MACROINVERTEBRATE ASSESSMENT OF THE LOWER SALUDA RIVER, DOWNSTREAM OF THE SALUDA HYDROELECTRIC PROJECT (LAKE MURRAY) OPERATED BY SOUTH CAROLINA ELECTRIC & GAS, LEXINGTON COUNTY, SOUTH CAROLINA

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I. SUMMARY

On 25 and 30 July 2007 and 19 September 2007, personnel from CARNAGEY BIOLOGICAL SERVICES, LLC (SCDHEC Laboratory Certification No. 32010), SOUTH CAROLINA ELECTRIC & GAS (SCE&G), and KLEINSCHMIDT ASSOCIATES conducted an instream benthic macroinvertebrate community rapid bioassessment on the lower Saluda River, downstream of the Saluda Hydroelectric Project (Lake Murray) operated by SCE&G. Additionally, three replicate Hester Dendy multi-plate macroinvertebrate samplers were placed at each sampling station on 25 July 2007, allowed to colonize, and collected on 19 September 2007 to compare with the rapid bioassessment data.

To determine if macroinvertebrate communities differed significantly between sampling stations, data were analyzed with linear regression. Regression analysis of the Hester Dendy data showed biotic conditions improved significantly as distance from the dam increased. This result was expected. Studies have demonstrated that rapid fluctuations in current velocity and water level associated with the operation of hydroelectric dams results in reduced diversity, by decreasing habitat and/or survival of habitat-specific taxa (Death, 1995; Death and Winterbourn, 1995; Ward and Stanford, 1995; Valentin *et al*., 1995). As distance from the dam increases, the fluctuations in current velocity and water level are smaller and slower, resulting in improved biotic conditions.

For the rapid bioassessment data, regression analysis showed no detectable trends in taxa richness, total abundance, or in percentage of the dominant taxon as a function of distance from the hydroelectric dam in July or in September. The July samples did show a significant increase in the EPT indices as distance from the dam increased. The September samples showed a significant increase in EPT index and EPT abundance values as distance from the dam increased. The September samples also showed a significant decrease in NCBI values as distance from the dam increased. This corroborates the Hester-Dendy data.

Comparing the two methods, the Hester Dendy method detected trends among stations that were not statistically significant for the rapid bioassessment data. This may be due to the high sampling variability of rapid bioassessment samples. There is greater variability in the rapid bioassessment data because this method only samples the river margins, where habitat is less stable due to river level fluctuations. The Hester Dendy samplers provide a more stable habitat, and lower variability in the samples enables the detection of trends in the macroinvertebrate community.

II. INTRODUCTION

On 25 and 30 July 2007 and 19 September 2007, personnel from CARNAGEY BIOLOGICAL SERVICES, LLC, SOUTH CAROLINA ELECTRIC & GAS (SCE&G), and KLEINSCHMIDT ASSOCIATES, conducted a benthic macroinvertebrate rapid bioassessment on the lower Saluda River downstream of the Saluda Hydroelectric Project (Lake Murray) operated by SCE&G.

The hydroelectric dam produces electricity from water obtained from Lake Murray. This water is released into the lower Saluda River and can affect the benthic macroinvertebrate communities downstream in several ways. First, mechanical disturbance results from rapid changes in water level and current velocity during the production of power. This disturbance can reduce the amount of stable macroinvertebrate habitats, including stream banks, leaf packs, and fine sediment deposits (Stalnaker *et al*., 1989; Death, 1995; Ward and Stanford, 1995; Valentin *et al*., 1995). Secondly, due to the thermal stratification of Lake Murray in summer, the release of anoxic water from the hypolimnion can reduce oxygen levels of the lower Saluda River. This can reduce the amount of suitable habitat for macroinvertebrates, which require oxygen to live.

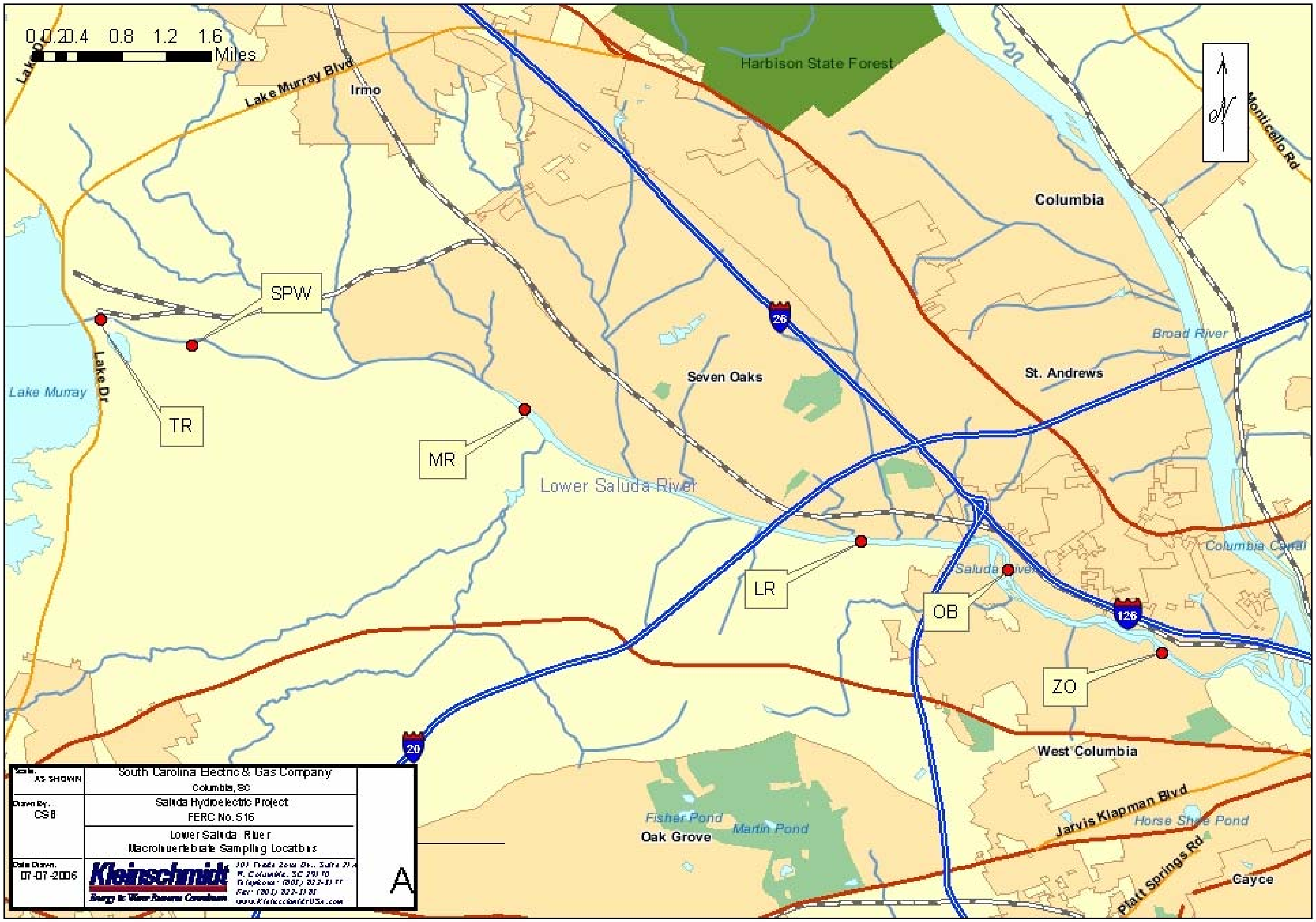
Due to a lack of reference or control stations, it is not possible to determine if operation of the hydroelectric dam (rapid, periodic fluctuations in water level and current velocity) has *caused* a reduction in the diversity and abundance of the macroinvertebrate community at the sampled locations. However, this study can answer the following questions:

1) Are there significant differences in the macroinvertebrate community as a function of distance from the hydroelectric dam?
2) What differences were found between rapid bioassessment and Hester Dendy multi-plate sampler collection methods?

III. DESCRIPTION OF THE STUDY AREA

Six stations were sampled on the lower Saluda River, beginning directly downstream from the hydroelectric dam's release and ending approximately 10.5 kilometers downstream (Figure 1). The first sampling site, Station TR, was established approximately 500 meters downstream from the hydroelectric dam. Available habitat consisted of thick mats of submerged aquatic macrophytes, submerged logs, some large boulders, and gravel. Some sand was also present.

