

**SECOND ANNUAL MONITORING REPORT – 2004 GROWING  
SEASON**

**Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration  
– Phase 2  
(EEP Contract: D04009-1; RFP 16-D04009)**

**December 2005**

**Submitted to:  
Jeff Jurek  
North Carolina Ecosystem Enhancement Program  
2728 Capital Blvd., Suite 1H 103  
Raleigh, NC 27604**

**Submitted by:  
Greene Environmental Services, LLC  
90 Ham Produce Road  
Snow Hill, NC 28580  
(252)747-8200**

## **Introduction and Background**

In November 2004 the NC Ecosystem Enhancement Program awarded Greene Environmental Services a contract to restore 50 acres of riparian buffer along unnamed tributaries to Contentnea Creek and Little Contentnea Creek in southeastern Greene County, NC (Figure 1) (Phase 2). The project was a continuation of the successful Phase 1 project that restored 37.1 acres of riparian buffers along the unnamed tributary to Contentnea Creek. The Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration Plan was implemented in 2004 with site preparation, the planting of 26,000 saplings of 14 species, and the establishment of 53 monitoring quadrats in 16 sampling units, as specified in the project's Mitigation Plan (GES, 2004) (Figure 2).

Woody stem density, cross-sectional area, and height monitoring was conducted during October and November 2005 within each 100 square meter quadrat, as detailed in the Mitigation Plan. The monitoring results, management activities to date, and planned management activities are presented below.

## **Results**

Stem density of planted species within the monitoring quadrats averaged 445 stems per acre; density of all woody stems (including those not planted) averaged 3,471 per acre (Table 1). **Both averages indicate that the project has exceeded its success criterion of 320 live woody stems per acre of no fewer than three species by 39 percent and 1,084 percent, respectively.**

Monitoring data indicate that *Fraxinus pennsylvanica* is the most abundant tree species among planted species (25.21 percent relative density). It is the third most abundant among all species (5.48 percent). *Acer rubrum* is the most abundant species when all species observed are included. The average of relative cross sectional area and relative density was calculated for planted species and all species and is presented below as the *Importance Value* (Table 1). Based on this calculation, "volunteer" species were dominant (*A. rubrum* 33.74, *Liquidambar styraciflua* 12.48, and *Pinus taeda* 4.24). Unidentified oaks (*Quercus* spp.) had the highest value among planted species. When considering only the planted species, *Betula nigra* was the most important (12.05), followed by *F. americana* (9.84), *Quercus* spp. (9.51) and *Platanus occidentalis* (7.67). The species with the greatest average height was *L. styraciflua*, which averaged 1.25 meters. The tallest planted species was *B. nigra* (0.96 meter).

Planted species' height averaged 0.41 meters. The height of all species combined averaged 0.44 meters. Stem diameter averaged 0.34 centimeters for all species and 0.38 centimeters for planted species.

## **Maintenance (completed and planned) and Anecdotal Observations**

Spot application of herbicide (Roundup) was done around individual trees in May 2004 throughout the Phase 2 restoration area. In areas where weedy vegetation was too robust to respond to the herbicide application, selective manual weed removal was done using machetes and gasoline-powered string trimmers.

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90 Ham Produce Road, Snow Hill, NC 28580 (252) 747-8200

Browsing evidence was observed in all monitoring units. Deer prints were observed in the soil near many trees with obvious branch tip browsing. While damage to branch tips may have affected overall height, it did not seem to result in any mortality. Rodent browsing at the base of the trees' main stems poses a more serious threat to survival. While no individuals observed were completely girdled, removal of vascular cambium around 50 to 60 percent of stem circumference was observed on many trees. Based on anecdotal observation, the relative number of trees impacted was small. Because of this and the woody stem density above the success threshold, the situation will be monitored, but no remedial action is planned.

In areas with observed mortality, remedial sapling planting will be done during late winter 2006. Planting density and species composition will be determined on a site-specific basis using available plant materials appropriate for the project. Concurrent with remedial sapling planting, worn and/or breached silt fences will be replaced and *Myrcia cerifera* container stock and *Salix nigra* live stakes will be in-planted on stream banks with evidence of erosion.





**Table 2. Plot 1-1. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		H		D		H		D		H		D		H	
					D	H	D	H	D	H	D	H	D	H	D	H	D	H		
<i>Acer rubrum</i> *																				
<i>Betula nigra</i>	1.25	2.54	2		1.3	2.4	1.2	2.68												
<i>Carya cordiformis</i> *																				
<i>Fraxinus americana</i>																				
<i>Fraxinus pennsylvanica</i>	0.63	0.57	3		0.8	0.75	0.4	0.25	0.7	0.7										
<i>Liquidambar styraciflua</i> *																				
<i>Liriodendron tulipifera</i>																				
<i>Magnolia virginiana</i>																				
<i>Pinus taeda</i> *																				
<i>Platanus occidentalis</i>																				
<i>Platanus occidentalis</i> *																				
<i>Prunus serotina</i> *																				
<i>Quercus alba</i>																				
<i>Quercus falcata</i>																				
<i>Quercus lyrata</i>																				
<i>Quercus michauxii</i>																				
<i>Quercus nigra</i>																				
<i>Quercus pagoda</i>																				
<i>Quercus phellos</i>	1.43	1.13	3		1.8	0.79	1.5	1.46	1	1.15										
<i>Quercus rubra</i>																				
<i>Quercus</i> spp.																				
<i>Taxodium distichum</i>																				
<b>Total/Average</b>	1.09	1.27	8	0																

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 3. Plot 1-2. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		H		D		H		D		H		D		H	
					D	H	D	H	D	H	D	H	D	H	D	H	D	H		
<i>Acer rubrum</i> *																				
<i>Betula nigra</i>	1.05	2.24	4		0.6	0.55	1.3	2.8	0.7	2.45	1.6	3.14								
<i>Carya cordiformis</i> *	0.70	0.65	1		0.7	0.65														
<i>Fraxinus americana</i>																				
<i>Fraxinus pennsylvanica</i>																				
<i>Liquidambar styraciflua</i> *																				
<i>Liriodendron tulipifera</i>																				
<i>Magnolia virginiana</i>																				
<i>Pinus taeda</i> *																				
<i>Platanus occidentalis</i>																				
<i>Platanus occidentalis</i> *																				
<i>Prunus serotina</i> *																				
<i>Quercus alba</i>																				
<i>Quercus falcata</i>																				
<i>Quercus lyrata</i>																				
<i>Quercus michauxii</i>																				
<i>Quercus nigra</i>	0.68	0.53	2		0.25	0.35	1.1	0.7												
<i>Quercus pagoda</i>																				
<i>Quercus phellos</i>																				
<i>Quercus rubra</i>																				
<i>Quercus</i> spp.																				
<i>Taxodium distichum</i>					0.9	0.35	1.4	0.7	0.6	0.35										
<b>Total/Average</b>	<b>1.31</b>	<b>1.72</b>	<b>7</b>	<b>0</b>																

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 4. Plot 1-3. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		H		D		H		D		H		D		H	
					D	H	D	H	D	H	D	H	D	H	D	H	D	H		
<i>Acer rubrum</i> *																				
<i>Betula nigra</i>																				
<i>Carya cordiformis</i> *																				
<i>Fraxinus americana</i>																				
<i>Fraxinus pennsylvanica</i>	0.85	1.75	2		1	1.8	0.7	1.7												
<i>Liquidambar styraciflua</i> *																				
<i>Liriodendron tulipifera</i>	0.90	0.89	1		0.9	0.89														
<i>Magnolia virginiana</i>																				
<i>Pinus taeda</i> *																				
<i>Platanus occidentalis</i>	3.70	4.00	2		4.1	3.95	3.3	4.05												
<i>Platanus occidentalis</i> *																				
<i>Prunus serotina</i> *																				
<i>Quercus alba</i>																				
<i>Quercus falcata</i>																				
<i>Quercus lyrata</i>																				
<i>Quercus michauxii</i>																				
<i>Quercus nigra</i>																				
<i>Quercus pagoda</i>																				
<i>Quercus phellos</i>	0.50	0.75	1		0.5	0.75														
<i>Quercus rubra</i>																				
<i>Quercus</i> spp.																				
<i>Taxodium distichum</i>																				
<b>Total/Average</b>	<b>1.75</b>	<b>2.19</b>	<b>6</b>	<b>0</b>																

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 5. Plot 1-4. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead														
					D	H	D	H	D	H	D	H	D	H	D	H		
<i>Acer rubrum</i> *	0.40	0.19	1		0.4	0.19												
<i>Betula nigra</i>	1.56	2.00	5		2	3.58	0.4	1.95	2.1	1.67	0.9	1.1	2.4	1.7				
<i>Carya cordiformis</i> *																		
<i>Fraxinus americana</i>																		
<i>Fraxinus pennsylvanica</i>				1	d	d												
<i>Liquidambar styraciflua</i> *																		
<i>Liriodendron tulipifera</i>																		
<i>Magnolia virginiana</i>																		
<i>Pinus taeda</i> *																		
<i>Platanus occidentalis</i>																		
<i>Platanus occidentalis</i> *																		
<i>Prunus serotina</i> *																		
<i>Quercus alba</i>																		
<i>Quercus falcata</i>																		
<i>Quercus lyrata</i>																		
<i>Quercus michauxii</i>																		
<i>Quercus nigra</i>																		
<i>Quercus pagoda</i>																		
<i>Quercus phellos</i>																		
<i>Quercus rubra</i>																		
<i>Quercus</i> spp.																		
<i>Taxodium distichum</i>																		

**Total/Average**

**1.37**

**1.70**

**6**

**1**

D=diameter (centimeters)

H=height (meters)

\*volunteer (not planted)

**Table 6. Plot 2-1. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		D		D		D		D		D		D	
					D	H	D	H	D	H	D	H	D	H	D	H		
<i>Acer rubrum</i> * <sup>a</sup>	0.20	0.25	50															
<i>Betula nigra</i>																		
<i>Carya cordiformis</i> *																		
<i>Fraxinus americana</i>	0.40	0.35	1		0.4	0.35												
<i>Fraxinus pennsylvanica</i>	1.40	1.10	1		1.4	1.1												
<i>Liquidambar styraciflua</i> *																		
<i>Liriodendron tulipifera</i>																		
<i>Magnolia virginiana</i>																		
<i>Pinus taeda</i> *																		
<i>Platanus occidentalis</i>	2.30	3.35	2		1.9	3.05	2.7	3.65										
<i>Platanus occidentalis</i> *																		
<i>Prunus serotina</i> *																		
<i>Quercus alba</i>																		
<i>Quercus falcata</i>	0.90	0.78	2		0.8	0.6	1	0.96										
<i>Quercus lyrata</i>																		
<i>Quercus michauxii</i>																		
<i>Quercus nigra</i>																		
<i>Quercus pagoda</i>																		
<i>Quercus phellos</i>																		
<i>Quercus rubra</i>	0.50	0.50	1		0.5	0.5												
<i>Quercus</i> spp.																		
<i>Taxodium distichum</i>	1.00	0.65	2		1.3	0.87	0.7	0.42										
<b>Total/Average</b>	<b>0.35</b>	<b>0.41</b>	<b>59</b>	<b>0</b>														

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

<sup>a</sup> Diameter and height measurements for additional individuals were recorded and used in all summary calculations. The raw data are not included here to save paper.

**Table 7. Plot 2-2. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		H		D		H		D		H		D		H	
					D	H	D	H	D	H	D	H	D	H	D	H				
<i>Acer rubrum</i> *																				
<i>Betula nigra</i>																				
<i>Carya cordiformis</i> *																				
<i>Fraxinus americana</i>																				
<i>Fraxinus pennsylvanica</i>	1.40	0.75	3		1.8	0.77	1.7	1.05	0.7	0.42										
<i>Liquidambar styraciflua</i> * <sup>a</sup>	0.50	0.65	18																	
<i>Liriodendron tulipifera</i>	0.77	0.98	3		1	0.61	0.7	0.52	0.6	1.8										
<i>Magnolia virginiana</i>																				
<i>Pinus taeda</i> *																				
<i>Platanus occidentalis</i>																				
<i>Platanus occidentalis</i> *																				
<i>Prunus serotina</i> *																				
<i>Quercus alba</i>																				
<i>Quercus falcata</i>																				
<i>Quercus lyrata</i>																				
<i>Quercus michauxii</i>																				
<i>Quercus nigra</i>																				
<i>Quercus pagoda</i>																				
<i>Quercus phellos</i>	0.20	0.27	1		0.2	0.27														
<i>Quercus rubra</i>																				
<i>Quercus</i> spp.																				
<i>Taxodium distichum</i>																				
<b>Total/Average</b>	<b>0.63</b>	<b>0.69</b>	<b>25</b>	<b>0</b>																

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

<sup>a</sup> Diameter and height measurements for additional individuals were recorded and used in all summary calculations. The raw data are not included here to save paper.

**Table 8. Plot 2-3. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		H		D		H		D		H		D		H	
					D	H	D	H	D	H	D	H	D	H	D	H	D	H		
<i>Acer rubrum</i> *																				
<i>Betula nigra</i>																				
<i>Carya cordiformis</i> *																				
<i>Fraxinus americana</i>																				
<i>Fraxinus pennsylvanica</i>	0.82	0.75	5		0.7	0.6	0.7	0.62	1	1	1	0.93	0.7	0.6						
<i>Liquidambar styraciflua</i> *																				
<i>Liriodendron tulipifera</i>	0.96	0.60	8		1	0.54	0.7	0.38	1	0.53	0.7	0.45	0.9	0.51	1.7	0.97	0.9	0.61		
<i>Magnolia virginiana</i>																				
<i>Pinus taeda</i> *																				
<i>Platanus occidentalis</i>																				
<i>Platanus occidentalis</i> *																				
<i>Prunus serotina</i> *																				
<i>Quercus alba</i>																				
<i>Quercus falcata</i>																				
<i>Quercus lyrata</i>																				
<i>Quercus michauxii</i>	0.50	0.39	1		0.5	0.39														
<i>Quercus nigra</i>																				
<i>Quercus pagoda</i>																				
<i>Quercus phellos</i>	0.70	0.67	1		0.7	0.67														
<i>Quercus rubra</i>																				
<i>Quercus</i> spp.																				
<i>Taxodium distichum</i>	1.30	0.66	1		1.3	0.66														

**Total/Average                      0.89                      0.64                      16                      0**

\*volunteer (not planted)

D=diameter (centimeters)                      H=height (meters)

**Table 8. Plot 2-3. 2005 Mo**

Species	D	H	D	H
<i>Acer rubrum*</i>				
<i>Betula nigra</i>				
<i>Carya cordiformis*</i>				
<i>Fraxinus americana</i>				
<i>Fraxinus pennsylvanica</i>				
<i>Liquidambar styraciflua*</i>				
<i>Liriodendron tulipifera</i>	0.8	0.82		
<i>Magnolia virginiana</i>				
<i>Pinus taeda*</i>				
<i>Platanus occidentalis</i>				
<i>Platanus occidentalis*</i>				
<i>Prunus serotina*</i>				
<i>Quercus alba</i>				
<i>Quercus falcata</i>				
<i>Quercus lyrata</i>				
<i>Quercus michauxii</i>				
<i>Quercus nigra</i>				
<i>Quercus pagoda</i>				
<i>Quercus phellos</i>				
<i>Quercus rubra</i>				
<i>Quercus</i> spp.				
<i>Taxodium distichum</i>				

**Total/Average**

*\*volunteer (not planted)*



**Table 9. Plot 3-1. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		H		D		H		D		H		D		H	
					D	H	D	H	D	H	D	H	D	H	D	H				
<i>Acer rubrum</i> * <sup>a</sup>	0.20	0.25	2500																	
<i>Betula nigra</i>	2.45	3.40	2		2.7	3.55	2.2	3.25												
<i>Carya cordiformis</i> *																				
<i>Fraxinus americana</i>																				
<i>Fraxinus pennsylvanica</i>	1.60	1.34	1		1.6	1.34														
<i>Liquidambar styraciflua</i> *																				
<i>Liriodendron tulipifera</i>																				
<i>Magnolia virginiana</i>																				
<i>Pinus taeda</i> *																				
<i>Platanus occidentalis</i>																				
<i>Platanus occidentalis</i> *																				
<i>Prunus serotina</i> *																				
<i>Quercus alba</i>																				
<i>Quercus falcata</i>																				
<i>Quercus lyrata</i>	1.00	0.78	2		0.8	0.64	1.2	0.92												
<i>Quercus michauxii</i>																				
<i>Quercus nigra</i>																				
<i>Quercus pagoda</i>																				
<i>Quercus phellos</i>																				
<i>Quercus rubra</i>	0.70	0.72	1		0.7	0.72														
<i>Quercus</i> spp.																				
<i>Taxodium distichum</i>	1.25	0.86	2		0.9	0.8	1.6	0.92												
<b>Total/Average</b>	<b>0.20</b>	<b>0.25</b>	<b>2508</b>	<b>0</b>																

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

<sup>a</sup> Diameter and height measurements for additional individuals were recorded and used in all summary calculations. The raw data are not included here to save paper.

