
Dale Branch 2 - 5	203+95 - 234+86	2407	PI	R	2993	1
Jerry Branch	300+74 - 318+15	1832	PI	R	1691	1
Hudson Branch	402+48 - 403+07	53	PI	R	59	1

Component Summation

Restoration Level	Stream (linear feet)	Riparian Wetland (acres)		Non-riparian Wetland (acres)	Buffer (square feet)	Upland (acres)
		Riverine	Non-Riverine			
Restoration	6,092	-	-	-	-	-
Enhancement	-	-	-	-	-	-
Enhancement I	618	-	-	-	-	-
Enhancement II	-	-	-	-	-	-
Creation	-	-	-	-	-	-
Preservation	-	-	-	-	-	-
High Quality Preservation	-	-	-	-	-	-

BMP Elements

Element[2]	Location	Purpose/Function	Notes
FB	Entire Site	Protect Stream	

[1]Restoration footage accounts for crossings and exclusions.

[2]BR = Bioretention Cell; SF = Sand Filter; SW = Stormwater Wetland; WDP = Wet Detention Pond; DDP = Dry Detention Pond; FS = Filter Strip; S = Grassed Swale; LS = Level Spreader; NI = Natural Infiltration Area; FB = Forested Buffer

Table 2. Project Activity and Reporting History Pee Dee Stream Restoration Site		
Activity or Report	**Data Collection Complete**	**Completion or Delivery**
Mitigation Plan	Dec - 2013	Dec - 2013
Final Design - Construction Plans	N/A	Jan - 2014
Construction	N/A	April - 2015
Temporary S&E Mix Applied to Entire Project Area	N/A	April - 2015
Live Stakes and Bare Root Plantings for Entire Project Area	N/A	April - 2015
Baseline Monitoring Document (Year 0 Monitoring - Baseline)	April - 2015	July 2015
Year 1 Monitoring	Oct - 2015	Dec - 2015
Year 2 Monitoring		
Year 3 Monitoring		
Year 4 Monitoring		
Year 5 Monitoring		

Table 3. Project Contacts	
Pee Dee Stream Restoration Site	
Prime Contractor	Resource Environmental Solutions, LLC 302 Jefferson Street; Suite 110 Raleigh, North Carolina 27605 David Godley (919) 209-1053
Designer	Wolf Creek Engineering 12-1/2 Wall St., Suite C Asheville, North Carolina 28801 Grant Ginn (828) 449-1930 ext 102
Construction Contractor	Northstate Environmental 2889 Lowery Street Winston Salem, North Carolina 27101 Darrell Westmoreland (336) 725-2010
Seeding Contractor	Northstate Environmental 2889 Lowery Street Winston Salem, North Carolina 27101 Darrell Westmoreland (336) 725-2010
Planting Contractor	Resource Environmental Solutions, LLC 302 Jefferson Street; Suite 110 Raleigh, North Carolina 27605 David Godley (919) 209-1053
As-built Surveys	Kee Mapping and Surveying PO Box 2566 Asheville, North Carolina 28802 Phillip B. Key (828) 575-9021
Seeding Mix Source	Green Resource 5204 Highgreen Court Colfax, NC 27235 (336) 855-6363
Bare Root Seedlings	ArborGen Inc. 2011 Broadbank Court Ridgeville, SC 29472 (888) 888-7158
	North Carolina Forest Service 762 Claridge Nursery Road Goldsboro, NC 27350 (888) 628-7337
Live Stakes	Bear Duck Farms, LLC 105 Dobbs Place Goldsboro, NC 27350
Monitoring Performers (Y0-Y1)- 2015	Equinox Environmental 37 Haywood St. Asheville, North Carolina 28802 Hunter Terrell (828) 253-6856

Table 4. Project Baseline Information and Attributes			
Project Information			
Project Name	Pee Dee Stream Restoration		
County	Montgomery County		
Project Area (acres)	21		
Project Coordinates (latitude and longitude)	35°15'26.95" N, 80°01'47.83" W		
Project Watershed Summary Information			
Physiographic Province	Piedmont		
River Basin	Yadkin		
USGS Hydrologic Unit 8-digit	03040104	USGS Hydrologic Unit 14-Digit	03040104020020
DWQ Sub-basin	03-07-10		
Project Drainage Area (acres)	286		
Project Drainage Area Percentage of Impervious Area	<10%		
CGIA Land Use Classification	2.01.03 Hay and Pasture Land		

Reach Summary Information				
Parameters	**Thompson Creek**	**Dale Branch**	**Jerry Branch**	**Hudson Branch**
Length of reach (linear feet)	1596	2782	1832	56
Valley classification (Rosgen)	II	II	II	II
Drainage area (acres)	102	58	83	19
NCDWQ stream identification score	30.5	34	30.5	21.5
NCDWQ Water Quality Classification	C	C	C	C
Morphological Description (stream type) (Rosgen)	B4	B4	B4	B4
Evolutionary trend (Rosgen)	IV	IV	IV	IV
Underlying mapped soils	GoE, BeC2, BaC2	GoE, CnA	GoE, BaC2, BaB2	BaC2
Drainage class	Well-drained	Well-drained	Well-drained	Well-drained
Soil Hydric status	Non-Hydric	Non-Hydric	Non-Hydric	Non-Hydric
Slope	2%	2%	2%	2%
FEMA classification	N/A	N/A	N/A	N/A
Native vegetation community	Agricultural	Agricultural	Agricultural	Agricultural
Percent composition of exotic invasive vegetation	5%	5%	5%	5%

Wetland Summary Information			
Parameters	-	-	-
Size of Wetland (acres)	-	-	
Wetland Type (non-riparian, riparian riverine or riparian non-riverine)	-	-	-
Mapped Soil Series	-	-	-
Drainage class	-	-	-
Soil Hydric Status	-	-	-
Source of Hydrology	-	-	-
Hydrologic Impairment	-	-	-
Native vegetation community	-	-	-
Percent composition of exotic invasive vegetation	-	-	-

Regulatory Considerations			
Regulation	**Applicable?**	**Resolved?**	**Supporting Documentation**
Waters of the United States – Section 404	Yes	Yes	NWP
Waters of the United States – Section 401	Yes	Yes	401 Certification
Endangered Species Act	N/A		ERTR
Historic Preservation Act	N/A		ERTR
Coastal Zone Management Act (CZMA)/ Coastal Area Management Act (CAMA)	N/A		
FEMA Floodplain Compliance	N/A		
Essential Fisheries Habitat	N/A		ERTR

Appendix B
Visual Assessment Data

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Table 5. Visual Stream Morphology Stability Assessment
Pee Dee Stream Restoration Site - Jerry Branch
Assessed Length 1,832 feet

Major Channel Category	Channel Sub-Category	Metric	Number Stable, Performing as Intended	Total Number in As-built	Number of Unstable Segments	Amount of Unstable Footage	% Stable, Performing as Intended	Number with Stabilizing Woody Vegetation	Footage with Stabilizing Woody Vegetation	Adjusted % for Stabilizing Woody Vegetation
1. Bed	**1. Vertical Stability** (Riffle and Run Units)	1. Aggradation - Bar formation/growth sufficient to significantly deflect flow laterally (not to include point bars).			0	0	100%			
		2. Degradation - Evidence of downcutting.			0	0	100%			
	2. Riffle Condition	1. Texture/Substrate - Riffle maintains coarser substrate.	90	90			100%			
	3. Meander Pool Condition	1. Depth Sufficient (Max Pool Depth : Mean Bankfull Depth ≥ 1.6).	90	90			100%			
		2. Length appropriate (>30% of centerline distance between tail of upstream riffle and head of downstream riffle).	90	90			100%			
	4. Thalweg Position	1. Thalweg centering at upstream of meander bend (Run).	N/A	N/A			N/A			
		2. Thalweg centering at downstream of meander bend (Glide).	90	90			100%			
2. Bank	**1. Scoured / Eroding**	Bank lacking vegetative cover resulting simply from poor growth and/or scour and erosion.			0	0	100%	0	0	100%
	2. Undercut	Banks undercut/overhanging to the extent that mass wasting appears likely. Does NOT include undercuts that are modest, appear sustainable and are providing habitat.			0	0	100%	N/A	N/A	N/A
	3. Mass Wasting	Bank slumping, calving, or collapse.			0	0	100%	N/A	N/A	N/A
				Totals	0	0	100%	N/A	N/A	N/A
3. Engineered Structures	**1. Overall Integrity**	Structures physically intact with no dislodged boulders or logs.	91	91			100%			
	2. Grade Control	Grade control structures exhibiting maintenance of grade across the sill.	91	91			100%			
	2a. Piping	Structures lacking any substantial flow underneath sills or arms.	91	91			100%			
	3. Bank Protection	Bank erosion within the structures extent of influence does NOT exceed 15%.	91	91			100%			
	4. Habitat	Pool forming structures maintaining ~ Max Pool Depth : Mean Bankfull Depth Ratio ≥ 1.6. Rootwads/logs providing some cover at base-flow.	91	91			100%			

N/A - Item does not apply.

Table 5 cont'd. Visual Stream Morphology Stability Assessment
Pee Dee Stream Restoration Site - Dale Branch
Assessed Length 2,782 feet

Major Channel Category	Channel Sub-Category	Metric	Number Stable, Performing as Intended	Total Number in As-built	Number of Unstable Segments	Amount of Unstable Footage	% Stable, Performing as Intended	Number with Stabilizing Woody Vegetation	Footage with Stabilizing Woody Vegetation	Adjusted % for Stabilizing Woody Vegetation
1. Bed	**1. Vertical Stability** (Riffle and Run Units)	1. Aggradation - Bar formation/growth sufficient to significantly deflect flow laterally (not to include point bars).			0	0	100%			
		2. Degradation - Evidence of downcutting.			0	0	100%			
	2. Riffle Condition	1. Texture/Substrate - Riffle maintains coarser substrate.	120	120			100%			
	3. Meander Pool Condition	1. Depth Sufficient (Max Pool Depth : Mean Bankfull Depth ≥ 1.6).	119	119			100%			
		2. Length appropriate (>30% of centerline distance between tail of upstream riffle and head of downstream riffle).	119	119			100%			
	4. Thalweg Position	1. Thalweg centering at upstream of meander bend (Run).	N/A	N/A			N/A			
		2. Thalweg centering at downstream of meander bend (Glide).	119	119			100%			
2. Bank	**1. Scoured / Eroding**	Bank lacking vegetative cover resulting simply from poor growth and/or scour and erosion.			0	0	100%	0	0	100%
	2. Undercut	Banks undercut/overhanging to the extent that mass wasting appears likely. Does NOT include undercuts that are modest, appear sustainable and are providing habitat.			0	0	100%	N/A	N/A	N/A
	3. Mass Wasting	Bank slumping, calving, or collapse.			0	0	100%	N/A	N/A	N/A
				Totals	0	0	100%	N/A	N/A	N/A
3. Engineered Structures	**1. Overall Integrity**	Structures physically intact with no dislodged boulders or logs.	122	122			N/A			
	2. Grade Control	Grade control structures exhibiting maintenance of grade across the sill.	122	122			N/A			
	2a. Piping	Structures lacking any substantial flow underneath sills or arms.	122	122			N/A			
	3. Bank Protection	Bank erosion within the structures extent of influence does NOT exceed 15%.	122	122			N/A			
	4. Habitat	Pool forming structures maintaining ~ Max Pool Depth : Mean Bankfull Depth Ratio ≥ 1.6. Rootwads/logs providing some cover at base-flow.	122	122			N/A			

N/A - Item does not apply.

Table 5 cont'd. Visual Stream Morphology Stability Assessment
Pee Dee Stream Restoration Site - Thompson Branch
Assessed Length 1,596 feet

Major Channel Category	Channel Sub-Category	Metric	Number Stable, Performing as Intended	Total Number in As-built	Number of Unstable Segments	Amount of Unstable Footage	% Stable, Performing as Intended	Number with Stabilizing Woody Vegetation	Footage with Stabilizing Woody Vegetation	Adjusted % for Stabilizing Woody Vegetation
1. Bed	**1. Vertical Stability** (Riffle and Run Units)	1. Aggradation - Bar formation/growth sufficient to significantly deflect flow laterally (not to include point bars).			0	0	100%			
		2. Degradation - Evidence of downcutting.			0	0	100%			
	2. Riffle Condition	1. Texture/Substrate - Riffle maintains coarser substrate.	50	50			100%			
	3. Meander Pool Condition	1. Depth Sufficient (Max Pool Depth : Mean Bankfull Depth ≥ 1.6).	50	50			100%			
		2. Length appropriate (>30% of centerline distance between tail of upstream riffle and head of downstream riffle).	50	50			100%			
	4. Thalweg Position	1. Thalweg centering at upstream of meander bend (Run).	N/A	N/A			N/A			
		2. Thalweg centering at downstream of meander bend (Glide).	50	50			100%			
2. Bank	**1. Scoured / Eroding**	Bank lacking vegetative cover resulting simply from poor growth and/or scour and erosion.			0	0	100%	0	0	100%
	2. Undercut	Banks undercut/overhanging to the extent that mass wasting appears likely. Does NOT include undercuts that are modest, appear sustainable and are providing habitat.			0	0	100%	N/A	N/A	N/A
	3. Mass Wasting	Bank slumping, calving, or collapse.			0	0	100%	N/A	N/A	N/A
				Totals	0	0	100%	N/A	N/A	N/A
3. Engineered Structures	**1. Overall Integrity**	Structures physically intact with no dislodged boulders or logs.	51	51			100%			
	2. Grade Control	Grade control structures exhibiting maintenance of grade across the sill.	51	51			100%			
	2a. Piping	Structures lacking any substantial flow underneath sills or arms.	51	51			100%			
	3. Bank Protection	Bank erosion within the structures extent of influence does NOT exceed 15%.	51	51			100%			
	4. Habitat	Pool forming structures maintaining ~ Max Pool Depth : Mean Bankfull Depth Ratio ≥ 1.6. Rootwads/logs providing some cover at base-flow.	51	51			100%			

N/A - Item does not apply.

Table 6. Vegetation Condition Assessment Pee Dee Stream Restoration Site Planted Acreage 21					
Vegetation Category	**Definitions**	**CCPV Depiction**	**Number of Polygons**	**Combined Acreage**	**% of Planted Acreage**
1. Bare Areas	Very limited cover of both woody and herbaceous material.	N/A	0	0.00	0%
2. Low Stem Density Areas	Woody stem densities clearly below target levels based on MY3, 4, or 5 stem count criteria.	N/A	0	0.00	0%
		Totals	0	0.00	0%
3. Areas of Poor Growth Rates or Vigor	Areas with woody stems of a size class that are obviously small given the monitoring year.	N/A	0	0.00	0%
		Cumulative Totals	0	0.00	0%
Easement Acreage 21 acres					
Vegetation Category	**Definitions**	**CCPV Depiction**	**Number of Polygons**	**Combined Acreage**	**% of Easement Acreage**
4. Invasive Areas of Concern	Areas or points (if too small to render as polygons at map scale).	Cross Hatch (Red - Dense/Yellow - Present)	5	0.75	4%
5. Easement Encroachment Areas	Areas or points (if too small to render as polygons at map scale).	N/A	0	0.00	0%

N/A - Item does not apply.

Jerry Branch – Permanent Photo Station 1
Station 300+25 - Downstream

Jerry Branch – Permanent Photo Station 2
Station 305+04 - Upstream

Jerry Branch – Permanent Photo Station 2
Station 305+04 - Downstream

Hudson Branch – Permanent Photo Station 2
Station 305+04 – Looking Upstream from Confluence with Jerry Branch

Jerry Branch – Permanent Photo Station 3
Looking North Northwest/Upstream Jerry Branch

Jerry Branch – Permanent Photo Station 4
Station 304+80 - Upstream

Jerry Branch – Permanent Photo Station 4
Station 304+80 - Downstream

Jerry Branch – Permanent Photo Station 5
Station 316+95 - Upstream

Dale Branch – Permanent Photo Station 6
Station 204+15 - Upstream

Dale Branch – Permanent Photo Station 7
Station 205+15 - Upstream

Dale Branch – Permanent Photo Station 8
Station 212+95 - Upstream

Dale Branch – Permanent Photo Station 8
Station 212+95 - Downstream

Dale Branch – Permanent Photo Station 9
Looking North Northwest – Upstream Dale

Dale Branch – Permanent Photo Station 9
Looking South Southeast- Downstream

Dale Branch – Permanent Photo Station 10
Looking North Northeast – Upstream

Dale Branch – Permanent Photo Station 10
Looking South Southwest – Downstream

Dale Branch – Permanent Photo Station 11
Station 229+20 – Upstream

Dale Branch – Permanent Photo Station 11
Station 229+20 – Downstream

Dale Branch – Permanent Photo Station 12
Station 234+25 – Upstream

Dale Branch – Permanent Photo Station 12
Station 234+25 – Downstream

Thompson Branch – Permanent Photo Station 13
Station 101+15 – Downstream

Thompson Branch – Permanent Photo Station 14
Station 105+25 – Upstream

Thompson Branch – Permanent Photo Station 14
Station 105+25 – Downstream

Thompson Branch – Permanent Photo Station 15
Station 115+50 – Upstream

Thompson Branch – Permanent Photo Station 15
Station 111+50 – Downstream

Thompson Branch – Permanent Photo Station 16
Station 115+85 – Upstream

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Appendix C
Vegetation Plot Data

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Table 7. Vegetation Plot Criteria Attainment		
Pee Dee Stream Restoration Site		
Vegetation Plot ID	Vegetation Survival Threshold Met?	Tract Mean
1	Yes	100%
2	Yes	
3	Yes	
4	Yes	
5	Yes	
6	Yes	
7	Yes	
8	Yes	
9	Yes	
10	Yes	
11	Yes	
12	Yes	
13	Yes	
14	Yes	

Table 8. CVS Vegetation Plot Metadata Pee Dee Stream Restoration Site	
Report Prepared By	Drew Alderman
Date Prepared	10/26/2015 14:25
database name	PeeDee_95350_MY1_CVStool.mdb
database location	Z:\ES\NRI&M\EBX Monitoring\Pee_Dee\Pee Dee-MY1-2014\Data\Veg
computer name	FIELD-PC
file size	60002304
DESCRIPTION OF WORKSHEETS IN THIS DOCUMENT	
Metadata	Description of database file, the report worksheets, and a summary of project(s) and project data.
Proj, planted	Each project is listed with its PLANTED stems per acre, for each year. This excludes live stakes.
Proj, total stems	Each project is listed with its TOTAL stems per acre, for each year. This includes live stakes, all planted stems, and all natural/volunteer stems.
Plots	List of plots surveyed with location and summary data (live stems, dead stems, missing, etc.).
Vigor	Frequency distribution of vigor classes for stems for all plots.
Vigor by Spp	Frequency distribution of vigor classes listed by species.
Damage	List of most frequent damage classes with number of occurrences and percent of total stems impacted by each.
Damage by Spp	Damage values tallied by type for each species.
Damage by Plot	Damage values tallied by type for each plot.
Planted Stems by Plot and Spp	A matrix of the count of PLANTED living stems of each species for each plot; dead and missing stems are excluded.
ALL Stems by Plot and spp	A matrix of the count of total living stems of each species (planted and natural volunteers combined) for each plot; dead and missing stems are excluded.
PROJECT SUMMARY	
Project Code	95350
project Name	Pee Dee
Description	
River Basin	
length(ft)	
stream-to-edge width (ft)	
area (sq m)	
Required Plots (calculated)	
Sampled Plots	14

Table 9. Total Planted Stem Counts (Species by Plot)
Pee Dee Stream Restoration Project

			Current Plot Data (MY1 2015)																																				
			Plot 1			Plot 2			Plot 3			Plot 4			Plot 5			Plot 6			Plot 7			Plot 8			Plot 9			Plot 10			Plot 11			Plot 12			Plot 13			Plot 14		
Scientific Name	**Common Name**	**Species Type**	**PnoLS**	**P-all**	**T**	**PnoLS**	**P-all**	**T**	**PnoLS**	**P-all**	**T**	**PnoLS**	**P-all**	**T**	**PnoLS**	**P-all**	**T**	**PnoLS**	**P-all**	**T**	**PnoLS**	**P-all**	**T**	**PnoLS**	**P-all**	**T**	**PnoLS**	**P-all**	**T**	**PnoLS**	**P-all**	**T**	**PnoLS**	**P-all**	**T**	**PnoLS**	**P-all**	**T**	**PnoLS**	**P-all**	**T**	**PnoLS**	**P-all**	**T**
Betula nigra	River birch	Tree	9	9	9	5	5	5	2	2	2				4	4	4	2	2	2	9	9	9				6	6	6							2	2	2	3	3	3			
Broussonetia papyrifera	Paper mulberry	Exotic																		1																						
Carya	Hickory	Tree									3																																
Carya alba	Mockernut hickory	Tree									1																																
Celtis occidentalis	Common hackberry	Tree			49			14			4						70			32																						
Fraxinus pennsylvanica	Green ash	Tree	2	2	2	1	1	1	2	2	2	1	1	1	3	3	3	7	7	7	1	1	1				6	6	6	3	3	3				1	1	1	1	1	1	1	1	1
Juglans nigra	Black walnut	Tree									1																														1			
Liquidambar styraciflua	Sweetgum	Tree			2												25			13																						
Liriodendron tulipifera var. tulipifera	Tulip-tree, Yellow Poplar	Tree	3	3	3																						1	1	1	2	2	2										
Diospyros virginiana	American Persimmon	Tree															1																										
Platanus occidentalis	American sycamore	Tree																																								
Platanus occidentalis var. occidentalis	Sycamore, Plane-tree	Tree	5	5	5	8	8	8	1	1	1	1	1	1	3	3	3	1	1	1	5	5	5				3	3	3	7	7	7	17	17	19	8	8	8	9	9	9	11	11	11
Quercus	Oak	Tree																															1	1	1									
Quercus michauxii	Swamp chestnut oak	Tree				2	2	2	3	3	3	1	1	1				2	2	2				6	6	6	1	1	1				2	2	2				6	6	6	4	4	4
Quercus nigra	Water oak	Tree	4	4	4	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2																								
Quercus phellos	Willow oak	Tree	3	3	3	1	1	1	7	7	7	6	6	6	6	6	6	5	5	5			1	10	10	10	7	7	7	1	1	1				7	7	7				2	2	2
Rhus copallinum	Flameleaf sumac	Shrub			3																																						
Rhus glabra	Smooth sumac	Shrub															1			6															2								
Stem count			26	26	80	20	20	34	18	18	27	11	11	11	18	18	115	19	19	71	15	15	16	16	16	16	24	24	24	13	13	13	20	20	144	18	18	58	19	19	23	18	18	18
size (ares)			1			1			1			1			1			1			1			1			1			1			1			1			1			1		
size (ACRES)			0.02			0.02			0.02			0.02			0.02			0.02			0.02			0.02			0.02			0.02			0.02			0.02			0.02			0.02		
Species count			6	6	9	6	6	7	6	6	10	5	5	5	5	5	9	6	6	10	3	3	4	2	2	2	6	6	6	4	4	4	3	3	6	4	4	5	4	4	6	4	4	4
Stems per ACRE			1,052	1,052	3,237	809	809	1,376	728	728	1,093	445	445	445	728	728	4,654	769	769	2,873	607	607	647	647	647	647	971	971	971	526	526	526	809	809	5,827	728	728	2,347	769	769	931	728	728	728

[1]PnoLS: No livestakes included in tally; P-all: All planted stems included in tally; T: Total stems including recruitment.

Table 9. Total Planted Stem Counts (Annual Means)
Pee Dee Stream Restoration Project

			Annual Means					
			MY1 (2015)			MY0 (2015)		
Scientific Name	**Common Name**	**Species Type**	**PnoLS**	**P-all**	**T**	**PnoLS**	**P-all**	**T**
Betula nigra	River birch	Tree	42	42	42	51	51	51
Broussonetia papyrifera	Paper mulberry	Exotic			1			
Carya	Hickory	Tree			3			
Carya alba	Mockernut hickory	Tree			1			
Celtis occidentalis	Common hackberry	Tree			325			
Fraxinus pennsylvanica	Green ash	Tree	29	29	29	33	33	33
Juglans nigra	Black walnut	Tree			2			
Liquidambar styraciflua	Sweetgum	Tree			47			
Liriodendron tulipifera var. tulipifera	Tulip-tree, Yellow Poplar	Tree	6	6	6	16	16	16
Diospyros virginiana	American persimmon	Tree			1			
Platanus occidentalis	American sycamore	Tree				1	1	1
Platanus occidentalis var. occidentalis	Sycamore, Plane-tree	Tree	79	79	81	86	86	86
Quercus	Oak	Tree	1	1	1	83	83	83
Quercus michauxii	Swamp chestnut oak	Tree	27	27	27	14	14	14
Quercus nigra	Water oak	Tree	16	16	16	17	17	17
Quercus phellos	Willow oak	Tree	55	55	56	18	18	18
Rhus copallinum	Flameleaf sumac	shrub			3			
Rhus glabra	Smooth sumac	shrub			9			
Stem count			255	255	650	319	319	319
size (ares)			14			14		
size (ACRES)			0.35			0.35		
Species count			8	8	17	9	9	9
Stems per ACRE			737	737	1879	922	922	922

[1]PnoLS: No livestakes included in tally; P-all: All planted stems included in tally; T: Total stems including recruitment.

Color for Density

- Exceeds requirements by 10%
- Exceeds requirements, but by less than 10%
- Fails to meet requirements, by less than 10%
- Fails to meet requirements by more than 10%
- Recruit Stems

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Pee Dee - Vegetation Monitoring Plot 1
October 22, 2015

Pee Dee - Vegetation Monitoring Plot 2
October 22, 2015

Pee Dee - Vegetation Monitoring Plot 3
October 22, 2015

Pee Dee - Vegetation Monitoring Plot 4
October 22, 2015

Pee Dee - Vegetation Monitoring Plot 5
October 22, 2015

Pee Dee - Vegetation Monitoring Plot 6
October 22, 2015

Pee Dee - Vegetation Monitoring Plot 7
October 22, 2015

Pee Dee - Vegetation Monitoring Plot 8
October 22, 2015

Pee Dee - Vegetation Monitoring Plot 9
October 22, 2015

Pee Dee - Vegetation Monitoring Plot 10
October 22, 2015

Pee Dee - Vegetation Monitoring Plot 11
October 22, 2015

Pee Dee - Vegetation Monitoring Plot 12
October 22, 2015

Pee Dee - Vegetation Monitoring Plot 13
October 22, 2015

Pee Dee - Vegetation Monitoring Plot 14
October 22, 2015

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Appendix D
Stream Geomorphology Data

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Table 10. Baseline Stream Data Summary
Pee Dee Stream Restoration Site - Jerry Branch 1 (430 feet)

Parameter	Regional Curve			Pre-Existing Condition						Reference Reach Data						Design			As-Built / Baseline					
Dimension & Substrate - Riffle	**LL**	**UL**	**Eq.**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Max**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**
Bankfull Width (ft)	-	-	3.79	3.5	5.3	5.3	7.0	2.5	2	9.8	11.7	-	13.1	-	-	-	7.9	-	8.1	8.1	8.1	8.1	-	1
Floodprone Width (ft)				3.3	6.2	6.2	9.0	4.0	2	16.0	18.0	-	21	-	-	-	-	-	31.8	31.8	31.8	31.8	-	1
Bankfull Mean Depth (ft)	-	-	0.64	0.6	0.6	0.6	0.6	0.0	2	0.5	0.62	-	0.8	-	-	-	0.42	-	0.5	0.5	0.5	0.5	-	1
Bankfull Max Depth (ft)				0.7	0.8	0.8	0.9	0.1	2	0.8	0.9	-	1.2	-	-	-	0.65	-	1.0	1.0	1.0	1.0	-	1
Bankfull Cross Sectional Area (ft^2)	3.5			2.0	2.9	2.9	3.8	1.3	2	5.4	7.3	-	8	-	-	-	3.3	-	3.7	3.7	3.7	3.7	-	1
Width/Depth Ratio				6.0	9.4	9.4	12.8	4.8	2	12.3	18.8	-	19.6	-	-	-	18.6	-	17.7	17.7	17.7	17.7	-	1
Entrenchment Ratio				0.5	1.6	1.6	2.6	1.5	2	1.4	1.5	-	1.8	-	-	-	2.5	-	3.9	3.9	3.9	3.9	-	1
Bank Height Ratio				2.4	7.7	7.7	12.9	7.4	2	0.9	1	-	1.4	-	-	-	-	-	1.0	1.0	1.0	1.0	-	1
d50 (mm)				-	-	-	-	-	-	-	52	-	-	-	-	-	-	-						
Profile																								
Riffle Length (ft)				-	-	-	-	-	-	4.0	14.0	-	30.0	-	-	-	-	-	2.6	6.2	6.2	16.4	2.8	26
Riffle Slope (ft/ft)				-	-	-	-	-	-	0.017	0.027	-	0.059	-	-	-	0.003	-	0.001	0.010	0.009	0.026	0.008	26
Pool Length (ft)				-	-	-	-	-	-	7.0	13.0	-	30.0	-	-	-	-	-	2.3	5.9	5.4	16.0	2.9	26
Pool Max Depth (ft)				-	-	-	-	-	-	1.8	1.9	-	2.7	-	-	-	0.97	-	0.7	1.5	1.5	2.3	0.4	26
Pool Spacing (ft)				-	-	-	-	-	-	18.0	39.0	-	53.0	-	-	-	22.5	-	6.1	15.0	14.2	27.8	5.1	25
Pattern																								
Channel Belt Width (ft)				-	-	-	-	-	-	-	21.0	-	-	-	-	-	-	-	14.0	19.2	19.2	24.4	7.3	2
Radius of Curvature (ft)				-	-	-	-	-	-	-	18.0	-	-	-	-	12.0	-	17.0	11.6	13.6	13.1	16.5	2.2	4
Rc: Bankfull Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	1.7	1.6	2.0	0.3	2
Meander Wavelength (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23.8	44.4	47.1	55.0	11.9	6
Meander Width Ratio				-	-	-	-	-	-	-	1.8	-	-	-	-	-	2	-	1.7	2.4	2.4	3.0	0.9	2
Substrate, Bed and Transport Parameters																								
Ri% / Ru% / P% / G% / S%				-						-									42% / 0% / 40% / 7% / 11%					
SC% / Sa% / G% / C% / B% / Be%				-						4% / 2% / 49% / 38% / 1% / 6%														
d16 / d35 / d50 / d84 / d95 / di^p / di^{sp} (mm)				--/5/6/13/22						14 / 36 / 52 / 110 / 170 / - / -														
Reach Shear Stress (Competency) lb/ft^2				-						0.562						-			-					
Max Part Size (mm) Mobilized at Bankfull				-						947						32			-					
Stream Power (Transport Capacity) W/m^2				-						-						-								
Additional Reach Parameters																								
Drainage Area (mi^2)				0.07						0.42														
Impervious Cover Estimate (%)				-						-														
Rosgen Classification				-						B4c						B4			B4					
Bankfull Velocity (fps)	-			-						3.8						-								
Bankfull Discharge (cfs)	13.12			G						28.0						13								
Valley Length (ft)				-						260.0						406								
Channel Thalweg Length (ft)				-						-						435			430					
Sinuosity				-						1.50						1.0			1.06					
Water Surface Slope (ft/ft)				-						-						0.037			0.0265					
Bankfull Slope (ft/ft)				-						-						-			0.0267					
Bankfull Floodplain Area (acres)				-						-						-								
Proportion Over Wide (%)				-						-														
Entrenchment Class (ER Range)				-						-														
Incision Class (BHR Range)				-						-														
BEHI				24.03						-														
Channel Stability or Habitat Metric				-						-														
Biological or Other				-						-														

- Information unavailable.
N/A - Item does not apply.
Non-Applicable.

Table 10 cont'd. Baseline Stream Data Summary
Pee Dee Stream Restoration Site - Jerry Branch 2 (625 feet)

Parameter	Regional Curve			Pre-Existing Condition						Reference Reach Data						Design			As-Built / Baseline					
Dimension & Substrate - Riffle	**LL**	**UL**	**Eq.**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Max**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**
Bankfull Width (ft)	-	-	4.78	3.5	6.0	6.6	8.0	2.3	3	9.8	11.7	-	13.1	-	-	-	7.1	-	7.1	7.1	7.1	7.1	-	1
Floodprone Width (ft)				2.5	10.8	15.0	15.0	7.2	2	16.0	18.0	-	21	-	-	-	-	-	16.0	16.0	16.0	16.0	-	1
Bankfull Mean Depth (ft)	-	-	0.76	0.4	0.6	0.7	0.8	0.2	3	0.5	0.62	-	0.8	-	-	-	0.53	-	0.4	0.4	0.4	0.4	-	1
Bankfull Max Depth (ft)				0.5	0.7	0.8	1.0	0.2	3	0.8	0.9	-	1.2	-	-	-	0.75	-	0.7	0.7	0.7	0.7	-	1
Bankfull Cross Sectional Area (ft^2)	5.1			2.4	2.7	2.7	3.0	0.3	3	5.4	7.3	-	8	-	-	-	3.7	-	3.1	3.1	3.1	3.1	-	1
Width/Depth Ratio				4.6	15.2	14.6	26.3	10.9	3	12.3	18.8	-	19.6	-	-	-	13.4	-	16.4	16.4	16.4	16.4	-	1
Entrenchment Ratio				0.7	1.6	1.9	2.3	0.8	3	1.4	1.5	-	1.8	-	-	-	3.5	-	2.3	2.3	2.3	2.3	-	1
Bank Height Ratio				1.0	3.5	1.5	7.9	3.8	3	0.9	1	-	1.4	-	-	-	-	-	1.0	1.0	1.0	1.0	-	1
d50 (mm)				-	-	-	-	-	-	-	52	-		-	-	-	-	-						
Profile																								
Riffle Length (ft)				-	-	-	-	-	-	4.0	14.0	-	30.0	-	-	-	-	-	3.1	9.0	8.7	26.5	4.5	29
Riffle Slope (ft/ft)				-	-	-	-	-	-	0.017	0.027	-	0.059	-	-	-	0.002	-	0.005	0.019	0.018	0.042	0.010	29
Pool Length (ft)				-	-	-	-	-	-	7.0	13.0	-	30.0	-	-	-	-	-	2.3	4.8	4.7	7.8	1.5	31
Pool Max Depth (ft)				-	-	-	-	-	-	1.8	1.9	-	2.7	-	-	-	1.13	-	0.9	1.5	1.5	2.2	0.3	29
Pool Spacing (ft)				-	-	-	-	-	-	18.0	39.0	-	53.0	-	-	-	21.7	-	12.0	18.0	16.8	36.2	5.1	30
Pattern																								
Channel Belt Width (ft)				-	-	-	-	-	-	-	21.0	-	-	-	-	-	-	-	13.4	20.3	22.4	25.6	5.1	6
Radius of Curvature (ft)				-	-	-	-	-	-	-	18.0	-	-	-	-	11.0	-	17.0	12.1	13.4	12.7	16.5	1.8	5
Rc: Bankfull Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7	1.9	1.8	2.3	0.2	2
Meander Wavelength (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18.5	30.0	30.6	38.1	6.6	6
Meander Width Ratio				-	-	-	-	-	-	-	1.8	-	-	-	-	-	2	-	1.9	2.9	3.2	3.6	0.7	6
Substrate, Bed and Transport Parameters																								
Ri% / Ru% / P% / G% / S%				-						-									47% / 0% / 27% / 12% / 14 /%					
SC% / Sa% / G% / C% / B% / Be%				-						4% / 2% / 49% / 38% / 1% / 6%														
d16 / d35 / d50 / d84 / d95 / di^p / di^{sp} (mm)				--/5/6/13/22						14 / 36 / 52 / 110 / 170 / - / -														
Reach Shear Stress (Competency) lb/ft^2				-						0.562						-			-					
Max Part Size (mm) Mobilized at Bankfull				-						947						32			-					
Stream Power (Transport Capacity) W/m^2				-						-						-								
Additional Reach Parameters																								
Drainage Area (mi^2)										0.42														
Impervious Cover Estimate (%)				-						-														
Rosgen Classification				-						B4c						B4			B4					
Bankfull Velocity (fps)	-			-						3.8						-								
Bankfull Discharge (cfs)	19.35			G						28.0						19								
Valley Length (ft)				-						260.0						485								
Channel Thalweg Length (ft)				-						-						625			625					
Sinuosity				-						1.50						1.1			1.29					
Water Surface Slope (ft/ft)				-						-						0.024			0.024					
Bankfull Slope (ft/ft)				-						-						-			0.024					
Bankfull Floodplain Area (acres)				-						-						-								
Proportion Over Wide (%)				-						-														
Entrenchment Class (ER Range)				-						-														
Incision Class (BHR Range)				-						-														
BEHI				26.67						-														
Channel Stability or Habitat Metric				-						-														
Biological or Other				-						-														

- Information unavailable.
N/A - Item does not apply.
Non-Applicable.