Figure 1. Sampling locations for benthic macroinvertebrates collected from the lower Saluda River, downstream from the Saluda Hydroelectric Project (Lake Murray) operated by SOUTH CAROLINA ELECTRIC & GAS, Lexington County, South Carolina.



The second sampling site, Station SPW, was located in the side channel formed by the dam's spillway. This channel was located approximately one kilometer downstream from the hydroelectric dam. When not in use, the spillway channel receives water only from seeps along the banks, leakage from spillway gates, and the backwater effect from the Saluda's mainstem. Available habitats included submerged aquatic macrophytes, vegetated banks, large rocks and boulders, and the gravel, sand and detritus that made up the channel bottom.

The third river sampling site, Station MR, was located just upstream of the confluence with Twelve Mile Creek and approximately 4.5 kilometers downstream from the hydroelectric dam. Available habitats included submerged logs, aquatic macrophytes, snags, large rocks, vegetated banks, and the muddy channel bottom.

The fourth river sampling site, Station LR, was located between the Interstate 20 and Interstate 26 bridges and approximately 8.5 kilometers downstream from the hydroelectric dam. Available habitats included submerged logs, snags, vegetated banks, a riffle area, and the muddy channel bottom. Large boulders were present in the deeper parts of the section.

The fifth river sampling site, Station OB, was located near the Ocean Boulevard shoal area and approximately 9.5 kilometers downstream from the hydroelectric dam. Available habitats included submerged logs, snags, vegetated banks, large boulders and rocks, aquatic macrophytes, and the gravel and sand river bottom. This section has a large gravel riffle.

The sixth river sampling site, Station ZO was located near the Riverbanks Zoo river access and approximately 10.5 kilometers downstream from the hydroelectric dam. Available habitats included submerged logs, snags, vegetated banks, and the muddy channel bottom. In addition, large boulders were present.

Previous rapid bioassessments included other sampling sites. These stations included Stations UR and OX. Station UR was located in a shoal area of the main river channel, approximately 50 meters downstream of the spillway channel entrance and 30 meters from the north bank. Station OX was established in an oxbow pond on the south side of the main river channel, approximately 1.5 kilometers downstream from the hydroelectric dam. The oxbow pond is connected to the main river channel by a channel 50 meters wide and is flushed during periods of high water.

IV. MATERIALS AND METHODS

A. Field Procedures

1. Rapid Bioassessment Samples

Aquatic macroinvertebrates were qualitatively collected from all available habitats (e.g., stream margins, leaf packs, aquatic vegetation, water soaked logs and sand deposits) using a D-frame aquatic dip net and by picking organisms from substrates with forceps. Sampling was conducted along a 10-50 meter area at each location to the depth of approximately one meter. For each station, collections from all habitat types were pooled to form one aggregate sample and preserved in the field with 80% ethanol. Each sample represented 1.5 man-hours of sampling effort by experienced biologists. Sampling procedures were kept similar at each station to enable taxonomic and numerical population comparisons between stations.

2. Hester Dendy Samples

Additionally, three replicate Hester Dendy multi-plate macroinvertebrate samplers were placed at five stations, allowed to colonize for seven weeks, and collected for analyses. The samplers were preserved in the field with 70% ethanol and returned to CARNAGEY BIOLOGICAL SERVICES, LLC for sample processing. Hester Dendy samplers were colonized from 25 July 2007 to 19 September 2007.

3. Physicochemical Measurements

In conjunction with the macroinvertebrate assessment, water temperature, dissolved oxygen, pH, and conductivity were measured using a Yellow Springs Instruments Model 55 Dissolved Oxygen meter and a Yellow Springs Instruments Model 63 Multimeter.

B. Laboratory Procedures

Upon return to the laboratory, the macroinvertebrates were removed from any debris with the aid of a stereo microscope, identified to the lowest positive taxonomic level, and enumerated using appropriate techniques and taxonomic keys. All specimens will be maintained by CARNAGEY BIOLOGICAL SERVICES, LLC, in a voucher collection for five years, or placed into the permanent reference collection.

C. Data Analysis

To obtain the most information possible from the data, several types of analysis were performed. Bioassessment metrics allowed comparison of stations based on their overall taxonomic composition. Regression analyses detected trends in macroinvertebrate community composition with distance from the dam. Additionally, comparison of the July rapid bioassessment samples to the September rapid bioassessment samples was based on two-factor ANOVAs without replication. Data were $\log_{10}(x+1)$ transformed prior to analysis.

1. Bioassessment Metrics

Comparisons of the macroinvertebrate communities were based on changes in taxonomic composition between sampling sites and on the known tolerance levels and life history strategies of the organisms encountered. Changes in taxonomic composition were determined using the metrics outlined in Rapid Bioassessment Protocol III of *Rapid bioassessment protocols for use in streams and rivers* (Plafkin et al. 1989). These metrics include the following:

a) Taxa richness - The number of different taxa found at a particular location is an indication of diversity. Reductions in community diversity have been positively associated with various forms of environmental pollution, including nutrient loading, toxic substances, and sedimentation (Barbour *et al*., 1996; Fore *et al*., 1996; Rosenberg and Resh, 1993; Shackleford, 1988).

b) EPT Index - EPT Index is the number of taxa from the insect orders Ephemeroptera, Plecoptera and Trichoptera found at a station. These three insect orders are considered to be intolerant of adverse changes in water quality, especially temperature and dissolved oxygen, and therefore, a reduction in these taxa is indicative of reduced water quality (Barbour *et al*., 1996; Lenat, 1988).

c) Chironomidae taxa and abundance - The Chironomidae are a taxonomically and ecologically diverse group with many taxa which are tolerant of various forms of pollution. The chironomids are often the dominant group encountered at impacted or stressed sites (Rosenberg and Resh, 1993).

d) Ratio of EPT and Chironomidae abundance - The relative abundance of these four indicator groups is a measure of community balance. When comparing sites, good biotic conditions are reflected in a fairly even distribution among these four groups (Plafkin *et al*., 1989). The value of this ratio is reduced by impact due to the general reduction of the more sensitive EPT taxa and an increase in the more tolerant chironomid taxa.

e) Ratio of scraper/scraper and filtering collectors - When comparing sites, shifts in the dominance of a particular feeding type may indicate a community responding to an over-abundance of a particular food source or toxicants bound to a particular food source (Rosenberg and Resh, 1993).

f) Shredder/total number of specimens collected - When comparing sites, reductions in the relative abundance of shredders can indicate changes in the quality or quantity of riparian zone vegetation or the presence of toxic substances bound to organic carbon contained in the leaf and woody material which comprises their food source (Plafkin *et al*., 1989).

g) Percent contribution of dominant taxon - This measures the redundancy and evenness of the community structure. It assumes a highly redundant community reflects an impaired community because as the more sensitive taxa are eliminated, there is often a significant increase in the remaining tolerant forms (Barbour *et al*., 1996; Shackleford, 1988).

h) North Carolina biotic index (NCBI) - NCBI = TV_iN_i/N where TV_i is the tolerance value for the *i*th taxon, N_i is the abundance of the *i*th taxon, and N is the total abundance of all taxa in the sample. This index utilizes a pollution tolerance value developed over a wide range of conditions and pollution types and taxon abundance to assess the amount of impact (North Carolina Department of Environment, Health and Natural Resources, 1997). The values range from 0-10, increasing as water quality decreases. This metric appears to be adversely affected by the combination of low taxa richness and low abundance, often indicating better conditions than actually exist.

2. Regression Analyses

a. Rapid Bioassessment Data

To detect trends in the macroinvertebrate community as a function of distance from the hydroelectric dam (sampling station), six linear regression analyses were performed on the rapid bioassessment data. Data were $\log_{10}(x+1)$ transformed prior to regressing taxa richness, total abundance, EPT index, EPT abundance, NCBI values, and percentage of the dominant taxon on distance from the dam. Plots of data were constructed if any trends were detected (alpha ≤ 0.05) among stations.

b. Hester Dendy Data

To detect trends in the macroinvertebrate community as a function of distance from the hydroelectric dam (sampling station), six linear regression analyses were performed on the

Hester Dendy data. Data were $\log_{10}(x+1)$ transformed prior to regressing taxa richness, total abundance, EPT index, EPT abundance, NCBI values, and percentage of the dominant taxon on distance from the dam. Plots of data were constructed if any trends were detected (alpha ≤ 0.05) among stations.

V. RESULTS

A. Physicochemical Analysis

The water chemistry data taken in conjunction with the macroinvertebrate assessment are presented in Tables 1 and 2.