**Table 10. Plot 3-2. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		D		D		D		D		D		D	
					D	H	D	H	D	H	D	H	D	H	D	H	D	H
<i>Acer rubrum</i> *																		
<i>Betula nigra</i>																		
<i>Carya cordiformis</i> *																		
<i>Fraxinus americana</i>																		
<i>Fraxinus pennsylvanica</i>																		
<i>Liquidambar styraciflua</i> *																		
<i>Liriodendron tulipifera</i>																		
<i>Magnolia virginiana</i>																		
<i>Pinus taeda</i> *																		
<i>Platanus occidentalis</i>																		
<i>Platanus occidentalis</i> *																		
<i>Prunus serotina</i> *																		
<i>Quercus alba</i>																		
<i>Quercus falcata</i>																		
<i>Quercus lyrata</i>																		
<i>Quercus michauxii</i>																		
<i>Quercus nigra</i>																		
<i>Quercus pagoda</i>																		
<i>Quercus phellos</i>																		
<i>Quercus rubra</i>	0.70	0.65	3		0.7	0.67	0.5	0.54	0.9	0.75								
<i>Quercus</i> spp.				2	d	d	d	d										
<i>Taxodium distichum</i>	2.00	1.07	1		2	1.07												
<b>Total/Average</b>	<b>1.03</b>	<b>0.76</b>	<b>4</b>	<b>2</b>														

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 11. Plot 3-3. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		H		D		H		D		H		D		H	
					D	H	D	H	D	H	D	H	D	H	D	H	D	H		
<i>Acer rubrum</i> *																				
<i>Betula nigra</i>	1.70	2.08	2	1	1.8	2.7	1.6	1.45	d	d										
<i>Carya cordiformis</i> *																				
<i>Fraxinus americana</i>																				
<i>Fraxinus pennsylvanica</i>	1.65	1.82	2		2.4	1.67	0.9	1.96												
<i>Liquidambar styraciflua</i> *																				
<i>Liriodendron tulipifera</i>																				
<i>Magnolia virginiana</i>																				
<i>Pinus taeda</i> *																				
<i>Platanus occidentalis</i>																				
<i>Platanus occidentalis</i> *																				
<i>Prunus serotina</i> *																				
<i>Quercus alba</i>																				
<i>Quercus falcata</i>																				
<i>Quercus lyrata</i>																				
<i>Quercus michauxii</i>																				
<i>Quercus nigra</i>																				
<i>Quercus pagoda</i>																				
<i>Quercus phellos</i>																				
<i>Quercus rubra</i>																				
<i>Quercus</i> spp.																				
<i>Taxodium distichum</i>	1.33	0.95	3	1	1.8	1.26	1.2	0.85	1	0.75	d	d								
<b>Total/Average</b>	<b>1.53</b>	<b>1.52</b>	<b>7</b>	<b>2</b>																

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 12. Plot 4-1. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		D		D		D		D		D		D	
					D	H	D	H	D	H	D	H	D	H	D	H	D	H
<i>Acer rubrum</i> *																		
<i>Betula nigra</i>																		
<i>Carya cordiformis</i> *																		
<i>Fraxinus americana</i>																		
<i>Fraxinus pennsylvanica</i>																		
<i>Liquidambar styraciflua</i> *																		
<i>Liriodendron tulipifera</i>																		
<i>Magnolia virginiana</i>																		
<i>Pinus taeda</i> *																		
<i>Platanus occidentalis</i>																		
<i>Platanus occidentalis</i> *																		
<i>Prunus serotina</i> *																		
<i>Quercus alba</i>																		
<i>Quercus falcata</i>																		
<i>Quercus lyrata</i>																		
<i>Quercus michauxii</i>	0.60	1.83	1		0.6	1.83												
<i>Quercus nigra</i>																		
<i>Quercus pagoda</i>																		
<i>Quercus phellos</i>	1.29	1.03	7		1.5	1	0.1	0.8	1	0.7	1.4	0.82	1.6	1.29	1.7	1.3	1.7	1.3
<i>Quercus rubra</i>																		
<i>Quercus</i> spp.																		
<i>Taxodium distichum</i>	1.70	1.06	4		2.1	0.85	1.8	1.32	1.7	1.3	1.2	0.75						
<b>Total/Average</b>	<b>1.37</b>	<b>1.11</b>	<b>12</b>	<b>0</b>														

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 13. Plot 4-2. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		D		D		D		D		D		D	
					D	H	D	H	D	H	D	H	D	H	D	H	D	H
<i>Acer rubrum</i> * <sup>a</sup>	0.20	0.25	100															
<i>Betula nigra</i>																		
<i>Carya cordiformis</i> *																		
<i>Fraxinus americana</i>																		
<i>Fraxinus pennsylvanica</i>																		
<i>Liquidambar styraciflua</i> *																		
<i>Liriodendron tulipifera</i>																		
<i>Magnolia virginiana</i>																		
<i>Pinus taeda</i> *																		
<i>Platanus occidentalis</i>	3.05	3.20	2		2.5	2.15	3.6	4.25										
<i>Platanus occidentalis</i> *																		
<i>Prunus serotina</i> *																		
<i>Quercus alba</i>																		
<i>Quercus falcata</i>																		
<i>Quercus lyrata</i>																		
<i>Quercus michauxii</i>																		
<i>Quercus nigra</i>																		
<i>Quercus pagoda</i>																		
<i>Quercus phellos</i>	0.65	0.62	2		0.4	0.6	0.9	0.64										
<i>Quercus rubra</i>	0.75	1.23	2		1.1	1.3	0.4	1.15										
<i>Quercus</i> spp.																		
<i>Taxodium distichum</i>	0.90	0.63	1	1	d	d	0.9	0.63										
<b>Total/Average</b>	<b>0.28</b>	<b>0.33</b>	<b>107</b>	<b>1</b>														

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

<sup>a</sup> Diameter and height measurements for additional individuals were recorded and used in all summary calculations. The raw data are not included here to save paper.

**Table 14. Plot 4-3. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		D		D		D		D		D		D	
					D	H	D	H	D	H	D	H	D	H	D	H		
<i>Acer rubrum</i> *																		
<i>Betula nigra</i>																		
<i>Carya cordiformis</i> *																		
<i>Fraxinus americana</i>																		
<i>Fraxinus pennsylvanica</i>																		
<i>Liquidambar styraciflua</i> *																		
<i>Liriodendron tulipifera</i>																		
<i>Magnolia virginiana</i>																		
<i>Pinus taeda</i> *																		
<i>Platanus occidentalis</i>																		
<i>Platanus occidentalis</i> *																		
<i>Prunus serotina</i> *																		
<i>Quercus alba</i>																		
<i>Quercus falcata</i>																		
<i>Quercus lyrata</i>																		
<i>Quercus michauxii</i>	0.80	0.92	1		0.8	0.92												
<i>Quercus nigra</i>																		
<i>Quercus pagoda</i>																		
<i>Quercus phellos</i>	1.10	0.96	3		1.5	1.3	0.3	0.37	1.5	1.2								
<i>Quercus rubra</i>	0.60	0.57	1		0.6	0.57												
<i>Quercus</i> spp.				1	d	d												
<i>Taxodium distichum</i>	1.00	0.61	1		1	0.61												
<b>Total/Average</b>	<b>0.95</b>	<b>0.83</b>	<b>6</b>	<b>1</b>														

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 15. Plot 5-1. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		H		D		H		D		H		D		H	
					D	H	D	H	D	H	D	H	D	H	D	H				
<i>Acer rubrum</i> *																				
<i>Betula nigra</i>	0.90	1.64	2		0.5	2.15	1.3	1.13												
<i>Carya cordiformis</i> *																				
<i>Fraxinus americana</i>																				
<i>Fraxinus pennsylvanica</i>																				
<i>Liquidambar styraciflua</i> *																				
<i>Liriodendron tulipifera</i>																				
<i>Magnolia virginiana</i>																				
<i>Pinus taeda</i> *																				
<i>Platanus occidentalis</i>	3.20	3.62	1		3.2	3.62														
<i>Platanus occidentalis</i> *																				
<i>Prunus serotina</i> *																				
<i>Quercus alba</i>																				
<i>Quercus falcata</i>																				
<i>Quercus lyrata</i>																				
<i>Quercus michauxii</i>																				
<i>Quercus nigra</i>	0.50	0.55	1		0.5	0.55														
<i>Quercus pagoda</i>																				
<i>Quercus phellos</i>																				
<i>Quercus rubra</i>																				
<i>Quercus</i> spp.																				
<i>Taxodium distichum</i>	1.10	0.80	3		1.8	1.3	0.4	0.29	1.1	0.82										
<b>Total/Average</b>	<b>1.26</b>	<b>1.41</b>	<b>7</b>	<b>0</b>																

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 16. Plot 5-2. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		H		D		H		D		H		D		H	
					D	H	D	H	D	H	D	H	D	H	D	H				
<i>Acer rubrum</i> *																				
<i>Betula nigra</i>	0.60	2.07	1		0.6	2.07														
<i>Carya cordiformis</i> *																				
<i>Fraxinus americana</i>																				
<i>Fraxinus pennsylvanica</i>																				
<i>Liquidambar styraciflua</i> *																				
<i>Liriodendron tulipifera</i>																				
<i>Magnolia virginiana</i>																				
<i>Pinus taeda</i> *																				
<i>Platanus occidentalis</i>	2.15	2.90	2		2.2	2.55	2.1	3.25												
<i>Platanus occidentalis</i> *																				
<i>Prunus serotina</i> *																				
<i>Quercus alba</i>																				
<i>Quercus falcata</i>																				
<i>Quercus lyrata</i>																				
<i>Quercus michauxii</i>																				
<i>Quercus nigra</i>	0.70	0.52	1		0.7	0.52														
<i>Quercus pagoda</i>																				
<i>Quercus phellos</i>	0.65	0.75	2		0.7	0.75	0.6	0.75												
<i>Quercus rubra</i>																				
<i>Quercus</i> spp.																				
<i>Taxodium distichum</i>	0.97	0.77	3		0.7	0.7	0.5	0.47	1.7	1.14										

**Total/Average**

**1.09**

**1.36**

**9**

**0**

\*volunteer (not planted)

D=diameter (centimeters)

H=height (meters)



Table 17. Plot 5-3. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		D		D		D		D		D		D	
					D	H	D	H	D	H	D	H	D	H	D	H	D	H
<i>Acer rubrum</i> *																		
<i>Betula nigra</i>																		
<i>Carya cordiformis</i> *																		
<i>Fraxinus americana</i>																		
<i>Fraxinus pennsylvanica</i>	0.70	0.57	4		0.8	0.53	0.6	0.38	0.7	0.62	0.7	0.74						
<i>Liquidambar styraciflua</i> * <sup>a</sup>	0.20	0.25	4															
<i>Liriodendron tulipifera</i>																		
<i>Magnolia virginiana</i>																		
<i>Pinus taeda</i> *																		
<i>Platanus occidentalis</i>	0.87	1.42	3		0.8	0.87	1.2	1.5	0.6	1.89								
<i>Platanus occidentalis</i> *																		
<i>Prunus serotina</i> *																		
<i>Quercus alba</i>																		
<i>Quercus falcata</i>																		
<i>Quercus lyrata</i>																		
<i>Quercus michauxii</i>																		
<i>Quercus nigra</i>																		
<i>Quercus pagoda</i>																		
<i>Quercus phellos</i>																		
<i>Quercus rubra</i>																		
<i>Quercus</i> spp.																		
<i>Taxodium distichum</i>	0.65	0.95	2	3	d	d	d	d	d	d	0.8	1	0.5	0.9				
<b>Total/Average</b>	<b>0.58</b>	<b>0.73</b>	<b>13</b>	<b>3</b>														

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

<sup>a</sup> Diameter and height measurements for additional individuals were recorded and used in all summary calculations. The raw data are not included here to save paper.