Table 10 cont'd. Baseline Stream Data Summary
Pee Dee Stream Restoration Site - Jerry Branch 3 (636 feet)

Parameter	Regional Curve			Pre-Existing Condition						Reference Reach Data						Design			As-Built / Baseline					
Dimension & Substrate - Riffle	**LL**	**UL**	**Eq.**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Max**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**
Bankfull Width (ft)	-	-	4.95	-	4.0	-	-	-	1	9.8	11.7	-	13.1	-	-	-	7.3	-	7.2	7.3	7.3	7.4	0.141	2
Floodprone Width (ft)				-	6.5	-	-	-	1	16.0	18.0	-	21	-	-	-	-	-	24.7	29.3	29.3	33.8	6.435	2
Bankfull Mean Depth (ft)	-	-	0.78	-	0.9	-	-	-	1	0.5	0.62	-	0.8	-	-	-	0.54	-	0.4	0.4	0.4	0.4	0	2
Bankfull Max Depth (ft)				-	1.1	-	-	-	1	0.8	0.9	-	1.2	-	-	-	0.77	-	0.8	0.9	0.9	0.9	0.071	2
Bankfull Cross Sectional Area (ft^2)	5.4			-	3.3	-	-	-	1	5.4	7.3	-	8	-	-	-	4.0	-	3.0	3.2	3.2	3.3	0.212	2
Width/Depth Ratio				-	4.8	-	-	-	1	12.3	18.8	-	19.6	-	-	-	13.5	-	16.6	17.2	17.2	17.7	0.778	2
Entrenchment Ratio				-	1.6	-	-	-	1	1.4	1.5	-	1.8	-	-	-	3.4	-	3.4	4.0	4.0	4.6	0.849	2
Bank Height Ratio				-	2.9	-	-	-	1	0.9	1	-	1.4	-	-	-	-	-	1.0	1.0	1.0	1.0	0.0	2
d50 (mm)				-	-	-	-	-	-	-	52	-	-	-	-	-	-	-						
Profile																								
Riffle Length (ft)				-	-	-	-	-	-	4.0	14.0	-	30.0	-	-	-	-	-	3.1	9.0	8.7	26.5	4.5	29
Riffle Slope (ft/ft)				-	-	-	-	-	-	0.017	0.027	-	0.059	-	-	-	0.002	-	0.005	0.019	0.018	0.042	0.010	29
Pool Length (ft)				-	-	-	-	-	-	7.0	13.0	-	30.0	-	-	-	-	-	2.3	4.8	4.7	7.8	1.5	31
Pool Max Depth (ft)				-	-	-	-	-	-	1.8	1.9	-	2.7	-	-	-	1.15	-	0.9	1.5	1.5	2.2	0.3	29
Pool Spacing (ft)				-	-	-	-	-	-	18.0	39.0	-	53.0	-	-	-	23.9	-	12.0	18.0	16.8	36.2	5.1	30
Pattern																								
Channel Belt Width (ft)				-	-	-	-	-	-	-	21.0	-	-	-	-	-	-	-	20.0	24.2	26.0	26.5	3.6	3
Radius of Curvature (ft)				-	-	-	-	-	-	-	18.0	-	-	-	-	12.0	-	17.0	9.2	12.1	10.6	17.0	2.8	7
Rc: Bankfull Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3	1.7	1.5	2.3	0.4	1
Meander Wavelength (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34.1	43.9	44.8	54.4	8.1	6
Meander Width Ratio				-	-	-	-	-	-	-	1.8	-	-	-	-	-	2	-	2.7	3.3	3.6	3.6	0.5	3

Substrate, Bed and Transport Parameters					
Ri% / Ru% / P% / G% / S%		-	-		60% / 0% / 21% / 10% / 9%
SC% / Sa% / G% / C% / B% / Be%		-	4% / 2% / 49% / 38% / 1% / 6%		
d16 / d35 / d50 / d84 / d95 / di^p / di^{sp} (mm)		--/5/6/13/22	14 / 36 / 52 / 110 / 170 / - / -		
Reach Shear Stress (Competency) lb/ft^2		-	0.562	-	-
Max Part Size (mm) Mobilized at Bankfull		-	947	32	-
Stream Power (Transport Capacity) W/m^2		-	-	-	
Additional Reach Parameters					
Drainage Area (mi^2)			0.42		
Impervious Cover Estimate (%)		-	-		
Rosgen Classification		G	B4c	B4	B4
Bankfull Velocity (fps)	-	-	3.8	-	
Bankfull Discharge (cfs)	20.49	-	28.0	20	
Valley Length (ft)		-	260.0	624	
Channel Thalweg Length (ft)		-	-	670	636
Sinuosity		-	1.50	1.00	1.02
Water Surface Slope (ft/ft)		-	-	0.0240	0.0235
Bankfull Slope (ft/ft)		-	-	-	0.0239
Bankfull Floodplain Area (acres)		-	-	-	
Proportion Over Wide (%)		-	-		
Entrenchment Class (ER Range)		-	-		
Incision Class (BHR Range)		-	-		
BEHI		21.4	-		
Channel Stability or Habitat Metric		-	-		
Biological or Other		-	-		

- Information unavailable.
N/A - Item does not apply.
Non-Applicable.

Table 10 cont'd. Baseline Stream Data Summary
Pee Dee Stream Restoration Site - Hudson Branch (59 feet)

Parameter	Regional Curve			Pre-Existing Condition						Reference Reach Data						Design			As-Built / Baseline[1]					
Dimension & Substrate - Riffle	**LL**	**UL**	**Eq.**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Max**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**
Bankfull Width (ft)	-	-	2.63	-	4.5	-	-	-	1	9.8	11.7	-	13.1	-	-	-	7.3	-						
Floodprone Width (ft)				-	8.0	-	-	-	1	16.0	18.0	-	21	-	-	-	-	-						
Bankfull Mean Depth (ft)	-	-	0.49	-	0.5	-	-	-	1	0.5	0.62	-	0.8	-	-	-	0.34	-						
Bankfull Max Depth (ft)				-	0.7	-	-	-	1	0.8	0.9	-	1.2	-	-	-	0.52	-						
Bankfull Cross Sectional Area (ft^2)		2.0		-	2.1	-	-	-	1	5.4	7.3	-	8	-	-	-	2.1	-						
Width/Depth Ratio				-	9.5	-	-	-	1	12.3	18.8	-	19.6	-	-	-	18.7	-						
Entrenchment Ratio				-	1.8	-	-	-	1	1.4	1.5	-	1.8	-	-	-	4.8	-						
Bank Height Ratio				-	3.6	-	-	-	1	0.9	1	-	1.4	-	-	-	-	-						
d50 (mm)				-	-	-	-	-	-		52	-	-	-	-	-	-	-						
Profile																								
Riffle Length (ft)				-	-	-	-	-	-	4.0	14.0	-	30.0	-	-	-	-	-	8.89	10.2	10.2	11.5	1.86	2
Riffle Slope (ft/ft)				-	-	-	-	-	-	0.017	0.027	-	0.059	-	-	-	0.003	-	0.017	0.017	0.017	0.018	0.001	2
Pool Length (ft)				-	-	-	-	-	-	7.0	13.0	-	30.0	-	-	-	-	-	5.4	7.33	7.1	9.51	2.07	3
Pool Max Depth (ft)				-	-	-	-	-	-	1.8	1.9	-	2.7	-	-	-	0.77	-	1.37	1.77	1.82	2.14	0.39	3
Pool Spacing (ft)				-	-	-	-	-	-	18.0	39.0	-	53.0	-	-	-	15.9	-	11.5	16.6	16.6	21.8	7.26	2
Pattern																								
Channel Belt Width (ft)				-	-	-	-	-	-	-	21.0	-	-	-	-	-	-	-	10.2	10.2	10.2	10.2	-	1
Radius of Curvature (ft)				-	-	-	-	-	-	-	18.0	-	-	-	-	9.0	-	14.0	-	-	-	-	-	-
Rc: Bankfull Width (ft)				-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-
Meander Wavelength (ft)				-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-
Meander Width Ratio				-	-	-	-	-	-	-	1.8	-	-	-	-	-	2	-	1.4	1.4	1.4	1.4	-	1
Substrate, Bed and Transport Parameters																								
Ri% / Ru% / P% / G% / S%						-						-									46% / 0% / 50% / 0% / 4%			
SC% / Sa% / G% / C% / B% / Be%						-						4% / 2% / 49% / 38% / 1% / 6%												
d16 / d35 / d50 / d84 / d95 / di^p / di^{sp} (mm)						-						14 / 36 / 52 / 110 / 170 / - / -												
Reach Shear Stress (Competency) lb/ft^2						-						0.562					-				-			
Max Part Size (mm) Mobilized at Bankfull						-						947					32				-			
Stream Power (Transport Capacity) W/m^2						-						-					-							
Additional Reach Parameters																								
Drainage Area (mi^2)												0.42												
Impervious Cover Estimate (%)						-						-												
Rosgen Classification						G						B4c					B4				B4			
Bankfull Velocity (fps)		-				-						3.8					-							
Bankfull Discharge (cfs)		7.13				-						28.0					7							
Valley Length (ft)						-						260.0					55							
Channel Thalweg Length (ft)						-						-					102				59			
Sinuosity						-						1.50					1.10				1.08			
Water Surface Slope (ft/ft)						-						-					0.0120				0.030			
Bankfull Slope (ft/ft)						-						-					-				0.043			
Bankfull Floodplain Area (acres)						-						-					-							
Proportion Over Wide (%)						-						-												
Entrenchment Class (ER Range)						-						-												
Incision Class (BHR Range)						-						-												
BEHI						-						-												
Channel Stability or Habitat Metric						-						-												
Biological or Other						-						-												

- Information unavailable.
N/A - Item does not apply.
Non-Applicable.

[1]This reach limited to visual assessment since it is less than 500 feet

Table 10 cont'd. Baseline Stream Data Summary
Pee Dee Stream Restoration Site - Dale Branch 1 (250 feet)

Parameter	Regional Curve			Pre-Existing Condition						Reference Reach Data						Design			As-Built / Baseline[1]					
Dimension & Substrate - Riffle	**LL**	**UL**	**Eq.**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Max**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**
Bankfull Width (ft)	-	-	2.63	4.8	7.1	8.0	8.5	2.0	3	9.8	11.7	-	13.1	-	-	-	6.3	-						
Floodprone Width (ft)				7.0	15.0	18.0	20.0	7.0	2	16.0	18.0	-	21	-	-	-	-	-						
Bankfull Mean Depth (ft)	-	-	0.49	0.4	0.5	0.5	0.6	0.1	3	0.5	0.62	-	0.8	-	-	-	0.34	-						
Bankfull Max Depth (ft)				0.5	0.6	0.6	0.7	0.1	3	0.8	0.9	-	1.2	-	-	-	0.52	-						
Bankfull Cross Sectional Area (ft^2)	2.0			2.5	2.9	2.9	3.4	0.5	3	5.4	7.3	-	8	-	-	-	2.1	-						
Width/Depth Ratio				8.0	18.4	21.4	25.7	9.2	3	12.3	18.8	-	19.6	-	-	-	18.7	-						
Entrenchment Ratio				1.5	2.0	2.1	2.5	0.5	3	1.4	1.5	-	1.8	-	-	-	5.6	-						
Bank Height Ratio				1.0	1.8	1.2	3.1	1.2	3	0.9	1	-	1.4	-	-	-	-	-						
d50 (mm)				-	-	-	-	-	-	-	52	-	-	-	-	-	-	-						
Profile																								
Riffle Length (ft)				-	-	-	-	-	-	4.0	14.0	-	30.0	-	-	-	-	-						
Riffle Slope (ft/ft)				-	-	-	-	-	-	0.017	0.027	-	0.059	-	-	-	-	-						
Pool Length (ft)				-	-	-	-	-	-	7.0	13.0	-	30.0	-	-	-	-	-						
Pool Max Depth (ft)				-	-	-	-	-	-	1.8	1.9	-	2.7	-	-	-	0.77	-						
Pool Spacing (ft)				-	-	-	-	-	-	18.0	39.0	-	53.0	-	-	-	20.5	-						
Pattern																								
Channel Belt Width (ft)				-	-	-	-	-	-	-	21.0	-	-	-	-	-	-							
Radius of Curvature (ft)				-	-	-	-	-	-	-	18.0	-	-	-	-	9.0	-	14.0						
Rc: Bankfull Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Meander Wavelength (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
Meander Width Ratio				-	-	-	-	-	-	-	1.8	-	-	-	-	-	4	-						
Substrate, Bed and Transport Parameters																								
Ri% / Ru% / P% / G% / S%				-						-														
SC% / Sa% / G% / C% / B% / Be%				-						4% / 2% / 49% / 38% / 1% / 6%														
d16 / d35 / d50 / d84 / d95 / di^p / di^{sp} (mm)				--/5/6/11/15						14 / 36 / 52 / 110 / 170 / - / -														
Reach Shear Stress (Competency) lb/ft^2				-						0.562						-								
Max Part Size (mm) Mobilized at Bankfull				-						947						32								
Stream Power (Transport Capacity) W/m^2				-						-						-								
Additional Reach Parameters																								
Drainage Area (mi^2)				-						0.42														
Impervious Cover Estimate (%)				-						-														
Rosgen Classification				C						B4c						B4								
Bankfull Velocity (fps)	-			-						3.8						-								
Bankfull Discharge (cfs)	7.13			-						28.0						7								
Valley Length (ft)				-						260.0						-								
Channel Thalweg Length (ft)				-						-						375								
Sinuosity				-						1.50						1.20								
Water Surface Slope (ft/ft)				-						-						0.0390								
Bankfull Slope (ft/ft)				-						-						-								
Bankfull Floodplain Area (acres)				-						-						-								
Proportion Over Wide (%)				-						-														
Entrenchment Class (ER Range)				-						-														
Incision Class (BHR Range)				-						-														
BEHI				25.64						-														
Channel Stability or Habitat Metric				-						-														
Biological or Other				-						-														

- Information unavailable.
N/A - Item does not apply.
Non-Applicable.

[1]This reach received minor bank work with no adjustments to profile. No cross-sections set in this reach.

Table 10 cont'd. Baseline Stream Data Summary
Pee Dee Stream Restoration Site - Dale Branch 2 (920 feet)

Parameter	Regional Curve			Pre-Existing Condition						Reference Reach Data						Design[1]			As-Built / Baseline					
Dimension & Substrate - Riffle	**LL**	**UL**	**Eq.**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Max**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**
Bankfull Width (ft)	-	-	2.98	-	5.0	-	-	-	1	9.8	11.7	-	13.1	-	-	-	5.4	-	6.4	6.7	6.7	7.0	0.42	2
Floodprone Width (ft)				-	7.0	-	-	-	1	16.0	18.0	-	21	-	-	-	-	-	15.1	19.5	19.5	23.9	6.22	2
Bankfull Mean Depth (ft)	-	-	0.54	-	0.6	-	-	-	1	0.5	0.62	-	0.8	-	-	-	0.37	-	0.3	0.3	0.3	0.3	0	2
Bankfull Max Depth (ft)				-	0.7	-	-	-	1	0.8	0.9	-	1.2	-	-	-	0.56	-	0.5	0.6	0.6	0.7	0.14	2
Bankfull Cross Sectional Area (ft^2)	2.4			-	2.8	-	-	-	1	5.4	7.3	-	8	-	-	-	2.0	-	1.8	1.9	1.9	2.0	0.14	2
Width/Depth Ratio				-	9.0	-	-	-	1	12.3	18.8	-	19.6	-	-	-	14.6	-	22.6	23.6	23.6	24.6	1.41	2
Entrenchment Ratio				-	1.4	-	-	-	1	1.4	1.5	-	1.8	-	-	-	8.2	-	2.4	2.9	2.9	3.4	0.71	2
Bank Height Ratio				-	7.9	-	-	-	1	0.9	1	-	1.4	-	-	-	-	-	1.0	1.0	1.0	1.0	0.0	2
d50 (mm)				-	-	-	-	-	-	-	52	-	-	-	-	-	-	-						
Profile																								
Riffle Length (ft)				-	-	-	-	-	-	4.0	14.0	-	30.0	-	-	-	-	-	3.2	10.1	9.0	21.3	4.8	28
Riffle Slope (ft/ft)				-	-	-	-	-	-	0.017	0.027	-	0.059	-	-	-	0.003	-	0.007	0.027	0.027	0.046	0.011	28
Pool Length (ft)				-	-	-	-	-	-	7.0	13.0	-	30.0	-	-	-	-	-	1.5	3.2	2.9	9.6	1.6	29
Pool Max Depth (ft)				-	-	-	-	-	-	1.8	1.9	-	2.7	-	-	-	0.84	-	1.1	1.6	1.4	2.8	0.5	28
Pool Spacing (ft)				-	-	-	-	-	-	18.0	39.0	-	53.0	-	-	-	20.7	-	9.4	19.7	19.3	31.4	4.9	28
Pattern																								
Channel Belt Width (ft)				-	-	-	-	-	-	-	21.0	-	-	-	-	-	-	-	18.0	20.6	19.0	24.4	3.1	5
Radius of Curvature (ft)				-	-	-	-	-	-	-	18.0	-	-	-	-	10.0	-	15.0	8.2	13.8	14.7	16.7	3.4	5
Rc: Bankfull Width (ft)				-	-	-	-	-	-	-		-	-	-	-	-	-	-	1.2	2.1	2.2	2.5	0.5	5
Meander Wavelength (ft)				-	-	-	-	-	-	-		-	-	-	-	-	-	-	33.1	38.9	39.6	41.5	3.1	6
Meander Width Ratio				-	-	-	-	-	-	-	1.8	-	-	-	-	-	4	-	2.7	3.1	2.8	3.6	0.9	6
Substrate, Bed and Transport Parameters																								
Ri% / Ru% / P% / G% / S%				-						-									50%/ 7%/ 16%/ 10%/ 17%					
SC% / Sa% / G% / C% / B% / Be%				-						4% / 2% / 49% / 38% / 1% / 6%														
d16 / d35 / d50 / d84 / d95 / di^p / di^{sp} (mm)				--/5/6/11/15						14 / 36 / 52 / 110 / 170 / - / -														
Reach Shear Stress (Competency) lb/ft^2				-						0.562						-			-					
Max Part Size (mm) Mobilized at Bankfull				-						947						32			-					
Stream Power (Transport Capacity) W/m^2				-						-						-								
Additional Reach Parameters																								
Drainage Area (mi^2)				0.04						0.42														
Impervious Cover Estimate (%)				-						-														
Rosgen Classification				G						B4c						B4			B4					
Bankfull Velocity (fps)	-			-						3.8						-								
Bankfull Discharge (cfs)	8.77			-						28.0						9								
Valley Length (ft)				-						260.0						896								
Channel Thalweg Length (ft)				-						-						975			920					
Sinuosity				-						1.50						1.00			1.03					
Water Surface Slope (ft/ft)				-						-						0.0420			0.029					
Bankfull Slope (ft/ft)				-						-						-			0.028					
Bankfull Floodplain Area (acres)				-						-						-								
Proportion Over Wide (%)				-						-														
Entrenchment Class (ER Range)				-						-														
Incision Class (BHR Range)				-						-														
BEHI				25.2						-														
Channel Stability or Habitat Metric				-						-														
Biological or Other				-						-														

[1]Based on average design values for Subreaches 2b-2e

- Information unavailable.
N/A - Item does not apply.
Non-Applicable.

Table 10 cont'd. Baseline Stream Data Summary
Pee Dee Stream Restoration Site - Dale Branch 3 (559 feet)

Parameter	Regional Curve			Pre-Existing Condition						Reference Reach Data						Design			As-Built / Baseline					
Dimension & Substrate - Riffle	**LL**	**UL**	**Eq.**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Max**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**
Bankfull Width (ft)	-	-	3.28	3.0	3.3	3.3	3.6	0.4	2	9.8	11.7	-	13.1	-	-	-	7.2	-	7.3	7.3	7.3	7.3	-	1
Floodprone Width (ft)				9.0	12.0	12.0	15.0	4.2	2	16.0	18.0	-	21	-	-	-	-	-	18.5	18.5	18.5	18.5	-	1
Bankfull Mean Depth (ft)	-	-	0.58	0.6	0.7	0.7	0.7	0.1	2	0.5	0.62	-	0.8	-	-	-	0.39	-	0.3	0.3	0.3	0.3	-	1
Bankfull Max Depth (ft)				0.7	0.8	0.8	0.9	0.1	2	0.8	0.9	-	1.2	-	-	-	0.59	-	0.7	0.7	0.7	0.7	-	1
Bankfull Cross Sectional Area (ft^2)		2.8		3.0	3.6	3.6	4.1	0.8	2	5.4	7.3	-	8	-	-	-	2.8	-	2.5	2.5	2.5	2.5	-	1
Width/Depth Ratio				8.8	10.4	10.4	11.9	2.2	2	12.3	18.8	-	19.6	-	-	-	18.7	-	21.1	21.1	21.1	21.1	-	1
Entrenchment Ratio				1.5	2.0	2.0	2.5	0.7	2	1.4	1.5	-	1.8	-	-	-	4.2	-	2.5	2.5	2.5	2.5	-	1
Bank Height Ratio				1.6	1.9	1.9	2.2	0.4	2	0.9	1	-	1.4	-	-	-	-	-	1.0	1.0	1.0	1.0	-	1
d50 (mm)				-	-	-	-	-	-	-	52	-		-	-	-	-	-						
Profile																								
Riffle Length (ft)				-	-	-	-	-	-	4.0	14.0	-	30.0	-	-	-	-	-	0.5	12.6	10.7	60.6	10.9	24
Riffle Slope (ft/ft)				-	-	-	-	-	-	0.017	0.027	-	0.059	-	-	-	0.008	-	0.005	0.026	0.025	0.061	0.014	24
Pool Length (ft)				-	-	-	-	-	-	7.0	13.0	-	30.0	-	-	-	-	-	1.3	3.3	2.9	9.0	1.5	23
Pool Max Depth (ft)				-	-	-	-	-	-	1.8	1.9	-	2.7	-	-	-	0.89	-	0.8	1.3	1.3	1.7	0.2	23
Pool Spacing (ft)				-	-	-	-	-	-	18.0	39.0	-	53.0	-	-	-	21.9	-	13.3	21.0	18.5	63.1	10.1	23
Pattern																								
Channel Belt Width (ft)				-	-	-	-	-	-	-	21.0	-	-	-	-	-	-	-	17.8	26.7	27.9	33.4	7.4	4
Radius of Curvature (ft)				-	-	-	-	-	-	-	18.0	-	-	-	-	11.0	-	16.0	8.7	10.2	9.8	12.1	1.4	6
Rc: Bankfull Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	1.4	1.3	1.7	0.2	1
Meander Wavelength (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29.6	39.9	37.4	55.7	10.0	6
Meander Width Ratio				-	-	-	-	-	-	-	1.8	-	-	-	-	-	2	-	2.4	3.7	3.8	4.6	1.0	4
Substrate, Bed and Transport Parameters																								
Ri% / Ru% / P% / G% / S%				-						-									62% / 0% / 16% /11% /11%					
SC% / Sa% / G% / C% / B% / Be%				-						4% / 2% / 49% / 38% / 1% / 6%														
d16 / d35 / d50 / d84 / d95 / di^p / di^{sp} (mm)				--/5/6/11/15						14 / 36 / 52 / 110 / 170 / - / -														
Reach Shear Stress (Competency) lb/ft^2				-						0.562						-			-					
Max Part Size (mm) Mobilized at Bankfull				-						947						32			-					
Stream Power (Transport Capacity) W/m^2				-						-						-								
Additional Reach Parameters																								
Drainage Area (mi^2)				0.05						0.42														
Impervious Cover Estimate (%)				-						-														
Rosgen Classification				G						B4c						B4			B4					
Bankfull Velocity (fps)		-		-						3.8						-								
Bankfull Discharge (cfs)		10.3		-						28.0						10								
Valley Length (ft)				-						260.0						531								
Channel Thalweg Length (ft)				-						-						550			559					
Sinuosity				-						1.50						1.0			1.05					
Water Surface Slope (ft/ft)				-						-						0.027			0.024					
Bankfull Slope (ft/ft)				-						-						-			0.026					
Bankfull Floodplain Area (acres)				-						-						-								
Proportion Over Wide (%)				-						-														
Entrenchment Class (ER Range)				-						-														
Incision Class (BHR Range)				-						-														
BEHI				20.47						-														
Channel Stability or Habitat Metric				-						-														
Biological or Other				-						-														

- Information unavailable.
Non-Applicable.

Table 10 cont'd. Baseline Stream Data Summary
Pee Dee Stream Restoration Site - Dale Branch 4 (835 feet)

Parameter	Regional Curve			Pre-Existing Condition						Reference Reach Data						Design			As-Built / Baseline					
Dimension & Substrate - Riffle	**LL**	**UL**	**Eq.**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Max**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**
Bankfull Width (ft)	-	-	4.01	5.5	6.0	6.0	6.5	0.7	2	9.8	11.7	-	13.1	-	-	-	6.1	-	6.3	6.4	6.4	6.5	0.14	2
Floodprone Width (ft)				6.5	7.8	7.8	9.0	1.8	2	16.0	18.0	-	21	-	-	-	-	-	22.0	33.1	33.1	44.2	15.7	2
Bankfull Mean Depth (ft)	-	-	0.67	0.8	0.8	0.8	0.8	0.0	2	0.5	0.62	-	0.8	-	-	-	0.47	-	0.3	0.4	0.4	0.5	0.14	2
Bankfull Max Depth (ft)				1.0	1.0	1.0	1.0	0.0	2	0.8	0.9	-	1.2	-	-	-	0.67	-	0.7	0.8	0.8	0.9	0.14	2
Bankfull Cross Sectional Area (ft^2)	3.9			4.1	4.6	4.6	5.0	0.6	2	5.4	7.3	-	8	-	-	-	2.9	-	1.9	2.5	2.5	3.1	0.85	2
Width/Depth Ratio				7.3	7.9	7.9	8.4	0.8	2	12.3	18.8	-	19.6	-	-	-	13.0	-	13.8	17.4	17.4	21.0	5.09	2
Entrenchment Ratio				1.2	1.3	1.3	1.4	0.1	2	1.4	1.5	-	1.8	-	-	-	4.1	-	3.5	5.2	5.2	6.8	2.33	2
Bank Height Ratio				3.3	3.5	3.5	3.7	0.3	2	0.9	1	-	1.4	-	-	-	-	-	1.0	1.0	1.0	1.0	0.0	2
d50 (mm)				-	-	-	-	-	-	-	52	-	-	-	-	-	-	-						
Profile																								
Riffle Length (ft)				-	-	-	-	-	-	4.0	14.0	-	30.0	-	-	-	-	-	7.8	17.8	14.5	68.7	12.3	31
Riffle Slope (ft/ft)				-	-	-	-	-	-	0.017	0.027	-	0.059	-	-	-	0.002	-	0.003	0.018	0.016	0.048	0.009	31
Pool Length (ft)				-	-	-	-	-	-	7.0	13.0	-	30.0	-	-	-	-	-	1.5	3.2	2.9	12.5	2.1	30
Pool Max Depth (ft)				-	-	-	-	-	-	1.8	1.9	-	2.7	-	-	-	1.01	-	0.1	1.4	1.4	2.1	0.3	33
Pool Spacing (ft)				-	-	-	-	-	-	18.0	39.0	-	53.0	-	-	-	19.6	-	14.4	26.0	22.2	77.4	13.7	31
Pattern																								
Channel Belt Width (ft)				-	-	-	-	-	-	-	21.0	-	-	-	-	-	-	-	16.7	18.7	18.0	22.2	2.5	4
Radius of Curvature (ft)				-	-	-	-	-	-	-	18.0	-	-	-	-	9.0	-	14.0	9.3	13.1	13.6	16.4	2.9	6
Rc: Bankfull Width (ft)				-	-	-	-	-	-	-		-	-	-	-	-	-	-	1.4	2.1	2.1	2.6	0.5	2
Meander Wavelength (ft)				-	-	-	-	-	-	-		-	-	-	-	-	-	-	34.4	45.9	39.9	62.7	12.5	6
Meander Width Ratio				-	-	-	-	-	-	-	1.8	-	-	-	-	-	2	-	2.6	2.9	2.8	3.5	0.4	4
Substrate, Bed and Transport Parameters																								
Ri% / Ru% / P% / G% / S%				-						-									68%/ 0%/ 12%/ 8%/ 11%					
SC% / Sa% / G% / C% / B% / Be%				-						4% / 2% / 49% / 38% / 1% / 6%														
d16 / d35 / d50 / d84 / d95 / di^p / di^{sp} (mm)				--/5/6/11/15						14 / 36 / 52 / 110 / 170 / - / -														
Reach Shear Stress (Competency) lb/ft^2				-						0.562						-			-					
Max Part Size (mm) Mobilized at Bankfull				-						947						32			-					
Stream Power (Transport Capacity) W/m^2				-						-						-								
Additional Reach Parameters																								
Drainage Area (mi^2)				0.08						0.42														
Impervious Cover Estimate (%)				-						-														
Rosgen Classification				G						B4c						B4			B4					
Bankfull Velocity (fps)	-			-						3.8						-								
Bankfull Discharge (cfs)	14.45			-						28.0						14								
Valley Length (ft)				-						260.0						810								
Channel Thalweg Length (ft)				-						-						825			835					
Sinuosity				-						1.50						1.00			1.03					
Water Surface Slope (ft/ft)				-						-						0.028			0.024					
Bankfull Slope (ft/ft)				-						-						-			0.020					
Bankfull Floodplain Area (acres)				-						-						-								
Proportion Over Wide (%)				-						-														
Entrenchment Class (ER Range)				-						-														
Incision Class (BHR Range)				-						-														
BEHI				24.25						-														
Channel Stability or Habitat Metric				-						-														
Biological or Other				-						-														

- Information unavailable.
N/A - Item does not apply.
Non-Applicable.

Table 10 cont'd. Baseline Stream Data Summary
Pee Dee Stream Restoration Site - Dale Branch 5 (679 feet)

Parameter	Regional Curve			Pre-Existing Condition						Reference Reach Data						Design[1]			As-Built / Baseline					
Dimension & Substrate - Riffle	**LL**	**UL**	**Eq.**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Max**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**
Bankfull Width (ft)	-	-	4.2	-	8.0	-	-	-	1	9.8	11.7	-	13.1	-	-	-	6.4	-	7.1	7.1	7.1	7.1	-	1
Floodprone Width (ft)				-	9.0	-	-	-	1	16.0	18.0	-	21	-	-	-	-	-	23.9	23.9	23.9	23.9	-	1
Bankfull Mean Depth (ft)	-	-	0.7	-	0.8	-	-	-	1	0.5	0.62	-	0.8	-	-	-	0.49	-	0.5	0.5	0.5	0.5	-	1
Bankfull Max Depth (ft)				-	1.0	-	-	-	1	0.8	0.9	-	1.2	-	-	-	0.69	-	0.7	0.7	0.7	0.7	-	1
Bankfull Cross Sectional Area (ft^2)	4.2			-	5.0	-	-	-	1	5.4	7.3	-	8	-	-	-	3.1	-	3.3	3.3	3.3	3.3	-	1
Width/Depth Ratio				-	12.9	-	-	-	1	12.3	18.8	-	19.6	-	-	-	13.1	-	15.2	15.2	15.2	15.2	-	1
Entrenchment Ratio				-	1.1	-	-	-	1	1.4	1.5	-	1.8	-	-	-	3.1	-	3.4	3.4	3.4	3.4	-	1
Bank Height Ratio				-	2.6	-	-	-	1	0.9	1	-	1.4	-	-	-	-	-	1.0	1.0	1.0	1.0	-	1
d50 (mm)				-	-	-	-	-	-	-	52	-	-	-	-	-	-	-						
Profile																								
Riffle Length (ft)				-	-	-	-	-	-	4.0	14.0	-	30.0	-	-	-	-	-	7.2	18.3	20.3	25.1	6.0	11
Riffle Slope (ft/ft)				-	-	-	-	-	-	0.017	0.027	-	0.059	-	-	-	0.002	-	0.005	0.022	0.024	0.044	0.011	11
Pool Length (ft)				-	-	-	-	-	-	7.0	13.0	-	30.0	-	-	-	-	-	1.8	3.0	3.1	4.0	0.7	12
Pool Max Depth (ft)				-	-	-	-	-	-	1.8	1.9	-	2.7	-	-	-	1.04	-	1.1	1.5	1.4	2.2	0.4	11
Pool Spacing (ft)				-	-	-	-	-	-	18.0	39.0	-	53.0	-	-	-	29.9	-	12.1	26.4	28.4	35.2	6.8	11
Pattern																								
Channel Belt Width (ft)				-	-	-	-	-	-	-	21.0	-	-	-	-	-	-	-	13.2	15.3	15.6	17.1	1.9	3
Radius of Curvature (ft)				-	-	-	-	-	-	-	18.0	-	-	-	-	7.0	-	12.0	8.7	14.1	15.6	16.7	3.6	4
Rc: Bankfull Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	2.0	2.2	2.4	0.5	2
Meander Wavelength (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47.9	56.4	54.8	67.7	7.2	6
Meander Width Ratio				-	-	-	-	-	-	-	1.8	-	-	-	-	-	2	-	1.9	2.2	2.2	2.4	0.3	3
Substrate, Bed and Transport Parameters																								
Ri% / Ru% / P% / G% / S%				-						-									68% / 0%/ 12%/ 13%/ 7%					
SC% / Sa% / G% / C% / B% / Be%				-						4% / 2% / 49% / 38% / 1% / 6%														
d16 / d35 / d50 / d84 / d95 / di^p / di^{sp} (mm)				--/5/6/11/15						14 / 36 / 52 / 110 / 170 / - / -														
Reach Shear Stress (Competency) lb/ft^2				-						0.562						-			-					
Max Part Size (mm) Mobilized at Bankfull				-						947						32			-					
Stream Power (Transport Capacity) W/m^2				-						-						-								
Additional Reach Parameters																								
Drainage Area (mi^2)				0.09						0.42														
Impervious Cover Estimate (%)				-						-														
Rosgen Classification				F						B4c						B4			B4					
Bankfull Velocity (fps)	-			-						3.8						-								
Bankfull Discharge (cfs)	15.73			-						28.0						16								
Valley Length (ft)				-						260.0						695								
Channel Thalweg Length (ft)				-						-						725			679					
Sinuosity				-						1.50						1.0			0.977					
Water Surface Slope (ft/ft)				-						-						0.023			0.024					
Bankfull Slope (ft/ft)				-						-						-			0.024					
Bankfull Floodplain Area (acres)				-						-						-								
Proportion Over Wide (%)				-						-														
Entrenchment Class (ER Range)				-						-														
Incision Class (BHR Range)				-						-														
BEHI				23.1						-														
Channel Stability or Habitat Metric				-						-														
Biological or Other				-						-														

[1]Values taken from Subreach 5b

- Information unavailable.