Table 1. Physicochemical data collected in conjunction with the macroinvertebrate assessments of the lower Saluda River downstream of the Saluda Hydroelectric Project (Lake Murray) operated by SOUTH CAROLINA ELECTRIC & GAS, Lexington County, South Carolina, 25 and 30 July 2007.

	Station					
Parameter	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**
Temperature (°C)	15.2	16.0	17.1	17.9	18.7	18.3
Dissolved Oxygen (mg/l)	9.64	6.85	10.32	9.90	9.76	6.83
pH (SU)	6.52	6.69	6.99	6.99	7.11	7.15
Conductivity (µS/cm)	64.4	68.0	66.5	70.1	69.9	72.1

Table 2. Physicochemical data collected in conjunction with the macroinvertebrate assessments of the lower Saluda River downstream of the Saluda Hydroelectric Project (Lake Murray) operated by SOUTH CAROLINA ELECTRIC & GAS, Lexington County, South Carolina, 19 September 2007.

	Station					
Parameter	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**
Temperature (°C)	17.7	17.7	17.8	18.3	18.4	18.3
Dissolved Oxygen (mg/l)	8.92	8.86	10.78	9.68	9.15	8.76
pH (SU)	6.73	6.40	6.83	6.71	6.91	7.12
Conductivity (µS/cm)	105.6	89.3	87.2	89.7	86.8	90.0

B. Macroinvertebrate Community Analysis

1. Rapid Bioassessment Samples (25 and 30 July 2007)

A total of 1123 specimens representing 69 taxa were collected from six sampling stations during this assessment. The number of specimens collected, their NCBI tolerance values, functional feeding groups, and relative abundance are presented in Table 3 for each station. Bioassessment metrics for each sampling station are presented in Table 4. Table 5 lists the number of specimens and relative abundance of dominant taxa (>5% of the collection) for each station.

The sampling effort at Station TR yielded 214 specimens representing 22 taxa (Table 3). An EPT index of 4 was calculated for this station, and the NCBI value of 8.11 resulted in a water quality rating of "poor" (Table 4). The Chironomidae were represented by 7 taxa and contributed 24% of the collection. The dominant functional feeding group was the scrapers, which contributed 47% of the collection. The dominant taxon was *Dicrotendipes* sp., contributing 21% of the specimens collected (Table 5).

The sampling effort at Station SPW yielded 323 specimens representing 34 taxa (Table 3). An EPT index of 4 was calculated for this station, and the NCBI value of 7.48 resulted in a water quality rating of "fair" (Table 4). The Chironomidae were represented by 7 taxa and contributed 13% of the specimens collected. The dominant functional feeding group was the scrapers, which contributed 26% of the collection. The dominant taxon was *Gammarus* sp., contributing 14% of the specimens collected (Table 5).

The sampling effort at Station MR yielded 180 specimens representing 29 taxa (Table 3). An EPT index of 10 was calculated for this station, and the NCBI value of 6.60 resulted in a water quality rating of "fair" (Table 4). The Chironomidae were represented by 4 taxa and contributed 6% of the specimens collected. The dominant functional feeding group was the scrapers, which contributed 53% of the collection. The dominant taxon was *Caecidotea* sp., contributing 19% of the specimens collected (Table 5).

The sampling effort at Station LR yielded 214 specimens representing 26 taxa (Table 3). An EPT index of 11 was calculated for this station, and the NCBI value of 6.48 resulted in a water quality rating of "good-fair" (Table 4). The Chironomidae were represented by 3 taxa and contributed 2% of the specimens collected. The dominant functional feeding group was the scrapers, which contributed 54% of the collection. The dominant taxon was *Caecidotea* sp., contributing 18% of the specimens collected (Table 5).

The sampling effort at Station OB yielded 192 specimens representing 26 taxa (Table 3). An EPT index of 10 was calculated for this station, and the NCBI value of 6.02 resulted in a water quality rating of “good-fair” (Table 4). The Chironomidae were represented by 5 taxa and contributed 4% of the specimens collected. The dominant functional feeding group was the collector-filterers, which contributed 34% of the collection. The dominant taxon was *Baetis intercalaris*, contributing 13% of the specimens collected (Table 5).

The sampling effort at Station ZO yielded 185 specimens representing 40 taxa (Table 3). An EPT index of 9 was calculated for this station, and the NCBI value of 6.92 resulted in a water quality rating of “fair” (Table 4). The Chironomidae were represented by a 12 taxa and contributed 15% of the specimens collected. The dominant functional feeding group was the scrapers, which contributed 34% of the collection. The dominant taxon was *Campeloma decisum*, contributing 14% of the specimens collected (Table 5).

Regression analysis of the rapid bioassessment data showed no detectable trends (alpha $\leq$ 0.05) in taxa richness, total abundance, EPT abundance, NCBI, or in percentage of the dominant taxon as a function of distance from the hydroelectric dam(Table 6). EPT indices increased significantly as a function of distance from the hydroelectric dam (Table 6, Figure 2).

2. Rapid Bioassessment Samples (19 September 2007)

A total of 1132 specimens representing 69 taxa were collected from six sampling stations during this assessment. The number of specimens collected, their NCBI tolerance values, functional feeding groups, and relative abundance are presented in Table 7 for each station. Bioassessment metrics for each sampling station are presented in Table 8. Table 9 lists the number of specimens and relative abundance of dominant taxa (>5% of the collection) for each station.

The sampling effort at Station TR yielded 208 specimens representing 26 taxa (Table 3). An EPT index of 3 was calculated for this station, and the NCBI value of 8.29 resulted in a water quality rating of “poor” (Table 4). The Chironomidae were represented by 3 taxa and contributed 5% of the collection. The dominant functional feeding group was the predators, which contributed 37% of the collection. The dominant taxon was *Enallagma* sp., contributing 32% of the specimens collected (Table 5).

The sampling effort at Station SPW yielded 237 specimens representing 31 taxa (Table 3). An EPT index of 6 was calculated for this station, and the NCBI value of 7.87 resulted in a water quality rating of "poor" (Table 4). The Chironomidae were represented by 7 taxa and contributed 13% of the specimens collected. The dominant functional feeding groups were the predators and the scrapers, which each contributed 31% of the collection. The dominant taxon was *Enallagma* sp., contributing 19% of the specimens collected (Table 5).

The sampling effort at Station MR yielded 201 specimens representing 27 taxa (Table 3). An EPT index of 7 was calculated for this station, and the NCBI value of 6.51 resulted in a water quality rating of "fair" (Table 4). The Chironomidae were represented by 3 taxa and contributed 5% of the specimens collected. The dominant functional feeding group was the scrapers, which contributed 46% of the collection. The dominant taxon was *Simulium confusum*, contributing 15% of the specimens collected (Table 5).

The sampling effort at Station LR yielded 215 specimens representing 32 taxa (Table 3). An EPT index of 12 was calculated for this station, and the NCBI value of 6.87 resulted in a water quality rating of "fair" (Table 4). The Chironomidae were represented by 4 taxa and contributed 6% of the specimens collected. The dominant functional feeding group was the scrapers, which contributed 71% of the collection. The dominant taxon was *Caecidotea* sp., contributing 29% of the specimens collected (Table 5).

The sampling effort at Station OB yielded 271 specimens representing 32 taxa (Table 3). An EPT index of 12 was calculated for this station, and the NCBI value of 6.70 resulted in a water quality rating of "fair" (Table 4). The Chironomidae were represented by 4 taxa and contributed 4% of the specimens collected. The dominant functional feeding group was the collector-filterers, which contributed 40% of the collection. The dominant taxon was *Hydropsyche mississipiensis*, contributing 20% of the specimens collected (Table 5).

The sampling effort at Station ZO yielded 168 specimens representing 32 taxa (Table 3). An EPT index of 10 was calculated for this station, and the NCBI value of 6.49 resulted in a water quality rating of "fair" (Table 4). The Chironomidae were represented by a 3 taxa and contributed 4% of the specimens collected. The dominant functional feeding group was the scrapers, which contributed 40% of the collection. The dominant taxon was *Maccaffertium modestum*, contributing 10% of the specimens collected (Table 5).

Regression analysis of the rapid bioassessment data showed no detectable trends (alpha ≤ 0.05) in taxa richness, total abundance, or in percentage of the dominant taxon as a function of distance from the hydroelectric dam(Table 9). EPT indices and EPT abundance increased significantly as a function of distance from the hydroelectric dam (Table 9, Figure 3). NCBI values decreased significantly as a function of distance from the hydroelectric dam (Table 9, Figure 3).