**Table 18. Plot 6-1. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		H		D		H		D		H		D		H	
					D	H	D	H	D	H	D	H	D	H	D	H	D	H		
<i>Acer rubrum</i> *																				
<i>Betula nigra</i>																				
<i>Carya cordiformis</i> *																				
<i>Fraxinus americana</i>																				
<i>Fraxinus pennsylvanica</i>	1.49	1.18	14		1.2	0.68	1.4	0.69	2	1.61	0.9	0.56	2	1.45	2.1	1.6	0.7	1.75		
<i>Liquidambar styraciflua</i> *																				
<i>Liriodendron tulipifera</i>																				
<i>Magnolia virginiana</i>																				
<i>Pinus taeda</i> *																				
<i>Platanus occidentalis</i>																				
<i>Platanus occidentalis</i> *																				
<i>Prunus serotina</i> *																				
<i>Quercus alba</i>																				
<i>Quercus falcata</i>																				
<i>Quercus lyrata</i>																				
<i>Quercus michauxii</i>																				
<i>Quercus nigra</i>																				
<i>Quercus pagoda</i>																				
<i>Quercus phellos</i>																				
<i>Quercus rubra</i>																				
<i>Quercus</i> spp.																				
<i>Taxodium distichum</i>																				
<b>Total/Average</b>	<b>1.49</b>	<b>1.18</b>	<b>14</b>	<b>0</b>																

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 18. Plot 6-1. 2005 M**

Species	D	H	D	H	D	H	D	H	D	H	D	H	D	H	D	H
<i>Acer rubrum</i> *																
<i>Betula nigra</i>																
<i>Carya cordiformis</i> *																
<i>Fraxinus americana</i>																
<i>Fraxinus pennsylvanica</i>	1.3	0.68	2.2	1.35	1.4	0.65	2.5	1	0.8	1.65	1.1	0.4	1.3	2.45		
<i>Liquidambar styraciflua</i> *																
<i>Liriodendron tulipifera</i>																
<i>Magnolia virginiana</i>																
<i>Pinus taeda</i> *																
<i>Platanus occidentalis</i>																
<i>Platanus occidentalis</i> *																
<i>Prunus serotina</i> *																
<i>Quercus alba</i>																
<i>Quercus falcata</i>																
<i>Quercus lyrata</i>																
<i>Quercus michauxii</i>																
<i>Quercus nigra</i>																
<i>Quercus pagoda</i>																
<i>Quercus phellos</i>																
<i>Quercus rubra</i>																
<i>Quercus</i> spp.																
<i>Taxodium distichum</i>																

**Total/Average**

\*volunteer (not planted)

**Table 19. Plot 6-2. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		H		D		H		D		H		D		H	
					D	H	D	H	D	H	D	H	D	H	D	H				
<i>Acer rubrum</i> *																				
<i>Betula nigra</i>																				
<i>Carya cordiformis</i> *																				
<i>Fraxinus americana</i>																				
<i>Fraxinus pennsylvanica</i>	1.53	1.52	8		2	1.35	2	1.72	0.7	1.7	1.8	0.88	1.1	2.17	1.9	1.18	1.5	0.83		
<i>Liquidambar styraciflua</i> * <sup>a</sup>	0.20	0.25	3																	
<i>Liriodendron tulipifera</i>																				
<i>Magnolia virginiana</i>																				
<i>Pinus taeda</i> *																				
<i>Platanus occidentalis</i>	2.35	3.30	2		2.3	3.2	2.4	3.4												
<i>Platanus occidentalis</i> *																				
<i>Prunus serotina</i> *																				
<i>Quercus alba</i>																				
<i>Quercus falcata</i>																				
<i>Quercus lyrata</i>																				
<i>Quercus michauxii</i>																				
<i>Quercus nigra</i>																				
<i>Quercus pagoda</i>																				
<i>Quercus phellos</i>																				
<i>Quercus rubra</i>																				
<i>Quercus</i> spp.																				
<i>Taxodium distichum</i>																				
<b>Total/Average</b>	<b>1.35</b>	<b>1.50</b>	<b>13</b>	<b>0</b>																

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

<sup>a</sup> Diameter and height measurements for additional individuals were recorded and used in all summary calculations. The raw data are not included here to save paper.

**Table 19. Plot 6-2. 2005 M**

Species	D	H
<i>Acer rubrum</i> *		
<i>Betula nigra</i>		
<i>Carya cordiformis</i> *		
<i>Fraxinus americana</i>		
<i>Fraxinus pennsylvanica</i>	1.2	2.3
<i>Liquidambar styraciflua</i> * <sup>a</sup>		
<i>Liriodendron tulipifera</i>		
<i>Magnolia virginiana</i>		
<i>Pinus taeda</i> *		
<i>Platanus occidentalis</i>		
<i>Platanus occidentalis</i> *		
<i>Prunus serotina</i> *		
<i>Quercus alba</i>		
<i>Quercus falcata</i>		
<i>Quercus lyrata</i>		
<i>Quercus michauxii</i>		
<i>Quercus nigra</i>		
<i>Quercus pagoda</i>		
<i>Quercus phellos</i>		
<i>Quercus rubra</i>		
<i>Quercus</i> spp.		
<i>Taxodium distichum</i>		

**Total/Average**

\*volunteer (not planted)

<sup>a</sup> Diameter and height measurem

**Table 20. Plot 6-3. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		D		D		D		D		D		D	
					D	H	D	H	D	H	D	H	D	H	D	H		
<i>Acer rubrum</i> * <sup>a</sup>	0.20	0.25	7															
<i>Betula nigra</i>																		
<i>Carya cordiformis</i> *																		
<i>Fraxinus americana</i>																		
<i>Fraxinus pennsylvanica</i>	2.20	1.19	1		2.2	1.19												
<i>Liquidambar styraciflua</i> * <sup>a</sup>	0.20	0.25	2															
<i>Liriodendron tulipifera</i>																		
<i>Magnolia virginiana</i>																		
<i>Pinus taeda</i> *																		
<i>Platanus occidentalis</i>	0.76	1.01	12		0.3	0.26	1	1.23	1	1.23	0.7	0.57	1.3	1.48	0.9	1.35	1.1	1.4
<i>Platanus occidentalis</i> *																		
<i>Prunus serotina</i> *																		
<i>Quercus alba</i>	1.28	0.80	4		0.7	0.52	2	1.18	0.9	0.54	1.5	0.95						
<i>Quercus falcata</i>																		
<i>Quercus lyrata</i>	1.10	0.96	1		1.1	0.96												
<i>Quercus michauxii</i>																		
<i>Quercus nigra</i>																		
<i>Quercus pagoda</i>																		
<i>Quercus phellos</i>																		
<i>Quercus rubra</i>																		
<i>Quercus</i> spp.																		
<i>Taxodium distichum</i>																		
<b>Total/Average</b>	<b>0.68</b>	<b>0.77</b>	<b>27</b>	<b>0</b>														

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

<sup>a</sup> Diameter and height measurements for additional individuals were recorded and used in all summary calculations. The raw data are not included here to save paper.

**Table 20. Plot 6-3. 2005 M**

Species	D	H	D	H	D	H	D	H	D	H	D
<i>Acer rubrum</i> * <sup>a</sup>											
<i>Betula nigra</i>											
<i>Carya cordiformis</i> *											
<i>Fraxinus americana</i>											
<i>Fraxinus pennsylvanica</i>											
<i>Liquidambar styraciflua</i> * <sup>a</sup>											
<i>Liriodendron tulipifera</i>											
<i>Magnolia virginiana</i>											
<i>Pinus taeda</i> *											
<i>Platanus occidentalis</i>	0.6	1.81	0.4	0.35	0.9	1.02	0.5	0.75	0.4	0.61	
<i>Platanus occidentalis</i> *											
<i>Prunus serotina</i> *											
<i>Quercus alba</i>											
<i>Quercus falcata</i>											
<i>Quercus lyrata</i>											
<i>Quercus michauxii</i>											
<i>Quercus nigra</i>											
<i>Quercus pagoda</i>											
<i>Quercus phellos</i>											
<i>Quercus rubra</i>											
<i>Quercus</i> spp.											
<i>Taxodium distichum</i>											

**Total/Average**

\*volunteer (not planted)

<sup>a</sup> Diameter and height measurem

**Table 21. Plot 6-4. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		H		D		H		D		H		D		H	
					D	H	D	H	D	H	D	H	D	H	D	H	D	H		
<i>Acer rubrum</i> *																				
<i>Betula nigra</i>																				
<i>Carya cordiformis</i> *																				
<i>Fraxinus americana</i>																				
<i>Fraxinus pennsylvanica</i>																				
<i>Liquidambar styraciflua</i> *																				
<i>Liriodendron tulipifera</i>	0.40	0.35	2		0.3	0.13	0.5	0.57												
<i>Magnolia virginiana</i>																				
<i>Pinus taeda</i> *																				
<i>Platanus occidentalis</i>	0.60	0.68	1		0.6	0.68														
<i>Platanus occidentalis</i> *																				
<i>Prunus serotina</i> *																				
<i>Quercus alba</i>	1.39	1.43	7		2.1	1.65	1.5	1.05	1.3	1.25	1	0.78	1.7	1.58	1.4	1.72	0.7	2		
<i>Quercus falcata</i>																				
<i>Quercus lyrata</i>	1.03	0.79	6		1.5	1.25	1.5	1.25	1.4	0.85	0.4	0.27	0.7	0.55	0.7	0.57				
<i>Quercus michauxii</i>																				
<i>Quercus nigra</i>	0.48	0.53	4		0.4	0.45	0.5	0.52	0.6	0.6	0.4	0.56								
<i>Quercus pagoda</i>																				
<i>Quercus phellos</i>	0.73	1.63	4		1	1.5	1.2	2.4	0.3	0.65	0.4	1.95								
<i>Quercus rubra</i>	1.10	0.95	1		1.1	0.95														
<i>Quercus</i> spp.	1.45	0.98	2		1.8	1.3	1.1	0.65												
<i>Taxodium distichum</i>																				
<b>Total/Average</b>	<b>0.97</b>	<b>1.03</b>	<b>27</b>	<b>0</b>																

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)



**Table 22. Plot 7-1. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		H		D		H		D		H		D		H	
					D	H	D	H	D	H	D	H	D	H	D	H	D	H		
<i>Acer rubrum</i> *																				
<i>Betula nigra</i>																				
<i>Carya cordiformis</i> *																				
<i>Fraxinus americana</i>																				
<i>Fraxinus pennsylvanica</i>	1.00	0.77	2		1	0.78	1	0.75												
<i>Liquidambar styraciflua</i> *	0.93	1.28	3		0.9	0.7	0.9	0.7	1	2.45										
<i>Liriodendron tulipifera</i>																				
<i>Magnolia virginiana</i>																				
<i>Pinus taeda</i> *																				
<i>Platanus occidentalis</i>																				
<i>Platanus occidentalis</i> *																				
<i>Prunus serotina</i> *																				
<i>Quercus alba</i>																				
<i>Quercus falcata</i>																				
<i>Quercus lyrata</i>																				
<i>Quercus michauxii</i>																				
<i>Quercus nigra</i>																				
<i>Quercus pagoda</i>																				
<i>Quercus phellos</i>																				
<i>Quercus rubra</i>																				
<i>Quercus</i> spp.																				
<i>Taxodium distichum</i>	1.14	0.86	10	1	1	0.6	0.4	0.27	d	d	1.6	1	1.2	0.94	1.3	0.95	1.5	1.37		
<b>Total/Average</b>	<b>1.08</b>	<b>0.93</b>	<b>15</b>	<b>1</b>																

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 22. Plot 7-1. 2005 M**

Species	D	H	D	H	D	H	D	H
<i>Acer rubrum</i> *								
<i>Betula nigra</i>								
<i>Carya cordiformis</i> *								
<i>Fraxinus americana</i>								
<i>Fraxinus pennsylvanica</i>								
<i>Liquidambar styraciflua</i> *								
<i>Liriodendron tulipifera</i>								
<i>Magnolia virginiana</i>								
<i>Pinus taeda</i> *								
<i>Platanus occidentalis</i>								
<i>Platanus occidentalis</i> *								
<i>Prunus serotina</i> *								
<i>Quercus alba</i>								
<i>Quercus falcata</i>								
<i>Quercus lyrata</i>								
<i>Quercus michauxii</i>								
<i>Quercus nigra</i>								
<i>Quercus pagoda</i>								
<i>Quercus phellos</i>								
<i>Quercus rubra</i>								
<i>Quercus</i> spp.								
<i>Taxodium distichum</i>	0.9	0.72	1	0.82	1	0.66	1.5	1.29

**Total/Average**

\*volunteer (not planted)

**Table 23. Plot 7-2. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		D		D		D		D		D		D	
					D	H	D	H	D	H	D	H	D	H	D	H		
<i>Acer rubrum</i> * <sup>a</sup>	0.23	0.33	262															
<i>Betula nigra</i>																		
<i>Carya cordiformis</i> *																		
<i>Fraxinus americana</i>																		
<i>Fraxinus pennsylvanica</i>	1.07	0.84	6		1	0.6	0.3	0.23	1.5	1.05	1.1	1.08	1.5	1.15	1	0.93		
<i>Liquidambar styraciflua</i> * <sup>a</sup>	0.55	0.66	103		2	2.1	2.6	3.4	2.3	3.1								
<i>Liriodendron tulipifera</i>																		
<i>Magnolia virginiana</i>	1.00	1.00	1		1	1												
<i>Pinus taeda</i> *																		
<i>Platanus occidentalis</i>	2.75	3.63	4		3.6	4.5	1.2	2.3	2.7	3.7	3.5	4						
<i>Platanus occidentalis</i> *																		
<i>Prunus serotina</i> *	0.60	1.02	3		0.8	1.51	0.77	0.96	0.4	0.6								
<i>Quercus alba</i>																		
<i>Quercus falcata</i>																		
<i>Quercus lyrata</i>	0.65	0.65	2		0.7	0.63	0.6	0.66										
<i>Quercus michauxii</i>																		
<i>Quercus nigra</i>																		
<i>Quercus pagoda</i>																		
<i>Quercus phellos</i>	0.70	2.00	1		0.7	2												
<i>Quercus rubra</i>																		
<i>Quercus</i> spp.																		
<i>Taxodium distichum</i>																		
<b>Total/Average</b>	<b>0.36</b>	<b>0.47</b>	<b>382</b>	<b>0</b>														

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

<sup>a</sup> Diameter and height measurements for additional individuals were recorded and used in all summary calculations. The raw data are not included here to save paper.