Non-Applicable.

Table 10 con't. Baseline Stream Data Summary
Pee Dee Stream Restoration Site - Thompson Branch 1 (530 feet)

Parameter	Regional Curve			Pre-Existing Condition						Reference Reach Data						Design			As-Built / Baseline					
Dimension & Substrate - Riffle	**LL**	**UL**	**Eq.**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Max**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**
Bankfull Width (ft)	-	-	4.6	-	5.0	-	-	-	1	9.8	11.7	-	13.1	-	-	-	8.8	-	-	-	-	-	-	-
Floodprone Width (ft)				-	20.0	-	-	-	1	16.0	18.0	-	21.0	-	-	-	-	-	-	-	-	-	-	-
Bankfull Mean Depth (ft)	-	-	0.7	-	1.0	-	-	-	1	0.5	0.6	-	0.8	-	-	-	0.48	-	-	-	-	-	-	-
Bankfull Max Depth (ft)				-	1.3	-	-	-	1	0.8	0.9	-	1.2	-	-	-	0.73	-	-	-	-	-	-	-
Bankfull Cross Sectional Area (ft^2)		4.8		-	4.6	-	-	-	1	5.4	7.3	-	8.0	-	-	-	4.2	-	-	-	-	-	-	-
Width/Depth Ratio				-	5.5	-	-	-	1	12.3	18.8	-	19.6	-	-	-	18.6	-	-	-	-	-	-	-
Entrenchment Ratio				-	4.0	-	-	-	1	1.4	1.5	-	1.8	-	-	-	3.4	-	-	-	-	-	-	-
Bank Height Ratio				-	1.2	-	-	-	1	0.9	1.0	-	1.4	-	-	-	-	-	-	-	-	-	-	-
d50 (mm)				-	-	-	-	-	-	-	52	-		-	-	-	-	-	-	-	-	-	-	-
Profile																								
Riffle Length (ft)				-	-	-	-	-	-	4.0	14.0	-	30.0	-	-	-	-	-	44.7	44.7	44.7	44.7	-	1
Riffle Slope (ft/ft)				-	-	-	-	-	-	0.017	0.027	-	0.059	-	-	-	-	-	0.006	0.006	0.006	0.006	-	1
Pool Length (ft)				-	-	-	-	-	-	7.0	13.0	-	30.0	-	-	-	-	-	9.6	20.6	17.0	35.0	11.6	6
Pool Max Depth (ft)				-	-	-	-	-	-	1.8	1.9	-	2.7	-	-	-	1.1	-	1.6	2.0	1.9	2.3	0.3	7
Pool Spacing (ft)				-	-	-	-	-	-	18.0	39.0	-	53.0	-	-	-	28.6	-	11.0	22.3	18.3	36.5	11.2	6
Pattern																								
Channel Belt Width (ft)				-	-	-	-	-	-	-	21.0	-	-	-	-	-	-	-	19.0	26.1	22.9	36.4	9.1	3
Radius of Curvature (ft)				-	-	-	-	-	-	-	18.0	-	-	-	-	13.0	-	19.0	12.3	13.1	13.2	13.7	0.7	3
Rc: Bankfull Width (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	1.5	1.5	1.6	0.1	1
Meander Wavelength (ft)				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60.7	94.7	81.4	155.2	44.0	4
Meander Width Ratio				-	-	-	-	-	-	-	1.8	-	-	-	-	-	3	-	2.2	3.0	2.6	4.1	1.0	3
Substrate, Bed and Transport Parameters																								
Ri% / Ru% / P% / G% / S%						-						-									25% / 0% / 69% / 0% / 6%			
SC% / Sa% / G% / C% / B% / Be%						-						4% / 2% / 49% / 38% / 1% / 6%												
d16 / d35 / d50 / d84 / d95 / di^p / di^{sp} (mm)						4 / 6 /8 /15 / 24						14 / 36 / 52 / 110 / 170 / - / -												
Reach Shear Stress (Competency) lb/ft^2						-						0.562					-				-			
Max Part Size (mm) Mobilized at Bankfull						-						947					37				-			
Stream Power (Transport Capacity) W/m^2						-						-					-							
Additional Reach Parameters																								
Drainage Area (mi^2)						0.11						0.42												
Impervious Cover Estimate (%)						-						-												
Rosgen Classification						G						B4c					B4				B4			
Bankfull Velocity (fps)		-				-						3.8					-							
Bankfull Discharge (cfs)		18.2				-						28.0					18							
Valley Length (ft)						-						260.0					294							
Channel Thalweg Length (ft)						-						-					511				530			
Sinuosity						-						1.50					1.0				1.06			
Water Surface Slope (ft/ft)						-						-					0.030				0.031			
Bankfull Slope (ft/ft)						-						-					-				0.030			
Bankfull Floodplain Area (acres)						-						-					-							
Proportion Over Wide (%)						-						-												
Entrenchment Class (ER Range)						-						-												
Incision Class (BHR Range)						-						-												
BEHI						30.9						-												
Channel Stability or Habitat Metric						-						-												
Biological or Other						-						-												

- Information unavailable.
Non-Applicable.

Table 10 cont'd. Baseline Stream Data Summary
Pee Dee Stream Restoration Site - Thompson Branch 2 (1,061 feet)

Parameter	Regional Curve			Pre-Existing Condition						Reference Reach Data						Design			As-Built / Baseline					
Dimension & Substrate - Riffle	**LL**	**UL**	**Eq.**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**	**Min**	**Mean**	**Max**	**Min**	**Mean**	**Med**	**Max**	**SD**	**N**
Bankfull Width (ft)	-	-	5.11	7.0	7.7	7.0	9.0	1.2	3	9.8	11.7	-	13.1	-	-	-	7.5	-	7.5	7.6	7.6	7.6	0.07	2
Floodprone Width (ft)				9.0	14.7	15.0	20.0	5.5	2	16.0	18.0	-	21.0	-	-	-	-	-	31.1	32.7	32.7	34.3	2.26	2
Bankfull Mean Depth (ft)	-	-	0.8	0.9	0.9	0.9	1.0	0.1	3	0.5	0.6	-	0.8	-	-	-	0.6	-	0.6	0.6	0.6	0.6	0	2
Bankfull Max Depth (ft)				1.1	1.1	1.1	1.2	0.1	3	0.8	0.9	-	1.2	-	-	-	0.78	-	1.1	1.2	1.2	1.2	0.07	2
Bankfull Cross Sectional Area (ft^2)	5.6			5.7	6.7	6.0	8.4	1.5	3	5.4	7.3	-	8.0	-	-	-	4.2	-	4.2	4.3	4.3	4.3	0.07	2
Width/Depth Ratio				8.1	8.8	8.5	9.7	0.8	3	12.3	18.8	-	19.6	-	-	-	13.5	-	13.3	13.4	13.4	13.4	0.07	2
Entrenchment Ratio				1.3	2.0	1.7	2.9	0.8	3	1.4	1.5	-	1.8	-	-	-	4.0	-	4.1	4.3	4.3	4.5	0.28	2
Bank Height Ratio				1.4	2.2	2.4	2.9	0.8	3	0.9	1.0	-	1.4	-	-	-	-	-	1.0	1.0	1.0	1.0	0.0	2
d50 (mm)				-	-	-	-	-	-		52	-		-	-	-	-	-						
Profile																								
Riffle Length (ft)				-	-	-	-	-	-	4.0	14.0	-	30.0	-	-	-	-	-	10.0	15.8	15.2	25.4	3.9	32
Riffle Slope (ft/ft)				-	-	-	-	-	-	0.017	0.027	-	0.059	-	-	-	0.008	-	0.005	0.014	0.013	0.023	0.005	32
Pool Length (ft)				-	-	-	-	-	-	7.0	13.0	-	30.0	-	-	-	-	-	1.8	5.0	4.6	18.3	3.0	32
Pool Max Depth (ft)				-	-	-	-	-	-	1.8	1.9	-	2.7	-	-	-	1.17	-	1.4	2.1	2.0	2.6	0.3	32
Pool Spacing (ft)				-	-	-	-	-	-	18.0	39.0	-	53.0	-	-	-	26.2	-	19.5	27.5	25.9	54.0	7.4	32
Pattern																								
Channel Belt Width (ft)				-	-	-	-	-	-	-	21.0	-	-	-	-	-	-	-	14.4	22.4	19.5	37.8	8.2	6
Radius of Curvature (ft)				-	-	-	-	-	-	-	18.0	-	-	-	-	12.0	-	18.0	10.5	18.3	18.5	25.9	6.7	4
Rc: Bankfull Width (ft)				-	-	-	-	-	-	-		-	-	-	-	-	-	-	1.4	2.4	2.5	3.5	0.9	2
Meander Wavelength (ft)				-	-	-	-	-	-	-		-	-	-	-	-	-	-	34.3	48.7	50.5	60.9	9.8	6
Meander Width Ratio				-	-	-	-	-	-	-	1.8	-	-	-	-	-	3	-	2.2	3.0	2.6	4.1	1.0	3
Substrate, Bed and Transport Parameters																								
Ri% / Ru% / P% / G% / S%				-						-									57% / 0% / 18% / 11% / 14%					
SC% / Sa% / G% / C% / B% / Be%				-						4% / 2% / 49% / 38% / 1% / 6%														
d16 / d35 / d50 / d84 / d95 / di^p / di^{sp} (mm)				4 / 6 / 8 / 15 /24						14 / 36 / 52 / 110 / 170 / - / -														
Reach Shear Stress (Competency) lb/ft^2				-						0.562						-			-					
Max Part Size (mm) Mobilized at Bankfull				-						947						37			-					
Stream Power (Transport Capacity) W/m^2				-						-						-								
Additional Reach Parameters																								
Drainage Area (mi^2)				0.14						0.42														
Impervious Cover Estimate (%)				-						-														
Rosgen Classification				G						B4c						B4			B4					
Bankfull Velocity (fps)	-			-						3.8						-								
Bankfull Discharge (cfs)	21.6			-						28.0						22								
Valley Length (ft)				-						260.0						1,010								
Channel Thalweg Length (ft)				-						-						1,150			1,061					
Sinuosity				-						1.50						1.1			1.05					
Water Surface Slope (ft/ft)				-						-						0.020			0.020					
Bankfull Slope (ft/ft)				-						-						0.022			0.022					
Bankfull Floodplain Area (acres)				-						-						-								
Proportion Over Wide (%)				-						-														
Entrenchment Class (ER Range)				-						-														
Incision Class (BHR Range)				-						-														
BEHI				29.8						-														
Channel Stability or Habitat Metric				-						-														
Biological or Other				-						-														

- Information unavailable.
Non-Applicable.

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Table 11a. Monitoring Data - Dimensional Morphology Summary
(Dimensional Parameters - Cross-Sections)
Pee Dee Stream Restoration Site - Jerry Branch

	Reach 1 Cross-Section 1 Pool								Reach 1 Cross-Section 2 Riffle								Reach 2 Cross-Section 3 Pool								Reach 2 Cross-Section 4 Riffle							
Dimension	**Base**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**
Record Elevation (datum) Used	320.1	320.1							319.6	319.6							312.9	312.9							310.6	310.6						
Bankfull Width (ft)	9.1	8.3							8.1	7.0							7.8	8.1							7.1	7.2						
Floodprone Width (ft)	>25	>25							>30	>30							>30	>30							>25	>25						
Bankfull Mean Depth (ft)	0.9	0.8							0.5	0.3							1.1	1.0							0.4	0.4						
Bankfull Max Depth (ft)	1.7	1.3							1.0	0.5							2.3	2.0							0.7	0.6						
Bankfull Cross Sectional Area (ft^2)	8.5	6.8							3.7	2.4							8.3	7.7							3.1	3.0						
Bankfull Width/Depth Ratio	9.8	10.1							17.7	20.3							7.4	8.4							16.4	17.0						
Bankfull Entrenchment Ratio[1]	>2.7	>3.0							>3.7	>4.3							>3.8	>3.7							>3.5	>3.5						
Bankfull Bank Height Ratio	1.0	1.0							1.0	1.0							1.0	1.0							1.0	1.0						
d50 (mm)	N/A	N/A							N/A	0.2							N/A	N/A							N/A	22.0						

	Reach 3 Cross-Section 5 Pool								Reach 3 Cross-Section 6 Riffle								Reach 3 Cross-Section 7 Riffle							
Dimension	**Base**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**
Record Elevation (datum) Used	301.7	301.7							298.8	298.8							290.2	290.2						
Bankfull Width (ft)	8.1	9.2							7.4	7.5							7.2	6.7						
Floodprone Width (ft)	>25	25							>30	>30							>25	>25						
Bankfull Mean Depth (ft)	1.0	0.7							0.4	0.4							0.4	0.3						
Bankfull Max Depth (ft)	1.8	1.3							0.9	0.6							0.8	0.5						
Bankfull Cross Sectional Area (ft^2)	7.9	6.3							3.3	3.3							3.0	2.3						
Bankfull Width/Depth Ratio	8.3	13.25							16.6	16.7							17.7	19.4						
Bankfull Entrenchment Ratio[1]	>3.1	>2.7							>4.1	>4.0							>3.4	>3.7						
Bankfull Bank Height Ratio	1.0	1.0							1.0	1.0							1.0	1.0						
d50 (mm)	N/A	N/A							N/A	5.5							N/A	34.0						

N/A- Information Not Available

[1] MY0 Bankfull Entrenchment Ratios Updated to Reflect Calculated Values

Table 11a cont'd. Monitoring Data - Dimensional Morphology Summary
(Dimensional Parameters - Cross-Sections)
Pee Dee Stream Restoration Site - Dale Branch

	Reach 2 Cross-Section 8 Riffle								Reach 2 Cross-Section 9 Pool								Reach 2 Cross-Section 10 Riffle								Reach 2 Cross-Section 11 Pool							
Dimension	**Base**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**
Record Elevation (datum) Used	354.9	354.9							354.7	354.7							348.1	348.1							347.4	347.4						
Bankfull Width (ft)	7.0	7.3							7.7	8.0							6.4	6.2							7.6	8.0						
Floodprone Width (ft)	>25	>25							>25	>25							>25	>25							>20	>20						
Bankfull Mean Depth (ft)	0.3	0.2							0.6	0.6							0.3	0.3							0.8	0.7						
Bankfull Max Depth (ft)	0.7	0.5							1.7	1.5							0.5	0.5							1.6	1.2						
Bankfull Cross Sectional Area (ft^2)	2.0	1.7							4.8	4.8							1.8	1.6							6.1	5.9						
Bankfull Width/Depth Ratio	24.6	30.6							12.3	13.5							22.6	23.7							9.5	10.9						
Bankfull Entrenchment Ratio[1]	>3.6	>3.4							>3.1	>3.1							>3.9	>4.0							>2.6	>2.5						
Bankfull Bank Height Ratio	1.0	1.0							1.0	1.0							1.0	1.0							1.0	1.0						
d50 (mm)	N/A	8.0							N/A	N/A							N/A	19.0							N/A	N/A						

	Reach 3 Cross-Section 12 Riffle								Reach 3 Cross-Section 13 Pool								Reach 4 Cross-Section 14 Pool								Reach 4 Cross-Section 15 Riffle							
Dimension	**Base**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**
Record Elevation (datum) Used	327.8	327.8							326.1	326.1							315.3	315.3							314.1	314.1						
Bankfull Width (ft)	7.3	7.1							7.8	7.6							6.7	7.2							6.5	6.2						
Floodprone Width (ft)	>20	>20							>20	>20							>30	>30							>40	>40						
Bankfull Mean Depth (ft)	0.3	0.3							0.5	0.5							0.9	0.6							0.5	0.5						
Bankfull Max Depth (ft)	0.7	0.6							1.3	1.1							2.0	1.0							0.9	0.8						
Bankfull Cross Sectional Area (ft^2)	2.5	2.2							3.9	3.5							6.2	4.3							3.1	2.9						
Bankfull Width/Depth Ratio	21.1	23.1							15.7	16.7							7.1	12.1							13.8	13.2						
Bankfull Entrenchment Ratio[1]	>2.8	>2.8							>2.6	>2.6							>4.5	>4.2							>6.1	>6.5						
Bankfull Bank Height Ratio	1.0	1.0							1.0	1.0							1.0	1.0							1.0	1.0						
d50 (mm)	N/A	2.1							N/A	N/A							N/A	N/A							N/A	16.0						

	Reach 4 Cross-Section 16 Riffle								Reach 5 Cross-Section 17 Riffle								Reach 5 Cross-Section 18 Pool							
Dimension	**Base**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**
Record Elevation (datum) Used	303.5	305.5							286.8	286.8							286.6	286.6						
Bankfull Width (ft)	6.3	7.2							7.1	7.9							7.2	8.0						
Floodprone Width (ft)	>25	>25							>25	>25							>25	>25						
Bankfull Mean Depth (ft)	0.3	0.3							0.5	0.5							0.8	0.7						
Bankfull Max Depth (ft)	0.7	0.6							0.7	0.8							1.7	1.5						
Bankfull Cross Sectional Area (ft^2)	1.9	2.3							3.3	3.8							5.9	5.8						
Bankfull Width/Depth Ratio	21.0	23.0							15.2	16.2							8.7	11.0						
Bankfull Entrenchment Ratio[1]	>4.0	>3.5							>3.5	>3.2							>3.5	>3.1						
Bankfull Bank Height Ratio	1.0	1.0							1.0	1.0							1.0	1.0						
d50 (mm)	N/A	26.0							N/A	33.0							N/A	N/A						

N/A- Information Not Available

[1] MY0 Bankfull Entrenchment Ratios Updated to Reflect Calculated Values

Table 11a cont'd. Monitoring Data - Dimensional Morphology Summary
(Dimensional Parameters - Cross-Sections)
Pee Dee Stream Restoration Site - Thompson Branch

	Reach 2 Cross-Section 19 Pool								Reach 2 Cross-Section 20 Riffle								Reach 2 Cross-Section 21 Pool								Reach 2 Cross-Section 22 Riffle							
Dimension	**Base**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**	**Base**	**MY1**	**MY2**	**MY3**	**MY4**	**MY5**	**MY6**	**MY7**
Record Elevation (datum) Used	364.1	364.1							363.2	363.2							356.0	356.0							356.0	356.0						
Bankfull Width (ft)	8.4	9.2							7.5	7.7							8.6	9.1							7.6	7.7						
Floodprone Width (ft)	>30	>30							>30	>30							>30	>30							>30	>30						
Bankfull Mean Depth (ft)	1.0	0.9							0.6	0.6							1.0	0.8							0.6	0.6						
Bankfull Max Depth (ft)	2.1	1.7							1.2	0.9							2.3	1.7							1.1	1.0						
Bankfull Cross Sectional Area (ft^2)	8.8	8.1							4.2	4.4							8.5	7.5							4.3	4.4						
Bankfull Width/Depth Ratio	8.0	10.4							13.3	13.5							8.7	10.9							13.4	13.5						
Bankfull Entrenchment Ratio[1]	>3.6	>3.3							>4.0	>3.9							>3.5	>3.3							>3.9	>3.9						
Bankfull Bank Height Ratio	1.0	1.0							1.0	1.0							1.0	1.0							1.0	1.0						
d50 (mm)	N/A	N/A							N/A	0.2							N/A	N/A							N/A	29.0						

N/A- Information Not Available

[1] MY0 Bankfull Entrenchment Ratios Updated to Reflect Calculated Values

Table 11b. Monitoring Data - Stream Reach Data Summary
Pee Dee Stream Restoration - Jerry Branch 1 (430 feet)

Parameter	Baseline						MY - 1						MY - 2						MY - 3						MY - 4						MY - 5						MY - 6						MY - 7					
Dimension & Substrate - Riffle	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**
Bankfull Width (ft)	8.1	8.1	8.1	8.1	-	1	7.0	7.0	7.0	7.0	-	1																																				
Floodprone Width (ft)	31.8	31.8	31.8	31.8	-	1	30.0	30.0	30.0	30.0	-	1																																				
Bankfull Mean Depth (ft)	0.5	0.5	0.5	0.5	-	1	0.3	0.3	0.3	0.3	-	1																																				
Bankfull Max Depth (ft)	1.0	1.0	1.0	1.0	-	1	0.5	0.5	0.5	0.5	-	1																																				
Bankfull Cross-Sectional Area (ft^2)	3.7	3.7	3.7	3.7	-	1	2.4	2.4	2.4	2.4	-	1																																				
Width/Depth Ratio	17.7	17.7	17.7	17.7	-	1	20.3	20.3	20.3	20.3	-	1																																				
Entrenchment Ratio	3.9	3.9	3.9	3.9	-	1	4.3	4.3	4.3	4.3	-	1																																				
Bank Height Ratio	1.0	1.0	1.0	1.0	-	1	1.0	1.0	1.0	1.0	-	1																																				
Profile																																															
Riffle Length (ft)	2.6	6.2	6.2	16.4	2.8	26																																									
Riffle Slope (ft/ft)	0.001	0.010	0.009	0.026	0.0	26																																									
Pool Length (ft)	2.3	5.9	5.4	16.0	2.9	26																																									
Pool Max Depth (ft)	0.7	1.5	1.5	2.3	0.4	26																																									
Pool Spacing (ft)	6.1	15.0	14.2	27.8	5.1	25																																									
Pattern																																															
Channel Belt Width (ft)	14.0	19.2	19.2	24.4	7.3	2																																									
Radius of Curvature (ft)	11.6	13.6	13.1	16.5	2.2	4																																									
Rc: Bankfull Width (ft/ft)	1.4	1.7	1.6	2.0	0.3	2																																									
Meander Wavelength (ft)	23.8	44.4	47.1	55.0	11.9	6																																									
Meander Width Ratio	1.7	2.4	2.4	3.0	0.9	2																																									
Additional Reach Parameters																																															
Rosgen Classification	B4																																														
Channel Thalweg Length (ft)	430																																														
Sinuosity (ft)	1.06																																														
Water Surface Slope (Channel) (ft/ft)	0.0265																																														
Bankfull Slope (ft/ft)	0.0267																																														
Ri% / Ru% / P% / G% / S%	42%	0%	40%	7%	11%																																									

N/A - Information does not apply.
Ri = Riffle / Ru = Run / P = Pool / G = Glide / S = Step

Table 11b cont'd. Monitoring Data - Stream Reach Data Summary
Pee Dee Stream Restoration Site - Jerry Branch 2 (625 feet)

Parameter	Baseline						MY - 1						MY - 2						MY - 3						MY - 4						MY - 5						MY - 6						MY - 7					
Dimension & Substrate - Riffle	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**
Bankfull Width (ft)	7.1	7.1	7.1	7.1	-	1	7.2	7.2	7.2	7.2	-	1																																				
Floodprone Width (ft)	16.0	16.0	16.0	16.0	-	1	25.0	25.0	25.0	25.0	-	1																																				
Bankfull Mean Depth (ft)	0.4	0.4	0.4	0.4	-	1	0.4	0.4	0.4	0.4	-	1																																				
Bankfull Max Depth (ft)	0.7	0.7	0.7	0.7	-	1	0.6	0.6	0.6	0.6	-	1																																				
Bankfull Cross-Sectional Area (ft^2)	3.1	3.1	3.1	3.1	-	1	3.0	3.0	3.0	3.0	-	1																																				
Width/Depth Ratio	16.4	16.4	16.4	16.4	-	1	17.0	17.0	17.0	17.0	-	1																																				
Entrenchment Ratio	2.3	2.3	2.3	2.3	-	1	3.5	3.5	3.5	3.5	-	1																																				
Bank Height Ratio	1.0	1.0	1.0	1.0	-	1	1.0	1.0	1.0	1.0	-	1																																				
Profile																																															
Riffle Length (ft)	3.1	9.0	8.7	26.5	4.5	29																																									
Riffle Slope (ft/ft)	0.005	0.019	0.018	0.042	0.010	29																																									
Pool Length (ft)	2.3	4.8	4.7	7.8	1.5	31																																									
Pool Max Depth (ft)	0.9	1.5	1.5	2.2	0.3	29																																									
Pool Spacing (ft)	12.0	18.0	16.8	36.2	5.1	30																																									
Pattern																																															
Channel Belt Width (ft)	13.4	20.3	22.4	25.6	5.1	6																																									
Radius of Curvature (ft)	12.1	13.4	12.7	16.5	1.8	5																																									
Rc: Bankfull Width (ft/ft)	1.70	1.9	1.8	2.3	0.2	2																																									
Meander Wavelength (ft)	18.5	30.0	30.6	38.1	6.6	6																																									
Meander Width Ratio	1.9	2.9	3.2	3.6	0.7	6																																									
Additional Reach Parameters																																															
Rosgen Classification	B4																																														
Channel Thalweg Length (ft)	625																																														
Sinuosity (ft)	1.29																																														
Water Surface Slope (Channel) (ft/ft)	0.024																																														
Bankfull Slope (ft/ft)	0.024																																														
Ri% / Ru% / P% / G% / S%	47%	0%	27%	12%	14%																																									

N/A - Information does not apply.

Ri = Riffle / Ru = Run / P = Pool / G = Glide / S = Step

Table 11b cont'd. Monitoring Data - Stream Reach Data Summary
Pee Dee Stream Restoration Site - Jerry Branch 3 (636 feet)

Parameter	Baseline						MY - 1						MY - 2						MY - 3						MY - 4						MY - 5						MY - 6						MY - 7					
Dimension & Substrate - Riffle	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**
Bankfull Width (ft)	7.2	7.3	7.3	7.4	0.1	2	6.7	7.1	7.1	7.5	0.6	2																																				
Floodprone Width (ft)	24.7	29.3	29.3	33.8	6.4	2	25.0	27.5	27.5	30.0	3.5	2																																				
Bankfull Mean Depth (ft)	0.4	0.4	0.4	0.4	0.0	2	0.3	0.4	0.4	0.4	0.1	2																																				
Bankfull Max Depth (ft)	0.8	0.9	0.9	0.9	0.1	2	0.5	0.6	0.6	0.6	0.1	2																																				
Bankfull Cross-Sectional Area (ft^2)	3.0	3.2	3.2	3.3	0.2	2	2.3	2.8	2.8	3.3	0.7	2																																				
Width/Depth Ratio	16.6	17.2	17.2	17.7	0.8	2	16.7	18.1	18.1	19.4	1.9	2																																				
Entrenchment Ratio	3.4	4.0	4.0	4.6	0.8	2	3.7	3.9	3.9	4.0	0.2	2																																				
Bank Height Ratio	1.0	1.0	1.0	1.0	0.0	2	1.0	1.0	1.0	1.0	0.0	2																																				
Profile																																															
Riffle Length (ft)	3.1	9.0	8.7	26.5	4.5	29																																									
Riffle Slope (ft/ft)	0.00	0.019	0.018	0.042	0.010	29																																									
Pool Length (ft)	2.3	4.8	4.7	7.8	1.5	31																																									
Pool Max Depth (ft)	0.9	1.5	1.5	2.2	0.3	29																																									
Pool Spacing (ft)	12.0	18.0	16.8	36.2	5.1	30																																									
Pattern																																															
Channel Belt Width (ft)	20.0	24.2	26.0	26.5	3.6	3																																									
Radius of Curvature (ft)	9.2	12.1	10.6	17.0	2.8	7																																									
Rc: Bankfull Width (ft/ft)	1.3	1.7	1.5	2.3	0.4	2																																									
Meander Wavelength (ft)	34.1	43.9	44.8	54.4	8.1	6																																									
Meander Width Ratio	2.7	3.3	3.6	3.6	0.5	3																																									
Additional Reach Parameters																																															
Rosgen Classification	B4																																														
Channel Thalweg Length (ft)	636																																														
Sinuosity (ft)	1.02																																														
Water Surface Slope (Channel) (ft/ft)	0.0235																																														
Bankfull Slope (ft/ft)	0.0239																																														
Ri% / Ru% / P% / G% / S%	60%	0%	21%	10%	9%																																									

N/A - Information does not apply.