3. Comparison of Rapid Bioassessment Samples from July and September

Results of two-factor ANOVAs without replication to detect differences in taxa richness, total abundance, EPT index values, EPT abundance, NCBI values, and percent dominant taxon between samples collected on 25 and 30 July 2007 and 19 September 2007 are presented in Tables 11-16. Plots of the data are given in Figure 4. None of the metrics showed significant differences between the two months.

4. Hester Dendy Samples

A total of 1784 specimens representing 57 taxa were collected from the six Hester Dendy stations. Three replicates were collected at each station, except Stations MR and OB, which only had two replicates retrieved at each. The number of specimens collected, their NCBI tolerance values, and functional feeding groups are presented in Table 17 for each sample. Bioassessment metrics for each sample are presented in Table 18.

The bioassesment metrics indicated several differences between the stations. All replicates at Stations TR SPW, MR, and LR had “poor” NCBI water quality conditions. Station OB had a replicate with a “fair” NCBI rating and a replicate with a “good-fair” rating. All replicates at Station ZO had ratings of “fair”. Stations TR, SPW, MR, LR, and ZO were dominated by scrapers. TR had a single replicate dominated by collector-gatherers, SPW a single replicate dominated by omnivores, and ZO a single replicate dominated by collector-gatherers. Station OB was dominated by collector-filterers.

Regression analysis of the Hester Dendy samples showed significant increases (alpha ≤ 0.05) in taxa richness with increasing distance from the hydroelectric dam (Table 19, Figure 5). NCBI values and percentage of the dominant taxon both decreased significantly as distance from the hydroelectric dam increased (Table 19, Figure 5). Total abundance, EPT indices, and EPT abundance showed no significant difference with increasing distance from the hydroelectric dam.

VI. DISCUSSION

Regression analysis of the Hester Dendy data showed biotic conditions improved significantly as distance from the dam increased. This result was expected, as studies have demonstrated that rapid fluctuations in current velocity and water level (associated with the operation of hydroelectric dams) results in reduced diversity, by decreasing habitat and/or survival of habitat-specific taxa (Death, 1995; Death and Winterbourn, 1995; Ward and Stanford, 1995; Valentin *et al*., 1995). As distance from the dam increases, the fluctuations in current velocity and water level are smaller and slower, resulting in improved biotic conditions.

For the rapid bioassessment data, regression analysis showed no detectable trends in taxa richness, total abundance, or in percentage of the dominant taxon as a function of distance from the hydroelectric dam in July or in September. In addition, none of the metrics showed a significant difference when compared between the July sample and the September sample. The July samples did show a significant increase in the EPT indices as distance from the dam increased. The September samples showed a significant increase in EPT index and EPT abundance values as distance from the dam increased. The September samples also showed a significant decrease in NCBI values as distance from the dam increased. This supports the conclusion that as the distance from the dam increases, fluctuations in current velocity and water levels decrease and biotic conditions are improved.

Comparing the two methods, the Hester Dendy method detected trends among stations that were not statistically significant for the rapid bioassessment data. This may be due to the high sampling variability of rapid bioassessment samples. There is greater variability in the rapid bioassessment data because this method only samples the river margins, where habitat is less stable due to river level fluctuations. The Hester Dendy samplers provide a more stable habitat, and lower variability in the samples enables the detection of trends in the macroinvertebrate community.

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Table 3. Macroinvertebrates, their NCBI tolerance values (TV), functional feeding groups (FG), and relative abundance for the six lower Saluda River rapid bioassessment stations downstream from the Saluda Hydroelectric Project (Lake Murray) operated by SOUTH CAROLINA ELECTRIC & GAS, Lexington County, South Carolina, 25 and 30 July 2007.

				No. of Individuals						Relative Abundance					
Seq	**Taxon**	**TV**	**FG**	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**
Annelida															
Hirudinea															
Rhynchobdellida															
Glossiphoniidae															
1	Helobdella triserialis	9.20	P		1						0.00				
Oligochaeta															
Haplotaxida															
Lumbricidae															
2	Lumbricidae Genus species		SC	5						0.02					
Lumbriculida															
Lumbriculidae															
3	Lumbriculidae Genus species	7.03	SC	3	2					0.01	0.01				
Tubificida															
Tubificidae															
4	Tubifex tubifex	10.00	SC	15	18	11	16	3	6	0.07	0.06	0.06	0.07	0.02	0.03
Arthropoda															
Arachnoidea															
Acariformes															
Hydrachnidae															
5	Hydrachna sp.	5.53	P	7	14		2	1	4	0.03	0.04		0.01	0.01	0.02

* Functional feeding groups: CF = collector-filterer, CG = collector-gatherer, OM = omnivore, P = predator, SC = scraper, SH = shredder

Table 3. Continued.

				No. of Individuals						Relative Abundance					
Seq	**Taxon**	**TV**	**FG**	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**
Crustacea															
Amphipoda															
Gammaridae															
6	Gammarus sp.	9.10	OM	35	46	4	6		15	0.16	0.14	0.02	0.03		0.08
Talitridae															
7	Hyalella azteca	7.75	OM	9	13	1	1	5	8	0.04	0.04	0.01	0.00	0.03	0.04
Cladocera															
Daphnidae															
8	Daphnia sp.		CF		12				1		0.04				0.01
Decapoda															
Cambaridae															
9	Cambaridae Genus species		OM			1	1	3				0.01	0.00	0.02	
Palaemonidae															
10	Palaemonetes sp.	7.10	OM		3				1		0.01				0.01
Isopoda															
Asellidae															
11	Caecidotea sp.	9.11	SC	38	18	34	39	4	7	0.18	0.06	0.19	0.18	0.02	0.04
Hexapoda															
Coleoptera															
Dytiscidae															
12	Neoporus sp.		P			1			1			0.01			0.01

* Functional feeding groups: CF = collector-filterer, CG = collector-gatherer, OM = omnivore, P = predator, SC = scraper, SH = shredder

Table 3. Continued.

				No. of Individuals						Relative Abundance					
Seq	**Taxon**	**TV**	**FG**	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**
Elmidae															
13	Dubiraphia quadrinotata	5.93	CG			1						0.01			
Haliplidae															
14	Haliplus fasciatus	8.71	SH		8						0.02				
15	Peltodytes sexmaculatus	8.73	SH			1			2			0.01			0.01
Diptera															
Ceratopogonidae															
16	Bezzia/Palpomyia sp.	6.86	P		3						0.01				
Chironomidae															
17	Ablabesmyia mallochi	7.19	P	1					2	0.00					0.01
18	Ablabesmyia peleensis	9.67	P	2					1	0.01					0.01
19	Chironomus sp.	9.63	CG		1			1			0.00			0.01	
20	Clinotanypus sp.		P		1						0.00				
21	Cryptochironomus sp.	6.40	P			3			1			0.02			0.01
22	Dicrotendipes sp.	8.10	CG	44	31	3	1	2	5	0.21	0.10	0.02	0.00	0.01	0.03
23	Orthocladius sp.	5.94	SH	1		3			3	0.00		0.02			0.02
24	Paralauterborniella nigrohalterale	4.77	CG			1						0.01			
25	Phaenopsectra obediens gr.	6.50	SC						5						0.03
26	Polypedilum flavum	5.78	SH		2						0.01				
27	Polypedilum illinoense gr.	9.00	SH	1	4				4	0.00	0.01				0.02

* Functional feeding groups: CF = collector-filterer, CG = collector-gatherer, OM = omnivore, P = predator, SC = scraper, SH = shredder

Table 3. Continued.

				No. of Individuals						Relative Abundance					
Seq	**Taxon**	**TV**	**FG**	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**
Chironomidae cont.															
28	Procladius sp.	9.10	P	2	1				2	0.01	0.00				0.01
29	Rheocricotopus robacki	7.28	CG				2	2					0.01	0.01	
30	Rheotanytarsus exiguus gr.	5.89	CF	1				2	1	0.00				0.01	0.01
31	Tanytarsus sp.	6.76	CF		2				2		0.01				0.01
32	Thienemanniella xena	5.86	CG						1						0.01
33	Thienemannimyia gr.	8.42	P				1	1	1				0.00	0.01	0.01
Simuliidae															
34	Simulium confusum	4.00	CF				7	19	8				0.03	0.10	0.04
35	Simulium tribulatum/venustrum	4.00	CF			20	32	7	1			0.11	0.15	0.04	0.01
Tipulidae															
36	Tipula sp.	7.33	SH					2						0.01	
Ephemeroptera															
Baetidae															
37	Baetis intercalaris	4.99	CG			4	13	25	12			0.02	0.06	0.13	0.06
38	Heterocloeon sp.	3.48	SC			17	12	12	4			0.09	0.06	0.06	0.02
39	Procloeon sp.	5.00	OM		7						0.02				
40	Pseudocloeon propinquum	5.77	CG			13	8	12	8			0.07	0.04	0.06	0.04
Caenidae															
41	Caenis sp.	7.41	CG	1	6					0.00	0.02				

* Functional feeding groups: CF = collector-filterer, CG = collector-gatherer, OM = omnivore, P = predator, SC = scraper, SH = shredder

Table 3. Continued.