**Table 24. Plot 7-3. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		H		D		H		D		H		D		H	
					D	H	D	H	D	H	D	H	D	H	D	H	D	H		
<i>Acer rubrum</i> *																				
<i>Betula nigra</i>																				
<i>Carya cordiformis</i> *																				
<i>Fraxinus americana</i>																				
<i>Fraxinus pennsylvanica</i>	1.00	1.44	2		1.2	2.07	0.8	0.8												
<i>Liquidambar styraciflua</i> *																				
<i>Liriodendron tulipifera</i>																				
<i>Magnolia virginiana</i>																				
<i>Pinus taeda</i> *																				
<i>Platanus occidentalis</i>	0.73	2.17	6		0.6	0.9	1	1.03	0.8	1.08	0.6	0.86	0.6	0.65	0.8	8.5				
<i>Platanus occidentalis</i> *																				
<i>Prunus serotina</i> *																				
<i>Quercus alba</i>																				
<i>Quercus falcata</i>																				
<i>Quercus lyrata</i>	1.00	1.34	2		0.7	1.96	1.3	0.72												
<i>Quercus michauxii</i>																				
<i>Quercus nigra</i>																				
<i>Quercus pagoda</i>																				
<i>Quercus phellos</i>																				
<i>Quercus rubra</i>																				
<i>Quercus</i> spp.																				
<i>Taxodium distichum</i>	0.80	0.50	1		0.8	0.5														
<b>Total/Average</b>	<b>0.84</b>	<b>1.73</b>	<b>11</b>	<b>0</b>																

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 25. Plot 8-1. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		H		D		H		D		H		D		H	
					D	H	D	H	D	H	D	H	D	H	D	H				
<i>Acer rubrum</i> *																				
<i>Betula nigra</i>																				
<i>Carya cordiformis</i> *																				
<i>Fraxinus americana</i>																				
<i>Fraxinus pennsylvanica</i>	1.87	1.90	3		3.3	4	1.2	0.96	1.1	0.75										
<i>Liquidambar styraciflua</i> *	1.57	1.98	3		1.8	2.8	1.4	1.55	1.5	1.58										
<i>Liriodendron tulipifera</i>	0.73	0.37	3		0.5	0.28	0.7	0.44	1	0.4										
<i>Magnolia virginiana</i>																				
<i>Pinus taeda</i> *																				
<i>Platanus occidentalis</i>	1.13	2.20	12		2.5	2.7	1.3	2.65	1	0.65	0.4	1.75	1.3	3	0.6	1.84	0.9	2.15		
<i>Platanus occidentalis</i> *																				
<i>Prunus serotina</i> *																				
<i>Quercus alba</i>																				
<i>Quercus falcata</i>																				
<i>Quercus lyrata</i>																				
<i>Quercus michauxii</i>																				
<i>Quercus nigra</i>																				
<i>Quercus pagoda</i>																				
<i>Quercus phellos</i>	1.95	2.33	2		2	1.76	1.9	2.9												
<i>Quercus rubra</i>																				
<i>Quercus</i> spp.																				
<i>Taxodium distichum</i>	0.65	0.52	2		0.6	0.44	0.7	0.6												
<b>Total/Average</b>	<b>1.25</b>	<b>1.79</b>	<b>25</b>	<b>0</b>																

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 25. Plot 8-1. 2005 M**

Species	D	H	D	H	D	H	D	H	D	H
<i>Acer rubrum</i> *										
<i>Betula nigra</i>										
<i>Carya cordiformis</i> *										
<i>Fraxinus americana</i>										
<i>Fraxinus pennsylvanica</i>										
<i>Liquidambar styraciflua</i> *										
<i>Liriodendron tulipifera</i>										
<i>Magnolia virginiana</i>										
<i>Pinus taeda</i> *										
<i>Platanus occidentalis</i>	0.7	1.86	1.1	2.55	1.2	2.5	1.2	2.5	1.3	2.2
<i>Platanus occidentalis</i> *										
<i>Prunus serotina</i> *										
<i>Quercus alba</i>										
<i>Quercus falcata</i>										
<i>Quercus lyrata</i>										
<i>Quercus michauxii</i>										
<i>Quercus nigra</i>										
<i>Quercus pagoda</i>										
<i>Quercus phellos</i>										
<i>Quercus rubra</i>										
<i>Quercus</i> spp.										
<i>Taxodium distichum</i>										

**Total/Average**

\*volunteer (not planted)

**Table 26. Plot 8-2. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		D		D		D		D		D		D	
					D	H	D	H	D	H	D	H	D	H	D	H		
<i>Acer rubrum</i> *	0.70	0.85	1		0.7	0.85												
<i>Betula nigra</i>																		
<i>Carya cordiformis</i> *																		
<i>Fraxinus americana</i>																		
<i>Fraxinus pennsylvanica</i>																		
<i>Liquidambar styraciflua</i> *	2.20	3.15	2		2.1	3.05	2.3	3.25										
<i>Liriodendron tulipifera</i>																		
<i>Magnolia virginiana</i>																		
<i>Pinus taeda</i> *																		
<i>Platanus occidentalis</i>	0.70	2.20	1		0.7	2.2												
<i>Platanus occidentalis</i> *																		
<i>Prunus serotina</i> *																		
<i>Quercus alba</i>																		
<i>Quercus falcata</i>	0.62	0.48	5		0.9	0.65	0.6	0.5	0.6	0.6	0.6	0.35	0.4	0.3				
<i>Quercus lyrata</i>																		
<i>Quercus michauxii</i>	1.03	0.98	7		1.1	0.5	1	0.55	0.9	0.63	0.7	1.81	1.5	1.42	1.1	1.2	0.9	0.78
<i>Quercus nigra</i>																		
<i>Quercus pagoda</i>																		
<i>Quercus phellos</i>																		
<i>Quercus rubra</i>																		
<i>Quercus</i> spp.																		
<i>Taxodium distichum</i>																		

**Total/Average**                      **1.01**                      **1.17**                      **16**                      **0**

\*volunteer (not planted)

D=diameter (centimeters)                      H=height (meters)

**Table 27. Plot 8-3. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		D		D		D		D		D		D	
					D	H	D	H	D	H	D	H	D	H	D	H		
<i>Acer rubrum</i> *	0.80	0.54	2		0.8	0.63	0.8	0.45										
<i>Betula nigra</i>																		
<i>Carya cordiformis</i> *																		
<i>Fraxinus americana</i>																		
<i>Fraxinus pennsylvanica</i>																		
<i>Liquidambar styraciflua</i> *	2.25	2.90	2		2.8	3.4	1.7	2.4										
<i>Liriodendron tulipifera</i>																		
<i>Magnolia virginiana</i>																		
<i>Pinus taeda</i> *																		
<i>Platanus occidentalis</i>	1.07	1.96	9		0.5	1.71	1.4	1	1.5	2.5	2.4	3.25	0.9	1.4	1.1	1.75	0.3	1.72
<i>Platanus occidentalis</i> *																		
<i>Prunus serotina</i> *																		
<i>Quercus alba</i>																		
<i>Quercus falcata</i>																		
<i>Quercus lyrata</i>																		
<i>Quercus michauxii</i>	0.85	1.29	2		1	1.68	0.7	0.9										
<i>Quercus nigra</i>																		
<i>Quercus pagoda</i>																		
<i>Quercus phellos</i>																		
<i>Quercus rubra</i>																		
<i>Quercus</i> spp.																		
<i>Taxodium distichum</i>	0.90	0.82	2		0.8	0.9	1	0.74										

**Total/Average**                      **1.13**                      **1.69**                      **17**                      **0**

\*volunteer (not planted)

D=diameter (centimeters)                      H=height (meters)



**Table 27. Plot 8-3. 2005 M**

Species	D	H	D	H
<i>Acer rubrum*</i>				
<i>Betula nigra</i>				
<i>Carya cordiformis*</i>				
<i>Fraxinus americana</i>				
<i>Fraxinus pennsylvanica</i>				
<i>Liquidambar styraciflua*</i>				
<i>Liriodendron tulipifera</i>				
<i>Magnolia virginiana</i>				
<i>Pinus taeda*</i>				
<i>Platanus occidentalis</i>	0.6	2.05	0.9	2.25
<i>Platanus occidentalis*</i>				
<i>Prunus serotina*</i>				
<i>Quercus alba</i>				
<i>Quercus falcata</i>				
<i>Quercus lyrata</i>				
<i>Quercus michauxii</i>				
<i>Quercus nigra</i>				
<i>Quercus pagoda</i>				
<i>Quercus phellos</i>				
<i>Quercus rubra</i>				
<i>Quercus</i> spp.				
<i>Taxodium distichum</i>				

**Total/Average**

\*volunteer (not planted)

**Table 28. Plot 9-1. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		H		D		H		D		H		D		H	
					D	H	D	H	D	H	D	H	D	H	D	H	D	H		
<i>Acer rubrum</i> *																				
<i>Betula nigra</i>																				
<i>Carya cordiformis</i> *																				
<i>Fraxinus americana</i>																				
<i>Fraxinus pennsylvanica</i>	1.98	2.17	6		1.2	1.82	2.8	2.5	2.1	1.57	2.1	1.28	2.8	3	0.9	2.85				
<i>Liquidambar styraciflua</i> *																				
<i>Liriodendron tulipifera</i>																				
<i>Magnolia virginiana</i>																				
<i>Pinus taeda</i> *																				
<i>Platanus occidentalis</i>																				
<i>Platanus occidentalis</i> *																				
<i>Prunus serotina</i> *																				
<i>Quercus alba</i>																				
<i>Quercus falcata</i>																				
<i>Quercus lyrata</i>																				
<i>Quercus michauxii</i>																				
<i>Quercus nigra</i>																				
<i>Quercus pagoda</i>																				
<i>Quercus phellos</i>																				
<i>Quercus rubra</i>																				
<i>Quercus</i> spp.																				
<i>Taxodium distichum</i>	1.15	0.93	2		1	0.85	1.3	1												
<b>Total/Average</b>	<b>1.78</b>	<b>1.86</b>	<b>8</b>	<b>0</b>																

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 29. Plot 9-2. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		H		D		H		D		H		D		H	
					D	H	D	H	D	H	D	H	D	H	D	H	D	H		
<i>Acer rubrum</i> *																				
<i>Betula nigra</i>																				
<i>Carya cordiformis</i> *																				
<i>Fraxinus americana</i>																				
<i>Fraxinus pennsylvanica</i>	1.06	0.61	7		1.1	0.69	1.9	1.13	1.7	1.07	1	0.65	0.8	0.34	0.4	0.23	0.5	0.18		
<i>Liquidambar styraciflua</i> *	1.40	1.25	1		1.4	1.25														
<i>Liriodendron tulipifera</i>																				
<i>Magnolia virginiana</i>																				
<i>Pinus taeda</i> *																				
<i>Platanus occidentalis</i>																				
<i>Platanus occidentalis</i> *																				
<i>Prunus serotina</i> *																				
<i>Quercus alba</i>																				
<i>Quercus falcata</i>																				
<i>Quercus lyrata</i>																				
<i>Quercus michauxii</i>																				
<i>Quercus nigra</i>																				
<i>Quercus pagoda</i>																				
<i>Quercus phellos</i>	1.15	0.98	2		1.8	1.45	0.5	0.5												
<i>Quercus rubra</i>																				
<i>Quercus</i> spp.																				
<i>Taxodium distichum</i>	1.00	0.71	3		1	0.37	1.4	1.32	0.6	0.45										
<b>Total/Average</b>	<b>1.08</b>	<b>0.74</b>	<b>13</b>	<b>0</b>																

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 30. Plot 9-3. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		H		D		H		D		H		D		H	
					D	H	D	H	D	H	D	H	D	H	D	H				
<i>Acer rubrum</i> *	0.50	0.50	1		0.5	0.5														
<i>Betula nigra</i>																				
<i>Carya cordiformis</i> *																				
<i>Fraxinus americana</i>																				
<i>Fraxinus pennsylvanica</i>	2.33	1.26	3		2.8	1.4	2.6	1.32	1.6	1.05										
<i>Liquidambar styraciflua</i> *																				
<i>Liriodendron tulipifera</i>																				
<i>Magnolia virginiana</i>																				
<i>Pinus taeda</i> *																				
<i>Platanus occidentalis</i>																				
<i>Platanus occidentalis</i> *																				
<i>Prunus serotina</i> *																				
<i>Quercus alba</i>																				
<i>Quercus falcata</i>																				
<i>Quercus lyrata</i>																				
<i>Quercus michauxii</i>																				
<i>Quercus nigra</i>																				
<i>Quercus pagoda</i>																				
<i>Quercus phellos</i>																				
<i>Quercus rubra</i>																				
<i>Quercus</i> spp.																				
<i>Taxodium distichum</i>	1.70	1.11	3		1.3	0.93	2.5	1.47	1.3	0.94										
<b>Total/Average</b>	<b>1.80</b>	<b>1.09</b>	<b>7</b>	<b>0</b>																

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 31. Plot 10-1. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		D		D		D		D		D		D	
					D	H	D	H	D	H	D	H	D	H	D	H	D	H
<i>Acer rubrum*</i>																		
<i>Betula nigra</i>																		
<i>Carya cordiformis*</i>																		
<i>Fraxinus americana</i>	1.33	1.54	4		2.1	1.4	0.8	1.7	0.7	1.55	1.7	1.5						
<i>Fraxinus pennsylvanica</i>																		
<i>Liquidambar styraciflua*</i>																		
<i>Liriodendron tulipifera</i>																		
<i>Magnolia virginiana</i>																		
<i>Pinus taeda*</i>																		
<i>Platanus occidentalis</i>																		
<i>Platanus occidentalis*</i>																		
<i>Prunus serotina*</i>																		
<i>Quercus alba</i>																		
<i>Quercus falcata</i>																		
<i>Quercus lyrata</i>	0.93	0.83	4		1	1.17	0.9	0.85	0.5	0.65	1.3	0.65						
<i>Quercus michauxii</i>																		
<i>Quercus nigra</i>																		
<i>Quercus pagoda</i>																		
<i>Quercus phellos</i>	0.90	0.82	4		0.6	0.5	1.3	1.2	0.6	0.39	1.1	1.2						
<i>Quercus rubra</i>																		
<i>Quercus spp.</i>																		
<i>Taxodium distichum</i>																		
<b>Total/Average</b>	<b>1.05</b>	<b>1.06</b>	<b>12</b>	<b>0</b>														

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 32. Plot 10-2. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		H		D		H		D		H		D		H	
					D	H	D	H	D	H	D	H	D	H	D	H				
<i>Acer rubrum</i> *																				
<i>Betula nigra</i>																				
<i>Carya cordiformis</i> *																				
<i>Fraxinus americana</i>																				
<i>Fraxinus pennsylvanica</i>	1.05	0.72	4	1	0.8	0.56	0.7	0.45	1	0.73	1.7	1.13	d	d						
<i>Liquidambar styraciflua</i> *																				
<i>Liriodendron tulipifera</i>																				
<i>Magnolia virginiana</i>																				
<i>Pinus taeda</i> *																				
<i>Platanus occidentalis</i>	1.50	1.30	1		1.5	1.3														
<i>Platanus occidentalis</i> *																				
<i>Prunus serotina</i> *																				
<i>Quercus alba</i>																				
<i>Quercus falcata</i>																				
<i>Quercus lyrata</i>																				
<i>Quercus michauxii</i>																				
<i>Quercus nigra</i>																				
<i>Quercus pagoda</i>																				
<i>Quercus phellos</i>	0.80	0.56	3		0.4	0.4	1.7	1.05	0.3	0.23										
<i>Quercus rubra</i>																				
<i>Quercus</i> spp.																				
<i>Taxodium distichum</i>																				
<b>Total/Average</b>	<b>1.01</b>	<b>0.73</b>	<b>8</b>	<b>1</b>																

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 33. Plot 10-3. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		D		D		D		D		D		D	
					D	H	D	H	D	H	D	H	D	H	D	H	D	H
<i>Acer rubrum</i> *																		
<i>Betula nigra</i>																		
<i>Carya cordiformis</i> *																		
<i>Fraxinus americana</i>																		
<i>Fraxinus pennsylvanica</i>																		
<i>Liquidambar styraciflua</i> *																		
<i>Liriodendron tulipifera</i>																		
<i>Magnolia virginiana</i>																		
<i>Pinus taeda</i> *																		
<i>Platanus occidentalis</i>	2.14	1.99	5		0.5	0.63	1.4	1.55	0.7	0.75	4.3	3.47	3.8	3.57				
<i>Platanus occidentalis</i> *	1.20	1.46	2		0.7	1.34	1.7	1.57										
<i>Prunus serotina</i> *																		
<i>Quercus alba</i>																		
<i>Quercus falcata</i>																		
<i>Quercus lyrata</i>	0.50	0.50	1		0.5	0.5												
<i>Quercus michauxii</i>	1.00	0.96	1		1	0.96												
<i>Quercus nigra</i>																		
<i>Quercus pagoda</i>																		
<i>Quercus phellos</i>	0.50	0.38	4		0.2	0.53	0.6	0.33	0.3	0.37	0.9	0.3						
<i>Quercus rubra</i>																		
<i>Quercus</i> spp.																		
<i>Taxodium distichum</i>																		
<b>Total/Average</b>	<b>1.28</b>	<b>1.22</b>	<b>13</b>	<b>0</b>														

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 34. Plot 10-4. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		D		D		D		D		D		D	
					H	H	H	H	H	H	H	H	H	H				
<i>Acer rubrum</i> * <sup>a</sup>	0.20	0.25	30															
<i>Betula nigra</i>																		
<i>Carya cordiformis</i> *																		
<i>Fraxinus americana</i>																		
<i>Fraxinus pennsylvanica</i>	1.26	2.18	5		1.1	1.85	1.3	2.13	1.3	2.15	1.4	2.45	1.2	2.3				
<i>Liquidambar styraciflua</i> *																		
<i>Liriodendron tulipifera</i>																		
<i>Magnolia virginiana</i>																		
<i>Pinus taeda</i> *																		
<i>Platanus occidentalis</i>	2.28	3.16	5		2	3.1	2	2.9	2	2.95	2.9	3.7	2.5	3.15				
<i>Platanus occidentalis</i> *																		
<i>Prunus serotina</i> *																		
<i>Quercus alba</i>																		
<i>Quercus falcata</i>																		
<i>Quercus lyrata</i>	1.10	0.97	1		1.1	0.97												
<i>Quercus michauxii</i>																		
<i>Quercus nigra</i>																		
<i>Quercus pagoda</i>																		
<i>Quercus phellos</i>																		
<i>Quercus rubra</i>	0.80	0.75	1		0.8	0.75												
<i>Quercus</i> spp.																		
<i>Taxodium distichum</i>																		
<b>Total/Average</b>	<b>0.61</b>	<b>0.85</b>	<b>42</b>	<b>0</b>														

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

<sup>a</sup> Diameter and height measurements for additional individuals were recorded and used in all summary calculations. The raw data are not included here to save paper.