Ri = Riffle / Ru = Run / P = Pool / G = Glide / S = Step

Table 11b cont'd. Monitoring Data - Stream Reach Data Summary
Pee Dee Stream Restoration Site - Dale Branch 2 (920 feet)

Parameter	Baseline						MY - 1						MY - 2						MY - 3						MY - 4						MY - 5						MY - 6						MY - 7					
Dimension & Substrate - Riffle	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**
Bankfull Width (ft)	6.4	6.7	6.7	7.0	0.4	2	6.2	6.8	6.8	7.3	0.8	2																																				
Floodprone Width (ft)	15.1	19.5	19.5	23.9	6.2	2	25.0	25.0	25.0	25.0	0.0	2																																				
Bankfull Mean Depth (ft)	0.3	0.3	0.3	0.3	0.0	2	0.2	0.3	0.3	0.3	0.1	2																																				
Bankfull Max Depth (ft)	0.5	0.6	0.6	0.7	0.1	2	0.5	0.5	0.5	0.5	0.0	2																																				
Bankfull Cross-Sectional Area (ft^2)	1.8	1.9	1.9	2.0	0.1	2	1.6	1.7	1.7	1.7	0.1	2																																				
Width/Depth Ratio	22.6	23.6	23.6	24.6	1.4	2	23.7	27.2	27.2	30.6	4.9	2																																				
Entrenchment Ratio	2.4	2.9	2.9	3.4	0.7	2	3.3	3.7	3.7	4.0	0.5	2																																				
Bank Height Ratio	1.0	1.0	1.0	1.0	0.0	2	1.0	1.0	1.0	1.0	0.0	2																																				
Profile																																															
Riffle Length (ft)	3.2	10.1	9.0	21.3	4.8	28																																									
Riffle Slope (ft/ft)	0.007	0.027	0.027	0.046	0.011	28																																									
Pool Length (ft)	1.5	3.2	2.9	9.6	1.6	29																																									
Pool Max Depth (ft)	1.1	1.6	1.4	2.8	0.5	28																																									
Pool Spacing (ft)	9.4	19.7	19.3	31.4	4.9	28																																									
Pattern																																															
Channel Belt Width (ft)	18.0	20.6	19.0	24.4	3.1	5																																									
Radius of Curvature (ft)	8.2	13.8	14.7	16.7	3.4	5																																									
Rc: Bankfull Width (ft/ft)	1.2	2.1	2.2	2.5	0.5	5																																									
Meander Wavelength (ft)	33.1	38.9	39.6	41.5	3.1	6																																									
Meander Width Ratio	2.7	3.1	2.8	3.6	0.9	6																																									
Additional Reach Parameters																																															
Rosgen Classification	B4																																														
Channel Thalweg Length (ft)	920																																														
Sinuosity (ft)	1.03																																														
Water Surface Slope (Channel) (ft/ft)	0.029																																														
Bankfull Slope (ft/ft)	0.028																																														
Ri% / Ru% / P% / G% / S%	50%	7%	16%	10%	17%																																									

N/A - Information does not apply.
Ri = Riffle / Ru = Run / P = Pool / G = Glide / S = Step

Table 11b cont'd. Monitoring Data - Stream Reach Data Summary
Pee Dee Stream Restoration Site - Dale Branch 3 (559 feet)

Parameter	Baseline						MY - 1						MY - 2						MY - 3						MY - 4						MY - 5						MY - 6						MY - 7					
Dimension & Substrate - Riffle	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**
Bankfull Width (ft)	7.3	7.3	7.3	7.3	-	1	7.1	7.1	7.1	7.1	-	1																																				
Floodprone Width (ft)	18.5	18.5	18.5	18.5	-	1	20.0	20.0	20.0	20.0	-	1																																				
Bankfull Mean Depth (ft)	0.3	0.3	0.3	0.3	-	1	0.3	0.3	0.3	0.3	-	1																																				
Bankfull Max Depth (ft)	0.7	0.7	0.7	0.7	-	1	0.6	0.6	0.6	0.6	-	1																																				
Bankfull Cross-Sectional Area (ft^2)	2.5	2.5	2.5	2.5	-	1	2.2	2.2	2.2	2.2	-	1																																				
Width/Depth Ratio	21.1	21.1	21.1	21.1	-	1	23.1	23.1	23.1	23.1	-	1																																				
Entrenchment Ratio	2.5	2.5	2.5	2.5	-	1	2.8	2.8	2.8	2.8	-	1																																				
Bank Height Ratio	1.0	1.0	1.0	1.0	-	1	1.0	1.0	1.0	1.0	-	1																																				
Profile																																															
Riffle Length (ft)	0.5	12.6	10.7	60.6	10.9	24																																									
Riffle Slope (ft/ft)	0.005	0.026	0.025	0.061	0.014	24																																									
Pool Length (ft)	1.3	3.3	2.9	9.0	1.5	23																																									
Pool Max Depth (ft)	0.8	1.3	1.3	1.7	0.2	23																																									
Pool Spacing (ft)	13.3	21.0	18.5	63.1	10.1	23																																									
Pattern																																															
Channel Belt Width (ft)	17.8	26.7	27.9	33.4	7.4	4																																									
Radius of Curvature (ft)	8.7	10.2	9.8	12.1	1.4	6																																									
Rc: Bankfull Width (ft/ft)	1.2	1.4	1.3	1.7	0.2	1																																									
Meander Wavelength (ft)	29.6	39.9	37.4	55.7	10.0	6																																									
Meander Width Ratio	2.4	3.7	3.8	4.6	1.0	4																																									
Additional Reach Parameters																																															
Rosgen Classification	B4																																														
Channel Thalweg Length (ft)	559																																														
Sinuosity (ft)	1.05																																														
Water Surface Slope (Channel) (ft/ft)	0.024																																														
Bankfull Slope (ft/ft)	0.026																																														
Ri% / Ru% / P% / G% / S%	62%	0%	16%	11%	11%																																									

N/A - Information does not apply.
Ri = Riffle / Ru = Run / P = Pool / G = Glide / S = Step

Table 11b cont'd. Monitoring Data - Stream Reach Data Summary
Pee Dee Stream Restoration Site - Dale Branch 4 (835 feet)

Parameter	Baseline						MY - 1						MY - 2						MY - 3						MY - 4						MY - 5						MY - 6						MY - 7					
Dimension & Substrate - Riffle	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**
Bankfull Width (ft)	6.3	6.4	6.4	6.5	0.1	2	6.2	6.7	6.7	7.2	0.7	2																																				
Floodprone Width (ft)	22.0	33.1	33.1	44.2	15.7	2	25.0	32.5	32.5	40.0	10.6	2																																				
Bankfull Mean Depth (ft)	0.3	0.4	0.4	0.5	0.1	2	0.3	0.4	0.4	0.5	0.1	2																																				
Bankfull Max Depth (ft)	0.7	0.8	0.8	0.9	0.1	2	0.6	0.7	0.7	0.8	0.1	2																																				
Bankfull Cross-Sectional Area (ft^2)	1.9	2.5	2.5	3.1	0.8	2	2.3	2.6	2.6	2.9	0.4	2																																				
Width/Depth Ratio	13.8	17.4	17.4	21.0	5.1	2	13.2	18.1	18.1	23.0	6.9	2																																				
Entrenchment Ratio	3.5	5.2	5.2	6.8	2.3	2	3.5	4.9	4.9	6.2	1.9	2																																				
Bank Height Ratio	1.0	1.0	1.0	1.0	0.0	2	1.0	1.0	1.0	1.0	0.0	2																																				
Profile																																															
Riffle Length (ft)	7.8	17.8	14.5	68.7	12.3	31																																									
Riffle Slope (ft/ft)	0.003	0.018	0.016	0.048	0.009	31																																									
Pool Length (ft)	1.5	3.2	2.9	12.5	2.1	30																																									
Pool Max Depth (ft)	0.1	1.4	1.4	2.1	0.3	33																																									
Pool Spacing (ft)	14.4	26.0	22.2	77.4	13.7	31																																									
Pattern																																															
Channel Belt Width (ft)	16.7	18.7	18.0	22.2	2.5	4																																									
Radius of Curvature (ft)	9.3	13.1	13.6	16.4	2.9	6																																									
Rc: Bankfull Width (ft/ft)	1.4	2.1	2.1	2.6	0.5	2																																									
Meander Wavelength (ft)	34.4	45.9	39.9	62.7	12.5	6																																									
Meander Width Ratio	2.6	2.9	2.8	3.5	0.4	4																																									
Additional Reach Parameters																																															
Rosgen Classification	B4																																														
Channel Thalweg Length (ft)	835																																														
Sinuosity (ft)	1.03																																														
Water Surface Slope (Channel) (ft/ft)	0.024																																														
Bankfull Slope (ft/ft)	0.020																																														
Ri% / Ru% / P% / G% / S%	68%	0%	12.0%	8%	11%																																									

N/A - Information does not apply.
Ri = Riffle / Ru = Run / P = Pool / G = Glide / S = Step

Table 11b cont'd. Monitoring Data - Stream Reach Data Summary
Pee Dee Stream Restoration Site - Dale Branch 5 (679 feet)

Parameter	Baseline						MY - 1						MY - 2						MY - 3						MY - 4						MY - 5						MY - 6						MY - 7					
Dimension & Substrate - Riffle	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**
Bankfull Width (ft)	7.1	7.1	7.1	7.1	-	1	7.9	7.9	7.9	7.9	-	1																																				
Floodprone Width (ft)	23.9	23.9	23.9	23.9	-	1	25.0	25.0	25.0	25.0	-	1																																				
Bankfull Mean Depth (ft)	0.5	0.5	0.5	0.5	-	1	0.5	0.5	0.5	0.5	-	1																																				
Bankfull Max Depth (ft)	0.7	0.7	0.7	0.7	-	1	0.8	0.8	0.8	0.8	-	1																																				
Bankfull Cross-Sectional Area (ft^2)	3.3	3.3	3.3	3.3	-	1	3.8	3.8	3.8	3.8	-	1																																				
Width/Depth Ratio	15.2	15.2	15.2	15.2	-	1	16.2	16.2	16.2	16.2	-	1																																				
Entrenchment Ratio	3.4	3.4	3.4	3.4	-	1	3.2	3.2	3.2	3.2	-	1																																				
Bank Height Ratio	1.0	1.0	1.0	1.0	-	1	1.0	1.0	1.0	1.0	-	1																																				
Profile																																															
Riffle Length (ft)	7.2	18.3	20.3	25.1	6.0	11																																									
Riffle Slope (ft/ft)	0.005	0.022	0.024	0.044	0.011	11																																									
Pool Length (ft)	1.8	3.0	3.1	4.0	0.7	12																																									
Pool Max Depth (ft)	1.1	1.5	1.4	2.2	0.4	11																																									
Pool Spacing (ft)	12.1	26.4	28.4	35.2	6.8	11																																									
Pattern																																															
Channel Belt Width (ft)	13.2	15.3	15.6	17.1	1.9	3																																									
Radius of Curvature (ft)	8.7	14.1	15.6	16.7	3.6	4																																									
Rc: Bankfull Width (ft/ft)	1.2	2.0	2.2	2.4	0.5	2																																									
Meander Wavelength (ft)	47.9	56.4	54.8	67.7	7.2	6																																									
Meander Width Ratio	1.9	2.2	2.2	2.4	0.3	3																																									
Additional Reach Parameters																																															
Rosgen Classification	B4																																														
Channel Thalweg Length (ft)	679																																														
Sinuosity (ft)	0.977																																														
Water Surface Slope (Channel) (ft/ft)	0.024																																														
Bankfull Slope (ft/ft)	0.024																																														
Ri% / Ru% / P% / G% / S%	68%	0%	12%	13%	7%																																									

N/A - Information does not apply.
Ri = Riffle / Ru = Run / P = Pool / G = Glide / S = Step

Table 11b cont'd. Monitoring Data - Stream Reach Data Summary
Pee Dee Stream Restoration Site - Thompson Branch 1 (530 feet)

Parameter	Baseline						MY - 1						MY - 2						MY - 3						MY - 4						MY - 5						MY - 6						MY - 7					
Dimension & Substrate - Riffle	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**
Bankfull Width (ft)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Floodprone Width (ft)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bankfull Mean Depth (ft)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bankfull Max Depth (ft)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bankfull Cross-Sectional Area (ft^2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Width/Depth Ratio	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Entrenchment Ratio	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bank Height Ratio	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Profile																																																
Riffle Length (ft)	44.7	44.7	44.7	44.7	-	1.0																																									
Riffle Slope (ft/ft)	0.006	0.006	0.006	0.006	-	1.0																																									
Pool Length (ft)	9.6	20.6	17.0	35.0	11.6	6.0																																									
Pool Max Depth (ft)	1.6	2.0	1.9	2.3	0.3	7.0																																									
Pool Spacing (ft)	11.0	22.3	18.3	36.5	11.2	6.0																																									
Pattern																																															
Channel Belt Width (ft)	19.0	26.1	22.9	36.4	9.1	3																																									
Radius of Curvature (ft)	12.3	13.1	13.2	13.7	0.7	3																																									
Rc: Bankfull Width (ft/ft)	1.4	1.5	1.5	1.6	0.1	2																																									
Meander Wavelength (ft)	60.7	94.7	81.4	155.2	44.0	4																																									
Meander Width Ratio	2.2	3.0	2.6	4.1	1.0	3																																									
Additional Reach Parameters																																															
Rosgen Classification	B4																																														
Channel Thalweg Length (ft)	530																																														
Sinuosity (ft)	1.06																																														
Water Surface Slope (Channel) (ft/ft)	0.031																																														
Bankfull Slope (ft/ft)	0.030																																														
Ri% / Ru% / P% / G% / S%	25%	0%	69%	0%	6%																																									

N/A - Information does not apply.
Ri = Riffle / Ru = Run / P = Pool / G = Glide / S = Step

Table 11b cont'd. Monitoring Data - Stream Reach Data Summary
Pee Dee Stream Restoration Site - Thompson Branch 2 (1,061 feet)

Parameter	Baseline						MY - 1						MY - 2						MY - 3						MY - 4						MY - 5						MY - 6						MY - 7					
Dimension & Substrate - Riffle	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**	**Min**	**Mean**	**Med**	**Max**	**SD**	**n**
Bankfull Width (ft)	7.5	7.6	7.6	7.6	0.1	2	7.7	7.7	7.7	7.7	0.0	2																																				
Floodprone Width (ft)	31.1	32.7	32.7	34.3	2.3	2	30.0	30.0	30.0	30.0	0.0	2																																				
Bankfull Mean Depth (ft)	0.6	0.6	0.6	0.6	0.0	2	0.6	0.6	0.6	0.6	0.0	2																																				
Bankfull Max Depth (ft)	1.1	1.2	1.2	1.2	0.1	2	0.9	1.0	1.0	1.0	0.1	2																																				
Bankfull Cross-Sectional Area (ft^2)	4.2	4.3	4.3	4.3	0.1	2	4.4	4.4	4.4	4.4	0.0	2																																				
Width/Depth Ratio	13.3	13.4	13.4	13.4	0.1	2	13.5	13.5	13.5	13.5	0.0	2																																				
Entrenchment Ratio	4.1	4.3	4.3	4.5	0.3	2	3.9	3.9	3.9	3.9	0.0	2																																				
Bank Height Ratio	1.0	1.0	1.0	1.0	0.0	2	1.0	1.0	1.0	1.0	0.0	2																																				
Profile																																															
Riffle Length (ft)	10.0	15.8	15.2	25.4	3.9	32																																									
Riffle Slope (ft/ft)	0.005	0.014	0.013	0.023	0.005	32																																									
Pool Length (ft)	1.8	5.0	4.6	18.3	3.0	32																																									
Pool Max Depth (ft)	1.4	2.1	2.0	2.6	0.3	32																																									
Pool Spacing (ft)	19.5	27.5	25.9	54.0	7.4	32																																									
Pattern																																															
Channel Belt Width (ft)	14.4	22.4	19.5	37.8	8.2	6																																									
Radius of Curvature (ft)	10.5	18.3	18.5	25.9	6.7	4																																									
Rc: Bankfull Width (ft/ft)	1.4	2.4	2.5	3.5	0.9	3																																									
Meander Wavelength (ft)	34.3	48.7	50.5	60.9	9.8	6																																									
Meander Width Ratio	2.2	3.0	2.6	4.1	1.0	3																																									
Additional Reach Parameters																																															
Rosgen Classification	B4																																														
Channel Thalweg Length (ft)	1,061																																														
Sinuosity (ft)	1.05																																														
Water Surface Slope (Channel) (ft/ft)	0.020																																														
Bankfull Slope (ft/ft)	0.022																																														
Ri% / Ru% / P% / G% / S%	57%	0%	18%	11%	14%																																									

N/A - Information does not apply.
Ri = Riffle / Ru = Run / P = Pool / G = Glide / S = Step

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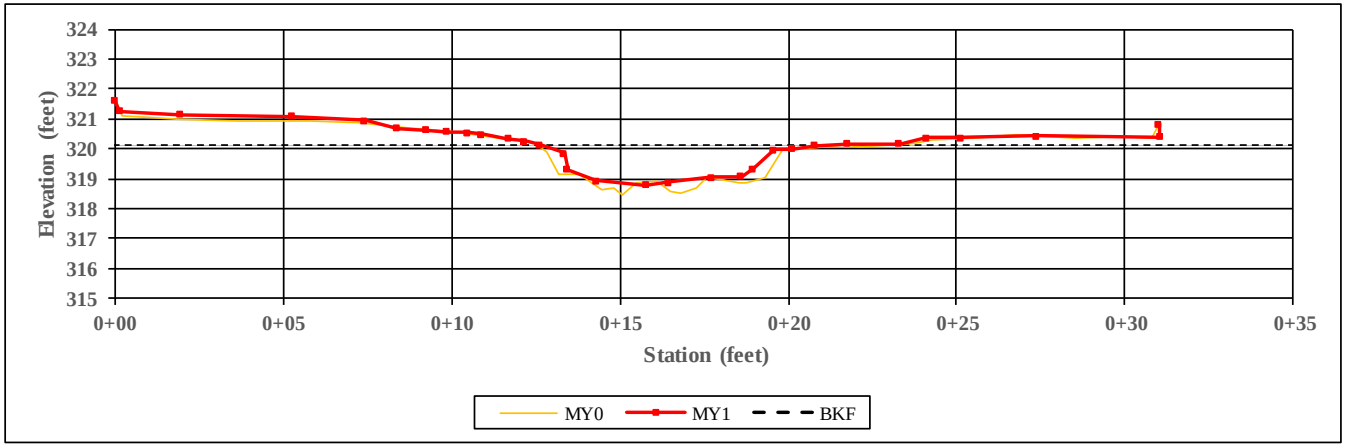
Project Name: Pee Dee **XS Number:** 1 **Station:** 304+26

Reach Name: Jerry Branch 1 **XS Type:** Pool



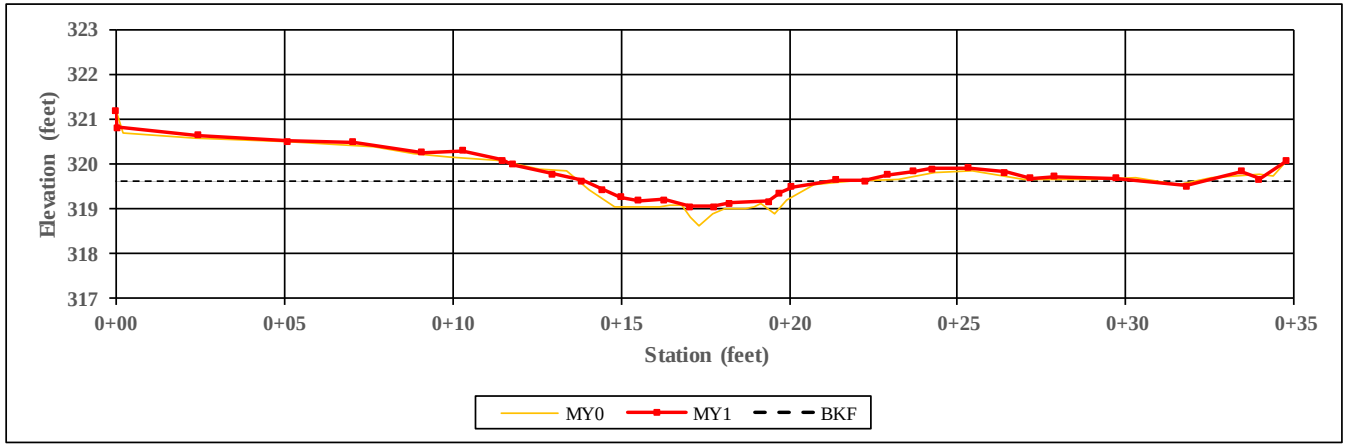
CHANNEL DIMENSIONS SUMMARY	MY0	MY1	MY2	MY3	MY4	MY5	MY6	MY7
Bankful Width (ft)	9.1	8.3						
Floodprone Width (ft)	25.0	25.0						
Bankfull Mean Depth (ft)	0.9	0.8						
Bankfull Max Depth (ft)	1.7	1.3						
Bankfull Cross-Sectional Area (ft^2)	8.5	6.8						
Width/Depth Ratio	9.8	10.1						
Entrenchment Ratio	2.7	3.0						
Bank Height Ratio	1.0	1.0						

Left Descending Bank

Right Descending Bank

Project Name: Pee Dee **XS Number:** 2 **Station:** 304+47

Reach Name: Jerry Branch 1 **XS Type:** Riffle



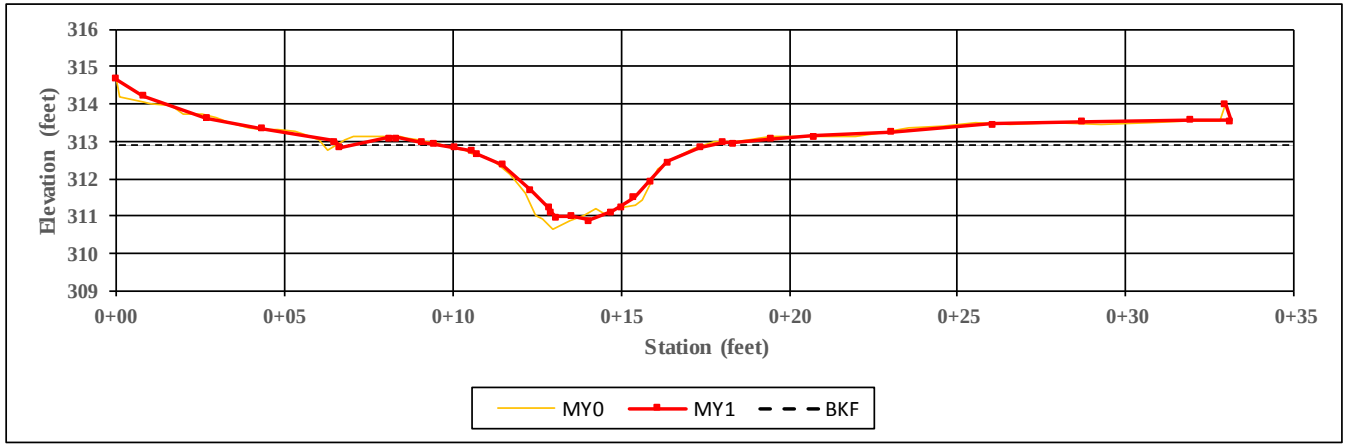
CHANNEL DIMENSIONS SUMMARY	MY0	MY1	MY2	MY3	MY4	MY5	MY6	MY7
Bankful Width (ft)	8.1	7.0						
Floodprone Width (ft)	30.0	30.0						
Bankfull Mean Depth (ft)	0.5	0.3						
Bankfull Max Depth (ft)	1.0	0.5						
Bankfull Cross-Sectional Area (ft^2)	3.7	2.4						
Width/Depth Ratio	17.7	20.3						
Entrenchment Ratio	3.7	4.3						
Bank Height Ratio	1.0	1.0						

Left Descending Bank

Right Descending Bank

Project Name: Pee Dee **XS Number:** 3 **Station:** 306+91

Reach Name: Jerry Branch 2 **XS Type:** Pool



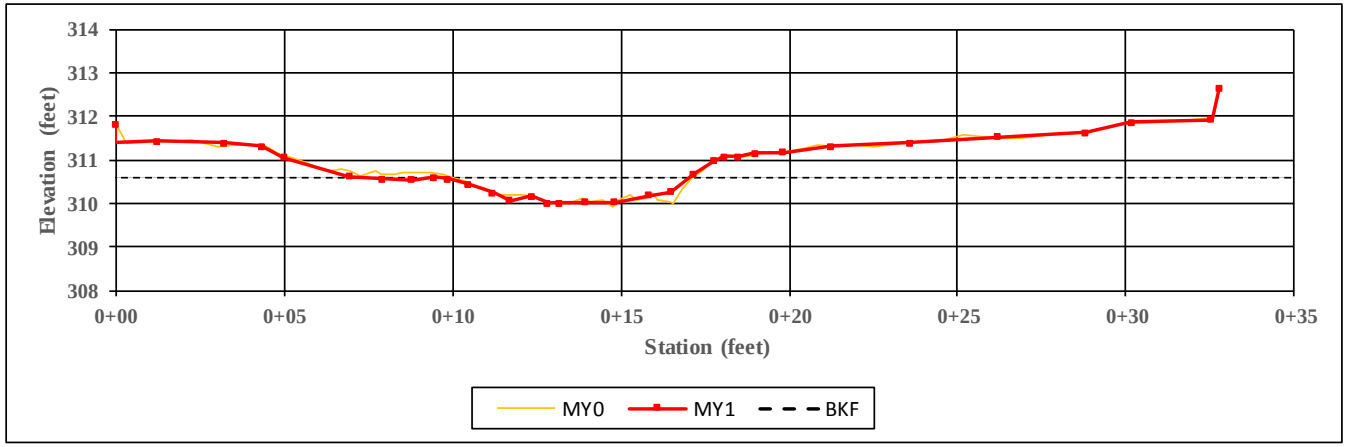
CHANNEL DIMENSIONS SUMMARY	MY0	MY1	MY2	MY3	MY4	MY5	MY6	MY7
Bankful Width (ft)	7.8	8.1						
Floodprone Width (ft)	30.0	30.0						
Bankfull Mean Depth (ft)	1.1	1.0						
Bankfull Max Depth (ft)	2.3	2.0						
Bankfull Cross-Sectional Area (ft^2)	8.3	7.7						
Width/Depth Ratio	7.4	8.4						
Entrenchment Ratio	3.8	3.7						
Bank Height Ratio	1.0	1.0						

Left Descending Bank

Right Descending Bank

Project Name: Pee Dee **XS Number:** 4 **Station:** 307+69

Reach Name: Jerry Branch 2 **XS Type:** Riffle



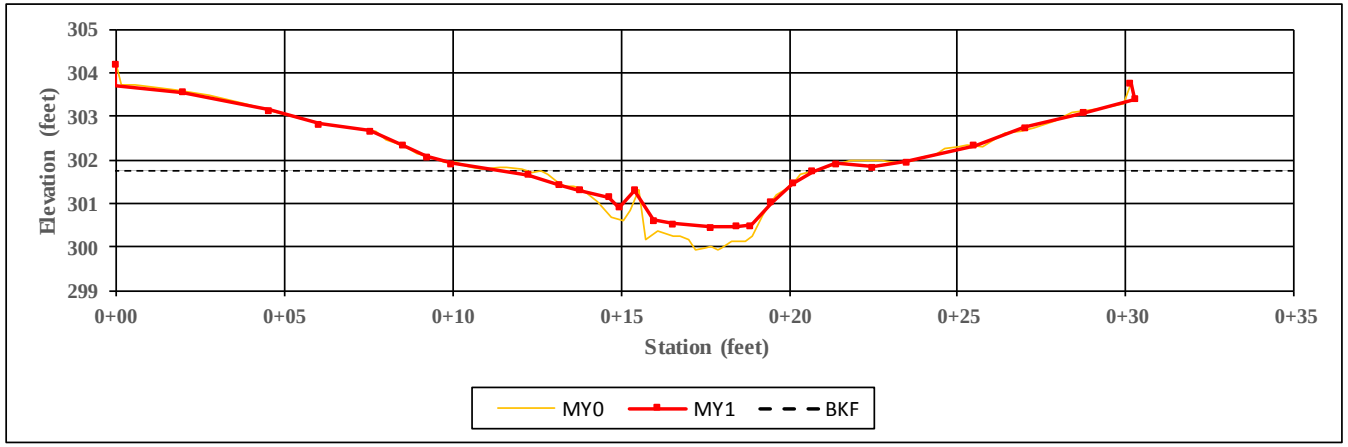
CHANNEL DIMENSIONS SUMMARY	MY0	MY1	MY2	MY3	MY4	MY5	MY6	MY7
Bankful Width (ft)	7.1	7.2						
Floodprone Width (ft)	25.0	25.0						
Bankfull Mean Depth (ft)	0.4	0.4						
Bankfull Max Depth (ft)	0.7	0.6						
Bankfull Cross-Sectional Area (ft^2)	3.1	3.0						
Width/Depth Ratio	16.4	17.0						
Entrenchment Ratio	3.5	3.5						
Bank Height Ratio	1.0	1.0						

Left Descending Bank

Right Descending Bank

Project Name: Pee Dee **XS Number:** 5 **Station:** 311+52

Reach Name: Jerry Branch 3 **XS Type:** Pool



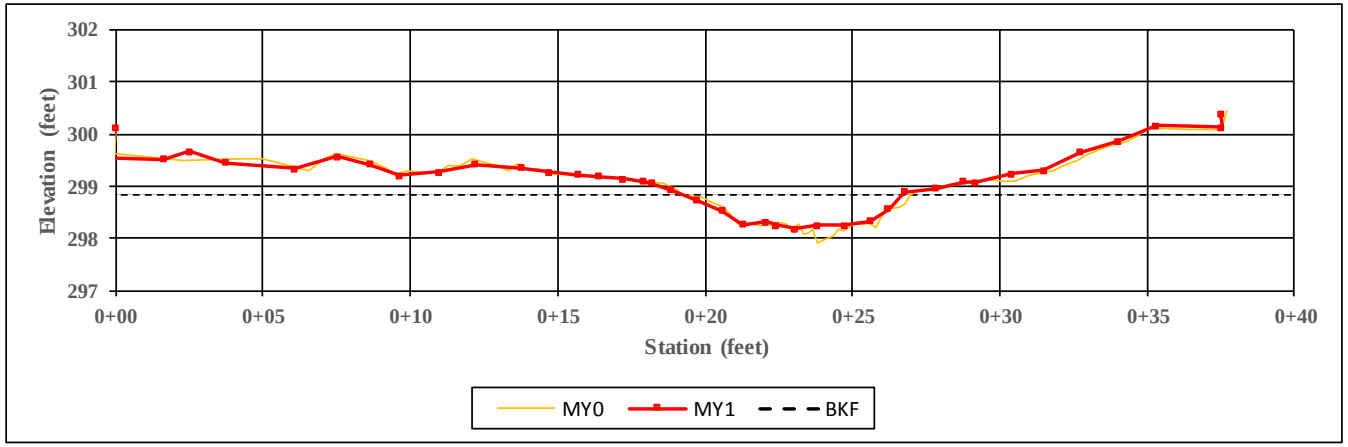
CHANNEL DIMENSIONS SUMMARY	MY0	MY1	MY2	MY3	MY4	MY5	MY6	MY7
Bankful Width (ft)	8.1	9.2						
Floodprone Width (ft)	25.0	25.0						
Bankfull Mean Depth (ft)	1.0	0.7						
Bankfull Max Depth (ft)	1.8	1.3						
Bankfull Cross-Sectional Area (ft^2)	7.9	6.3						
Width/Depth Ratio	8.3	13.2						
Entrenchment Ratio	3.1	2.7						
Bank Height Ratio	1.0	1.0						

Left Descending Bank

Right Descending Bank

Project Name: Pee Dee **XS Number:** 6 **Station:** 312+60

Reach Name: Jerry Branch 3 **XS Type:** Riffle



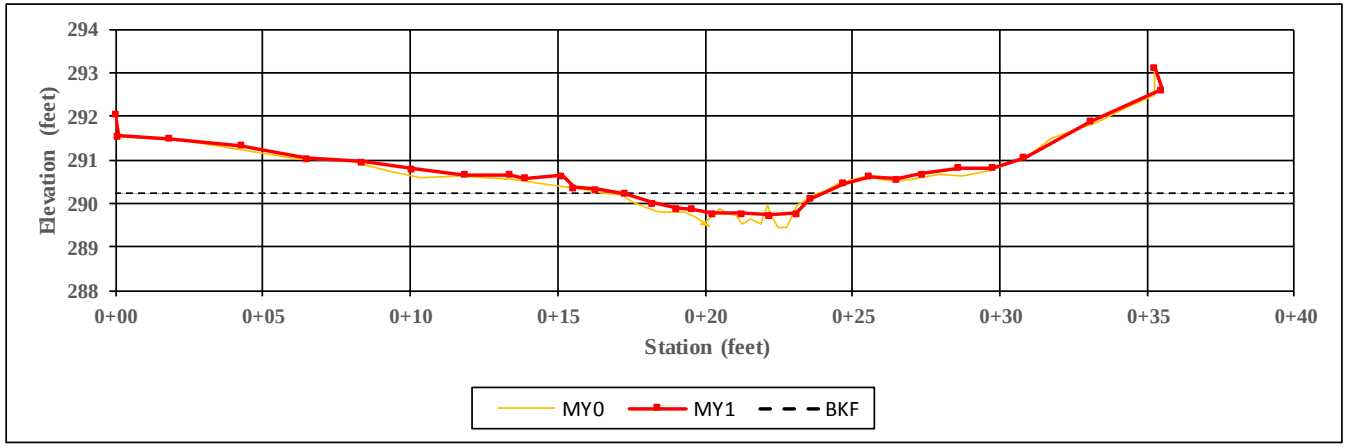
CHANNEL DIMENSIONS SUMMARY	MY0	MY1	MY2	MY3	MY4	MY5	MY6	MY7
Bankful Width (ft)	7.4	7.5						
Floodprone Width (ft)	30.0	30.0						
Bankfull Mean Depth (ft)	0.4	0.4						
Bankfull Max Depth (ft)	0.9	0.6						
Bankfull Cross-Sectional Area (ft^2)	3.3	3.3						
Width/Depth Ratio	16.6	16.7						
Entrenchment Ratio	4.1	4.0						
Bank Height Ratio	1.0	1.0						

Left Descending Bank

Right Descending Bank

Project Name: Pee Dee **XS Number:** 7 **Station:** 315+86

Reach Name: Jerry Branch 3 **XS Type:** Riffle



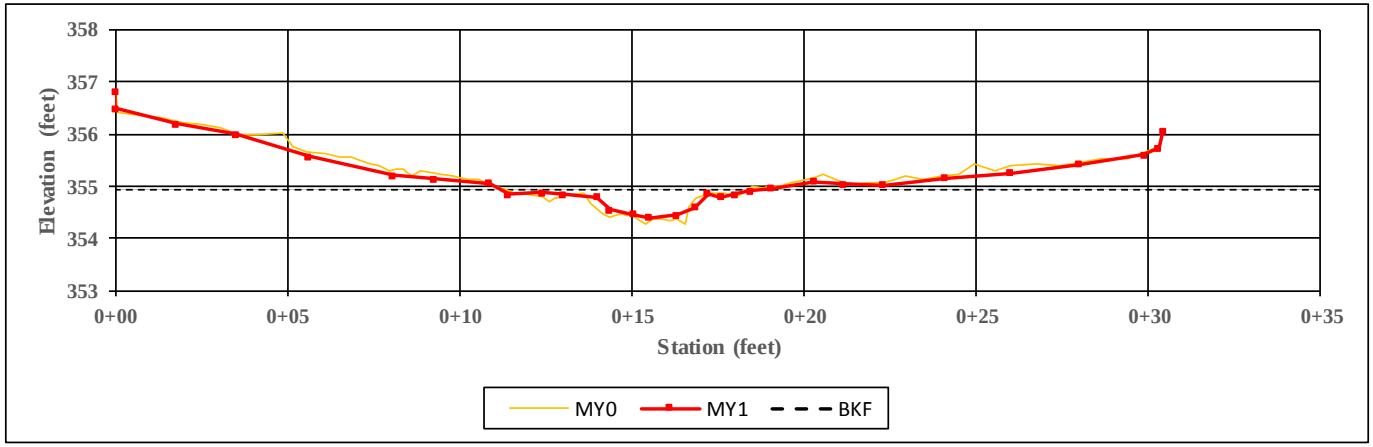
CHANNEL DIMENSIONS SUMMARY	MY0	MY1	MY2	MY3	MY4	MY5	MY6	MY7
Bankful Width (ft)	7.2	6.7						
Floodprone Width (ft)	25.0	25.0						
Bankfull Mean Depth (ft)	0.4	0.3						
Bankfull Max Depth (ft)	0.8	0.5						
Bankfull Cross-Sectional Area (ft^2)	3.0	2.3						
Width/Depth Ratio	17.7	19.4						
Entrenchment Ratio	3.4	3.7						
Bank Height Ratio	1.0	1.0						

Left Descending Bank

Right Descending Bank

Project Name: Pee Dee **XS Number:** 8 **Station:** 208+33

Reach Name: Dale Branch 2 **XS Type:** Riffle



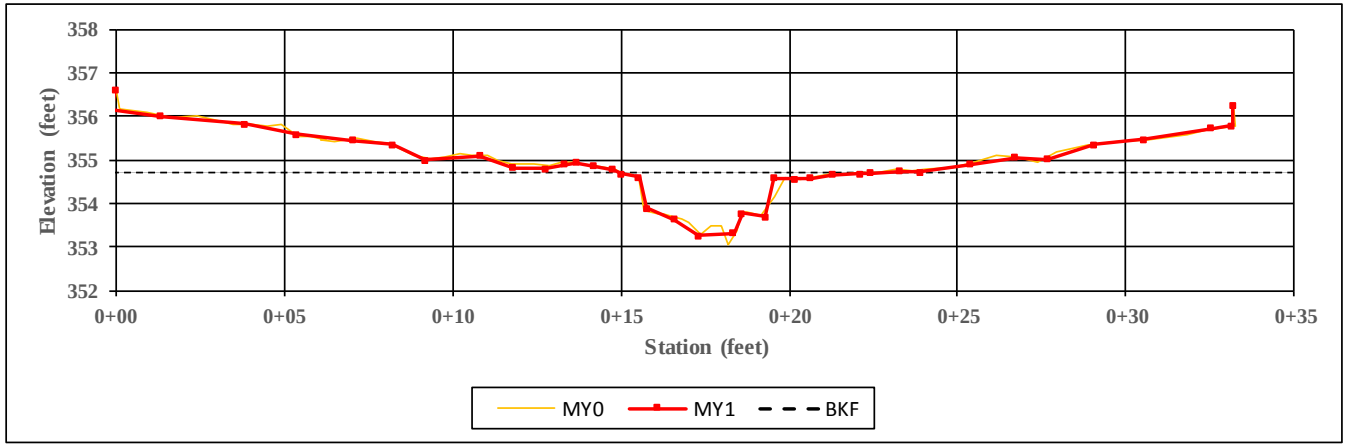
CHANNEL DIMENSIONS SUMMARY	MY0	MY1	MY2	MY3	MY4	MY5	MY6	MY7
Bankful Width (ft)	7.0	7.3						
Floodprone Width (ft)	25.0	25.0						
Bankfull Mean Depth (ft)	0.3	0.2						
Bankfull Max Depth (ft)	0.7	0.5						
Bankfull Cross-Sectional Area (ft^2)	2.0	1.7						
Width/Depth Ratio	24.6	30.6						
Entrenchment Ratio	3.6	3.4						
Bank Height Ratio	1.0	1.0						