				No. of Individuals						Relative Abundance					
Seq	**Taxon**	**TV**	**FG**	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**
Heptageniidae															
42	Maccaffertium modestum	5.50	SC				5	12					0.02	0.06	
43	Stenacron interpunctatum	6.87	SC		25	2	2	1	2		0.08	0.01	0.01	0.01	0.01
Heteroptera															
Corixidae															
44	Trichocorixa sp.	9.00	P		8				2		0.02				0.01
Veliidae															
45	Microvelia sp.		P		1				1		0.00				0.01
Odonata															
Aeshnidae															
46	Boyeria vinosa	5.89	P		2	2			1		0.01	0.01			0.01
Coenagrionidae															
47	Enallagma sp.	8.91	P	2	40				4	0.01	0.12				0.02
48	Ischnura posita	9.52	P		2	1	1				0.01	0.01	0.00		
49	Ischnura sp.	9.52	P		4						0.01				
Gomphidae															
50	Aphylla williamsoni		P		1						0.00				
Libellulidae															
51	Neurocordulia sp.	5.03	P		6						0.02				
Trichoptera															
Brachycentridae															
52	Micrasema wataga	2.63	SH			6	3					0.03	0.01		

* Functional feeding groups: CF = collector-filterer, CG = collector-gatherer, OM = omnivore, P = predator, SC = scraper, SH = shredder

Table 3. Continued.

				No. of Individuals						Relative Abundance					
Seq	**Taxon**	**TV**	**FG**	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**
Hydropsychidae															
53	Cheumatopsyche sp.	6.22	CF			9	15	4	21			0.05	0.07	0.02	0.11
54	Hydropsyche betteni	7.78	CF			2	2	22	1			0.01	0.01	0.11	0.01
55	Hydropsyche venularis	4.96	CF			4	1	11	1			0.02	0.00	0.06	0.01
Hydroptilidae															
56	Hydroptila sp.	6.22	SC	9		3	10			0.04		0.02	0.05		
Lepidostomatidae															
57	Lepidostoma sp.	0.90	SH					4						0.02	
Leptoceridae															
58	Mystacides sepulchralis	2.69	CG						1						0.01
59	Oecetis sp.	4.70	P	1		1		1		0.00		0.01		0.01	
60	Triaenodes ignitus	4.58	SH						1						0.01
61	Triaenodes injustus	2.47	SH		14						0.04				
Polycentropodidae															
62	Phylocentropus carolinus	6.20	CF	1						0.00					
63	Phylocentropus placidus	6.20	CF				1						0.00		
Mollusca															
Bivalvia															
Unionoida															
Corbiculidae															
64	Corbicula fluminea	6.12	CF			1	2					0.01	0.01		

* Functional feeding groups: CF = collector-filterer, CG = collector-gatherer, OM = omnivore, P = predator, SC = scraper, SH = shredder

Table 3. Continued.

				No. of Individuals						Relative Abundance					
Seq	**Taxon**	**TV**	**FG**	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**
Sphaeriidae															
65	Sphaeriidae Genus species		CF		2						0.01				
Gastropoda															
Limnophila															
Physidae															
66	Physa sp.	8.84	SC	15	8	16	22	17	9	0.07	0.02	0.09	0.10	0.09	0.05
Planorbidae															
67	Helisoma anceps	6.23	SC	15	14	13	9	6	4	0.07	0.04	0.07	0.04	0.03	0.02
Mesogastropoda															
Viviparidae															
68	Campeloma decisum		SC						26						0.14
Platyhelminthes															
Turbellaria															
Tricladida															
Planariidae															
69	Dugesia tigrina	7.23	OM	6	3	2		13	5	0.03	0.01	0.01		0.07	0.03

* Functional feeding groups: CF = collector-filterer, CG = collector-gatherer, OM = omnivore, P = predator, SC = scraper, SH = shredder

Table 4. Bioassessment metrics for the six lower Saluda River rapid bioassessment stations downstream from the Saluda Hydroelectric Project (Lake Murray) operated by SOUTH CAROLINA ELECTRIC & GAS, Lexington County, South Carolina, 25 and 30 July 2007.

	Station					
Metric	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**
Taxa Richness	22	34	29	26	26	40
Number of Specimens	214	323	180	214	192	185
EPT Index	4	4	10	11	10	9
EPT Abundance	12	52	61	72	104	51
Chironomidae Taxa	7	7	4	3	5	12
Chironomidae Abundance	52	42	10	4	8	28
EPT/Chironomidae Abundance	0.23	1.24	6.10	18.00	13.00	1.82
North Carolina Biotic Index	8.11	7.48	6.60	6.48	6.02	6.92
SCDHEC Bioclassification	1.0	1.5	2.5	2.5	2.8	1.5
Percent Collector-Filterers	0.93	4.95	20.00	28.04	33.85	19.46
Percent Collector-Gatherers	21.03	11.76	12.22	11.21	21.88	14.59
Percent Omnivores	23.36	22.29	4.44	3.74	10.94	15.68
Percent Predators	7.01	26.01	4.44	1.87	1.56	10.81
Percent Scrapers	46.73	26.32	53.33	53.74	28.65	34.05
Percent Shredders	0.93	8.67	5.56	1.40	3.13	5.41
Scraper/Scraper & Collector-Filterers	50.00	5.31	2.67	1.92	0.85	1.75
Shredders/Total	0.01	0.09	0.06	0.01	0.03	0.05
Percent Dominant Taxon	20.56	14.24	18.89	18.22	13.02	14.05
Number Of Dominant Taxa	6	6	8	7	9	4

Table 5. Dominant taxa (>5% of the collection) for the six lower Saluda River rapid bioassessment stations downstream from the Saluda Hydroelectric Project (Lake Murray) operated by SOUTH CAROLINA ELECTRIC & GAS, Lexington County, South Carolina, 25 and 30 July 2007.

Sta. TR			**Sta. SPW**			**Sta. MR**		
Taxon	**No.**	**Rel. Abd.**	**Taxon**	**No.**	**Rel. Abd.**	**Taxon**	**No.**	**Rel. Abd.**
Dicrotendipes sp.	44	20.56	Gammarus sp.	46	14.24	Caecidotea sp.	34	18.89
Caecidotea sp.	38	17.76	Enallagma sp.	40	12.38	Simulium tribulatum/venustrum	20	11.11
Gammarus sp.	35	16.36	Dicrotendipes sp.	31	9.60	Heterocloeon sp.	17	9.44
Helisoma anceps	15	7.01	Stenacron interpunctatum	25	7.74	Physa sp.	16	8.89
Physa sp.	15	7.01	Caecidotea sp.	18	5.57	Helisoma anceps	13	7.22
Tubifex tubifex	15	7.01	Tubifex tubifex	18	5.57	Pseudocloeon propinquum	13	7.22
						Tubifex tubifex	11	6.11
						Cheumatopsyche sp.	9	5.00
			Pseudocloeon propinquum	12	6.25			
			Hydropsyche venularis	11	5.73			

Table 5 Continued.

Sta. LR			**Sta. OB**			**Sta. ZO**		
Taxon	**No.**	**Rel. Abd.**	**Taxon**	**No.**	**Rel. Abd.**	**Taxon**	**No.**	**Rel. Abd.**
Caecidotea sp.	39	18.22	Baetis intercalaris	25	13.02	Campeloma decisum	26	14.05
Simulium tribulatum/venustrum	32	14.95	Hydropsyche betteni	22	11.46	Cheumatopsyche sp.	21	11.35
Physa sp.	22	10.28	Simulium confusum	19	9.90	Gammarus sp.	15	8.11
Tubifex tubifex	16	7.48	Physa sp.	17	8.85	Baetis intercalaris	12	6.49
Cheumatopsyche sp.	15	7.01	Dugesia tigrina	13	6.77			
Baetis intercalaris	13	6.07	Heterocloeon sp.	12	6.25			
Heterocloeon sp.	12	5.61	Maccaffertium modestum	12	6.25			
			Pseudocloeon propinquum	12	6.25			
			Hydropsyche venularis	11	5.73			

Table 6. Results of the linear regressions to detect differences in taxa richness, total abundance, EPT index, EPT abundance, NCBI, and percentage of the dominant taxon among sampling stations for the rapid bioassessment data collected at six lower Saluda River stations downstream from the Saluda Hydroelectric Project (Lake Murray) operated by SOUTH CAROLINA ELECTRIC & GAS, Lexington County, South Carolina, 25 and 30 July 2007.