**Table 35. Plot 11-1. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		D		D		D		D		D		D	
					D	H	D	H	D	H	D	H	D	H	D	H		
<i>Acer rubrum</i> *																		
<i>Betula nigra</i>																		
<i>Carya cordiformis</i> *																		
<i>Fraxinus americana</i>																		
<i>Fraxinus pennsylvanica</i>	1.49	1.09	7		1.9	1.05	2.4	1.41	1.6	1.25	0.8	1.8	0.5	0.87	1.9	0.37	1.3	0.9
<i>Liquidambar styraciflua</i> * <sup>a</sup>	0.27	0.33	20		0.5	0.6	0.6	0.7	0.6	0.6	0.5	0.6						
<i>Liriodendron tulipifera</i>																		
<i>Magnolia virginiana</i>																		
<i>Pinus taeda</i> * <sup>a</sup>	0.20	0.25	20															
<i>Platanus occidentalis</i>																		
<i>Platanus occidentalis</i> *																		
<i>Prunus serotina</i> *																		
<i>Quercus alba</i>																		
<i>Quercus falcata</i>	0.60	0.31	2		0.7	0.41	0.5	0.21										
<i>Quercus lyrata</i>																		
<i>Quercus michauxii</i>	1.35	0.87	2		1.9	1.03	0.8	0.7										
<i>Quercus nigra</i>																		
<i>Quercus pagoda</i>																		
<i>Quercus phellos</i>																		
<i>Quercus rubra</i>																		
<i>Quercus</i> spp.																		
<i>Taxodium distichum</i>																		
<b>Total/Average</b>	<b>0.46</b>	<b>0.42</b>	<b>51</b>	<b>0</b>														

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

<sup>a</sup> Diameter and height measurements for additional individuals were recorded and used in all summary calculations. The raw data are not included here to save paper.

**Table 36. Plot 11-2. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		H		D		H		D		H		D		H	
					D	H	D	H	D	H	D	H	D	H	D	H	D	H		
<i>Acer rubrum</i> *																				
<i>Betula nigra</i>	1.37	2.78	3		1.5	2.9	1.6	2.85	1	2.6										
<i>Carya cordiformis</i> *																				
<i>Fraxinus americana</i>																				
<i>Fraxinus pennsylvanica</i>																				
<i>Liquidambar styraciflua</i> *	1.06	1.12	15		1.11	1.06	1.1	1.27	1	1.01	1.1	1.38	1.1	1	1.1	1.13	0.76	1		
<i>Liriodendron tulipifera</i>																				
<i>Magnolia virginiana</i>																				
<i>Pinus taeda</i> *																				
<i>Platanus occidentalis</i>	3.69	3.58	3		3.77	3.83	5.1	4.1	2.2	2.8										
<i>Platanus occidentalis</i> *																				
<i>Prunus serotina</i> *																				
<i>Quercus alba</i>																				
<i>Quercus falcata</i>																				
<i>Quercus lyrata</i>	1.30	1.30	1		1.3	1.3														
<i>Quercus michauxii</i>	1.47	1.23	3		1.9	1.38	1.1	1.01	1.4	1.3										
<i>Quercus nigra</i>																				
<i>Quercus pagoda</i>																				
<i>Quercus phellos</i>	1.15	0.90	2		1.1	0.96	1.2	0.83												
<i>Quercus rubra</i>																				
<i>Quercus</i> spp.																				
<i>Taxodium distichum</i>																				
<b>Total/Average</b>	<b>1.41</b>	<b>1.54</b>	<b>27</b>	<b>0</b>																

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 36. Plot 11-2. 2005 N**

Species	D	H	D	H	D	H	D	H	D	H	D	H	D	H	D	H	
<i>Acer rubrum*</i>																	
<i>Betula nigra</i>																	
<i>Carya cordiformis*</i>																	
<i>Fraxinus americana</i>																	
<i>Fraxinus pennsylvanica</i>																	
<i>Liquidambar styraciflua*</i>	0.68	1.1	1.12	1.3	1.32	1	1	1.5	1.46	1	1	1	1	1	1	1.2	1.37
<i>Liriodendron tulipifera</i>																	
<i>Magnolia virginiana</i>																	
<i>Pinus taeda*</i>																	
<i>Platanus occidentalis</i>																	
<i>Platanus occidentalis*</i>																	
<i>Prunus serotina*</i>																	
<i>Quercus alba</i>																	
<i>Quercus falcata</i>																	
<i>Quercus lyrata</i>																	
<i>Quercus michauxii</i>																	
<i>Quercus nigra</i>																	
<i>Quercus pagoda</i>																	
<i>Quercus phellos</i>																	
<i>Quercus rubra</i>																	
<i>Quercus spp.</i>																	
<i>Taxodium distichum</i>																	

**Total/Average**

\*volunteer (not planted)

**Table 37. Plot 11-3. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		H		D		H		D		H		D		H	
					D	H	D	H	D	H	D	H	D	H	D	H				
<i>Acer rubrum</i> *																				
<i>Betula nigra</i>	1.27	2.57	3		1.5	2.7	1	2.2	1.3	2.8										
<i>Carya cordiformis</i> *																				
<i>Fraxinus americana</i>																				
<i>Fraxinus pennsylvanica</i>																				
<i>Liquidambar styraciflua</i> * <sup>a</sup>	1.00	1.50	500																	
<i>Liriodendron tulipifera</i>																				
<i>Magnolia virginiana</i>																				
<i>Pinus taeda</i> * <sup>a</sup>	0.30	0.30	200																	
<i>Platanus occidentalis</i>																				
<i>Platanus occidentalis</i> *																				
<i>Prunus serotina</i> *																				
<i>Quercus alba</i>																				
<i>Quercus falcata</i>																				
<i>Quercus lyrata</i>																				
<i>Quercus michauxii</i>	1.05	1.40	4		0.8	1.65	1.6	1.25	1.3	1.07	0.5	1.62								
<i>Quercus nigra</i>																				
<i>Quercus pagoda</i>																				
<i>Quercus phellos</i>																				
<i>Quercus rubra</i>	1.57	1.07	3		1.4	1.22	1.9	1.1	1.4	0.88										
<i>Quercus</i> spp.																				
<i>Taxodium distichum</i>																				
<b>Total/Average</b>	<b>0.81</b>	<b>1.16</b>	<b>710</b>	<b>0</b>																

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

<sup>a</sup> Diameter and height measurements for additional individuals were recorded and used in all summary calculations. The raw data are not included here to save paper.

**Table 38. Plot 12-1. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		D		D		D		D		D		D	
					D	H	D	H	D	H	D	H	D	H	D	H		
<i>Acer rubrum</i> *																		
<i>Betula nigra</i>	1.80	1.53	2		2.2	1.7	1.4	1.35										
<i>Carya cordiformis</i> *																		
<i>Fraxinus americana</i>	0.80	1.83	1		0.8	1.83												
<i>Fraxinus pennsylvanica</i>																		
<i>Liquidambar styraciflua</i> *																		
<i>Liriodendron tulipifera</i>																		
<i>Magnolia virginiana</i>																		
<i>Pinus taeda</i> *																		
<i>Platanus occidentalis</i>	1.20	2.17	3		1.6	2.45	0.7	1.7	1.3	2.35								
<i>Platanus occidentalis</i> *																		
<i>Prunus serotina</i> *																		
<i>Quercus alba</i>																		
<i>Quercus falcata</i>																		
<i>Quercus lyrata</i>																		
<i>Quercus michauxii</i>																		
<i>Quercus nigra</i>																		
<i>Quercus pagoda</i>																		
<i>Quercus phellos</i>																		
<i>Quercus rubra</i>																		
<i>Quercus</i> spp.																		
<i>Taxodium distichum</i>	2.86	1.39	5		2.8	1.55	3.1	1.26	2.5	1.41	2.5	1.3	3.4	1.45				
<b>Total/Average</b>	<b>2.03</b>	<b>1.67</b>	<b>11</b>	<b>0</b>														

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 39. Plot 12-2. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		D		D		D		D		D		D	
					D	H	D	H	D	H	D	H	D	H	D	H	D	H
<i>Acer rubrum</i> *																		
<i>Betula nigra</i>	1.10	2.60	1		1.1	2.6												
<i>Carya cordiformis</i> *																		
<i>Fraxinus americana</i>																		
<i>Fraxinus pennsylvanica</i>																		
<i>Liquidambar styraciflua</i> *																		
<i>Liriodendron tulipifera</i>																		
<i>Magnolia virginiana</i>																		
<i>Pinus taeda</i> * <sup>a</sup>	0.30	0.30	26															
<i>Platanus occidentalis</i>	1.95	2.96	2		1.8	3	2.1	2.92										
<i>Platanus occidentalis</i> *																		
<i>Prunus serotina</i> *																		
<i>Quercus alba</i>																		
<i>Quercus falcata</i>																		
<i>Quercus lyrata</i>																		
<i>Quercus michauxii</i>	1.00	1.08	1		1	1.08												
<i>Quercus nigra</i>																		
<i>Quercus pagoda</i>																		
<i>Quercus phellos</i>																		
<i>Quercus rubra</i>																		
<i>Quercus</i> spp.																		
<i>Taxodium distichum</i>	2.99	1.33	11		3.3	1.35	3.6	1.61	2.8	1.43	2.9	1.25	3.1	1.36	1.3	0.9	3.1	1.4
<b>Total/Average</b>	<b>1.14</b>	<b>0.78</b>	<b>41</b>	<b>0</b>														

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 39. Plot 12-2. 2005 N**

Species	D	H	D	H	D	H	D	H
<i>Acer rubrum</i> *								
<i>Betula nigra</i>								
<i>Carya cordiformis</i> *								
<i>Fraxinus americana</i>								
<i>Fraxinus pennsylvanica</i>								
<i>Liquidambar styraciflua</i> *								
<i>Liriodendron tulipifera</i>								
<i>Magnolia virginiana</i>								
<i>Pinus taeda</i> * <sup>a</sup>								
<i>Platanus occidentalis</i>								
<i>Platanus occidentalis</i> *								
<i>Prunus serotina</i> *								
<i>Quercus alba</i>								
<i>Quercus falcata</i>								
<i>Quercus lyrata</i>								
<i>Quercus michauxii</i>								
<i>Quercus nigra</i>								
<i>Quercus pagoda</i>								
<i>Quercus phellos</i>								
<i>Quercus rubra</i>								
<i>Quercus</i> spp.								
<i>Taxodium distichum</i>	3.4	1.48	2.1	0.93	3.2	1.46	4.1	1.42

**Total/Average**

\*volunteer (not planted)

**Table 40. Plot 12-3. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		H		D		H		D		H		D		H	
					D	H	D	H	D	H	D	H	D	H	D	H				
<i>Acer rubrum</i> *																				
<i>Betula nigra</i>	2.90	3.63	3		2.4	3.2	2.8	3.8	3.5	3.9										
<i>Carya cordiformis</i> *																				
<i>Fraxinus americana</i>	1.40	1.20	1		1.4	1.2														
<i>Fraxinus pennsylvanica</i>																				
<i>Liquidambar styraciflua</i> * <sup>a</sup>	0.26	0.30	16		1.1	1.05														
<i>Liriodendron tulipifera</i>																				
<i>Magnolia virginiana</i>																				
<i>Pinus taeda</i> *																				
<i>Platanus occidentalis</i>																				
<i>Platanus occidentalis</i> *																				
<i>Prunus serotina</i> *																				
<i>Quercus alba</i>																				
<i>Quercus falcata</i>																				
<i>Quercus lyrata</i>																				
<i>Quercus michauxii</i>																				
<i>Quercus nigra</i>																				
<i>Quercus pagoda</i>																				
<i>Quercus phellos</i>																				
<i>Quercus rubra</i>																				
<i>Quercus</i> spp.																				
<i>Taxodium distichum</i>																				
<b>Total/Average</b>	<b>0.71</b>	<b>0.85</b>	<b>20</b>	<b>0</b>																

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)



**Table 41. Plot 13-1. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		H		D		H		D		H		D		H	
					D	H	D	H	D	H	D	H	D	H	D	H	D	H		
<i>Acer rubrum</i> *																				
<i>Betula nigra</i>																				
<i>Carya cordiformis</i> *																				
<i>Fraxinus americana</i>																				
<i>Fraxinus pennsylvanica</i>																				
<i>Liquidambar styraciflua</i> *																				
<i>Liriodendron tulipifera</i>																				
<i>Magnolia virginiana</i>																				
<i>Pinus taeda</i> *																				
<i>Platanus occidentalis</i>																				
<i>Platanus occidentalis</i> *																				
<i>Prunus serotina</i> *																				
<i>Quercus alba</i>	1.17	0.64	3		0.3	0.32	2.5	1.32	0.7	0.28										
<i>Quercus falcata</i>	1.03	0.75	3		1.1	1	1.3	0.91	0.7	0.35										
<i>Quercus lyrata</i>	1.40	1.15	1		1.4	1.15														
<i>Quercus michauxii</i>																				
<i>Quercus nigra</i>																				
<i>Quercus pagoda</i>																				
<i>Quercus phellos</i>																				
<i>Quercus rubra</i>																				
<i>Quercus</i> spp.																				
<i>Taxodium distichum</i>																				
<b>Total/Average</b>	<b>1.14</b>	<b>0.76</b>	<b>7</b>	<b>0</b>																