Left Descending Bank

Right Descending Bank

Project Name: Pee Dee **XS Number:** 9 **Station:** 208+42

Reach Name: Dale Branch 2 **XS Type:** Pool



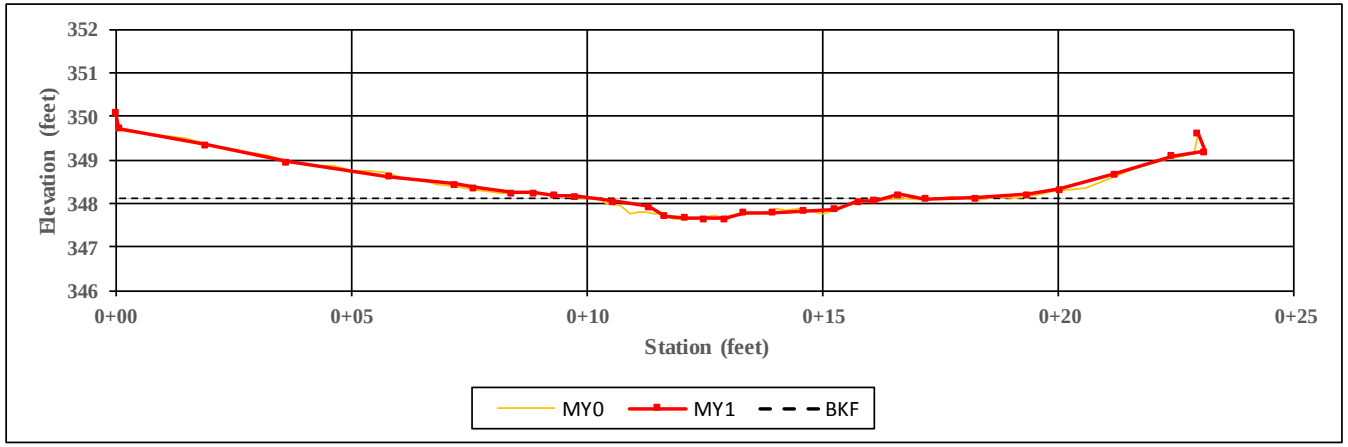
CHANNEL DIMENSIONS SUMMARY	MY0	MY1	MY2	MY3	MY4	MY5	MY6	MY7
Bankful Width (ft)	7.7	8.0						
Floodprone Width (ft)	25.0	25.0						
Bankfull Mean Depth (ft)	0.6	0.6						
Bankfull Max Depth (ft)	1.7	1.5						
Bankfull Cross-Sectional Area (ft^2)	4.8	4.8						
Width/Depth Ratio	12.3	13.5						
Entrenchment Ratio	3.3	3.1						
Bank Height Ratio	1.0	1.0						

Left Descending Bank

Right Descending Bank

Project Name: Pee Dee **XS Number:** 10 **Station:** 210+09

Reach Name: Dale Branch 2 **XS Type:** Riffle



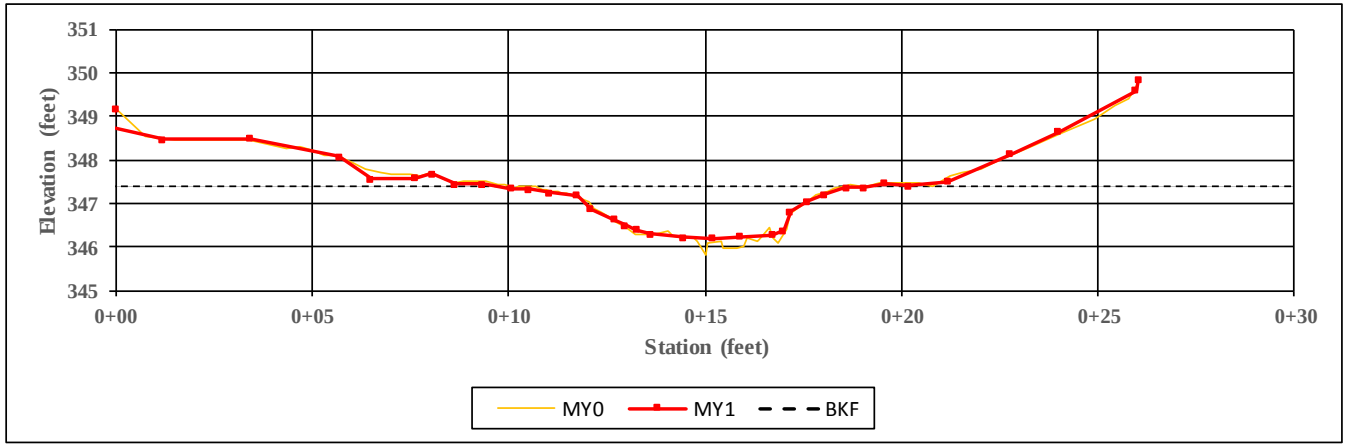
CHANNEL DIMENSIONS SUMMARY	MY0	MY1	MY2	MY3	MY4	MY5	MY6	MY7
Bankful Width (ft)	6.4	6.2						
Floodprone Width (ft)	25.0	25.0						
Bankfull Mean Depth (ft)	0.3	0.3						
Bankfull Max Depth (ft)	0.5	0.5						
Bankfull Cross-Sectional Area (ft^2)	1.8	1.6						
Width/Depth Ratio	22.6	23.7						
Entrenchment Ratio	3.9	4.0						
Bank Height Ratio	1.0	1.0						

Left Descending Bank

Right Descending Bank

Project Name: Pee Dee **XS Number:** 11 **Station:** 210+42

Reach Name: Dale Branch 2 **XS Type:** Pool



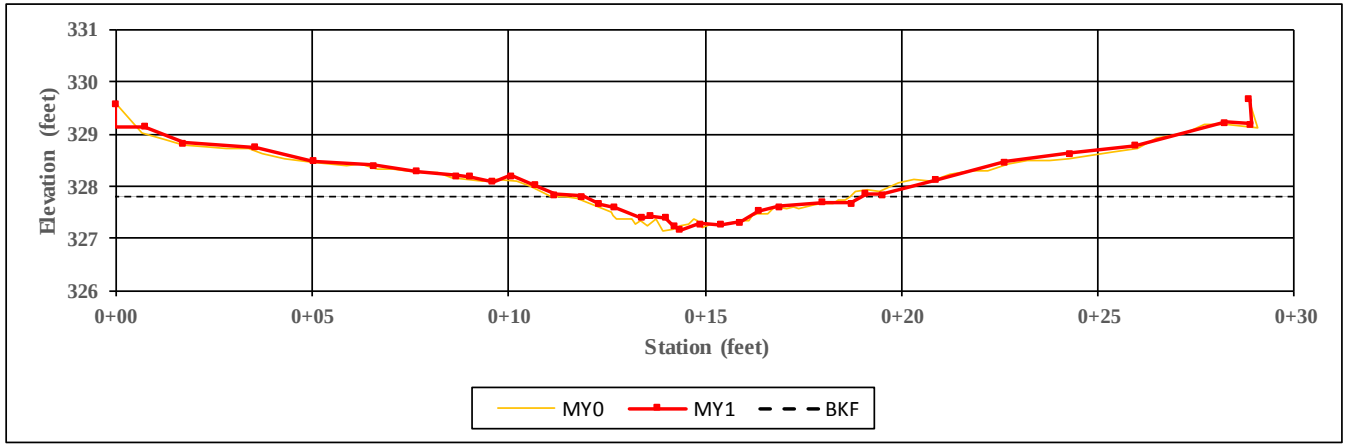
CHANNEL DIMENSIONS SUMMARY	MY0	MY1	MY2	MY3	MY4	MY5	MY6	MY7
Bankful Width (ft)	7.6	8.0						
Floodprone Width (ft)	20.0	20.0						
Bankfull Mean Depth (ft)	0.8	0.7						
Bankfull Max Depth (ft)	1.6	1.2						
Bankfull Cross-Sectional Area (ft^2)	6.1	5.9						
Width/Depth Ratio	9.5	10.9						
Entrenchment Ratio	2.6	2.5						
Bank Height Ratio	1.0	1.0						

Left Descending Bank

Right Descending Bank

Project Name: Pee Dee **XS Number:** 12 **Station:** 217+76

Reach Name: Dale Branch 3 **XS Type:** Riffle



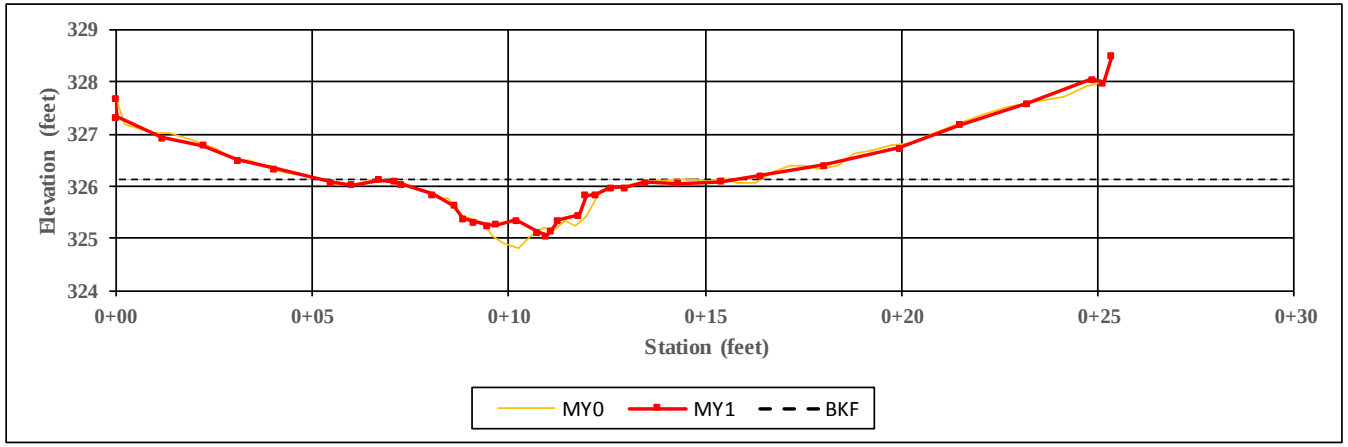
CHANNEL DIMENSIONS SUMMARY	MY0	MY1	MY2	MY3	MY4	MY5	MY6	MY7
Bankful Width (ft)	7.3	7.1						
Floodprone Width (ft)	20.0	20.0						
Bankfull Mean Depth (ft)	0.3	0.3						
Bankfull Max Depth (ft)	0.7	0.6						
Bankfull Cross-Sectional Area (ft^2)	2.5	2.2						
Width/Depth Ratio	21.1	23.1						
Entrenchment Ratio	2.8	2.8						
Bank Height Ratio	1.0	1.0						

Left Descending Bank

Right Descending Bank

Project Name: Pee Dee **XS Number:** 13 **Station:** 218+20

Reach Name: Dale Branch 3 **XS Type:** Pool



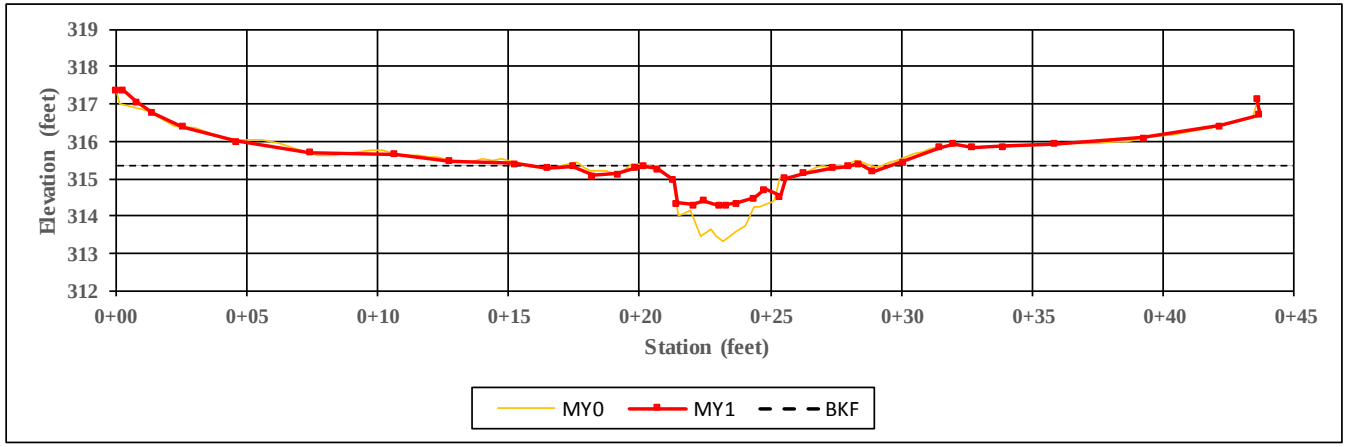
CHANNEL DIMENSIONS SUMMARY	MY0	MY1	MY2	MY3	MY4	MY5	MY6	MY7
Bankful Width (ft)	7.8	7.6						
Floodprone Width (ft)	20.0	20.0						
Bankfull Mean Depth (ft)	0.5	0.5						
Bankfull Max Depth (ft)	1.3	1.1						
Bankfull Cross-Sectional Area (ft^2)	3.9	3.5						
Width/Depth Ratio	15.7	16.7						
Entrenchment Ratio	2.6	2.6						
Bank Height Ratio	1.0	1.0						

Left Descending Bank

Right Descending Bank

Project Name: Pee Dee **XS Number:** 14 **Station:** 223+32

Reach Name: Dale Branch 4 **XS Type:** Pool



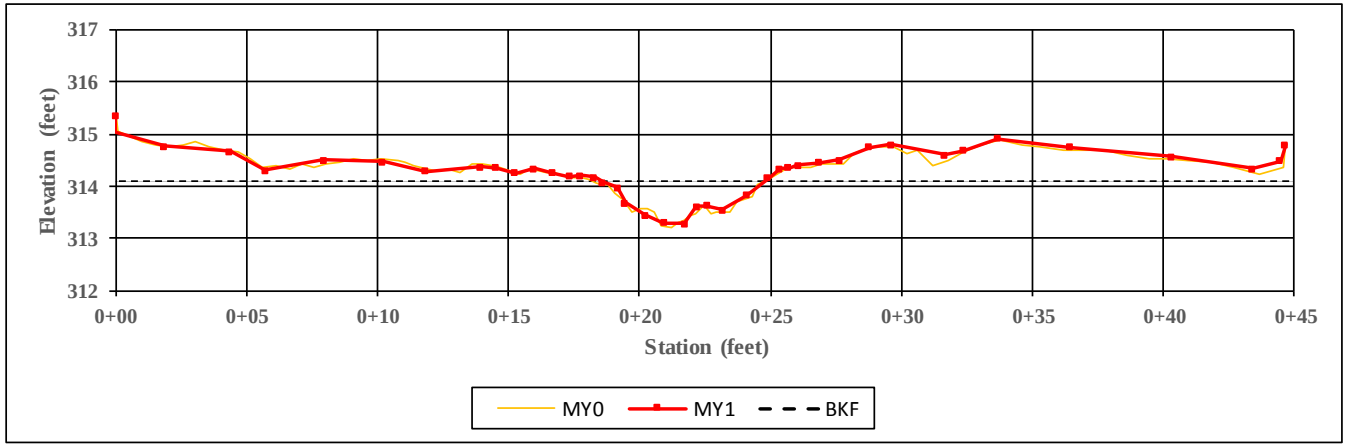
CHANNEL DIMENSIONS SUMMARY	MY0	MY1	MY2	MY3	MY4	MY5	MY6	MY7
Bankful Width (ft)	6.7	7.2						
Floodprone Width (ft)	30.0	30.0						
Bankfull Mean Depth (ft)	0.9	0.6						
Bankfull Max Depth (ft)	2.0	1.0						
Bankfull Cross-Sectional Area (ft^2)	6.2	4.3						
Width/Depth Ratio	7.1	12.1						
Entrenchment Ratio	4.5	4.2						
Bank Height Ratio	1.0	1.0						

Left Descending Bank

Right Descending Bank

Project Name: Pee Dee **XS Number:** 15 **Station:** 223+72

Reach Name: Dale Branch 4 **XS Type:** Riffle



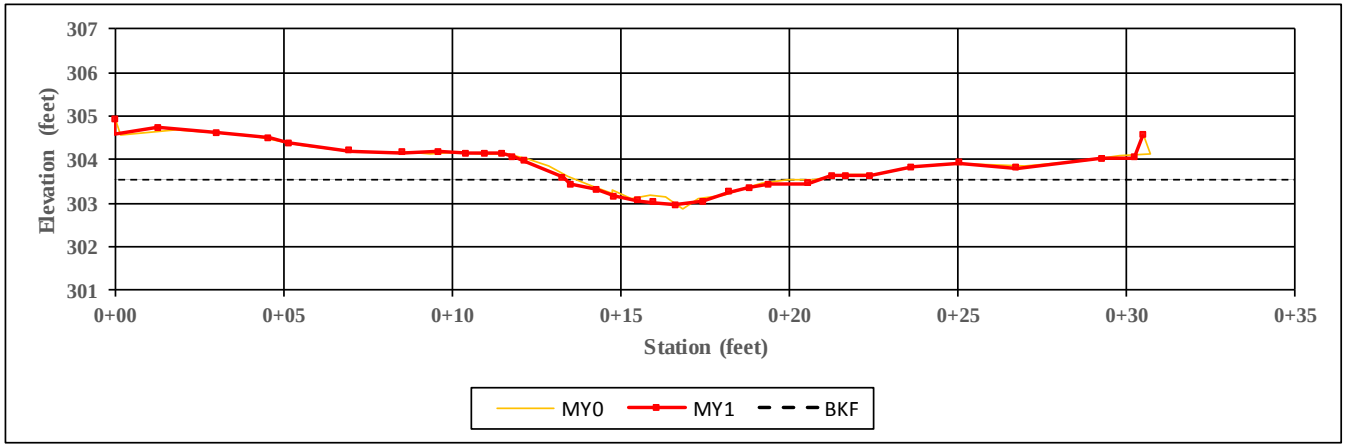
CHANNEL DIMENSIONS SUMMARY	MY0	MY1	MY2	MY3	MY4	MY5	MY6	MY7
Bankful Width (ft)	6.5	6.2						
Floodprone Width (ft)	40.0	40.0						
Bankfull Mean Depth (ft)	0.5	0.5						
Bankfull Max Depth (ft)	0.9	0.8						
Bankfull Cross-Sectional Area (ft^2)	3.1	2.9						
Width/Depth Ratio	13.8	13.2						
Entrenchment Ratio	6.1	6.5						
Bank Height Ratio	1.0	1.0						

Left Descending Bank

Right Descending Bank

Project Name: Pee Dee **XS Number:** 16 **Station:** 227+39

Reach Name: Dale Branch 4 **XS Type:** Riffle



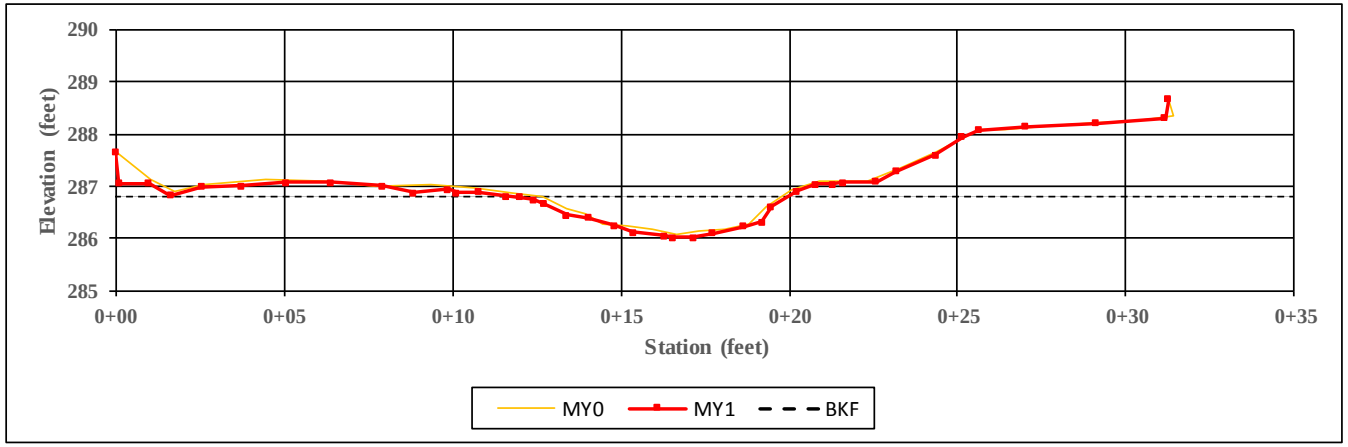
CHANNEL DIMENSIONS SUMMARY	MY0	MY1	MY2	MY3	MY4	MY5	MY6	MY7
Bankful Width (ft)	6.3	7.2						
Floodprone Width (ft)	25.0	25.0						
Bankfull Mean Depth (ft)	0.3	0.3						
Bankfull Max Depth (ft)	0.7	0.6						
Bankfull Cross-Sectional Area (ft^2)	1.9	2.3						
Width/Depth Ratio	21.0	23.0						
Entrenchment Ratio	4.0	3.5						
Bank Height Ratio	1.0	1.0						

Left Descending Bank

Right Descending Bank

Project Name: Pee Dee **XS Number:** 17 **Station:** 232+43

Reach Name: Dale Branch 5 **XS Type:** Riffle



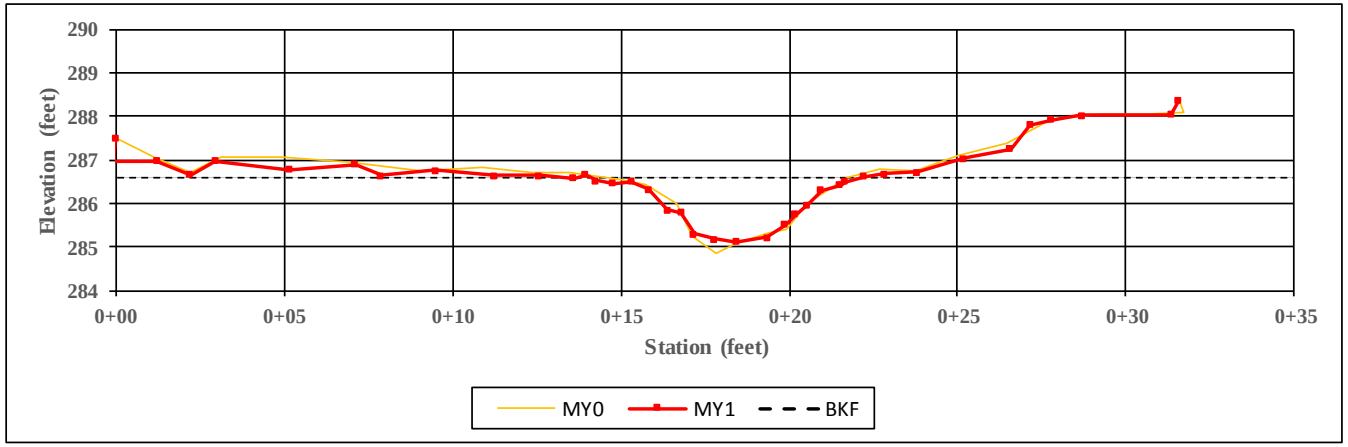
CHANNEL DIMENSIONS SUMMARY	MY0	MY1	MY2	MY3	MY4	MY5	MY6	MY7
Bankful Width (ft)	7.1	7.9						
Floodprone Width (ft)	25.0	25.0						
Bankfull Mean Depth (ft)	0.5	0.5						
Bankfull Max Depth (ft)	0.7	0.8						
Bankfull Cross-Sectional Area (ft^2)	3.3	3.8						
Width/Depth Ratio	15.2	16.2						
Entrenchment Ratio	3.5	3.2						
Bank Height Ratio	1.0	1.0						

Left Descending Bank

Right Descending Bank

Project Name: Pee Dee **XS Number:** 18 **Station:** 232+54

Reach Name: Dale Branch 5 **XS Type:** Pool



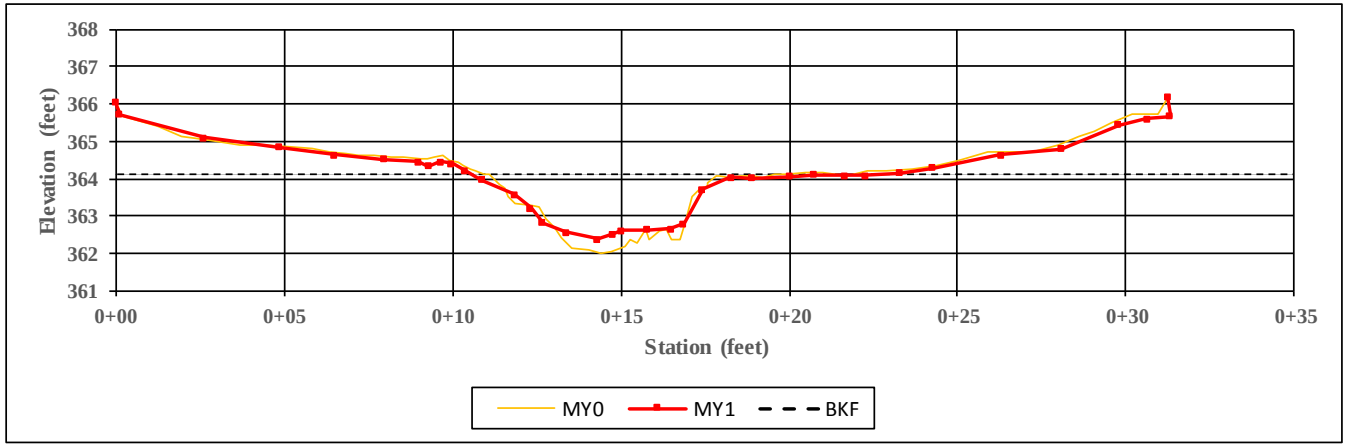
CHANNEL DIMENSIONS SUMMARY	MY0	MY1	MY2	MY3	MY4	MY5	MY6	MY7
Bankful Width (ft)	7.2	8.0						
Floodprone Width (ft)	25.0	25.0						
Bankfull Mean Depth (ft)	0.8	0.7						
Bankfull Max Depth (ft)	1.7	1.5						
Bankfull Cross-Sectional Area (ft^2)	5.9	5.8						
Width/Depth Ratio	8.7	11.0						
Entrenchment Ratio	3.5	3.1						
Bank Height Ratio	1.0	1.0						

Left Descending Bank

Right Descending Bank

Project Name: Pee Dee **XS Number:** 19 **Station:** 108+93

Reach Name: Thompson Branch 2 **XS Type:** Pool



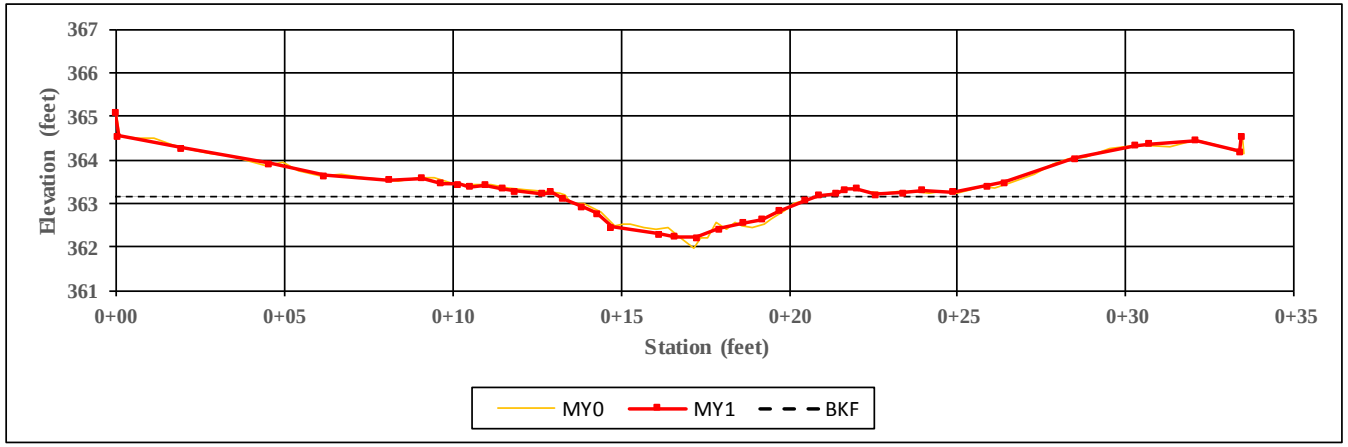
CHANNEL DIMENSIONS SUMMARY	MY0	MY1	MY2	MY3	MY4	MY5	MY6	MY7
Bankful Width (ft)	8.4	9.2						
Floodprone Width (ft)	30.0	30.0						
Bankfull Mean Depth (ft)	1.0	0.9						
Bankfull Max Depth (ft)	2.1	1.7						
Bankfull Cross-Sectional Area (ft^2)	8.8	8.1						
Width/Depth Ratio	8.0	10.4						
Entrenchment Ratio	3.6	3.3						
Bank Height Ratio	1.0	1.0						

Left Descending Bank

Right Descending Bank

Project Name: Pee Dee **XS Number:** 20 **Station:** 109+30

Reach Name: Thompson Branch 2 **XS Type:** Riffle



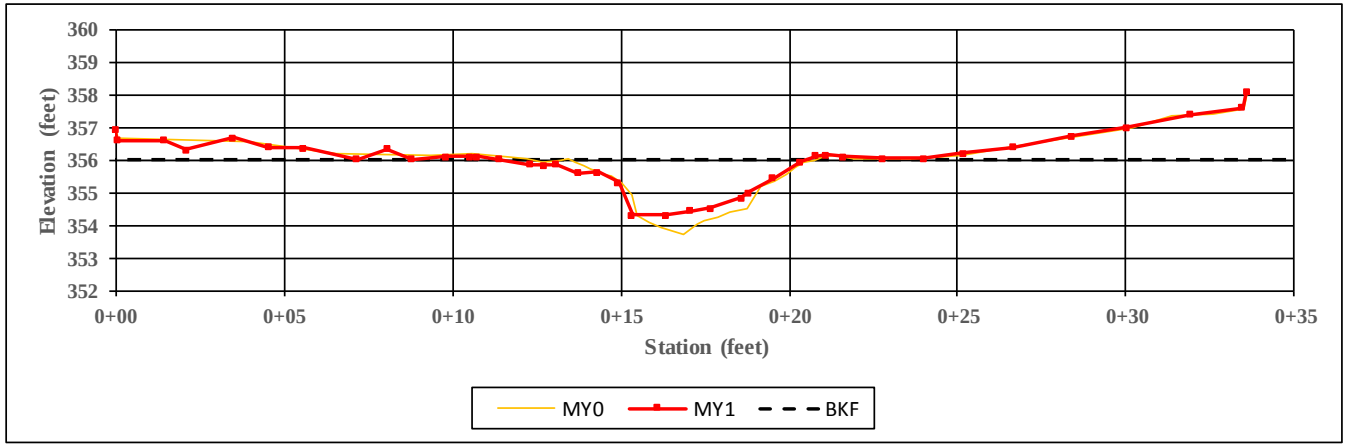
CHANNEL DIMENSIONS SUMMARY	MY0	MY1	MY2	MY3	MY4	MY5	MY6	MY7
Bankful Width (ft)	7.5	7.7						
Floodprone Width (ft)	30.0	30.0						
Bankfull Mean Depth (ft)	0.6	0.6						
Bankfull Max Depth (ft)	1.2	0.9						
Bankfull Cross-Sectional Area (ft^2)	4.2	4.4						
Width/Depth Ratio	13.3	13.5						
Entrenchment Ratio	4.0	3.9						
Bank Height Ratio	1.0	1.0						

Left Descending Bank

Right Descending Bank

Project Name: Pee Dee **XS Number:** 21 **Station:** 112+09

Reach Name: Thompson Branch 2 **XS Type:** Pool



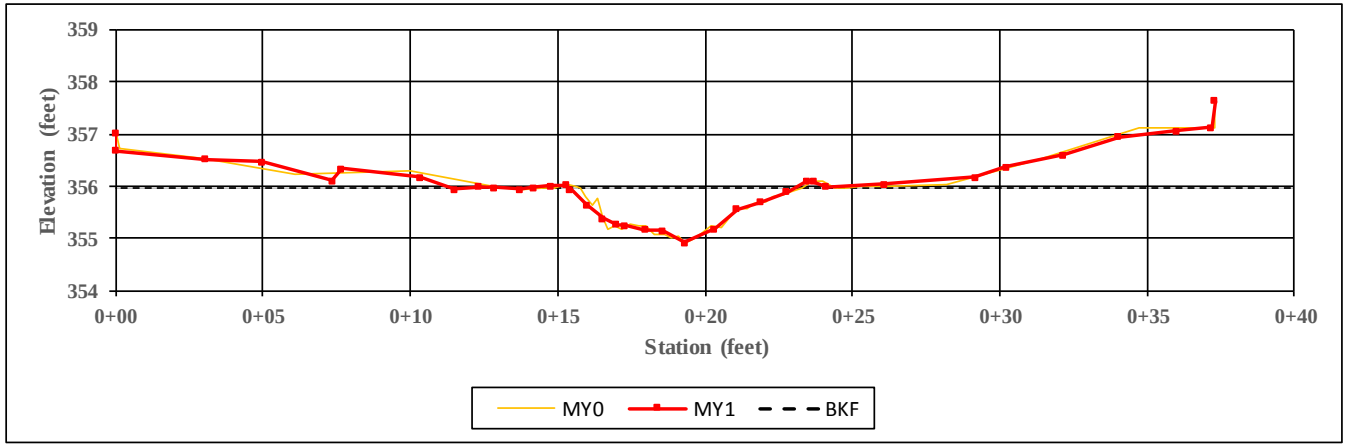
CHANNEL DIMENSIONS SUMMARY	MY0	MY1	MY2	MY3	MY4	MY5	MY6	MY7
Bankful Width (ft)	8.6	9.1						
Floodprone Width (ft)	30.0	30.0						
Bankfull Mean Depth (ft)	1.0	0.8						
Bankfull Max Depth (ft)	2.3	1.7						
Bankfull Cross-Sectional Area (ft^2)	8.5	7.5						
Width/Depth Ratio	8.7	10.9						
Entrenchment Ratio	3.5	3.3						
Bank Height Ratio	1.0	1.0						