RBP July 2007: taxa richness regressed on station

Source of Variation	*df*	*SS*	*F*	*P-value*
Regression	1	0.00420	0.46463	0.53289
Residual	4	0.03618		
Total	5	0.04039		

RBP July 2007: EPT abundance regressed on station

Source of Variation	*df*	*SS*	*F*	*P-value*
Regression	1	0.21837	3.30676	0.14313
Residual	4	0.26415		
Total	5	0.48252		

RBP July 2007: total abundance regressed on station

Source of Variation	*df*	*SS*	*F*	*P-value*
Regression	1	0.01571	2.26430	0.20683
Residual	4	0.02775		
Total	5	0.04346		

RBP July 2007: NCBI value regressed on station

Source of Variation	*df*	*SS*	*F*	*P-value*
Regression	1	0.00515	6.62400	0.06174
Residual	4	0.00311		
Total	5	0.00825		

RBP July 2007: EPT index regressed on station

Source of Variation	*df*	*SS*	*F*	*P-value*
Regression	1	0.11577	10.79712	0.03033
Residual	4	0.04289		
Total	5	0.15865		

RBP July 2007: percentage of the dominant taxon regressed on station

Source of Variation	*df*	*SS*	*F*	*P-value*
Regression	1	0.00702	1.22523	0.33042
Residual	4	0.02291		
Total	5	0.02992		

Figure 2. Plot comparing NCBI data from rapid bioassessment samples collected from the lower Saluda River, downstream of the Saluda Hydroelectric Project (Lake Murray) operated by SOUTH CAROLINA ELECTRIC & GAS, Lexington County, South Carolina, collected 11 October 2006.

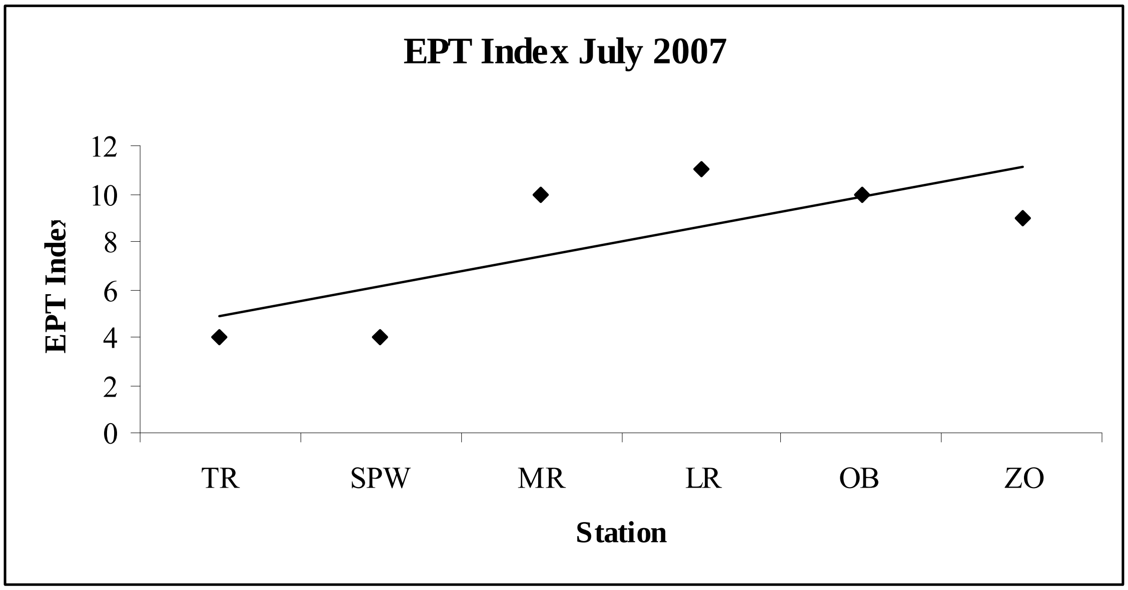


Table 7. Macroinvertebrates, their NCBI tolerance values (TV), functional feeding groups (FG), and relative abundance for the six lower Saluda River rapid bioassessment stations downstream from the Saluda Hydroelectric Project (Lake Murray) operated by SOUTH CAROLINA ELECTRIC & GAS, Lexington County, South Carolina, 19 September 2007.

				No. of Individuals						Relative Abundance					
Seq	**Taxon**	**TV**	**FG**	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**
Annelida															
Hirudinea															
Rhynchobdellida															
Glossiphoniidae															
1	Helobdella triserialis	9.20	P		2				1		0.01				0.01
Oligochaeta															
Haplotaxida															
Lumbricidae															
2	Lumbricidae Genus species		SC	2				1		0.01				0.00	
Lumbriculida															
Lumbriculidae															
3	Lumbriculidae Genus species	7.03	SC	4		2	1	1	1	0.02		0.01	0.00	0.00	0.01
Tubificida															
Tubificidae															
4	Tubifex tubifex	10.00	SC	4	5	6	2	4	1	0.02	0.02	0.03	0.01	0.01	0.01
Arthropoda															
Arachnoidea															
Acariformes															
Hydrachnidae															
5	Hydrachna sp.	5.53	P	3	2	1	2			0.01	0.01	0.00	0.01		

* Functional feeding groups: CF = collector-filterer, CG = collector-gatherer, OM = omnivore, P = predator, SC = scraper, SH = shredder

Table 7. Continued.

				No. of Individuals						Relative Abundance					
Seq	**Taxon**	**TV**	**FG**	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**
Crustacea															
Amphipoda															
Gammaridae															
6	Gammarus sp.	9.10	OM	38	34	28	8	12	16	0.18	0.14	0.14	0.04	0.04	0.10
Talitridae															
7	Hyalella azteca	7.75	OM	7	23		10	2	3	0.03	0.10		0.05	0.01	0.02
Cladocera															
Daphnidae															
8	Daphnia sp.		CF						2						0.01
Cyclopoida															
Cyclopidae															
9	Eucyclops agilis		OM			1						0.00			
Decapoda															
Cambaridae															
10	Cambaridae Genus species		OM			1	1	3				0.00	0.00	0.01	
Palaemonidae															
11	Palaemonetes sp.	7.10	OM	1						0.00					
Isopoda															
Asellidae															
12	Caecidotea sp.	9.11	SC	19	32	22	63	9	5	0.09	0.14	0.11	0.29	0.03	0.03
Ostracoda															
13	Ostracoda Genus species		CF	1						0.00					

* Functional feeding groups: CF = collector-filterer, CG = collector-gatherer, OM = omnivore, P = predator, SC = scraper, SH = shredder

Table 7. Continued.

				No. of Individuals						Relative Abundance					
Seq	**Taxon**	**TV**	**FG**	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**
Hexapoda															
Coleoptera															
Dytiscidae															
14	Neoporus sp.		P			6						0.03			
Elmidae															
15	Ancyronyx variegatus	6.49	CG				1						0.00		
Haliplidae															
16	Haliplus fasciatus	8.71	SH	1						0.00					
17	Peltodytes sexmaculatus	8.73	SH	1			1	2	2	0.00			0.00	0.01	0.01
Hydrophilidae															
18	Tropisternus collaris	9.68	CG					3						0.01	
Diptera															
Ceratopogonidae															
19	Bezzia/Palpomyia sp.	6.86	P		2						0.01				
Chironomidae															
20	Ablabesmyia mallochi	7.19	P				3						0.01		
21	Ablabesmyia peleensis	9.67	P	1	1					0.00	0.00				
22	Cricotopus sp.	5.29	SH				1						0.00		
23	Dicrotendipes sp.	8.10	CG	9	14	5	7	4	3	0.04	0.06	0.02	0.03	0.01	0.02
24	Orthocladius sp.	5.94	SH		3	5		5	2		0.01	0.02		0.02	0.01
25	Phaenopsectra obediens gr.	6.50	SC		8						0.03				
26	Polypedilum illinoense gr.	9.00	SH	1	1		1	1		0.00	0.00		0.00	0.00	

* Functional feeding groups: CF = collector-filterer, CG = collector-gatherer, OM = omnivore, P = predator, SC = scraper, SH = shredder

Table 7. Continued.