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 42. Plot 13-2. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		D		D		D		D		D		D	
					D	H	D	H	D	H	D	H	D	H	D	H		
<i>Acer rubrum</i> *																		
<i>Betula nigra</i>	0.85	1.76	2		0.7	1.9	1	1.62										
<i>Carya cordiformis</i> *																		
<i>Fraxinus americana</i>																		
<i>Fraxinus pennsylvanica</i>																		
<i>Liquidambar styraciflua</i> *																		
<i>Liriodendron tulipifera</i>																		
<i>Magnolia virginiana</i>																		
<i>Pinus taeda</i> *	0.40	0.60	1		0.4	0.6												
<i>Platanus occidentalis</i>																		
<i>Platanus occidentalis</i> *																		
<i>Prunus serotina</i> *																		
<i>Quercus alba</i>	0.83	0.67	3		0.9	0.65	0.7	0.69	0.9	0.68								
<i>Quercus falcata</i>																		
<i>Quercus lyrata</i>																		
<i>Quercus michauxii</i>																		
<i>Quercus nigra</i>																		
<i>Quercus pagoda</i>																		
<i>Quercus phellos</i>	0.60	0.44	4		0.5	0.15	0.2	0.13	1	0.79	0.7	0.7						
<i>Quercus rubra</i>																		
<i>Quercus</i> spp.																		
<i>Taxodium distichum</i>																		
<b>Total/Average</b>	<b>0.70</b>	<b>0.79</b>	<b>10</b>	<b>0</b>														

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 43. Plot 13-3. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		D		D		D		D		D		D	
					D	H	D	H	D	H	D	H	D	H	D	H	D	H
<i>Acer rubrum</i> *																		
<i>Betula nigra</i>																		
<i>Carya cordiformis</i> *																		
<i>Fraxinus americana</i>																		
<i>Fraxinus pennsylvanica</i>																		
<i>Liquidambar styraciflua</i> *	0.30	0.57	1		0.3	0.57												
<i>Liriodendron tulipifera</i>																		
<i>Magnolia virginiana</i>																		
<i>Pinus taeda</i> *																		
<i>Platanus occidentalis</i>																		
<i>Platanus occidentalis</i> *																		
<i>Prunus serotina</i> *	0.80	1.05	1	0	0.8	1.05												
<i>Quercus alba</i>	0.83	0.67	4		1.5	1.08	0.8	0.82	0.4	0.19	0.6	0.6						
<i>Quercus falcata</i>																		
<i>Quercus lyrata</i>	0.95	0.89	2		1.3	1.05	0.6	0.72										
<i>Quercus michauxii</i>	1.60	1.45	1		1.6	1.45												
<i>Quercus nigra</i>	1.30	1.03	1		1.3	1.03												
<i>Quercus pagoda</i>																		
<i>Quercus phellos</i>	0.64	0.65	5		0.9	0.98	0.7	0.91	0.5	0.47	0.5	0.6	0.6	0.27				
<i>Quercus rubra</i>																		
<i>Quercus</i> spp.																		
<i>Taxodium distichum</i>																		
<b>Total/Average</b>	<b>0.77</b>	<b>0.72</b>	<b>15</b>	<b>0</b>	<b>0.8</b>	<b>1.05</b>												

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 44. Plot 14-1. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		D		D		D		D		D		D	
					D	H	D	H	D	H	D	H	D	H	D	H		
<i>Acer rubrum</i> *																		
<i>Betula nigra</i>																		
<i>Carya cordiformis</i> *																		
<i>Fraxinus americana</i>																		
<i>Fraxinus pennsylvanica</i>	2.18	1.07	6		2.6	1.34	0.6	0.55	2.4	0.95	2.8	1.18	2.9	1.23	1.77	1.19		
<i>Liquidambar styraciflua</i> *																		
<i>Liriodendron tulipifera</i>																		
<i>Magnolia virginiana</i>	0.55	0.60	3		0.55	0.55	0.6	0.65	0.5	0.6								
<i>Pinus taeda</i> *																		
<i>Platanus occidentalis</i>	1.73	2.48	3		1.7	2.7	1.6	2.05	1.9	2.7								
<i>Platanus occidentalis</i> *																		
<i>Prunus serotina</i> *																		
<i>Quercus alba</i>																		
<i>Quercus falcata</i>																		
<i>Quercus lyrata</i>																		
<i>Quercus michauxii</i>																		
<i>Quercus nigra</i>																		
<i>Quercus pagoda</i>																		
<i>Quercus phellos</i>	1.10	1.13	1		1.1	1.13												
<i>Quercus rubra</i>																		
<i>Quercus</i> spp.																		
<i>Taxodium distichum</i>																		
<b>Total/Average</b>	<b>1.62</b>	<b>1.29</b>	<b>13</b>	<b>0</b>														

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 45. Plot 14-2. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		H		D		H		D		H		D		H	
					D	H	D	H	D	H	D	H	D	H	D	H	D	H		
<i>Acer rubrum</i> *																				
<i>Betula nigra</i>																				
<i>Carya cordiformis</i> *																				
<i>Fraxinus americana</i>																				
<i>Fraxinus pennsylvanica</i>	1.23	1.41	12		1.7	1.31	1	1.75	0.7	0.26	1.1	0.85	1.9	1.29	1.1	1.77	0.9	1.66		
<i>Liquidambar styraciflua</i> *																				
<i>Liriodendron tulipifera</i>																				
<i>Magnolia virginiana</i>																				
<i>Pinus taeda</i> *																				
<i>Platanus occidentalis</i>																				
<i>Platanus occidentalis</i> *																				
<i>Prunus serotina</i> *																				
<i>Quercus alba</i>																				
<i>Quercus falcata</i>																				
<i>Quercus lyrata</i>																				
<i>Quercus michauxii</i>	0.20	0.36	1		0.2	0.36														
<i>Quercus nigra</i>																				
<i>Quercus pagoda</i>																				
<i>Quercus phellos</i>																				
<i>Quercus rubra</i>																				
<i>Quercus</i> spp.																				
<i>Taxodium distichum</i>																				
<b>Total/Average</b>	<b>1.15</b>	<b>1.33</b>	<b>13</b>	<b>0</b>																

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 45. Plot 14-2. 2005 N**

Species	D	H	D	H	D	H	D	H	D	H
<i>Acer rubrum</i> *										
<i>Betula nigra</i>										
<i>Carya cordiformis</i> *										
<i>Fraxinus americana</i>										
<i>Fraxinus pennsylvanica</i>	1.4	2.25	1.1	0.95	0.6	1.75	2.2	1.26	1	1.83
<i>Liquidambar styraciflua</i> *										
<i>Liriodendron tulipifera</i>										
<i>Magnolia virginiana</i>										
<i>Pinus taeda</i> *										
<i>Platanus occidentalis</i>										
<i>Platanus occidentalis</i> *										
<i>Prunus serotina</i> *										
<i>Quercus alba</i>										
<i>Quercus falcata</i>										
<i>Quercus lyrata</i>										
<i>Quercus michauxii</i>										
<i>Quercus nigra</i>										
<i>Quercus pagoda</i>										
<i>Quercus phellos</i>										
<i>Quercus rubra</i>										
<i>Quercus</i> spp.										
<i>Taxodium distichum</i>										

**Total/Average**

\*volunteer (not planted)

**Table 46. Plot 14-3. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		H		D		H		D		H		D		H	
					D	H	D	H	D	H	D	H	D	H	D	H	D	H		
<i>Acer rubrum</i> *																				
<i>Betula nigra</i>																				
<i>Carya cordiformis</i> *																				
<i>Fraxinus americana</i>																				
<i>Fraxinus pennsylvanica</i>	1.50	1.57	4		1.6	2.45	1.5	1.02	1.4	1.39	1.5	1.44								
<i>Liquidambar styraciflua</i> *																				
<i>Liriodendron tulipifera</i>																				
<i>Magnolia virginiana</i>																				
<i>Pinus taeda</i> *																				
<i>Platanus occidentalis</i>																				
<i>Platanus occidentalis</i> *																				
<i>Prunus serotina</i> *																				
<i>Quercus alba</i>																				
<i>Quercus falcata</i>																				
<i>Quercus lyrata</i>																				
<i>Quercus michauxii</i>	1.60	1.00	3		1.8	0.6	1.3	1.42	1.7	0.98										
<i>Quercus nigra</i>																				
<i>Quercus pagoda</i>																				
<i>Quercus phellos</i>																				
<i>Quercus rubra</i>																				
<i>Quercus</i> spp.																				
<i>Taxodium distichum</i>				1	d	d														
<b>Total/Average</b>	<b>1.54</b>	<b>1.33</b>	<b>7</b>	<b>1</b>																

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 47. Plot 14-4. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		H		D		H		D		H		D		H	
					D	H	D	H	D	H	D	H	D	H	D	H	D	H		
<i>Acer rubrum</i> *																				
<i>Betula nigra</i>																				
<i>Carya cordiformis</i> *																				
<i>Fraxinus americana</i>																				
<i>Fraxinus pennsylvanica</i>	1.10	1.39	12		1	0.7	0.8	0.59	1.6	1.15	1.2	1.1	1	1.85	1	1.65	0.9	1.87		
<i>Liquidambar styraciflua</i> *																				
<i>Liriodendron tulipifera</i>																				
<i>Magnolia virginiana</i>																				
<i>Pinus taeda</i> *																				
<i>Platanus occidentalis</i>																				
<i>Platanus occidentalis</i> *																				
<i>Prunus serotina</i> *																				
<i>Quercus alba</i>																				
<i>Quercus falcata</i>																				
<i>Quercus lyrata</i>																				
<i>Quercus michauxii</i>																				
<i>Quercus nigra</i>																				
<i>Quercus pagoda</i>																				
<i>Quercus phellos</i>																				
<i>Quercus rubra</i>																				
<i>Quercus</i> spp.																				
<i>Taxodium distichum</i>																				
<b>Total/Average</b>	<b>1.10</b>	<b>1.39</b>	<b>12</b>	<b>0</b>																

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)



**Table 47. Plot 14-4. 2005 N**

Species	D	H	D	H	D	H	D	H	D	H
<i>Acer rubrum</i> *										
<i>Betula nigra</i>										
<i>Carya cordiformis</i> *										
<i>Fraxinus americana</i>										
<i>Fraxinus pennsylvanica</i>	1.4	0.88	0.8	1.65	0.6	1.62	2	1.36	0.9	2.2
<i>Liquidambar styraciflua</i> *										
<i>Liriodendron tulipifera</i>										
<i>Magnolia virginiana</i>										
<i>Pinus taeda</i> *										
<i>Platanus occidentalis</i>										
<i>Platanus occidentalis</i> *										
<i>Prunus serotina</i> *										
<i>Quercus alba</i>										
<i>Quercus falcata</i>										
<i>Quercus lyrata</i>										
<i>Quercus michauxii</i>										
<i>Quercus nigra</i>										
<i>Quercus pagoda</i>										
<i>Quercus phellos</i>										
<i>Quercus rubra</i>										
<i>Quercus</i> spp.										
<i>Taxodium distichum</i>										

**Total/Average**

\*volunteer (not planted)

**Table 48. Plot 15-1. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		D		D		D		D		D		D	
					D	H	D	H	D	H	D	H	D	H	D	H		
<i>Acer rubrum*</i>	0.70	0.77	1		0.7	0.77												
<i>Betula nigra</i>																		
<i>Carya cordiformis*</i>																		
<i>Fraxinus americana</i>																		
<i>Fraxinus pennsylvanica</i>	1.33	1.86	6		1.8	1.42	1.1	2.17	1.2	2.4	1.6	2.3	0.9	0.75	1.4	2.12		
<i>Liquidambar styraciflua*</i>																		
<i>Liriodendron tulipifera</i>																		
<i>Magnolia virginiana</i>																		
<i>Pinus taeda*</i>																		
<i>Platanus occidentalis</i>																		
<i>Platanus occidentalis*</i>																		
<i>Prunus serotina*</i>																		
<i>Quercus alba</i>																		
<i>Quercus falcata</i>																		
<i>Quercus lyrata</i>	0.75	1.34	2		0.7	1.97	0.8	0.7										
<i>Quercus michauxii</i>																		
<i>Quercus nigra</i>																		
<i>Quercus pagoda</i>																		
<i>Quercus phellos</i>	2.30	1.45	1		2.3	1.45												
<i>Quercus rubra</i>																		
<i>Quercus spp.</i>																		
<i>Taxodium distichum</i>																		
<b>Total/Average</b>	<b>1.25</b>	<b>1.60</b>	<b>10</b>	<b>0</b>														

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 49. Plot 15-2. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		H		D		H		D		H		D		H	
					D	H	D	H	D	H	D	H	D	H	D	H	D	H		
<i>Acer rubrum*</i>	2.20	1.49	1		2.2	1.49														
<i>Betula nigra</i>																				
<i>Carya cordiformis*</i>																				
<i>Fraxinus americana</i>																				
<i>Fraxinus pennsylvanica</i>																				
<i>Liquidambar styraciflua*</i>																				
<i>Liriodendron tulipifera</i>																				
<i>Magnolia virginiana</i>																				
<i>Pinus taeda*</i>																				
<i>Platanus occidentalis</i>	2.85	2.90	2		1.5	2.3	4.2	3.5												
<i>Platanus occidentalis*</i>																				
<i>Prunus serotina*</i>																				
<i>Quercus alba</i>																				
<i>Quercus falcata</i>																				
<i>Quercus lyrata</i>																				
<i>Quercus michauxii</i>																				
<i>Quercus nigra</i>																				
<i>Quercus pagoda</i>	1.90	1.45	1		1.9	1.45														
<i>Quercus phellos</i>																				
<i>Quercus rubra</i>																				
<i>Quercus spp.</i>																				
<i>Taxodium distichum</i>	1.50	1.22	1	2	d	d	d	d	1.5	1.22										
<b>Total/Average</b>	<b>2.26</b>	<b>1.99</b>	<b>5</b>	<b>2</b>																

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 50. Plot 15-3. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		H		D		H		D		H		D		H	
					D	H	D	H	D	H	D	H	D	H	D	H	D	H		
<i>Acer rubrum</i> *																				
<i>Betula nigra</i>																				
<i>Carya cordiformis</i> *																				
<i>Fraxinus americana</i>																				
<i>Fraxinus pennsylvanica</i>	2.90	3.03	3		1.5	2.63	4.2	3.15	3	3.3										
<i>Liquidambar styraciflua</i> *																				
<i>Liriodendron tulipifera</i>	1.15	2.31	2		1	2.06	1.3	2.55												
<i>Magnolia virginiana</i>																				
<i>Pinus taeda</i> *																				
<i>Platanus occidentalis</i>																				
<i>Platanus occidentalis</i> *																				
<i>Prunus serotina</i> *																				
<i>Quercus alba</i>																				
<i>Quercus falcata</i>																				
<i>Quercus lyrata</i>																				
<i>Quercus michauxii</i>	1.25	1.07	2		1.1	1	1.4	1.13												
<i>Quercus nigra</i>																				
<i>Quercus pagoda</i>																				
<i>Quercus phellos</i>	1.45	0.88	2		1.3	0.77	1.6	0.98												
<i>Quercus rubra</i>																				
<i>Quercus</i> spp.																				
<i>Taxodium distichum</i>																				
<b>Total/Average</b>	<b>1.82</b>	<b>1.95</b>	<b>9</b>	<b>0</b>																