Left Descending Bank

Right Descending Bank

Project Name: Pee Dee **XS Number:** 22 **Station:** 112+19

Reach Name: Thompson Branch 2 **XS Type:** Riffle

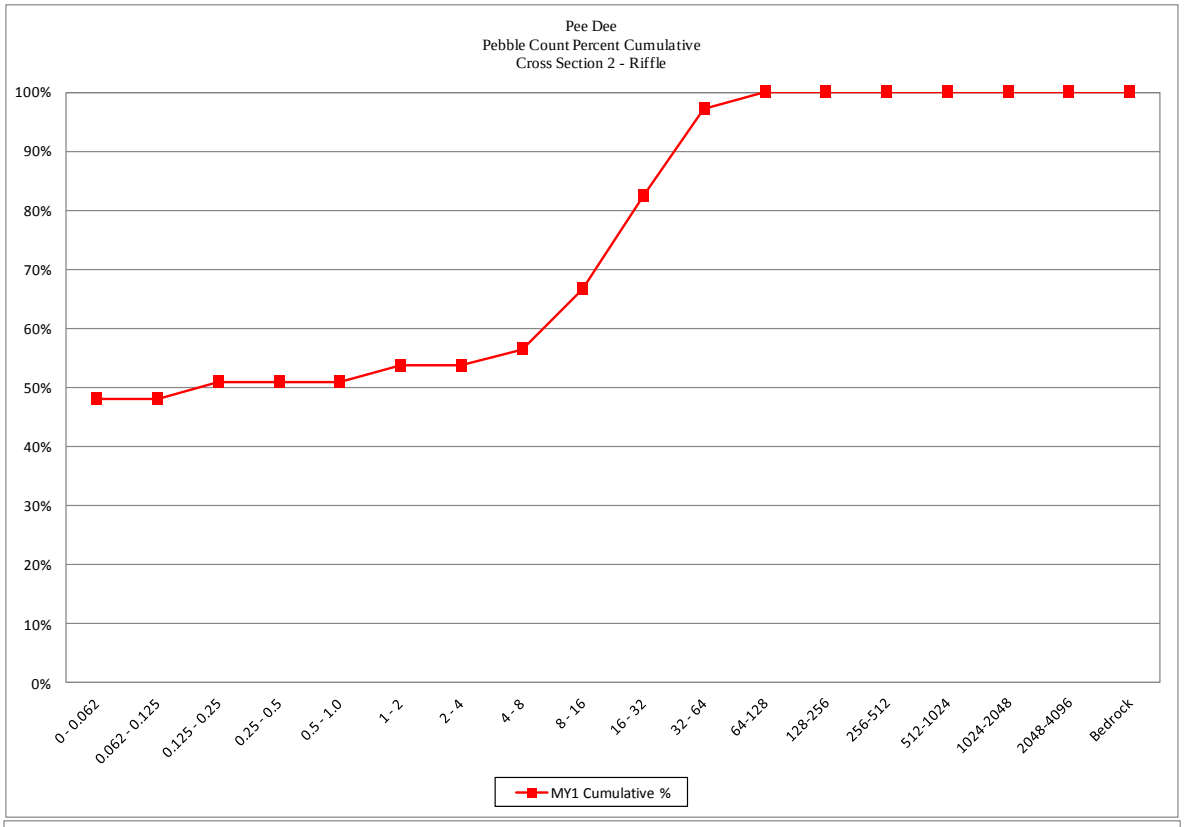


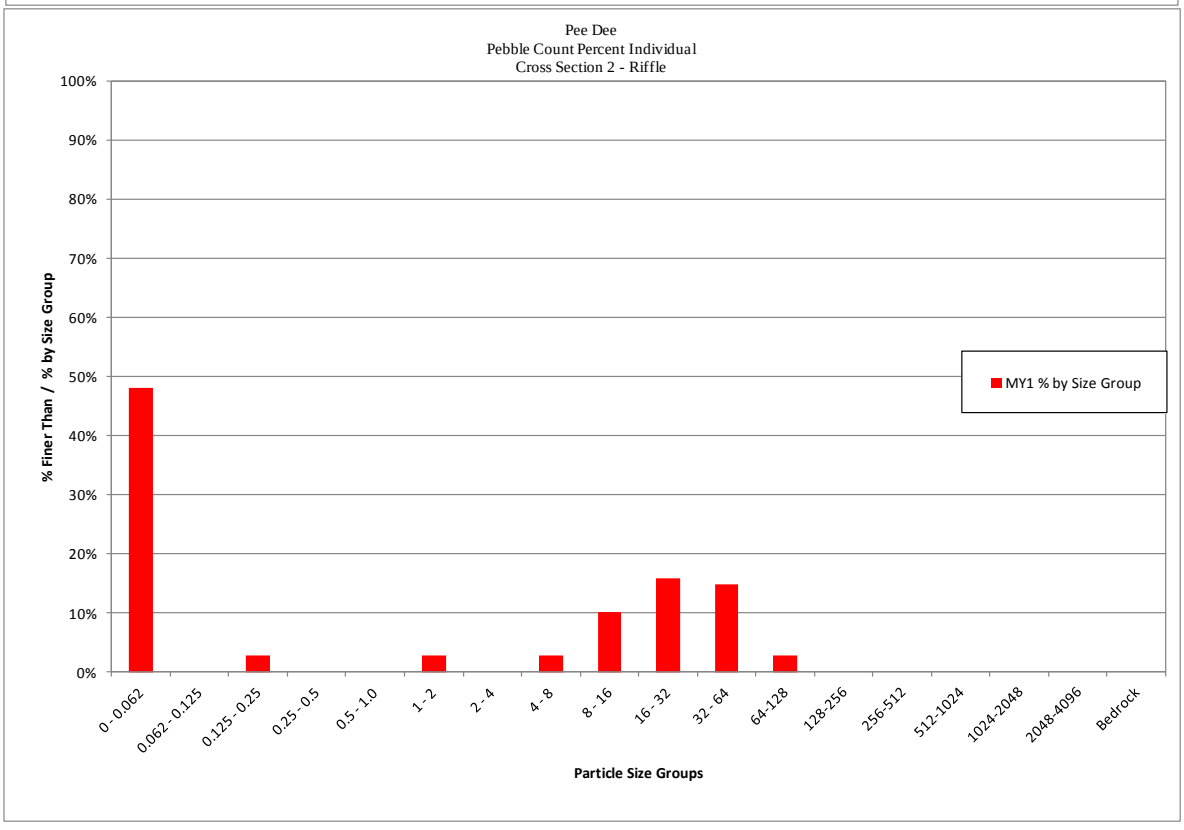
CHANNEL DIMENSIONS SUMMARY	MY0	MY1	MY2	MY3	MY4	MY5	MY6	MY7
Bankful Width (ft)	7.6	7.7						
Floodprone Width (ft)	30.0	30.0						
Bankfull Mean Depth (ft)	0.6	0.6						
Bankfull Max Depth (ft)	1.1	1.0						
Bankfull Cross-Sectional Area (ft^2)	4.3	4.4						
Width/Depth Ratio	13.4	13.5						
Entrenchment Ratio	3.9	3.9						
Bank Height Ratio	1.0	1.0						

Left Descending Bank

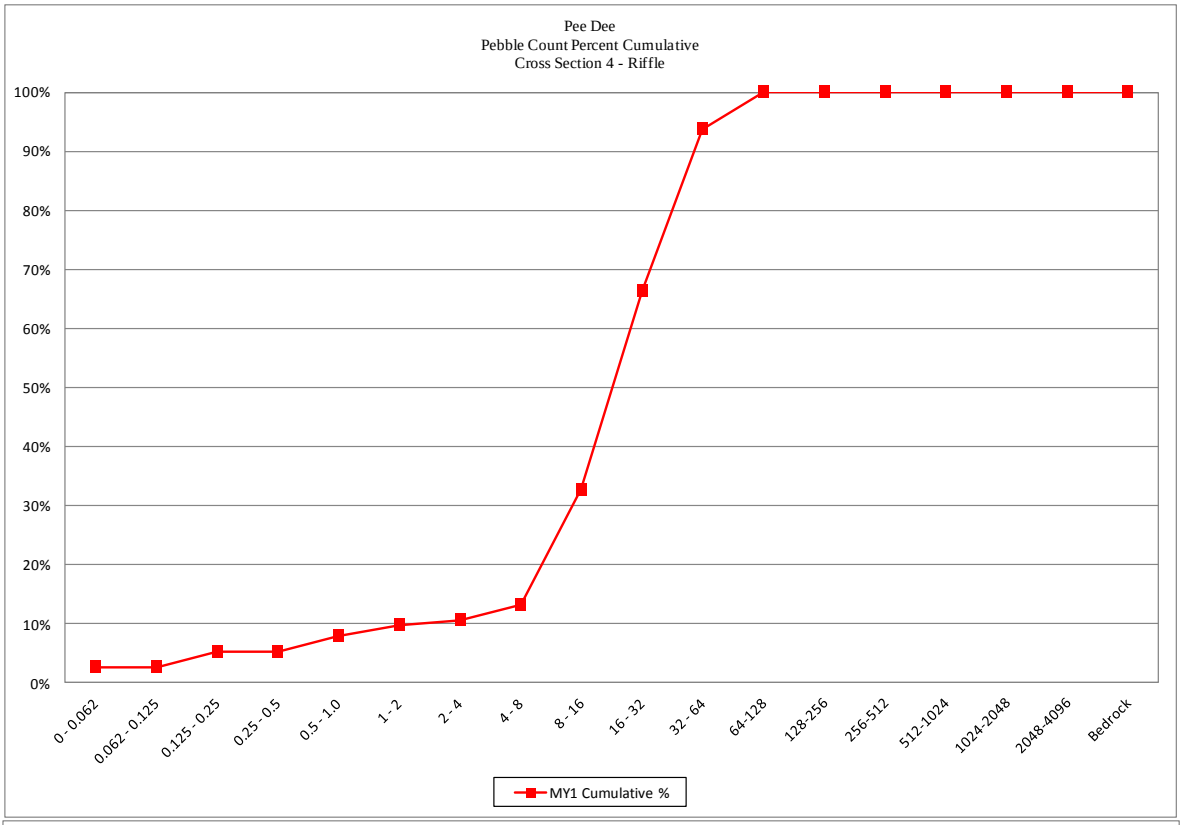
Right Descending Bank

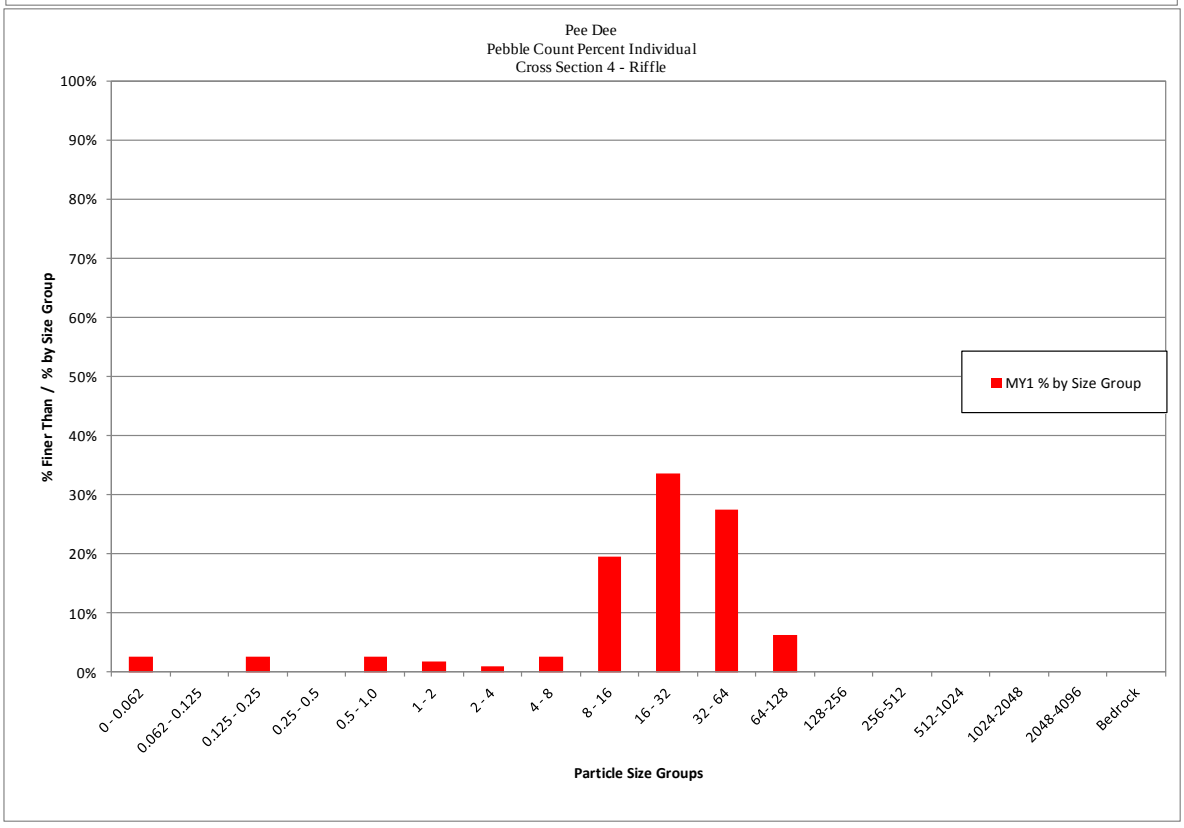
Pee Dee			
Cross Section 2 - Riffle			
Monitoring Year - 2015; MY1			
Bed Surface Material Particle Size Class (mm)	**Number**	**% Individual**	**% Cumulative**
0 - 0.062	52	48.1%	48%
0.062 - 0.125	0	0.0%	48%
0.125 - 0.25	3	2.8%	51%
0.25 - 0.5	0	0.0%	51%
0.5 - 1.0	0	0.0%	51%
1 - 2	3	2.8%	54%
2 - 4	0	0.0%	54%
4 - 8	3	2.8%	56%
8 - 16	11	10.2%	67%
16 - 32	17	15.7%	82%
32 - 64	16	14.8%	97%
64-128	3	2.8%	100%
128-256	0	0.0%	100%
256-512	0	0.0%	100%
512-1024	0	0.0%	100%
1024-2048	0	0.0%	100%
2048-4096	0	0.0%	100%
Bedrock	0	0.0%	100%
Total	**108**	**100%**	**100%**
		Summary Data	
		D50	**0.2**
		D84	**34**
		D95	**54**


Pee Dee
Pebble Count Percent Cumulative
Cross Section 2 - Riffle
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
0 - 0.062
0.062 - 0.125
0.125 - 0.25
0.25 - 0.5
0.5 - 1.0
1 - 2
2 - 4
4 - 8
8 - 16
16 - 32
32 - 64
64-128
128-256
256-512
512-1024
1024-2048
2048-4096
Bedrock
MY1 Cumulative %

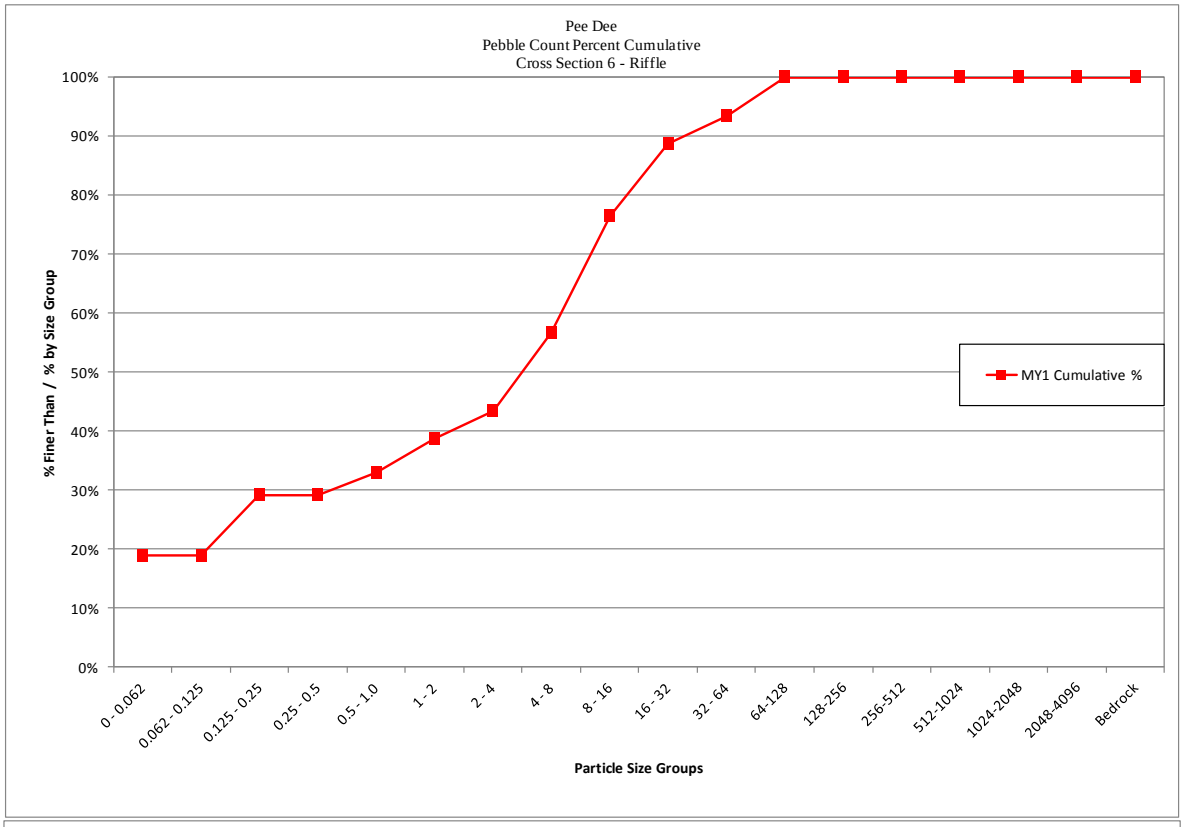

Pee Dee
Pebble Count Percent Individual
Cross Section 2 - Riffle
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
% Finer Than / % by Size Group
0 - 0.062
0.062 - 0.125
0.125 - 0.25
0.25 - 0.5
0.5 - 1.0
1 - 2
2 - 4
4 - 8
8 - 16
16 - 32
32 - 64
64-128
128-256
256-512
512-1024
1024-2048
2048-4096
Bedrock
Particle Size Groups
MY1 % by Size Group

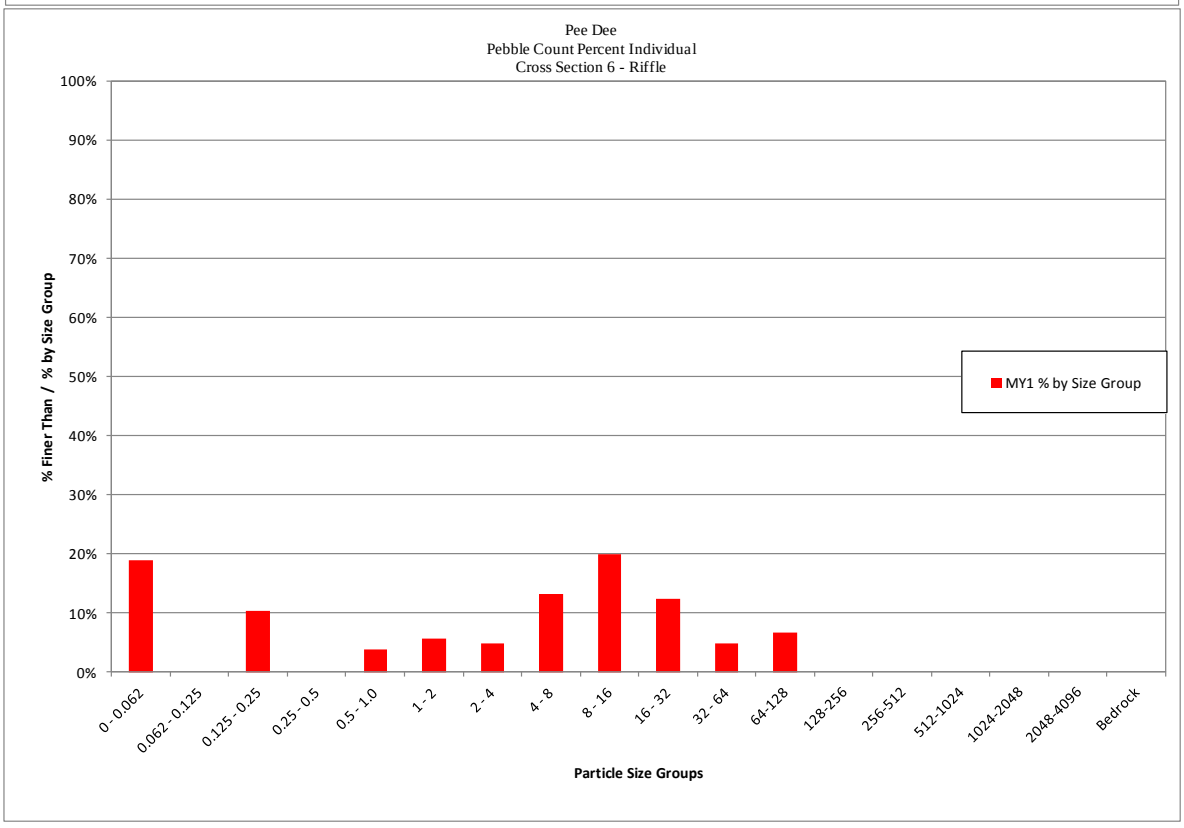
Pee Dee			
Cross Section 4 - Riffle			
Monitoring Year - 2015; MY1			
Bed Surface Material Particle Size Class (mm)	**Number**	**% Individual**	**% Cumulative**
0 - 0.062	3	2.7%	3%
0.062 - 0.125	0	0.0%	3%
0.125 - 0.25	3	2.7%	5%
0.25 - 0.5	0	0.0%	5%
0.5 - 1.0	3	2.7%	8%
1 - 2	2	1.8%	10%
2 - 4	1	0.9%	11%
4 - 8	3	2.7%	13%
8 - 16	22	19.5%	33%
16 - 32	38	33.6%	66%
32 - 64	31	27.4%	94%
64-128	7	6.2%	100%
128-256	0	0.0%	100%
256-512	0	0.0%	100%
512-1024	0	0.0%	100%
1024-2048	0	0.0%	100%
2048-4096	0	0.0%	100%
Bedrock	0	0.0%	100%
Total	**113**	**100%**	**100%**
		Summary Data	
		D50	**22**
		D84	**44**
		D95	**70**


Pee Dee
Pebble Count Percent Cumulative
Cross Section 4 - Riffle
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
0 - 0.062
0.062 - 0.125
0.125 - 0.25
0.25 - 0.5
0.5 - 1.0
1 - 2
2 - 4
4 - 8
8 - 16
16 - 32
32 - 64
64-128
128-256
256-512
512-1024
1024-2048
2048-4096
Bedrock
MY1 Cumulative %

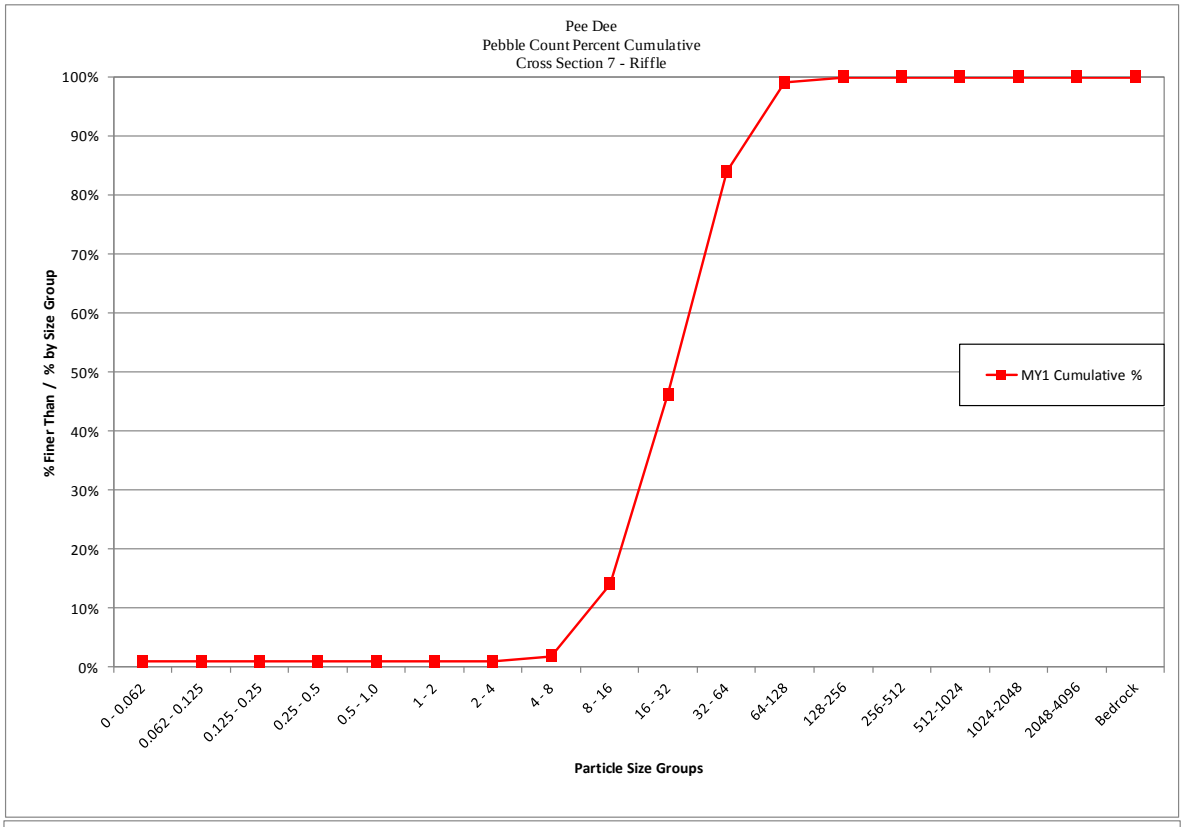

Pee Dee
Pebble Count Percent Individual
Cross Section 4 - Riffle
% Finer Than / % by Size Group
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
0 - 0.062
0.062 - 0.125
0.125 - 0.25
0.25 - 0.5
0.5 - 1.0
1 - 2
2 - 4
4 - 8
8 - 16
16 - 32
32 - 64
64-128
128-256
256-512
512-1024
1024-2048
2048-4096
Bedrock
Particle Size Groups
MY1 % by Size Group

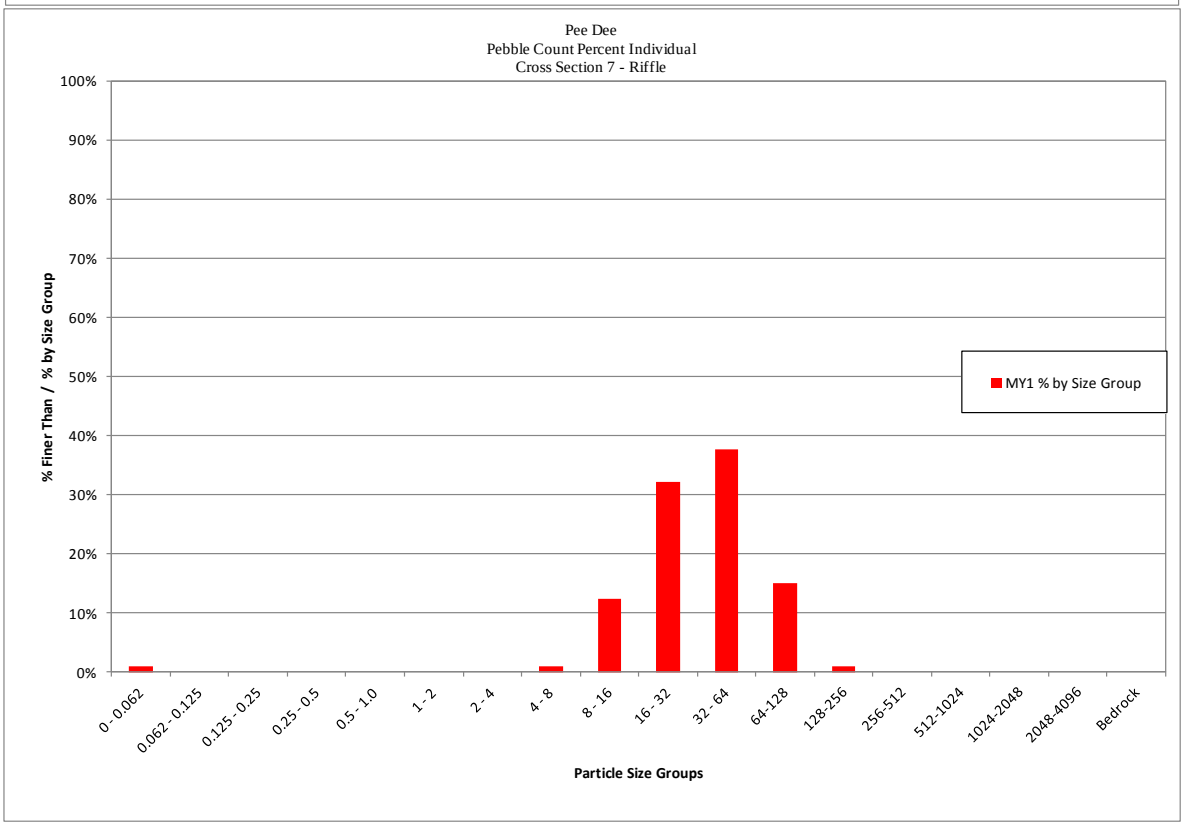
Pee Dee			
Cross Section 6 - Riffle			
Monitoring Year - 2015; MY1			
Bed Surface Material Particle Size Class (mm)	**Number**	**% Individual**	**% Cumulative**
0 - 0.062	20	18.9%	19%
0.062 - 0.125	0	0.0%	19%
0.125 - 0.25	11	10.4%	29%
0.25 - 0.5	0	0.0%	29%
0.5 - 1.0	4	3.8%	33%
1 - 2	6	5.7%	39%
2 - 4	5	4.7%	43%
4 - 8	14	13.2%	57%
8 - 16	21	19.8%	76%
16 - 32	13	12.3%	89%
32 - 64	5	4.7%	93%
64-128	7	6.6%	100%
128-256	0	0.0%	100%
256-512	0	0.0%	100%
512-1024	0	0.0%	100%
1024-2048	0	0.0%	100%
2048-4096	0	0.0%	100%
Bedrock	0	0.0%	100%
Total	**106**	**100%**	**100%**
		Summary Data	
		D50	**5.5**
		D84	**23**
		D95	**78**


Pee Dee
Pebble Count Percent Cumulative
Cross Section 6 - Riffle
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
% Finer Than / % by Size Group
MY1 Cumulative %
0 - 0.062
0.062 - 0.125
0.125 - 0.25
0.25 - 0.5
0.5 - 1.0
1 - 2
2 - 4
4 - 8
8 - 16
16 - 32
32 - 64
64-128
128-256
256-512
512-1024
1024-2048
2048-4096
Bedrock
Particle Size Groups

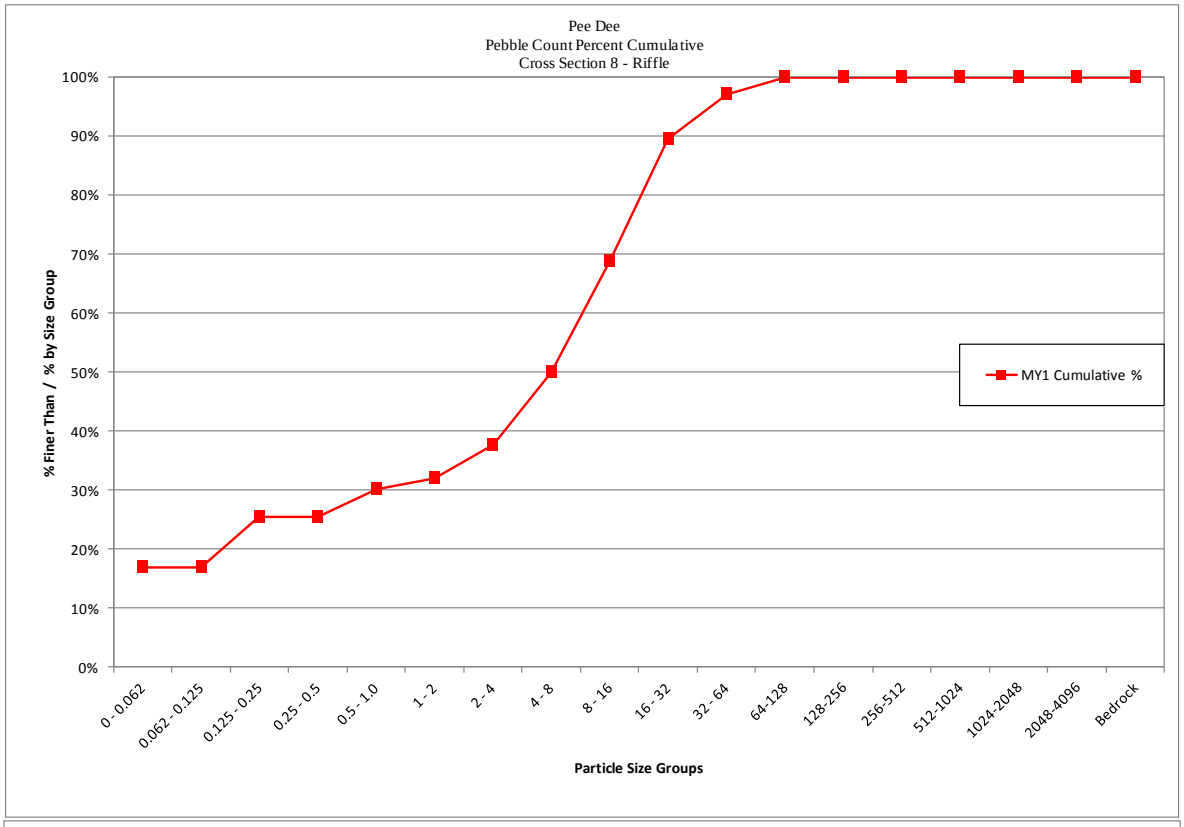

Pee Dee
Pebble Count Percent Individual
Cross Section 6 - Riffle
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
% Finer Than / % by Size Group
MY1 % by Size Group
0 - 0.062
0.062 - 0.125
0.125 - 0.25
0.25 - 0.5
0.5 - 1.0
1 - 2
2 - 4
4 - 8
8 - 16
16 - 32
32 - 64
64-128
128-256
256-512
512-1024
1024-2048
2048-4096
Bedrock
Particle Size Groups