				No. of Individuals						Relative Abundance					
Seq	**Taxon**	**TV**	**FG**	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**
Chironomidae cont.															
27	Procladius sp.	9.10	P		1				1		0.00				0.01
28	Rheocricotopus robacki	7.28	CG					1						0.00	
29	Tanytarsus sp.	6.76	CF		2						0.01				
30	Xylotopus par	5.99	CG			1						0.00			
Simuliidae															
31	Simulium confusum	4.00	CF			31	1	8	4			0.15	0.00	0.03	0.02
32	Simulium tribulatum/venustrum	4.00	CF	1		7		3	1	0.00		0.03		0.01	0.01
Tipulidae															
33	Tipula sp.	7.33	SH			2						0.01			
Ephemeroptera															
Baetidae															
34	Baetis intercalaris	4.99	CG			4		46	12			0.02		0.17	0.07
35	Heterocloeon sp.	3.48	SC		7	24	36	7	2		0.03	0.12	0.17	0.03	0.01
36	Procloeon sp.	5.00	OM		3						0.01				
37	Pseudocloeon propinquum	5.77	CG	1		9	7	7		0.00		0.04	0.03	0.03	
Caenidae															
38	Caenis sp.	7.41	CG	1						0.00					
Heptageniidae															
39	Maccaffertium modestum	5.50	SC			5	5	6	17			0.02	0.02	0.02	0.10
40	Stenacron interpunctatum	6.87	SC		2	2	9	2	1		0.01	0.01	0.04	0.01	0.01
41	Stenonema femoratum	7.18	SC		4		1	3			0.02		0.00	0.01	

* Functional feeding groups: CF = collector-filterer, CG = collector-gatherer, OM = omnivore, P = predator, SC = scraper, SH = shredder

Table 7. Continued.

				No. of Individuals						Relative Abundance					
Seq	**Taxon**	**TV**	**FG**	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**
Heteroptera															
Corixidae															
42	Trichocorixa sp.	9.00	P		7				4		0.03				0.02
Gerridae															
43	Aquarius conformis		P			1						0.00			
Veliidae															
44	Microvelia sp.		P	4						0.02					
Odonata															
Aeshnidae															
45	Anax longipes		P		3						0.01				
46	Boyeria vinosa	5.89	P		4	1			1		0.02	0.00			0.01
Calopterygidae															
47	Calopteryx sp.	7.78	P			1						0.00			
Coenagrionidae															
48	Argia bipunctulata	8.17	P		4						0.02				
49	Enallagma sp.	8.91	P	67	44		2			0.32	0.19		0.01		
50	Ischnura posita	9.52	P	1	2					0.00	0.01				
Libellulidae															
51	Neurocordulia sp.	5.03	P	1	2				4	0.00	0.01				0.02

* Functional feeding groups: CF = collector-filterer, CG = collector-gatherer, OM = omnivore, P = predator, SC = scraper, SH = shredder

Table 7. Continued.

				No. of Individuals						Relative Abundance					
Seq	**Taxon**	**TV**	**FG**	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**
Trichoptera															
Hydropsychidae															
52	Cheumatopsyche sp.	6.22	CF				6	9	2				0.03	0.03	0.01
53	Hydropsyche betteni	7.78	CF		5	2	2	22	5		0.02	0.01	0.01	0.08	0.03
54	Hydropsyche mississippiensis		CF					55	12					0.20	0.07
55	Hydropsyche venularis	4.96	CF		1		2	10	16		0.00		0.01	0.04	0.10
Hydroptilidae															
56	Hydroptila sp.	6.22	SC	1		3	4	2	3	0.00		0.01	0.02	0.01	0.02
Lepidostomatidae															
57	Lepidostoma sp.	0.90	SH					3	2					0.01	0.01
Leptoceridae															
58	Mystacides sepulchralis	2.69	CG				1						0.00		
Polycentropodidae															
59	Neureclipsis crepuscularis	4.19	CF				1						0.00		
Psychomyiidae															
60	Lype diversa	4.05	SC				1						0.00		
Mollusca															
Bivalvia															
Unionoida															
Corbiculidae															
61	Corbicula fluminea	6.12	CF				2	1					0.01	0.00	

* Functional feeding groups: CF = collector-filterer, CG = collector-gatherer, OM = omnivore, P = predator, SC = scraper, SH = shredder

Table 7. Continued.

				No. of Individuals						Relative Abundance					
Seq	**Taxon**	**TV**	**FG**	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**
Sphaeriidae															
62	Sphaeriidae Genus species		CF		1						0.00				
Gastropoda															
Limnophila															
Ancylidae															
63	Ferrissia sp.	6.55	SC	1						0.00					
Physidae															
64	Physa sp.	8.84	SC	29	8	6	21	22	2	0.14	0.03	0.03	0.10	0.08	0.01
Planorbidae															
65	Gyraulus parvus	4.23	SC				4		1				0.02		0.01
66	Helisoma anceps	6.23	SC	7	8	22	5	12	10	0.03	0.03	0.11	0.02	0.04	0.06
Mesogastropoda															
Hydrobiidae															
67	Somatogyrus virginicus	6.37	SC					3	8					0.01	0.05
Viviparidae															
68	Campeloma decisum		SC						16						0.10
Platyhelminthes															
Turbellaria															
Tricladida															
Planariidae															
69	Dugesia tigrina	7.23	OM	2	2	3	4	2	8	0.01	0.01	0.01	0.02	0.01	0.05

* Functional feeding groups: CF = collector-filterer, CG = collector-gatherer, OM = omnivore, P = predator, SC = scraper, SH = shredder

Table 8. Bioassessment metrics for the six lower Saluda River rapid bioassessment stations downstream from the Saluda Hydroelectric Project (Lake Murray) operated by SOUTH CAROLINA ELECTRIC & GAS, Lexington County, South Carolina, 19 September 2007.

	Station					
Metric	**TR**	**SPW**	**MR**	**LR**	**OB**	**ZO**
Taxa Richness	26	31	27	32	32	32
Number of Specimens	208	237	201	215	271	168
EPT Index	3	6	7	12	12	10
EPT Abundance	3	22	49	75	172	72
Chironomidae Taxa	3	7	3	4	4	3
Chironomidae Abundance	11	30	11	12	11	6
EPT/Chironomidae Abundance	0.27	0.73	4.45	6.25	15.64	12.00
North Carolina Biotic Index	8.29	7.87	6.51	6.87	6.70	6.49
SCDHEC Bioclassification	1.0	1.2	2.3	2.0	2.3	1.5
Percent Collector-Filterers	0.96	3.80	19.90	6.51	39.85	25.00
Percent Collector-Gatherers	5.29	5.91	9.45	7.44	22.51	8.93
Percent Omnivores	23.08	26.16	16.42	10.70	7.01	16.07
Percent Predators	37.02	31.22	4.98	3.26	0.00	6.55
Percent Scrapers	32.21	31.22	45.77	70.70	26.57	39.88
Percent Shredders	1.44	1.69	3.48	1.40	4.06	3.57
Scraper/Scraper & Collector-Filterers	33.50	8.22	2.30	10.86	0.67	1.60
Shredders/Total	0.01	0.02	0.03	0.01	0.04	0.04
Percent Dominant Taxon	32.21	18.57	15.42	29.30	20.30	10.12
Number Of Dominant Taxa	4	5	5	3	4	7

Table 9. Dominant taxa (>5% of the collection) for the six lower Saluda River rapid bioassessment stations downstream from the Saluda Hydroelectric Project (Lake Murray) operated by SOUTH CAROLINA ELECTRIC & GAS, Lexington County, South Carolina, 19 September 2007.