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 51. Plot 15-4. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		H		D		H		D		H		D		H	
					D	H	D	H	D	H	d	H	D	H	D	H	D	H		
<i>Acer rubrum</i> *	0.83	0.97	4		0.2	0.25	0.9	1.2	1.3	1.24	0.9	1.2								
<i>Betula nigra</i>																				
<i>Carya cordiformis</i> *																				
<i>Fraxinus americana</i>																				
<i>Fraxinus pennsylvanica</i>																				
<i>Liquidambar styraciflua</i> *																				
<i>Liriodendron tulipifera</i>																				
<i>Magnolia virginiana</i>																				
<i>Pinus taeda</i> *																				
<i>Platanus occidentalis</i>																				
<i>Platanus occidentalis</i> *																				
<i>Prunus serotina</i> *																				
<i>Quercus alba</i>																				
<i>Quercus falcata</i>																				
<i>Quercus lyrata</i>																				
<i>Quercus michauxii</i>																				
<i>Quercus nigra</i>																				
<i>Quercus pagoda</i>																				
<i>Quercus phellos</i>																				
<i>Quercus rubra</i>	0.60	0.33	2		0.6	0.25	0.6	0.41												
<i>Quercus</i> spp.																				
<i>Taxodium distichum</i>	1.15	0.97	4	1	1.1	0.95	1.3	1	d	d	1.1	0.96	1.1	0.95						
<b>Total/Average</b>	<b>0.91</b>	<b>0.84</b>	<b>10</b>	<b>1</b>																

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 52. Plot 16-1. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		H		D		H		D		H		D		H	
					D	H	D	H	D	H	D	H	D	H	D	H	D	H		
<i>Acer rubrum</i> *																				
<i>Betula nigra</i>																				
<i>Carya cordiformis</i> *																				
<i>Fraxinus americana</i>																				
<i>Fraxinus pennsylvanica</i>	0.86	0.71	8		0.8	0.84	0.7	0.55	1.4	1.05	0.7	0.7	0.8	0.49	0.9	0.75	0.8	0.7		
<i>Liquidambar styraciflua</i> *																				
<i>Liriodendron tulipifera</i>																				
<i>Magnolia virginiana</i>																				
<i>Pinus taeda</i> *																				
<i>Platanus occidentalis</i>	1.10	2.10	1		1.1	2.1														
<i>Platanus occidentalis</i> *																				
<i>Prunus serotina</i> *																				
<i>Quercus alba</i>																				
<i>Quercus falcata</i>																				
<i>Quercus lyrata</i>																				
<i>Quercus michauxii</i>																				
<i>Quercus nigra</i>																				
<i>Quercus pagoda</i>																				
<i>Quercus phellos</i>																				
<i>Quercus rubra</i>																				
<i>Quercus</i> spp.																				
<i>Taxodium distichum</i>	0.80	0.88	1		0.8	0.88														
<b>Total/Average</b>	<b>0.88</b>	<b>0.86</b>	<b>10</b>	<b>0</b>																

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)

**Table 52. Plot 16-1. 2005 I**

Species	D	H
<i>Acer rubrum*</i>		
<i>Betula nigra</i>		
<i>Carya cordiformis*</i>		
<i>Fraxinus americana</i>		
<i>Fraxinus pennsylvanica</i>	0.8	0.59
<i>Liquidambar styraciflua*</i>		
<i>Liriodendron tulipifera</i>		
<i>Magnolia virginiana</i>		
<i>Pinus taeda*</i>		
<i>Platanus occidentalis</i>		
<i>Platanus occidentalis*</i>		
<i>Prunus serotina*</i>		
<i>Quercus alba</i>		
<i>Quercus falcata</i>		
<i>Quercus lyrata</i>		
<i>Quercus michauxii</i>		
<i>Quercus nigra</i>		
<i>Quercus pagoda</i>		
<i>Quercus phellos</i>		
<i>Quercus rubra</i>		
<i>Quercus</i> spp.		
<i>Taxodium distichum</i>		

**Total/Average**

\*volunteer (not planted)

**Table 53. Plot 16-2. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		D		D		D		D		D		D	
					D	H	D	H	D	H	D	H	D	H	D	H	D	H
<i>Acer rubrum</i> *																		
<i>Betula nigra</i>																		
<i>Carya cordiformis</i> *																		
<i>Fraxinus americana</i>																		
<i>Fraxinus pennsylvanica</i>																		
<i>Liquidambar styraciflua</i> *																		
<i>Liriodendron tulipifera</i>																		
<i>Magnolia virginiana</i>																		
<i>Pinus taeda</i> *																		
<i>Platanus occidentalis</i>																		
<i>Platanus occidentalis</i> *																		
<i>Prunus serotina</i> *																		
<i>Quercus alba</i>																		
<i>Quercus falcata</i>																		
<i>Quercus lyrata</i>																		
<i>Quercus michauxii</i>																		
<i>Quercus nigra</i>																		
<i>Quercus pagoda</i>	0.40	0.55	1		0.4	0.55												
<i>Quercus phellos</i>																		
<i>Quercus rubra</i>	0.45	0.66	2		0.8	0.6	0.1	0.72										
<i>Quercus</i> spp.																		
<i>Taxodium distichum</i>																		
<b>Total/Average</b>	<b>0.43</b>	<b>0.62</b>	<b>3</b>	<b>0</b>														

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)



**Table 54. Plot 16-3. 2005 Monitoring Data - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2 - Greene County, NC**

Species	Average Diameter (cm)	Average Height (m)	Total Observed	Total Dead	D		D		D		D		D		D		D	
					D	H	D	H	D	H	D	H	D	H	D	H	D	H
<i>Acer rubrum</i> *																		
<i>Betula nigra</i>																		
<i>Carya cordiformis</i> *																		
<i>Fraxinus americana</i>																		
<i>Fraxinus pennsylvanica</i>	1.15	1.00	2	1	1.1	0.9	d	d	1.2	1.11								
<i>Liquidambar styraciflua</i> *																		
<i>Liriodendron tulipifera</i>																		
<i>Magnolia virginiana</i>																		
<i>Pinus taeda</i> *																		
<i>Platanus occidentalis</i>																		
<i>Platanus occidentalis</i> *																		
<i>Prunus serotina</i> *																		
<i>Quercus alba</i>																		
<i>Quercus falcata</i>																		
<i>Quercus lyrata</i>																		
<i>Quercus michauxii</i>																		
<i>Quercus nigra</i>																		
<i>Quercus pagoda</i>																		
<i>Quercus phellos</i>																		
<i>Quercus rubra</i>	0.97	0.64	3		0.9	0.71	1	0.5	1	0.7								
<i>Quercus</i> spp.																		
<i>Taxodium distichum</i>																		
<b>Total/Average</b>	<b>1.04</b>	<b>0.78</b>	<b>5</b>	<b>1</b>														

\*volunteer (not planted)

D=diameter (centimeters) H=height (meters)



Figure 1. General Location - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Greene County, NC

Greene Environmental Services, LLC  
 90 Ham Produce Road, Snow Hill, NC 28580 252-747-9255

**LEGEND**

Phase 2 Tracts

Little Contentnea Section (Stokes Farm)

● A ● B ● C ● D

Contentnea Section (Stokes and Moye Farms)

● D-1 ● E-1 ● E-2 ● F ● G-1 ● G-2

○ Phase 1 Project (Planted in 2002)

500 0 500 Feet

Greenville

GREEN CO

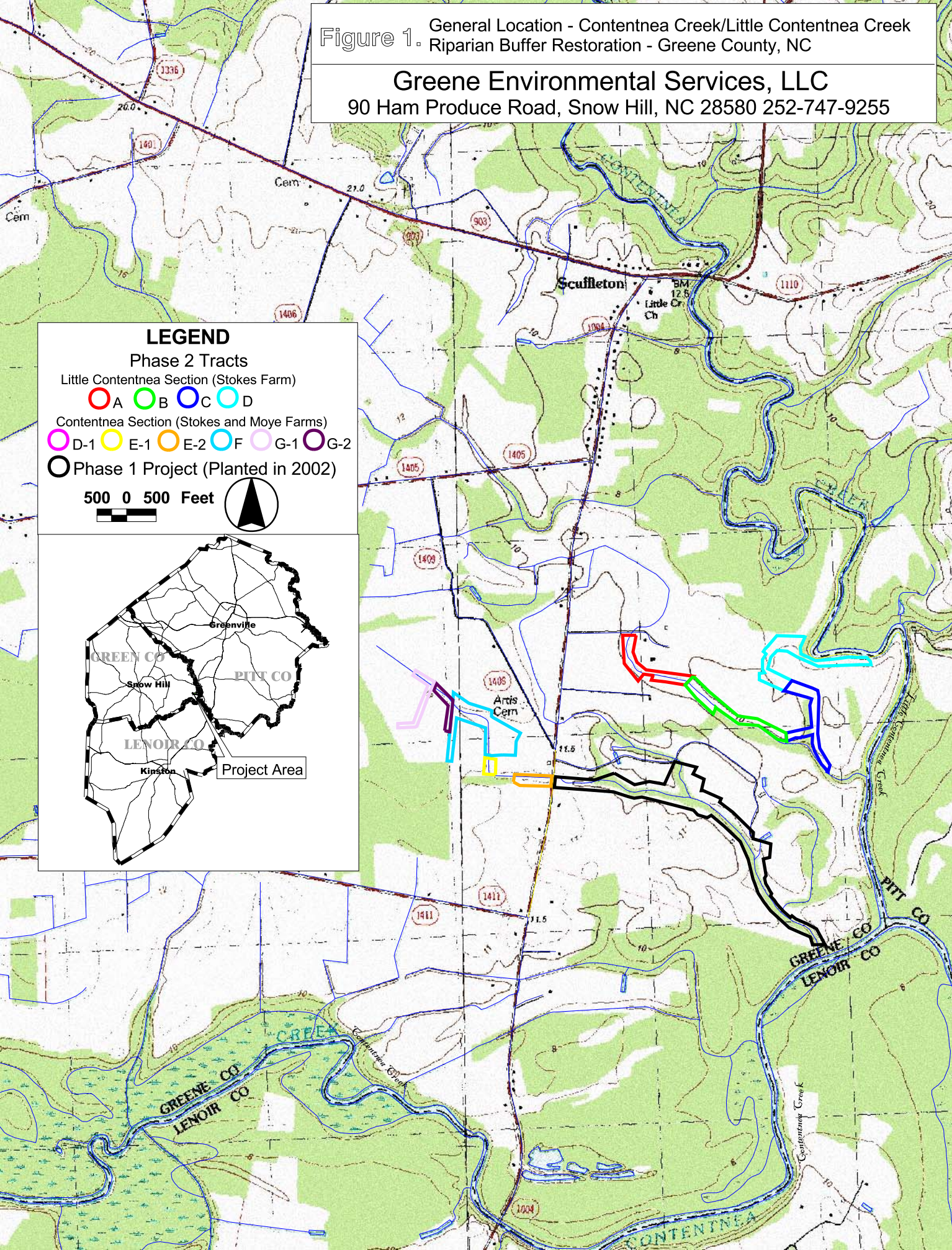
PITT CO

Snow Hill

LENOIR CO

Kinston

Project Area





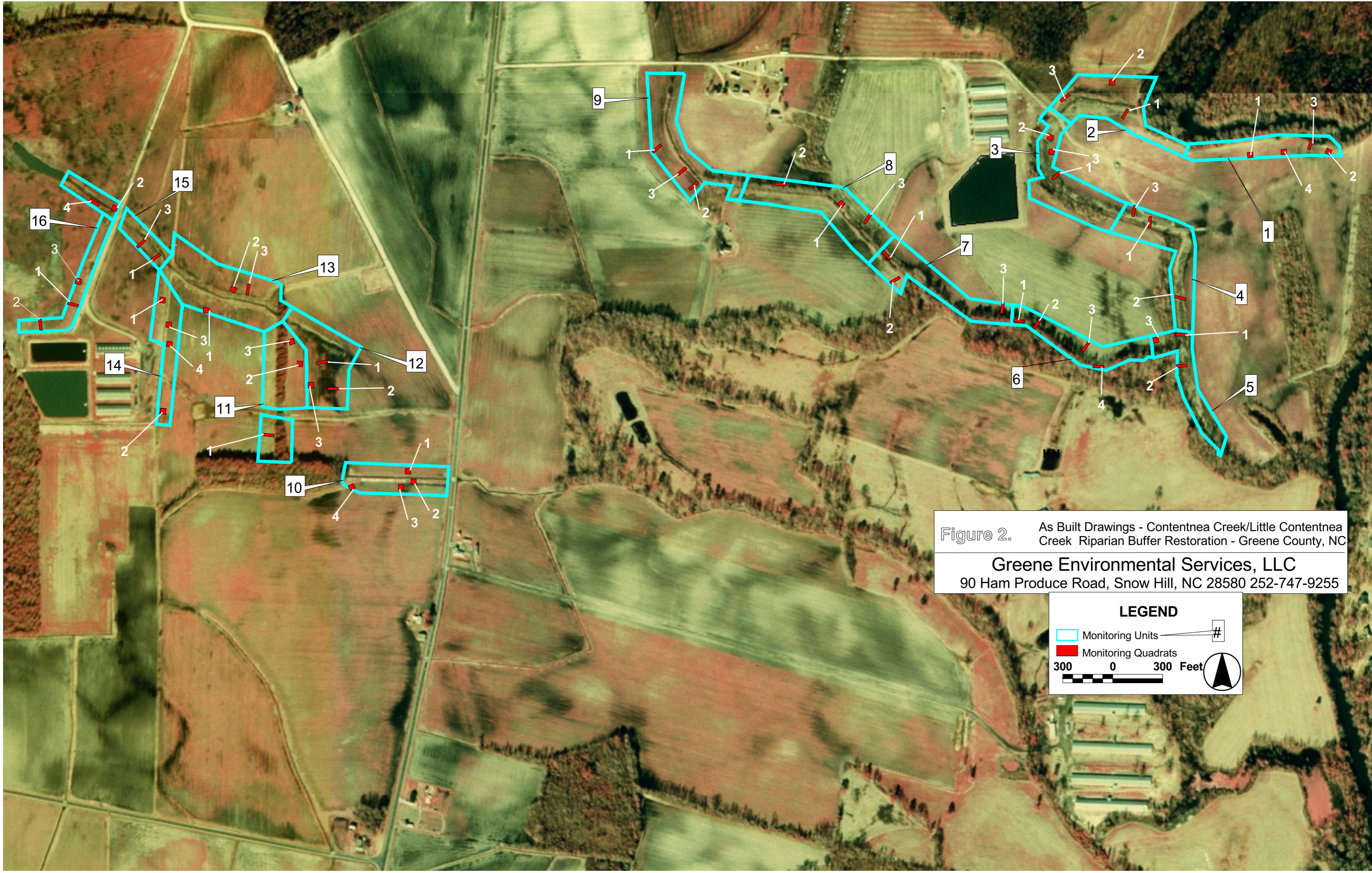


Figure 2. As Built Drawings - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Greene County, NC

Greene Environmental Services, LLC  
90 Ham Produce Road, Snow Hill, NC 28580 252-747-9255