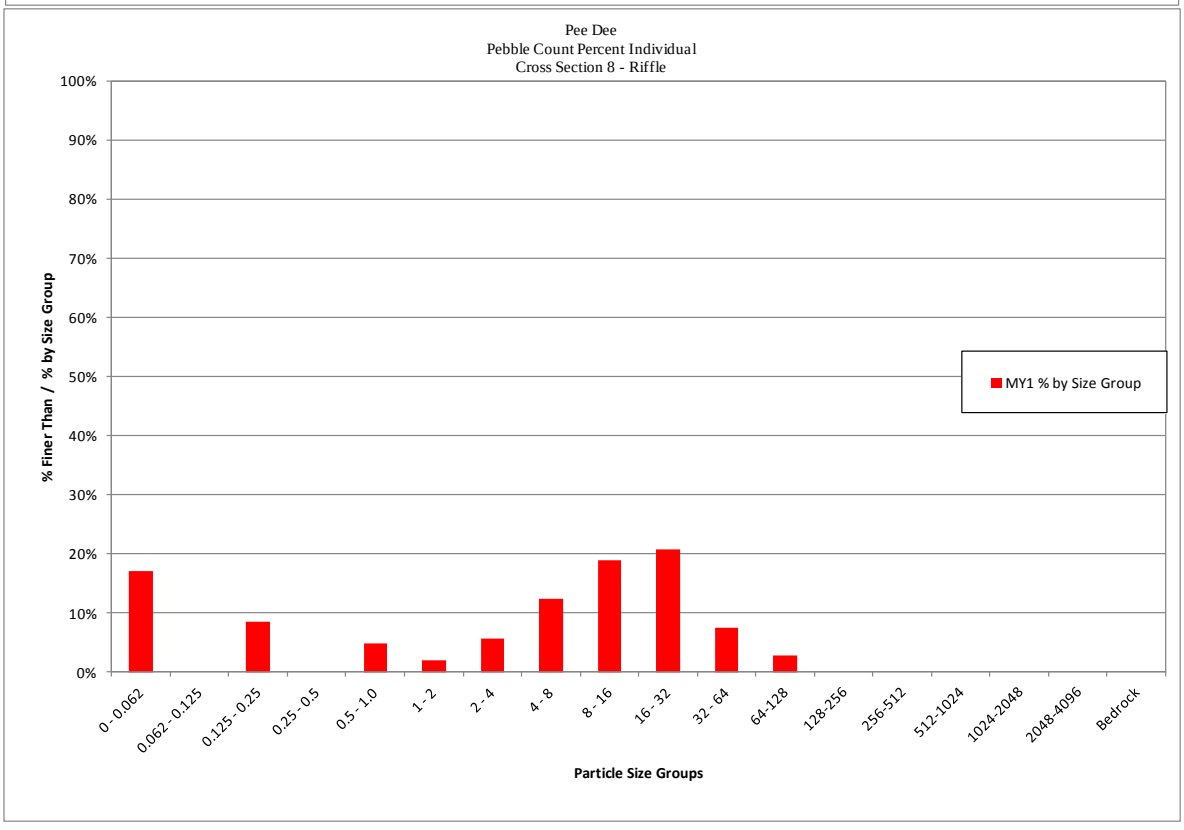
Pee Dee			
Cross Section 7 - Riffle			
Monitoring Year - 2015; MY1			
Bed Surface Material Particle Size Class (mm)	**Number**	**% Individual**	**% Cumulative**
0 - 0.062	1	0.9%	1%
0.062 - 0.125	0	0.0%	1%
0.125 - 0.25	0	0.0%	1%
0.25 - 0.5	0	0.0%	1%
0.5 - 1.0	0	0.0%	1%
1 - 2	0	0.0%	1%
2 - 4	0	0.0%	1%
4 - 8	1	0.9%	2%
8 - 16	13	12.3%	14%
16 - 32	34	32.1%	46%
32 - 64	40	37.7%	84%
64-128	16	15.1%	99%
128-256	1	0.9%	100%
256-512	0	0.0%	100%
512-1024	0	0.0%	100%
1024-2048	0	0.0%	100%
2048-4096	0	0.0%	100%
Bedrock	0	0.0%	100%
Total	**106**	**100%**	**100%**
		Summary Data	
		D50	**34**
		D84	**64**
		D95	**89**


Pee Dee
Pebble Count Percent Cumulative
Cross Section 7 - Riffle
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
% Finer Than / % by Size Group
MY1 Cumulative %
0 - 0.062
0.062 - 0.125
0.125 - 0.25
0.25 - 0.5
0.5 - 1.0
1 - 2
2 - 4
4 - 8
8 - 16
16 - 32
32 - 64
64-128
128-256
256-512
512-1024
1024-2048
2048-4096
Bedrock
Particle Size Groups

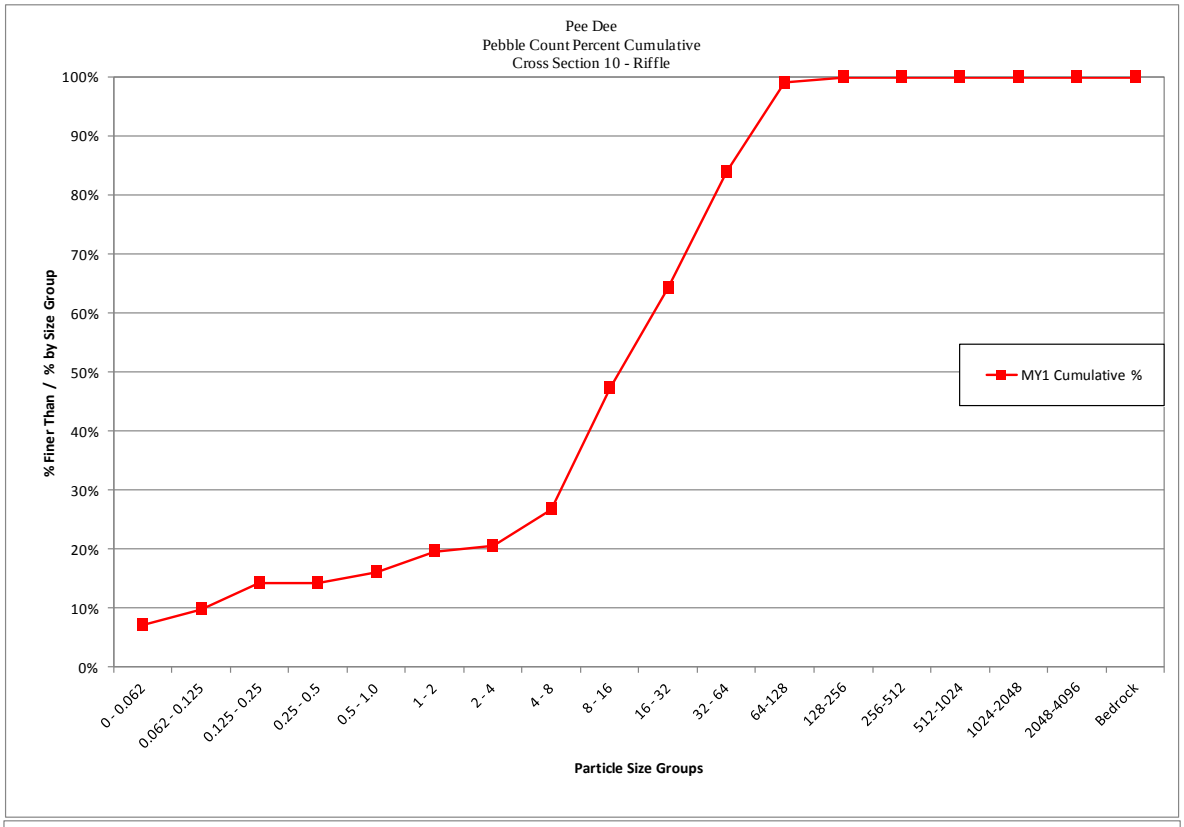

Pee Dee
Pebble Count Percent Individual
Cross Section 7 - Riffle
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
% Finer Than / % by Size Group
MY1 % by Size Group
0 - 0.062
0.062 - 0.125
0.125 - 0.25
0.25 - 0.5
0.5 - 1.0
1 - 2
2 - 4
4 - 8
8 - 16
16 - 32
32 - 64
64-128
128-256
256-512
512-1024
1024-2048
2048-4096
Bedrock
Particle Size Groups

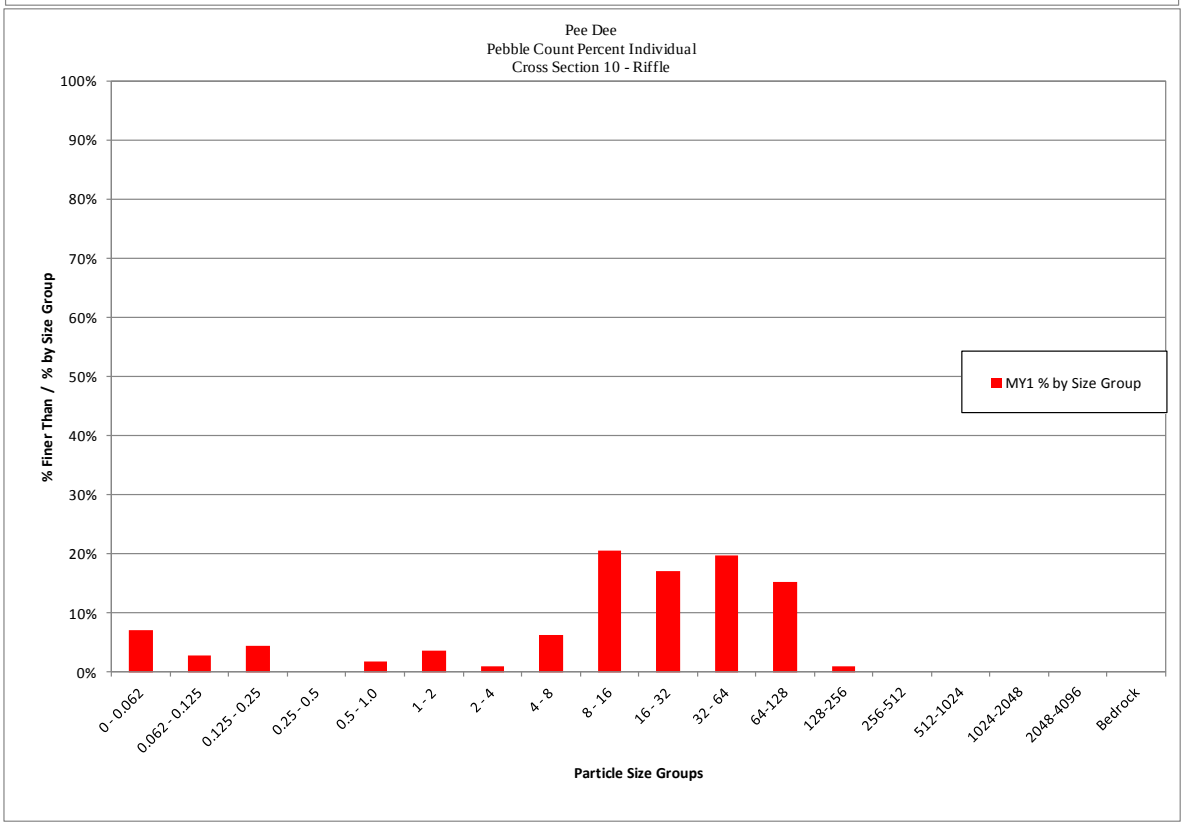
Pee Dee			
Cross Section 8 - Riffle			
Monitoring Year - 2015; MY1			
Bed Surface Material Particle Size Class (mm)	**Number**	**% Individual**	**% Cumulative**
0 - 0.062	18	17.0%	17%
0.062 - 0.125	0	0.0%	17%
0.125 - 0.25	9	8.5%	25%
0.25 - 0.5	0	0.0%	25%
0.5 - 1.0	5	4.7%	30%
1 - 2	2	1.9%	32%
2 - 4	6	5.7%	38%
4 - 8	13	12.3%	50%
8 - 16	20	18.9%	69%
16 - 32	22	20.8%	90%
32 - 64	8	7.5%	97%
64-128	3	2.8%	100%
128-256	0	0.0%	100%
256-512	0	0.0%	100%
512-1024	0	0.0%	100%
1024-2048	0	0.0%	100%
2048-4096	0	0.0%	100%
Bedrock	0	0.0%	100%
Total	**106**	**100%**	**100%**
		Summary Data	
		D50	**8**
		D84	**26**
		D95	**52**


Pee Dee
Pebble Count Percent Cumulative
Cross Section 8 - Riffle
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
% Finer Than / % by Size Group
MY1 Cumulative %
0 - 0.062
0.062 - 0.125
0.125 - 0.25
0.25 - 0.5
0.5 - 1.0
1 - 2
2 - 4
4 - 8
8 - 16
16 - 32
32 - 64
64-128
128-256
256-512
512-1024
1024-2048
2048-4096
Bedrock
Particle Size Groups

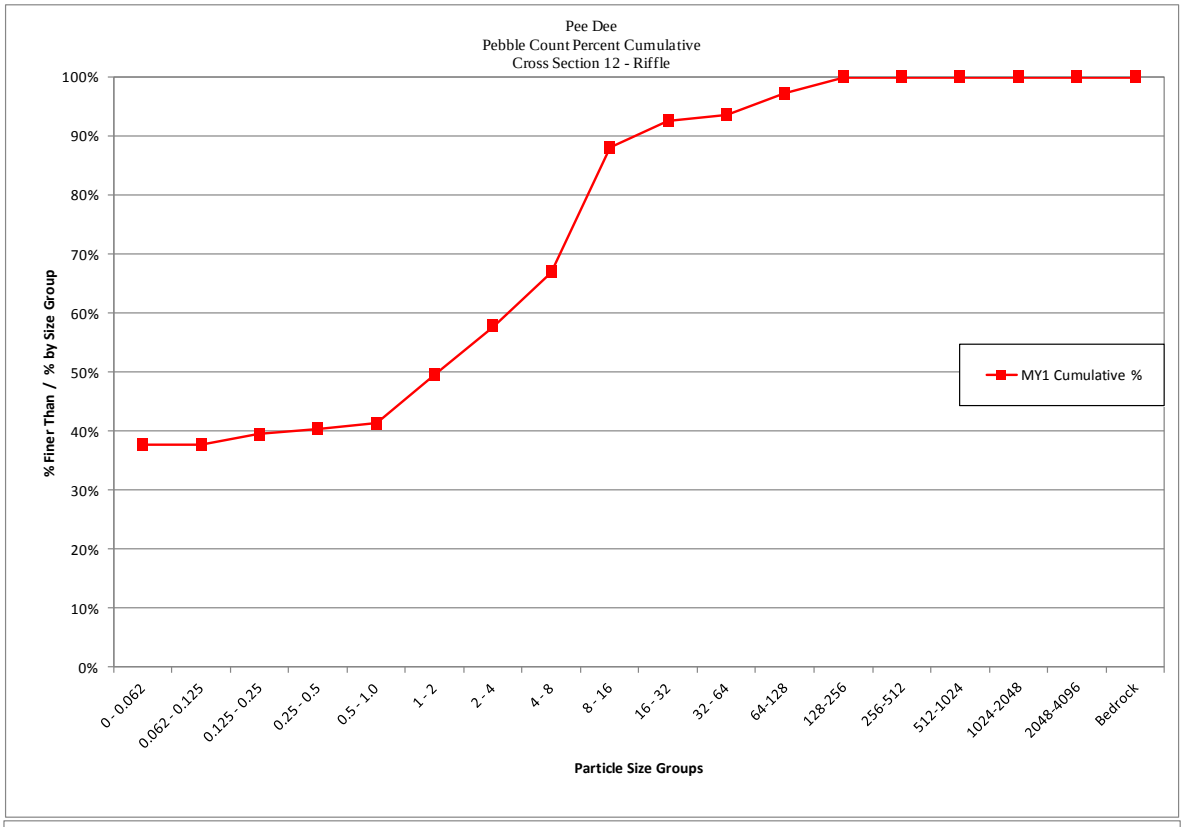

Pee Dee
Pebble Count Percent Individual
Cross Section 8 - Riffle
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
% Finer Than / % by Size Group
MY1 % by Size Group
0 - 0.062
0.062 - 0.125
0.125 - 0.25
0.25 - 0.5
0.5 - 1.0
1 - 2
2 - 4
4 - 8
8 - 16
16 - 32
32 - 64
64-128
128-256
256-512
512-1024
1024-2048
2048-4096
Bedrock
Particle Size Groups

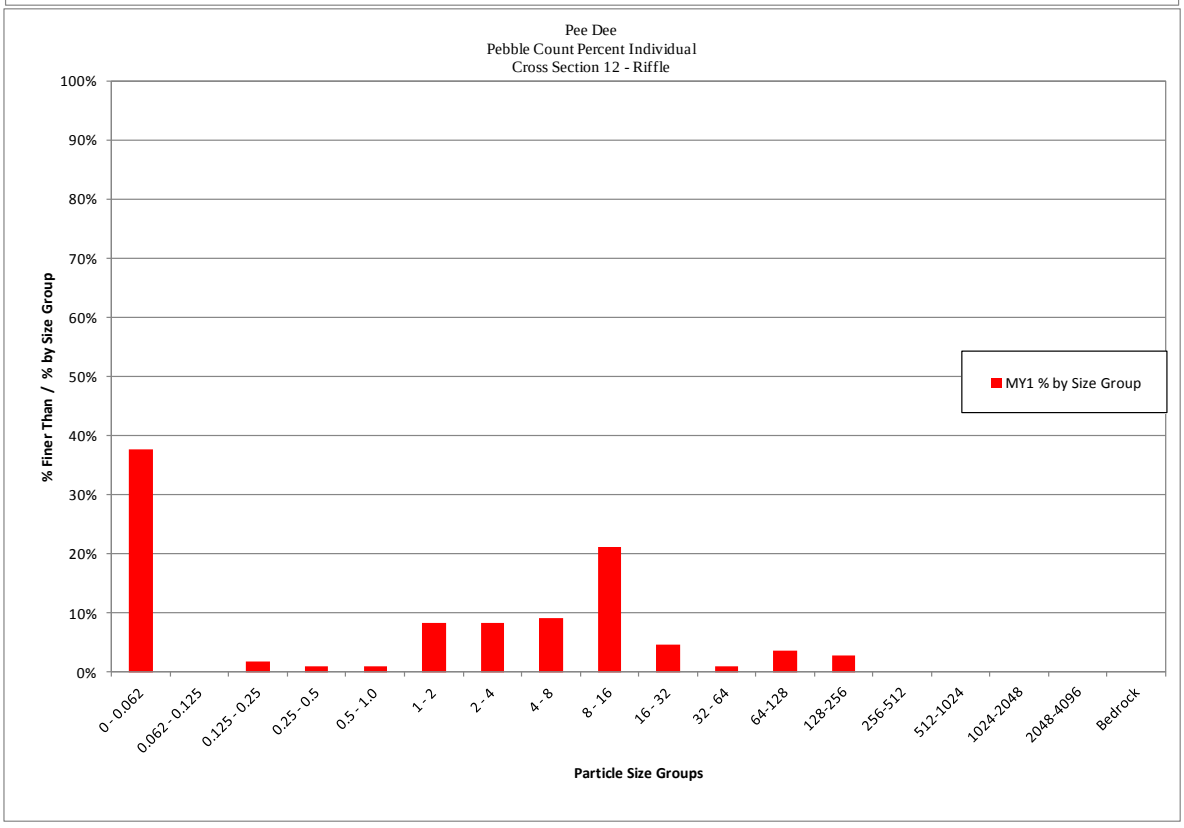
Pee Dee			
Cross Section 10 - Riffle			
Monitoring Year - 2015; MY1			
Bed Surface Material Particle Size Class (mm)	**Number**	**% Individual**	**% Cumulative**
0 - 0.062	8	7.1%	7%
0.062 - 0.125	3	2.7%	10%
0.125 - 0.25	5	4.5%	14%
0.25 - 0.5	0	0.0%	14%
0.5 - 1.0	2	1.8%	16%
1 - 2	4	3.6%	20%
2 - 4	1	0.9%	21%
4 - 8	7	6.3%	27%
8 - 16	23	20.5%	47%
16 - 32	19	17.0%	64%
32 - 64	22	19.6%	84%
64-128	17	15.2%	99%
128-256	1	0.9%	100%
256-512	0	0.0%	100%
512-1024	0	0.0%	100%
1024-2048	0	0.0%	100%
2048-4096	0	0.0%	100%
Bedrock	0	0.0%	100%
Total	**112**	**100%**	**100%**
		Summary Data	
		D50	**19**
		D84	**64**
		D95	**100**


Pee Dee
Pebble Count Percent Cumulative
Cross Section 10 - Riffle
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
% Finer Than / % by Size Group
MY1 Cumulative %
0 - 0.062
0.062 - 0.125
0.125 - 0.25
0.25 - 0.5
0.5 - 1.0
1 - 2
2 - 4
4 - 8
8 - 16
16 - 32
32 - 64
64-128
128-256
256-512
512-1024
1024-2048
2048-4096
Bedrock
Particle Size Groups

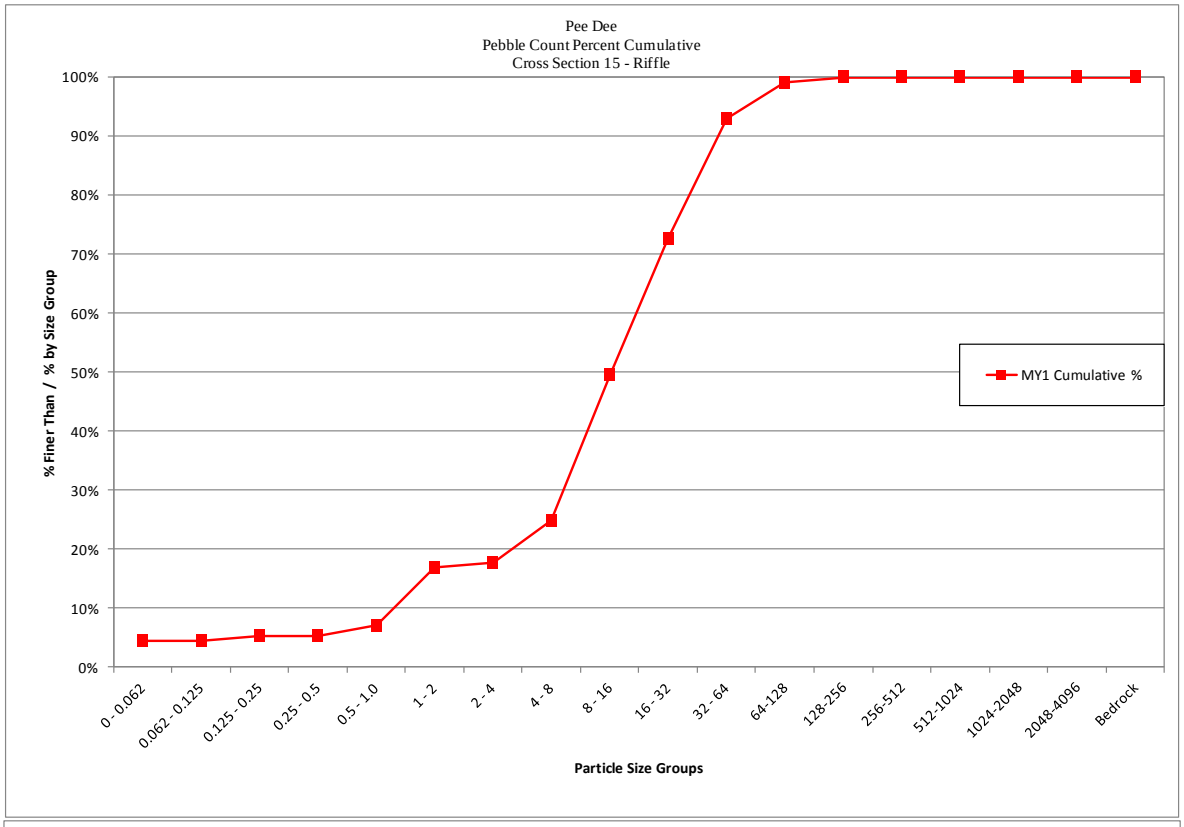

Pee Dee
Pebble Count Percent Individual
Cross Section 10 - Riffle
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
% Finer Than / % by Size Group
MY1 % by Size Group
0 - 0.062
0.062 - 0.125
0.125 - 0.25
0.25 - 0.5
0.5 - 1.0
1 - 2
2 - 4
4 - 8
8 - 16
16 - 32
32 - 64
64-128
128-256
256-512
512-1024
1024-2048
2048-4096
Bedrock
Particle Size Groups

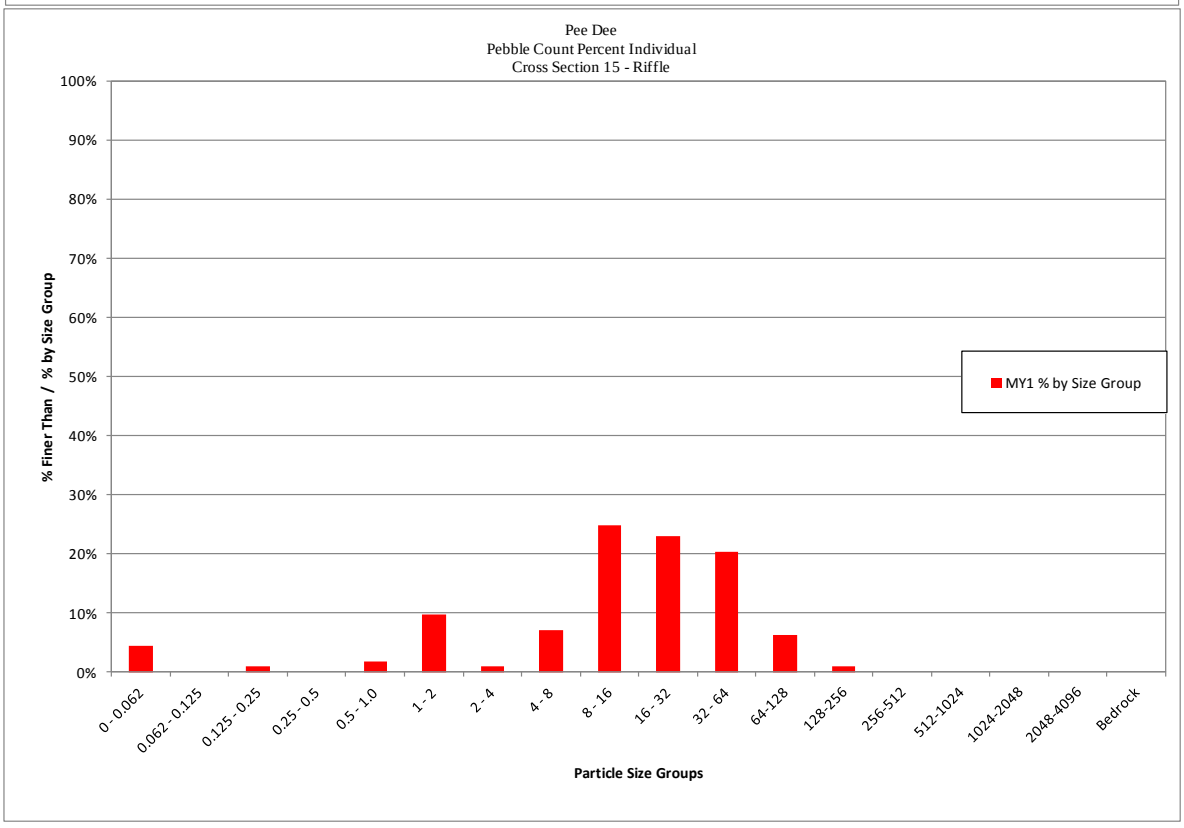
Pee Dee			
Cross Section 12 - Riffle			
Monitoring Year - 2015; MY1			
Bed Surface Material Particle Size Class (mm)	**Number**	**% Individual**	**% Cumulative**
0 - 0.062	41	37.6%	38%
0.062 - 0.125	0	0.0%	38%
0.125 - 0.25	2	1.8%	39%
0.25 - 0.5	1	0.9%	40%
0.5 - 1.0	1	0.9%	41%
1 - 2	9	8.3%	50%
2 - 4	9	8.3%	58%
4 - 8	10	9.2%	67%
8 - 16	23	21.1%	88%
16 - 32	5	4.6%	93%
32 - 64	1	0.9%	94%
64-128	4	3.7%	97%
128-256	3	2.8%	100%
256-512	0	0.0%	100%
512-1024	0	0.0%	100%
1024-2048	0	0.0%	100%
2048-4096	0	0.0%	100%
Bedrock	0	0.0%	100%
Total	**109**	**100%**	**100%**
		Summary Data	
		D50	**2.1**
		D84	**13**
		D95	**100**


Pee Dee
Pebble Count Percent Cumulative
Cross Section 12 - Riffle
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
% Finer Than / % by Size Group
MY1 Cumulative %
0 - 0.062
0.062 - 0.125
0.125 - 0.25
0.25 - 0.5
0.5 - 1.0
1 - 2
2 - 4
4 - 8
8 - 16
16 - 32
32 - 64
64-128
128-256
256-512
512-1024
1024-2048
2048-4096
Bedrock
Particle Size Groups

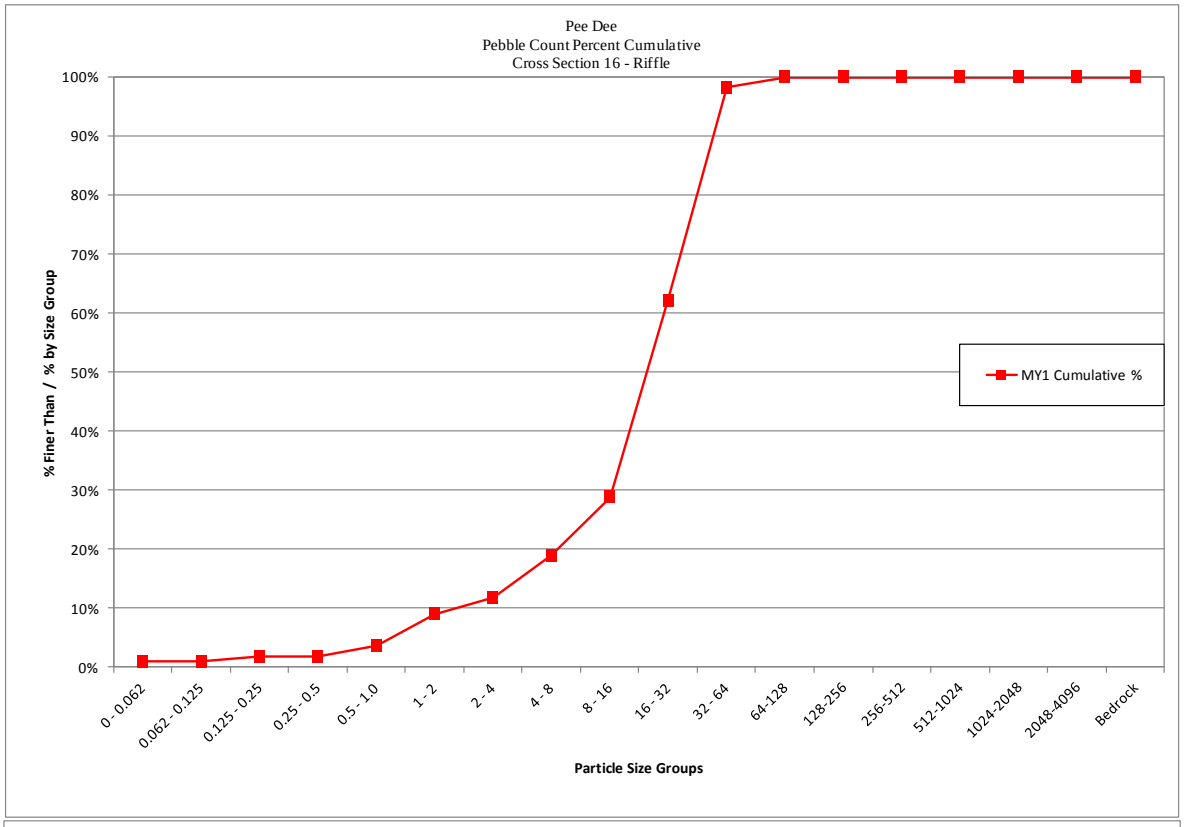

Pee Dee
Pebble Count Percent Individual
Cross Section 12 - Riffle
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
% Finer Than / % by Size Group
MY1 % by Size Group
0 - 0.062
0.062 - 0.125
0.125 - 0.25
0.25 - 0.5
0.5 - 1.0
1 - 2
2 - 4
4 - 8
8 - 16
16 - 32
32 - 64
64-128
128-256
256-512
512-1024
1024-2048
2048-4096
Bedrock
Particle Size Groups

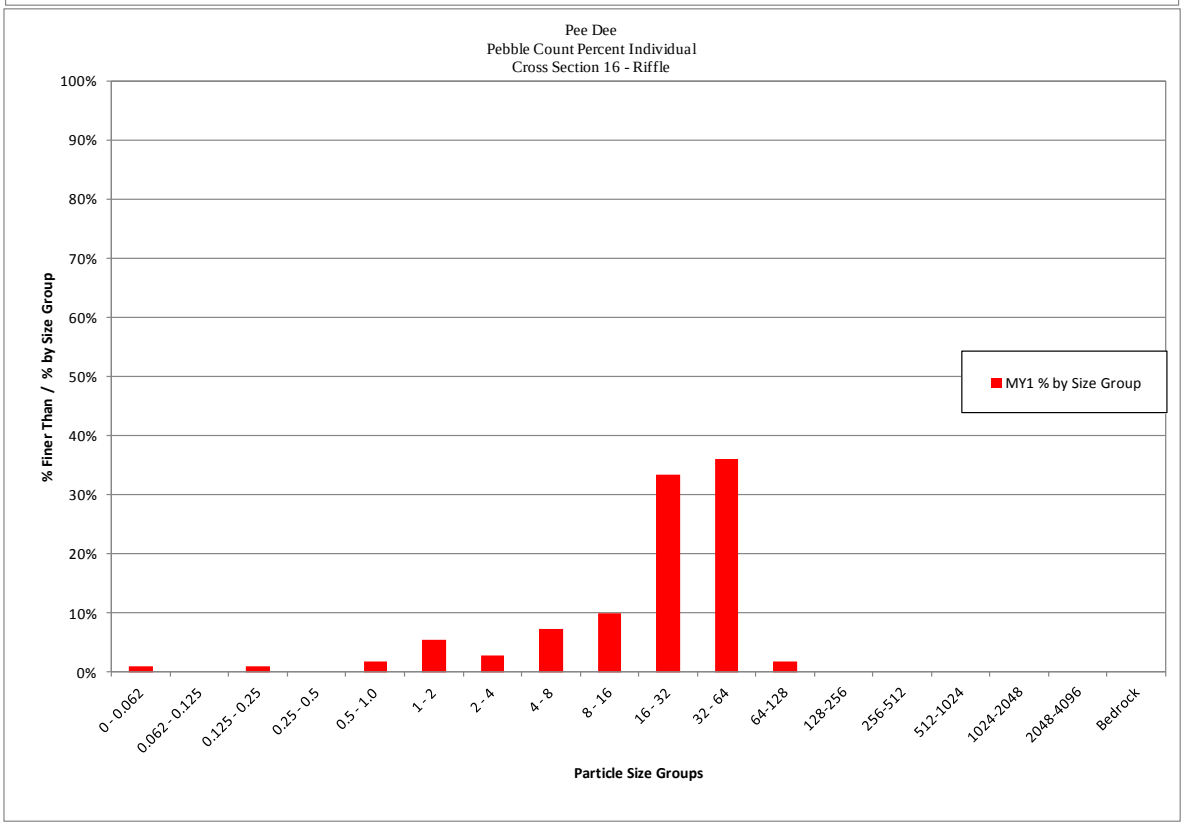
Pee Dee			
Cross Section 15 - Riffle			
Monitoring Year - 2015; MY1			
Bed Surface Material Particle Size Class (mm)	**Number**	**% Individual**	**% Cumulative**
0 - 0.062	5	4.4%	4%
0.062 - 0.125	0	0.0%	4%
0.125 - 0.25	1	0.9%	5%
0.25 - 0.5	0	0.0%	5%
0.5 - 1.0	2	1.8%	7%
1 - 2	11	9.7%	17%
2 - 4	1	0.9%	18%
4 - 8	8	7.1%	25%
8 - 16	28	24.8%	50%
16 - 32	26	23.0%	73%
32 - 64	23	20.4%	93%
64-128	7	6.2%	99%
128-256	1	0.9%	100%
256-512	0	0.0%	100%
512-1024	0	0.0%	100%
1024-2048	0	0.0%	100%
2048-4096	0	0.0%	100%
Bedrock	0	0.0%	100%
Total	**113**	**100%**	**100%**
		Summary Data	
		D50	**16**
		D84	**46**
		D95	**78**


Pee Dee
Pebble Count Percent Cumulative
Cross Section 15 - Riffle
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
% Finer Than / % by Size Group
MY1 Cumulative %
0 - 0.062
0.062 - 0.125
0.125 - 0.25
0.25 - 0.5
0.5 - 1.0
1 - 2
2 - 4
4 - 8
8 - 16
16 - 32
32 - 64
64-128
128-256
256-512
512-1024
1024-2048
2048-4096
Bedrock
Particle Size Groups

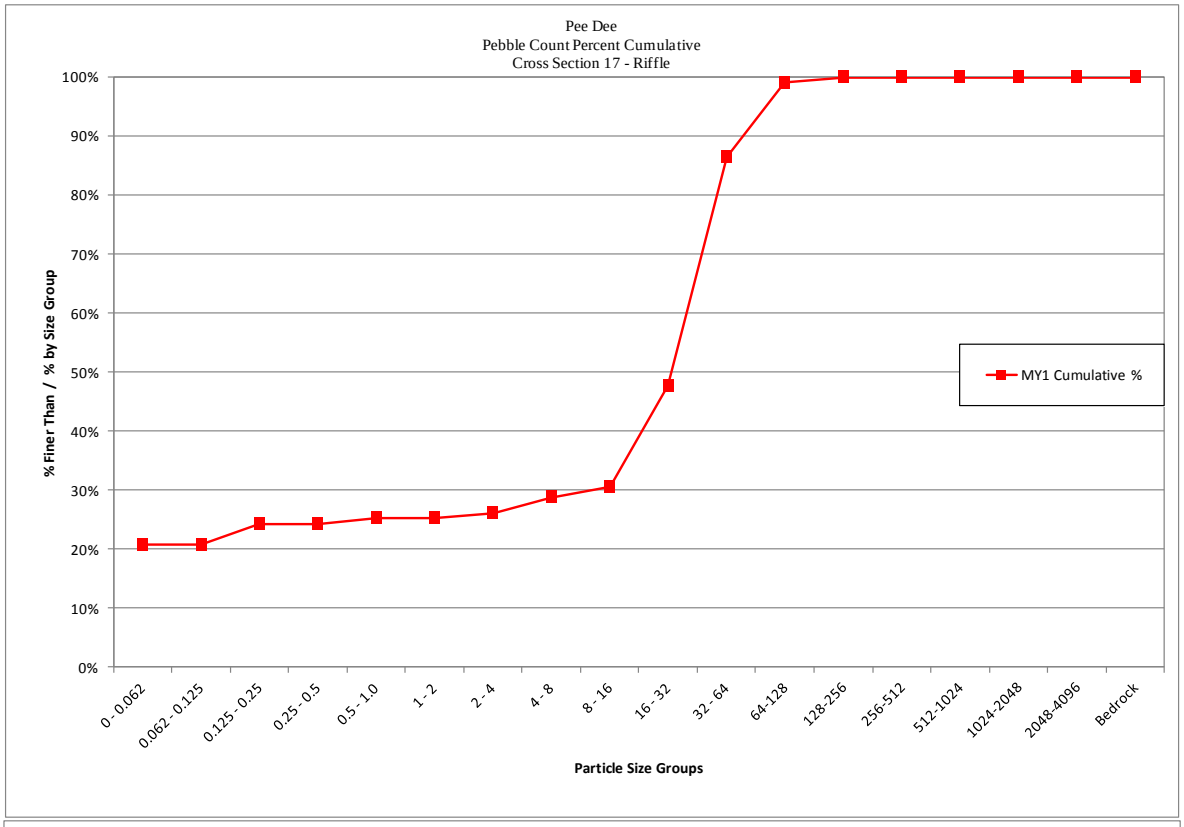

Pee Dee
Pebble Count Percent Individual
Cross Section 15 - Riffle
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
% Finer Than / % by Size Group
MY1 % by Size Group
0 - 0.062
0.062 - 0.125
0.125 - 0.25
0.25 - 0.5
0.5 - 1.0
1 - 2
2 - 4
4 - 8
8 - 16
16 - 32
32 - 64
64-128
128-256
256-512
512-1024
1024-2048
2048-4096
Bedrock
Particle Size Groups

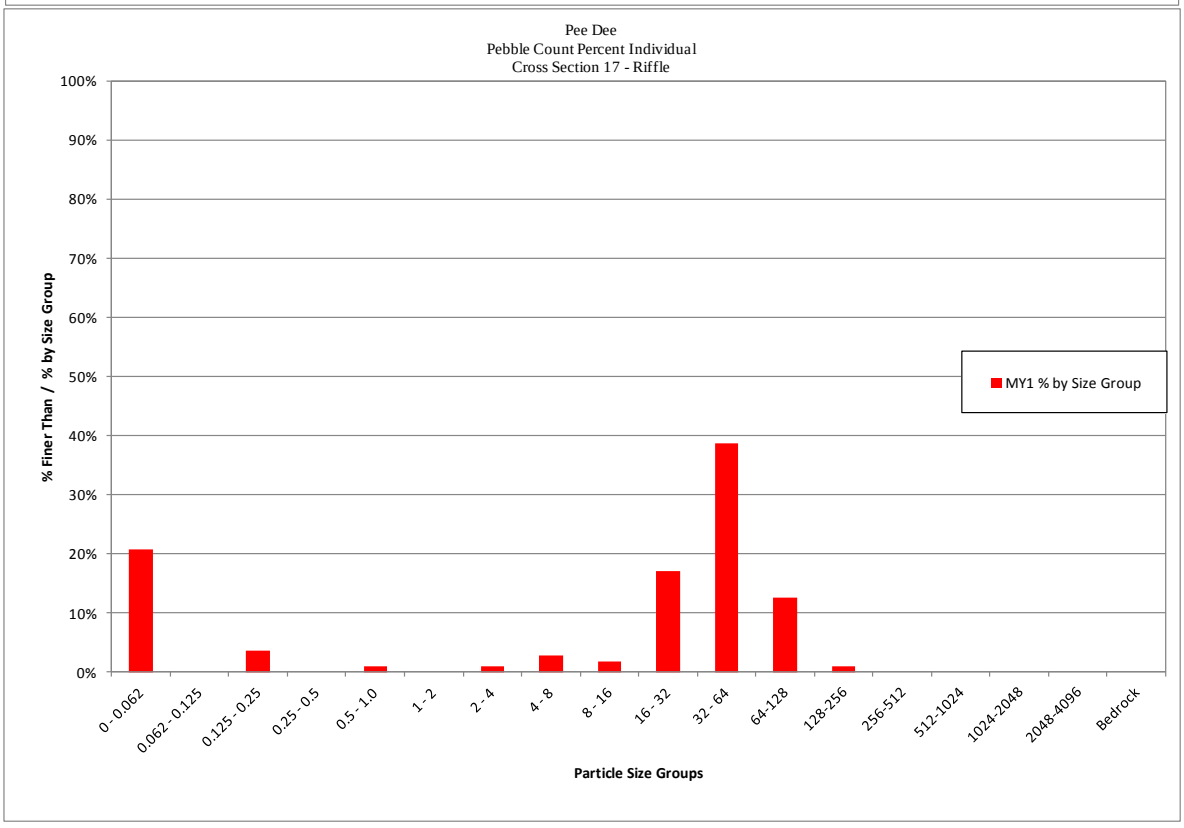
Pee Dee			
Cross Section 16 - Riffle			
Monitoring Year - 2015; MY1			
Bed Surface Material Particle Size Class (mm)	**Number**	**% Individual**	**% Cumulative**
0 - 0.062	1	0.9%	1%
0.062 - 0.125	0	0.0%	1%
0.125 - 0.25	1	0.9%	2%
0.25 - 0.5	0	0.0%	2%
0.5 - 1.0	2	1.8%	4%
1 - 2	6	5.4%	9%
2 - 4	3	2.7%	12%
4 - 8	8	7.2%	19%
8 - 16	11	9.9%	29%
16 - 32	37	33.3%	62%
32 - 64	40	36.0%	98%
64-128	2	1.8%	100%
128-256	0	0.0%	100%
256-512	0	0.0%	100%
512-1024	0	0.0%	100%
1024-2048	0	0.0%	100%
2048-4096	0	0.0%	100%
Bedrock	0	0.0%	100%
Total	**111**	**100%**	**100%**
		Summary Data	
		D50	**26**
		D84	**42**
		D95	**56**


Pee Dee
Pebble Count Percent Cumulative
Cross Section 16 - Riffle
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
% Finer Than / % by Size Group
MY1 Cumulative %
0 - 0.062
0.062 - 0.125
0.125 - 0.25
0.25 - 0.5
0.5 - 1.0
1 - 2
2 - 4
4 - 8
8 - 16
16 - 32
32 - 64
64-128
128-256
256-512
512-1024
1024-2048
2048-4096
Bedrock
Particle Size Groups

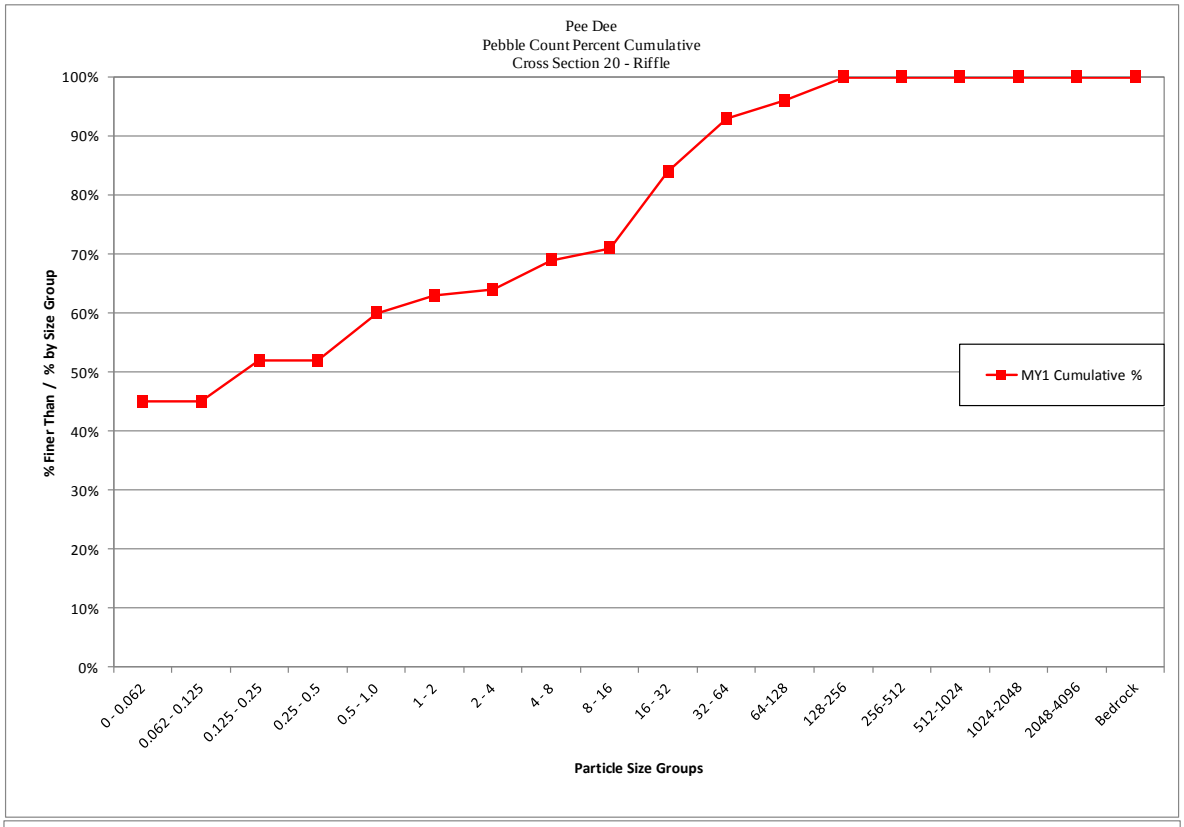

Pee Dee
Pebble Count Percent Individual
Cross Section 16 - Riffle
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
% Finer Than / % by Size Group
MY1 % by Size Group
0 - 0.062
0.062 - 0.125
0.125 - 0.25
0.25 - 0.5
0.5 - 1.0
1 - 2
2 - 4
4 - 8
8 - 16
16 - 32
32 - 64
64-128
128-256
256-512
512-1024
1024-2048
2048-4096
Bedrock
Particle Size Groups

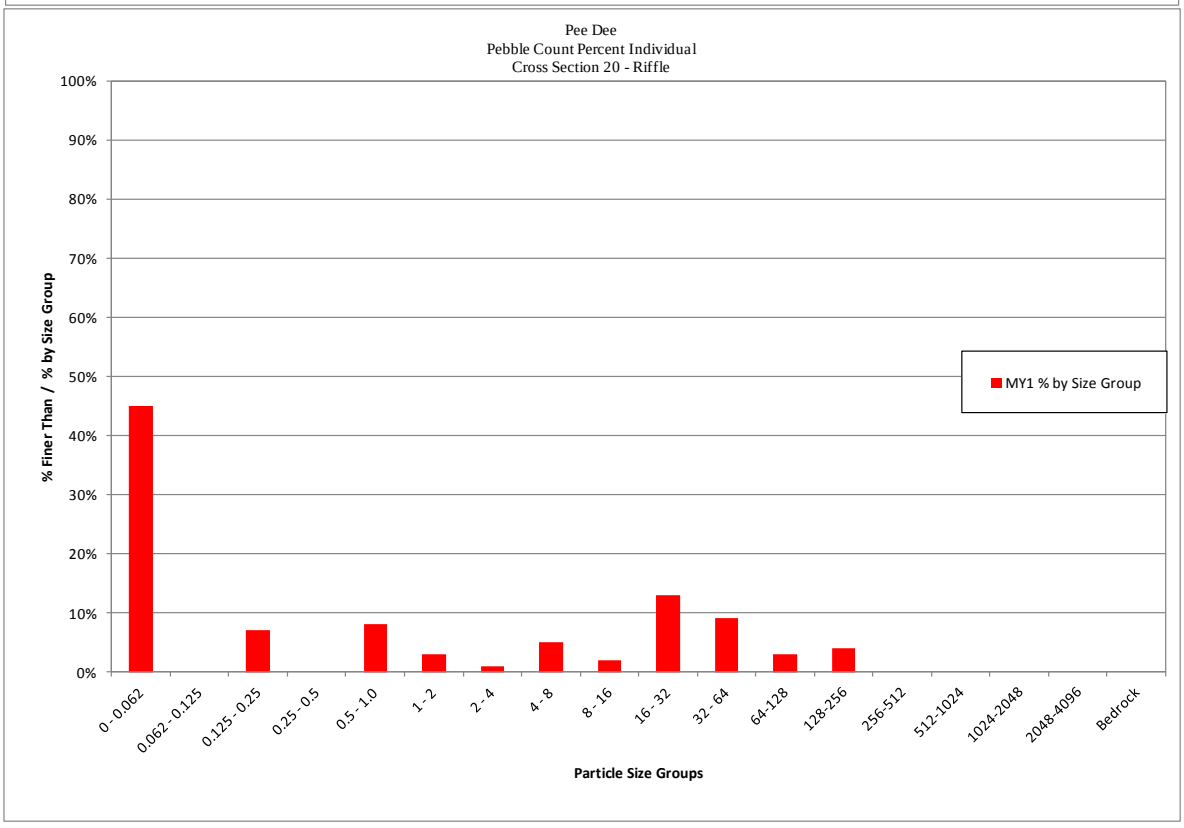
Pee Dee			
Cross Section 17 - Riffle			
Monitoring Year - 2015; MY1			
Bed Surface Material Particle Size Class (mm)	**Number**	**% Individual**	**% Cumulative**
0 - 0.062	23	20.7%	21%
0.062 - 0.125	0	0.0%	21%
0.125 - 0.25	4	3.6%	24%
0.25 - 0.5	0	0.0%	24%
0.5 - 1.0	1	0.9%	25%
1 - 2	0	0.0%	25%
2 - 4	1	0.9%	26%
4 - 8	3	2.7%	29%
8 - 16	2	1.8%	31%
16 - 32	19	17.1%	48%
32 - 64	43	38.7%	86%
64-128	14	12.6%	99%
128-256	1	0.9%	100%
256-512	0	0.0%	100%
512-1024	0	0.0%	100%
1024-2048	0	0.0%	100%
2048-4096	0	0.0%	100%
Bedrock	0	0.0%	100%
Total	**111**	**100%**	**100%**
		Summary Data	
		D50	**33**
		D84	**60**
		D95	**98**


Pee Dee
Pebble Count Percent Cumulative
Cross Section 17 - Riffle
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
% Finer Than / % by Size Group
MY1 Cumulative %
0 - 0.062
0.062 - 0.125
0.125 - 0.25
0.25 - 0.5
0.5 - 1.0
1 - 2
2 - 4
4 - 8
8 - 16
16 - 32
32 - 64
64-128
128-256
256-512
512-1024
1024-2048
2048-4096
Bedrock
Particle Size Groups

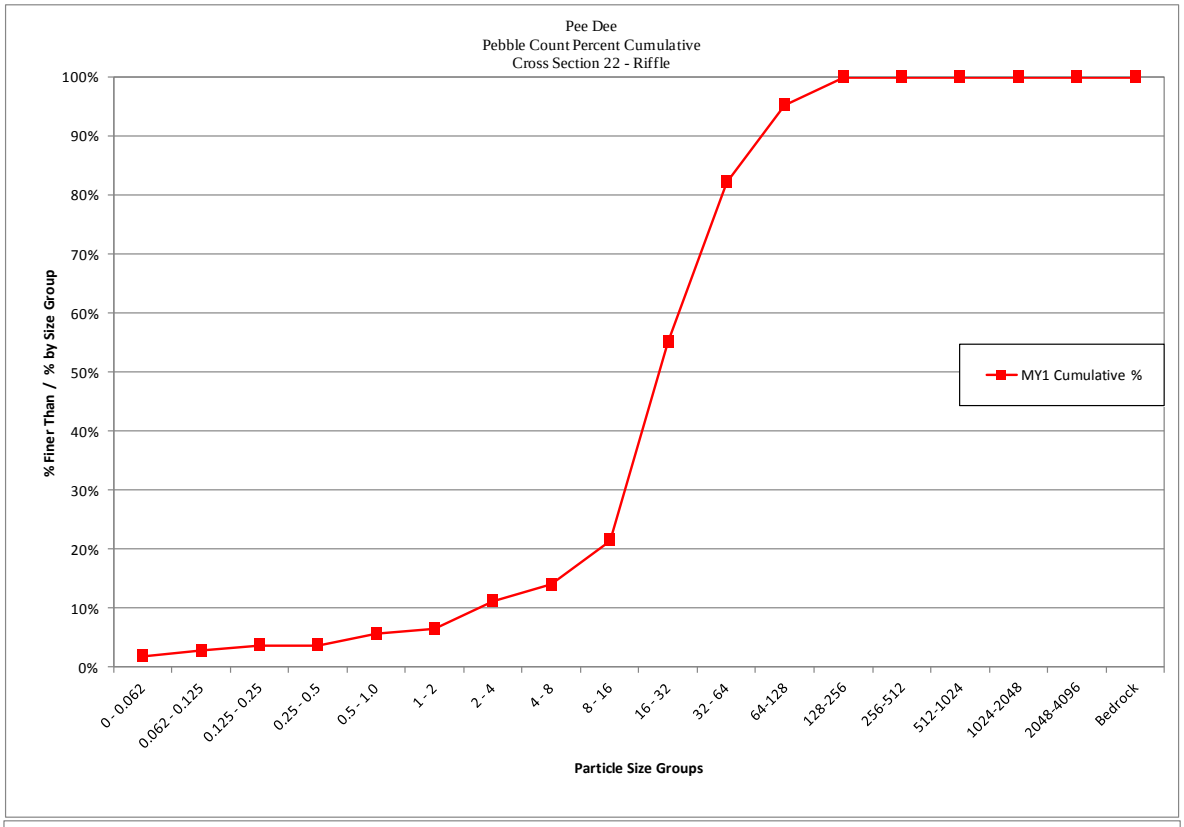

Pee Dee
Pebble Count Percent Individual
Cross Section 17 - Riffle
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
% Finer Than / % by Size Group
MY1 % by Size Group
0 - 0.062
0.062 - 0.125
0.125 - 0.25
0.25 - 0.5
0.5 - 1.0
1 - 2
2 - 4
4 - 8
8 - 16
16 - 32
32 - 64
64-128
128-256
256-512
512-1024
1024-2048
2048-4096
Bedrock
Particle Size Groups

Pee Dee			
Cross Section 20 - Riffle			
Monitoring Year - 2015; MY1			
Bed Surface Material Particle Size Class (mm)	**Number**	**% Individual**	**% Cumulative**
0 - 0.062	45	45.0%	45%
0.062 - 0.125	0	0.0%	45%
0.125 - 0.25	7	7.0%	52%
0.25 - 0.5	0	0.0%	52%
0.5 - 1.0	8	8.0%	60%
1 - 2	3	3.0%	63%
2 - 4	1	1.0%	64%
4 - 8	5	5.0%	69%
8 - 16	2	2.0%	71%
16 - 32	13	13.0%	84%
32 - 64	9	9.0%	93%
64-128	3	3.0%	96%
128-256	4	4.0%	100%
256-512	0	0.0%	100%
512-1024	0	0.0%	100%
1024-2048	0	0.0%	100%
2048-4096	0	0.0%	100%
Bedrock	0	0.0%	100%
Total	**100**	**100%**	**100%**
		Summary Data	
		D50	**0.21**
		D84	**32**
		D95	**110**


Pee Dee
Pebble Count Percent Cumulative
Cross Section 20 - Riffle
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
% Finer Than / % by Size Group
MY1 Cumulative %
0 - 0.062
0.062 - 0.125
0.125 - 0.25
0.25 - 0.5
0.5 - 1.0
1 - 2
2 - 4
4 - 8
8 - 16
16 - 32
32 - 64
64-128
128-256
256-512
512-1024
1024-2048
2048-4096
Bedrock
Particle Size Groups


Pee Dee
Pebble Count Percent Individual
Cross Section 20 - Riffle
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
% Finer Than / % by Size Group
MY1 % by Size Group
0 - 0.062
0.062 - 0.125
0.125 - 0.25
0.25 - 0.5
0.5 - 1.0
1 - 2
2 - 4
4 - 8
8 - 16
16 - 32
32 - 64
64-128
128-256
256-512
512-1024
1024-2048
2048-4096
Bedrock
Particle Size Groups

Pee Dee			
Cross Section 22 - Riffle			
Monitoring Year - 2015; MY1			
Bed Surface Material Particle Size Class (mm)	**Number**	**% Individual**	**% Cumulative**
0 - 0.062	2	1.9%	2%
0.062 - 0.125	1	0.9%	3%
0.125 - 0.25	1	0.9%	4%
0.25 - 0.5	0	0.0%	4%
0.5 - 1.0	2	1.9%	6%
1 - 2	1	0.9%	7%
2 - 4	5	4.7%	11%
4 - 8	3	2.8%	14%
8 - 16	8	7.5%	21%
16 - 32	36	33.6%	55%
32 - 64	29	27.1%	82%
64-128	14	13.1%	95%
128-256	5	4.7%	100%
256-512	0	0.0%	100%
512-1024	0	0.0%	100%
1024-2048	0	0.0%	100%
2048-4096	0	0.0%	100%
Bedrock	0	0.0%	100%
Total	**107**	**100%**	**100%**
		Summary Data	
		D50	**29**
		D84	**70**
		D95	**130**


Pee Dee
Pebble Count Percent Cumulative
Cross Section 22 - Riffle
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
% Finer Than / % by Size Group
MY1 Cumulative %
0 - 0.062
0.062 - 0.125
0.125 - 0.25
0.25 - 0.5
0.5 - 1.0
1 - 2
2 - 4
4 - 8
8 - 16
16 - 32
32 - 64
64-128
128-256
256-512
512-1024
1024-2048
2048-4096
Bedrock
Particle Size Groups

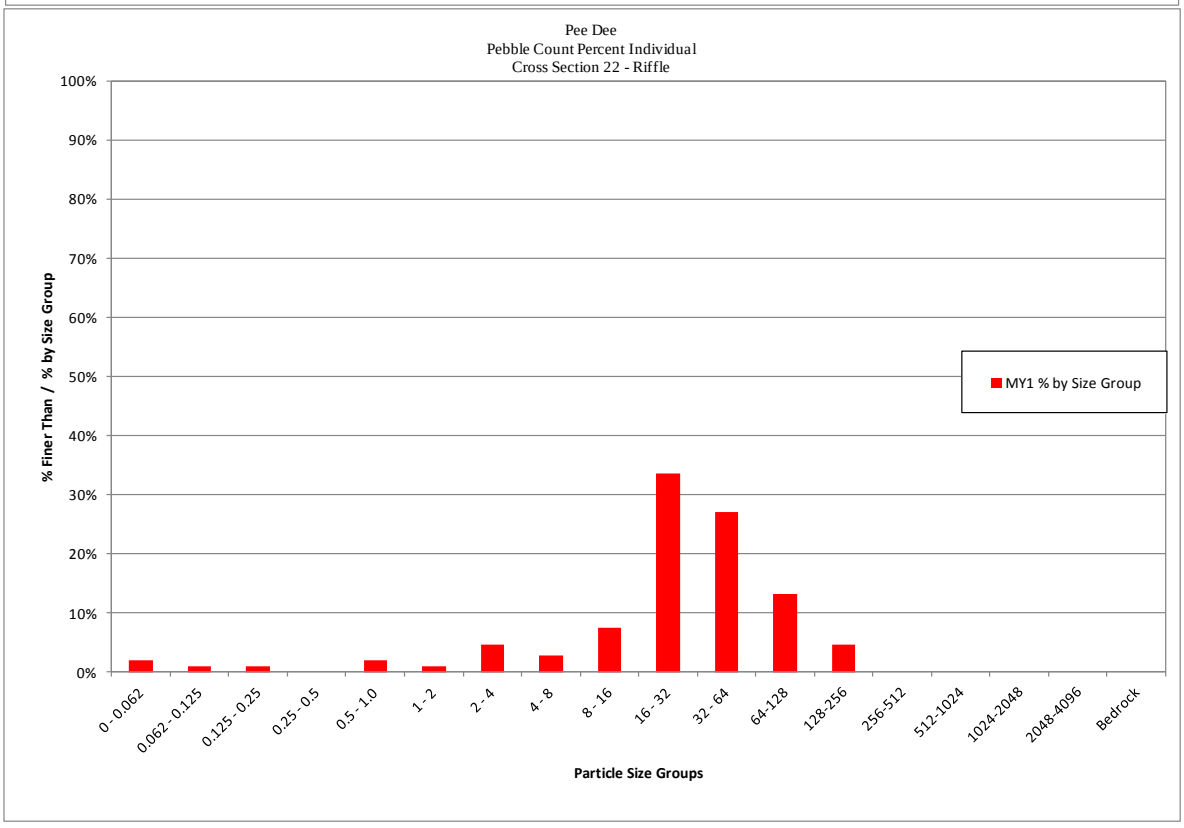

Pee Dee
Pebble Count Percent Individual
Cross Section 22 - Riffle
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
% Finer Than / % by Size Group
MY1 % by Size Group
0 - 0.062
0.062 - 0.125
0.125 - 0.25
0.25 - 0.5
0.5 - 1.0
1 - 2
2 - 4
4 - 8
8 - 16
16 - 32
32 - 64
64-128
128-256
256-512
512-1024
1024-2048
2048-4096
Bedrock
Particle Size Groups

Table 12. Pee Dee Stream Restoration Site Bank Pin Arrays					
Cross Section #	Length of Exposed Pin (mm)				
	Upstream	Middle	Downstream	Average Rate[1] (mm/yr)	Rate (ft/yr)
1	0^B	0^B	0^B	0	0.00
5	0^B	0^B	0^B	0	0.00
13	0	0	0	0.0	0.00
18	0	19.1	0^B	12.7	0.04
19	12.7	6.4	0^B	12.7	0.04
21	0^B	0^B	0^B	0	0.00

0^B= Buried Bank Pin

[1] Rate based on 6 month span since installation

Appendix E
Hydrologic Data

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Table 13. Verification of Bankfull Events Pee Dee Stream Restoration Site - Jerry Branch				
Date of Data Collection	**Date of Occurrence**	**Method**	**Feet Above Bankfull Elevation**	**Photo # (if available)**
October - 2015	Unknown[1]	Crest Gauge	1.33	E Submission File

[1] Based on precipitation data, suggested date in 10/03/2015

Table 13. Verification of Bankfull Events Pee Dee Stream Restoration Site - Dale Branch				
Date of Data Collection	**Date of Occurrence**	**Method**	**Feet Above Bankfull Evevation**	**Photo # (if available)**
October - 2015	Unknown[1]	Crest Gauge	0.95	E Submission File

[1] Based on precipitation data, suggested date in 10/03/2015

Table 13. Verification of Bankfull Events Pee Dee Stream Restoration Site - Thompson Branch				
Date of Data Collection	**Date of Occurrence**	**Method**	**Feet Above Bankfull Evevation**	**Photo # (if available)**
October - 2015	Unknown[1]	Crest Gauge	0.8	E Submission File

[1] Based on precipitation data, suggested date in 10/03/2015

Figure 3. Daily Precipitation Totals for Troy, NC (CRONOS Station NUWH – Uwharrie)

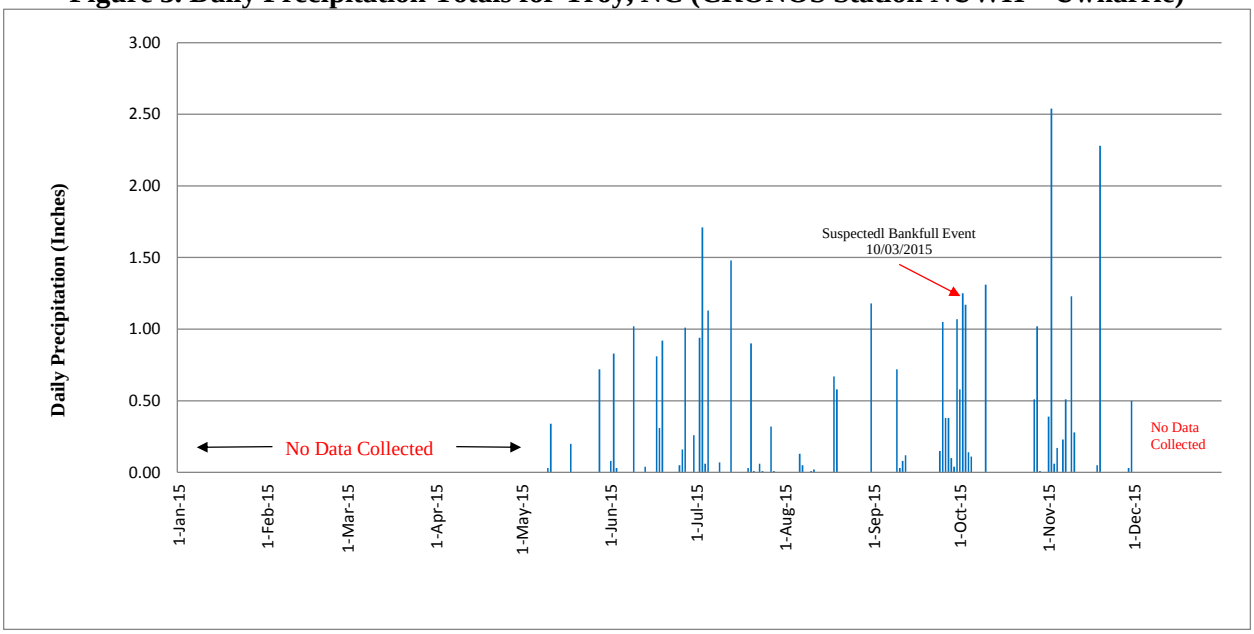

Figure 4. Monthly Precipitation Data Compared to the Average, 30th, and 70th Percentiles for Montgomery County