**LEGEND**

- Monitoring Units #
- Monitoring Quadrats

300 0 300 Feet



**Permanent Quadrat Photographs - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2**



**Quadrat 1-1 2004**



**Quadrat 1-1 2005**



**Quadrat 1-2 2004**



**Quadrat 1-2 2005**



**Permanent Quadrat Photographs - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2**



**Quadrat 1-3 2004**



**Quadrat 1-3 2005**



**Quadrat 1-4 2004**



**Quadrat 1-4 2005**



**Permanent Quadrat Photographs - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2**



**Quadrat 2-1 2004**



**Quadrat 2-1 2005**



**Quadrat 2-2 2004**



**Quadrat 2-2 2005**



**Permanent Quadrat Photographs - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2**



**Quadrat 2-3 2004**



**Quadrat 2-3 2005**



**Quadrat 3-1 2004**



**Quadrat 3-1 2005**



**Permanent Quadrat Photographs - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2**



**Quadrat 3-2 2004**



**Quadrat 3-2 2005**



**Quadrat 3-3 2004**



**Quadrat 3-3 2005**



**Permanent Quadrat Photographs - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2**



**Quadrat 4-1 2004**



**Quadrat 4-1 2005**



**Quadrat 4-2 2004**



**Quadrat 4-2 2005**



**Permanent Quadrat Photographs - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2**



**Quadrat 4-3 2004**



**Quadrat 4-3 2005**



**Quadrat 5-1 2004**



**Quadrat 5-1 2005**



**Permanent Quadrat Photographs - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2**



**Quadrat 5-2 2004**



**Quadrat 5-2 2005**



**Quadrat 5-3 2004**



**Quadrat 5-3 2005**



**Permanent Quadrat Photographs - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2**



**Quadrat 6-1 2004**



**Quadrat 6-1 2005**



**Quadrat 6-2 2004**



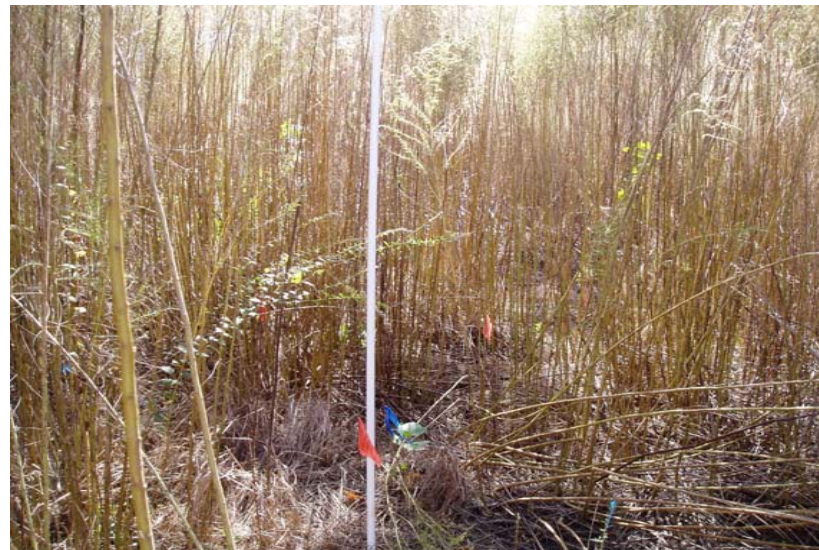
**Quadrat 6-2 2005**



**Permanent Quadrat Photographs - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2**



**Quadrat 6-3 2004**



**Quadrat 6-3 2005**



**Quadrat 6-4 2004**



**Quadrat 6-4 2005**



**Permanent Quadrat Photographs - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2**



**Quadrat 7-1 2004**



**Quadrat 7-1 2005**



**Quadrat 7-2 2004**



**Quadrat 7-2 2005**



**Permanent Quadrat Photographs - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2**



**Quadrat 7-3 2004**



**Quadrat 7-3 2005**



**Quadrat 8-1 2004**



**Quadrat 8-1 2005**



**Permanent Quadrat Photographs - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2**



**Quadrat 8-2 2004**



**Quadrat 8-2 2005**



**Quadrat 8-3 2004**



**Quadrat 8-3 2005**



**Permanent Quadrat Photographs - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2**



**Quadrat 9-1 2004**



**Quadrat 9-1 2005**



**Quadrat 9-2 2004**



**Quadrat 9-2 2005**



**Permanent Quadrat Photographs - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2**



**Quadrat 9-3 2004**



**Quadrat 9-3 2005**



**Quadrat 10-1 2004**



**Quadrat 10-1 2005**



**Permanent Quadrat Photographs - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2**



**Quadrat 10-2 2004**



**Quadrat 10-2 2005**



**Quadrat 10-3 2004**



**Quadrat 10-3 2005**



**Permanent Quadrat Photographs - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2**



**Quadrat 10-4 2004**



**Quadrat 10-4 2005**



**Quadrat 11-1 2004**



**Quadrat 11-1 2005**



**Permanent Quadrat Photographs - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2**

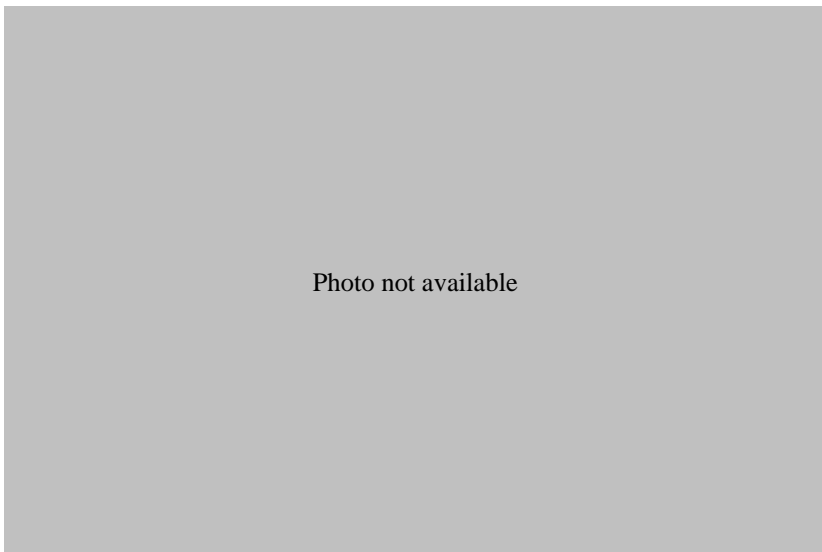
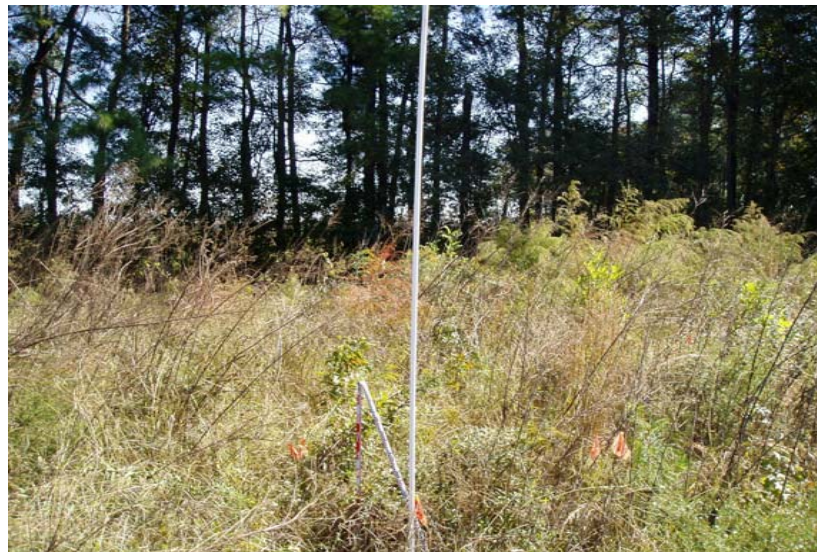


Photo not available

**Quadrat 11-2 2004**



**Quadrat 11-2 2005**



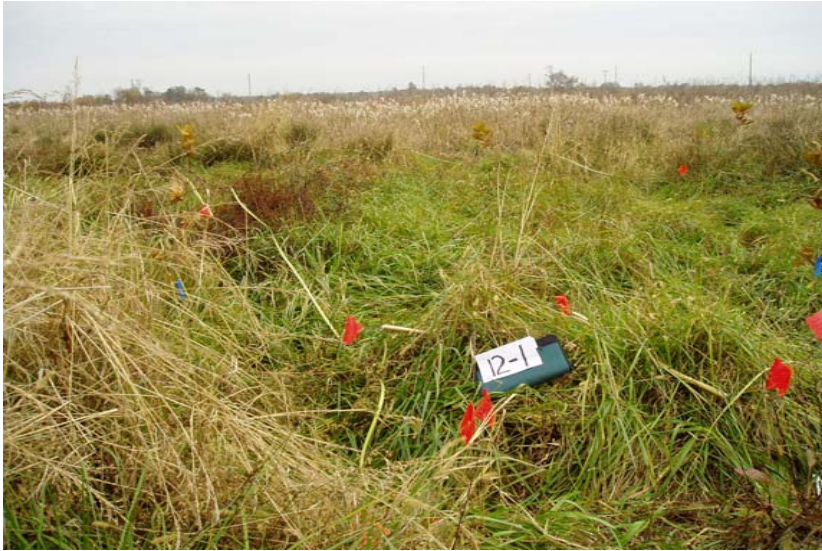
**Quadrat 11-3 2004**



**Quadrat 11-3 2005**



**Permanent Quadrat Photographs - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2**



**Quadrat 12-1 2004**



**Quadrat 12-1 2005**



**Quadrat 12-2 2004**



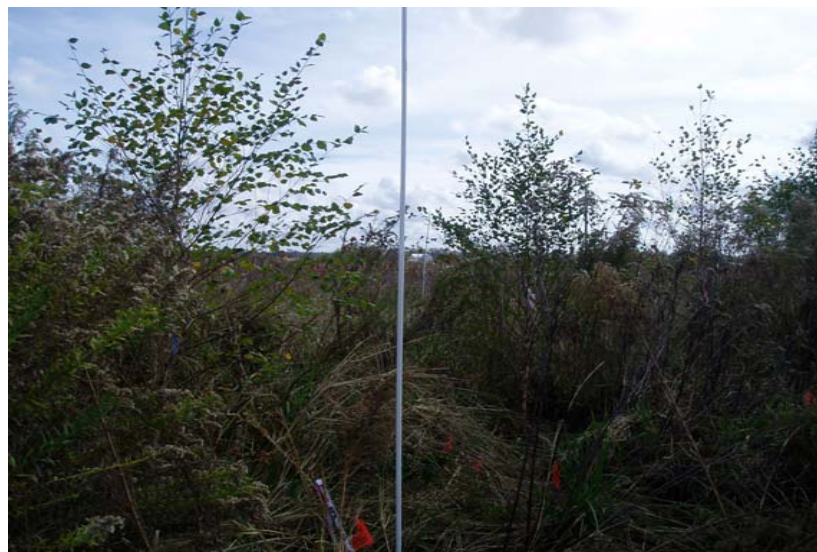
**Quadrat 12-2 2005**



**Permanent Quadrat Photographs - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2**



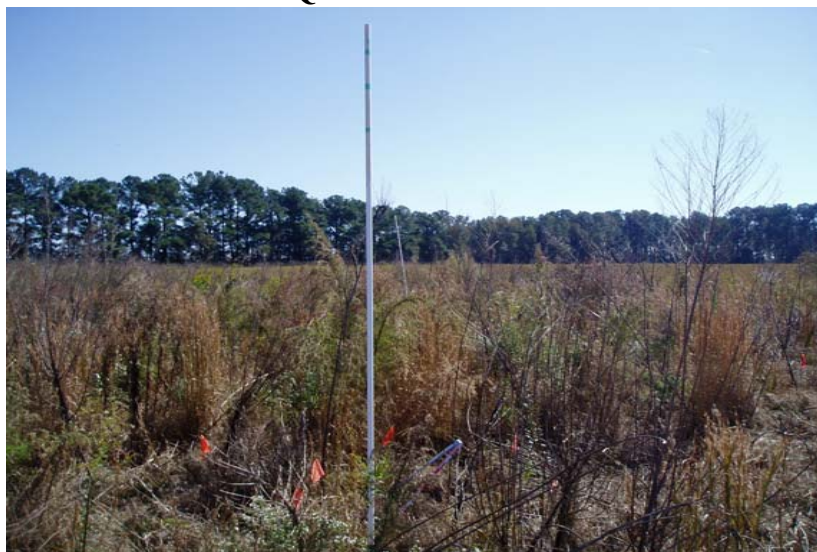
**Quadrat 12-3 2004**



**Quadrat 12-3 2005**



**Quadrat 13-1 2004**



**Quadrat 13-1 2005**



**Permanent Quadrat Photographs - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2**



**Quadrat 13-2 2004**



**Quadrat 13-2 2005**



**Quadrat 13-3 2004**





**Permanent Quadrat Photographs - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2**



**Quadrat 14-1 2004**



**Quadrat 14-1 2005**



**Quadrat 14-2 2004**



**Quadrat 14-2 2005**



**Permanent Quadrat Photographs - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2**



**Quadrat 14-3 2004**



**Quadrat 14-3 2005**



**Quadrat 14-4 2004**



**Quadrat 14-4 2005**



**Permanent Quadrat Photographs - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2**



**Quadrat 15-1 2004**



**Quadrat 15-1 2005**



**Quadrat 15-2 2004**



**Quadrat 15-2 2005**



**Permanent Quadrat Photographs - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2**



**Quadrat 15-3 2004**



**Quadrat 15-3 2005**



**Quadrat 15-4 2004**



**Quadrat 15-4 2005**



**Permanent Quadrat Photographs - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2**



**Quadrat 16-1 2004**



**Quadrat 16-1 2005**



**Quadrat 16-2 2004**



**Quadrat 16-2 2005**

**Permanent Quadrat Photographs - Contentnea Creek/Little Contentnea Creek Riparian Buffer Restoration - Phase 2**

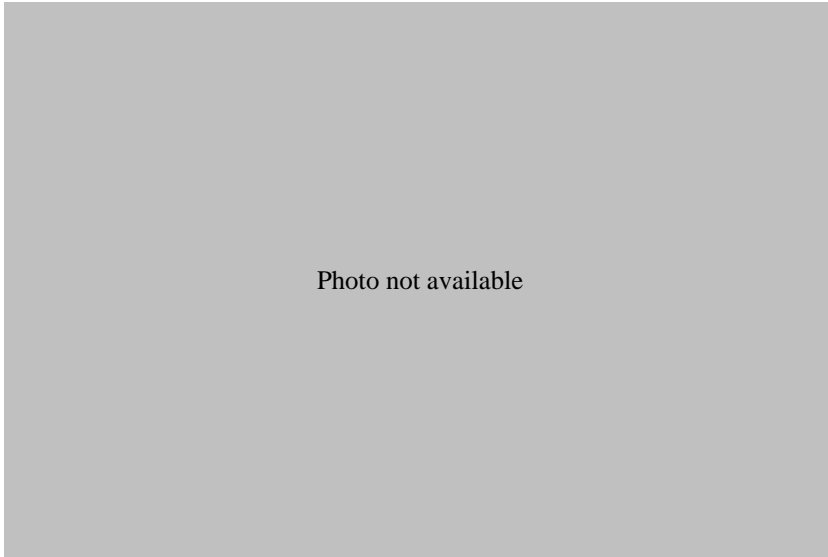


Photo not available

**Quadrat 16-3 2004**



**Quadrat 16-3 2005**