Sta. TR			**Sta. SPW**			**Sta. MR**		
Taxon	**No.**	**Rel. Abd.**	**Taxon**	**No.**	**Rel. Abd.**	**Taxon**	**No.**	**Rel. Abd.**
Enallagma sp.	67	32.21	Enallagma sp.	44	18.57	Simulium confusum	31	15.42
Gammarus sp.	38	18.27	Gammarus sp.	34	14.35	Gammarus sp.	28	13.93
Physa sp.	29	13.94	Caecidotea sp.	32	13.50	Heterocloeon sp.	24	11.94
Caecidotea sp.	19	9.13	Hyalella azteca	23	9.70	Caecidotea sp.	22	10.95
			Dicrotendipes sp.	14	5.91	Helisoma anceps	22	10.95

Sta. LR			**Sta. OB**			**Sta. ZO**		
Taxon	**No.**	**Rel. Abd.**	**Taxon**	**No.**	**Rel. Abd.**	**Taxon**	**No.**	**Rel. Abd.**
Caecidotea sp.	63	29.30	Hydropsyche	55	20.30	Maccaffertium modestum	17	10.12
Heterocloeon sp.	36	16.74	Baetis intercalaris	46	16.97	Campeloma decisum	16	9.52
Physa sp.	21	9.77	Hydropsyche betteni	22	8.12	Gammarus sp.	16	9.52
			Physa sp.	22	8.12	Hydropsyche venularis	16	9.52
						Baetis intercalaris	12	7.14
						Hydropsyche mississippiensis	12	7.14
						Helisoma anceps	10	5.95

Table 10. Results of the linear regressions to detect differences in taxa richness, total abundance, EPT index, EPT abundance, NCBI, and percentage of the dominant taxon among sampling stations for the rapid bioassessment data collected at six lower Saluda River stations downstream from the Saluda Hydroelectric Project (Lake Murray) operated by SOUTH CAROLINA ELECTRIC & GAS, Lexington County, South Carolina, 19 September 2007.

RBP September 2007: taxa richness regressed on station

Source of Variation	*df*	*SS*	*F*	*P-value*
Regression	1	0.00388	3.82791	0.12204
Residual	4	0.00406		
Total	5	0.00794		

RBP September 2007: EPT abundance regressed on station

Source of Variation	*df*	*SS*	*F*	*P-value*
Regression	1	1.18591	10.99311	0.02950
Residual	4	0.43151		
Total	5	1.61741		

RBP September 2007: total abundance regressed on station

Source of Variation	*df*	*SS*	*F*	*P-value*
Regression	1	0.00050	0.08473	0.78546
Residual	4	0.02369		
Total	5	0.02420		

RBP September 2007: NCBI value regressed on station

Source of Variation	*df*	*SS*	*F*	*P-value*
Regression	1	0.00567	9.83703	0.03497
Residual	4	0.00231		
Total	5	0.00797		

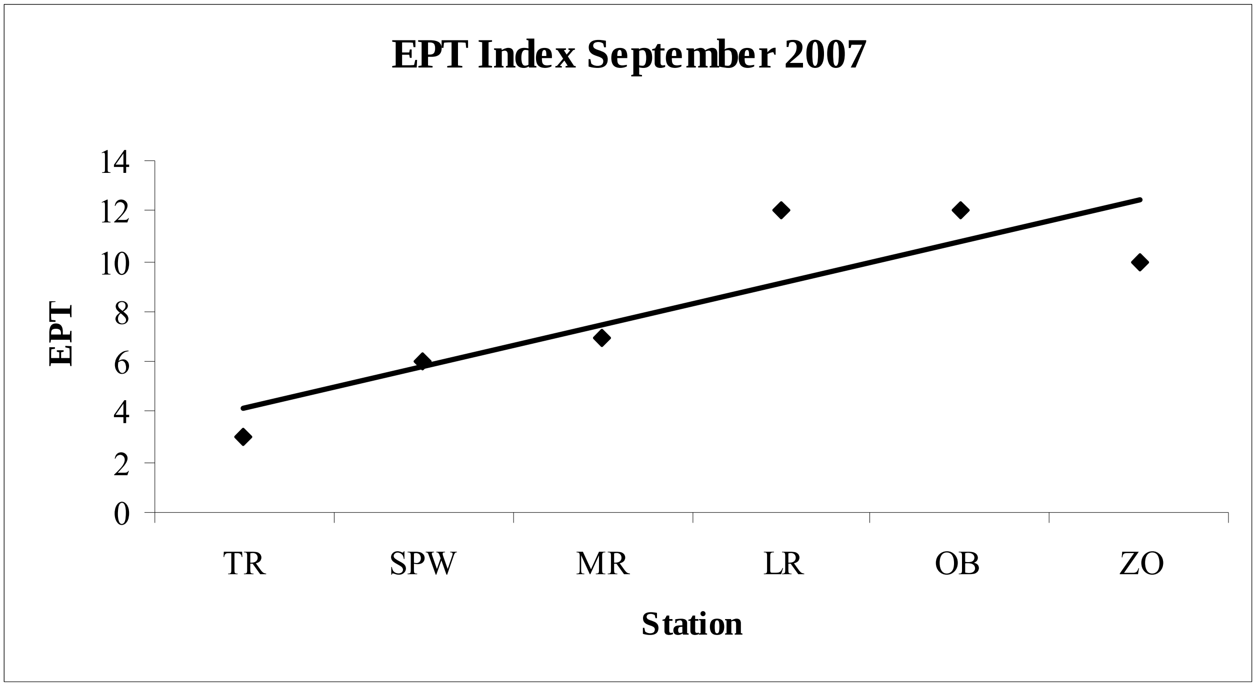
RBP September 2007: EPT index regressed on station

Source of Variation	*df*	*SS*	*F*	*P-value*
Regression	1	0.15729	16.55596	0.01524
Residual	4	0.03800		
Total	5	0.19530		

RBP September 2007: percentage of the dominant taxon regressed on station

Source of Variation	*df*	*SS*	*F*	*P-value*
Regression	1	0.02726	0.86567	0.40483
Residual	4	0.12594		
Total	5	0.15320		

Figure 3. Plot comparing EPT indices from rapid bioassessment samples collected from the lower Saluda River, downstream of the Saluda Hydroelectric Project (Lake Murray) operated by SOUTH CAROLINA ELECTRIC & GAS, Lexington County, South Carolina, collected 19 September 2007.



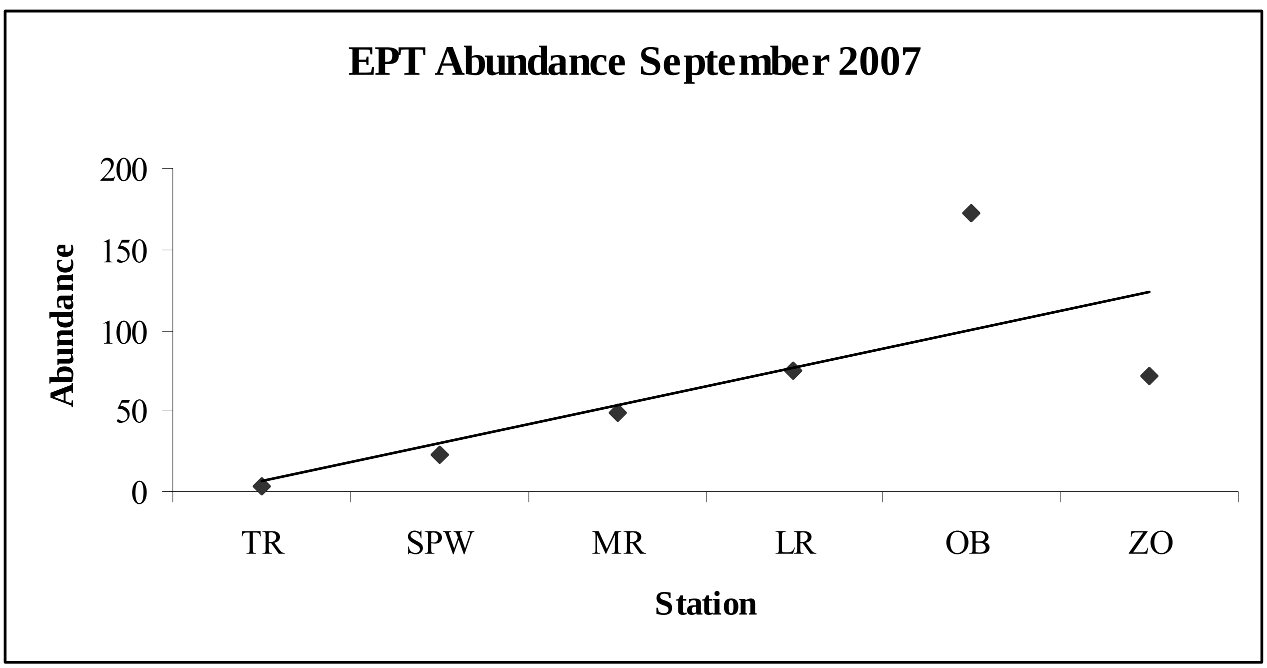


Figure 3. Continued.

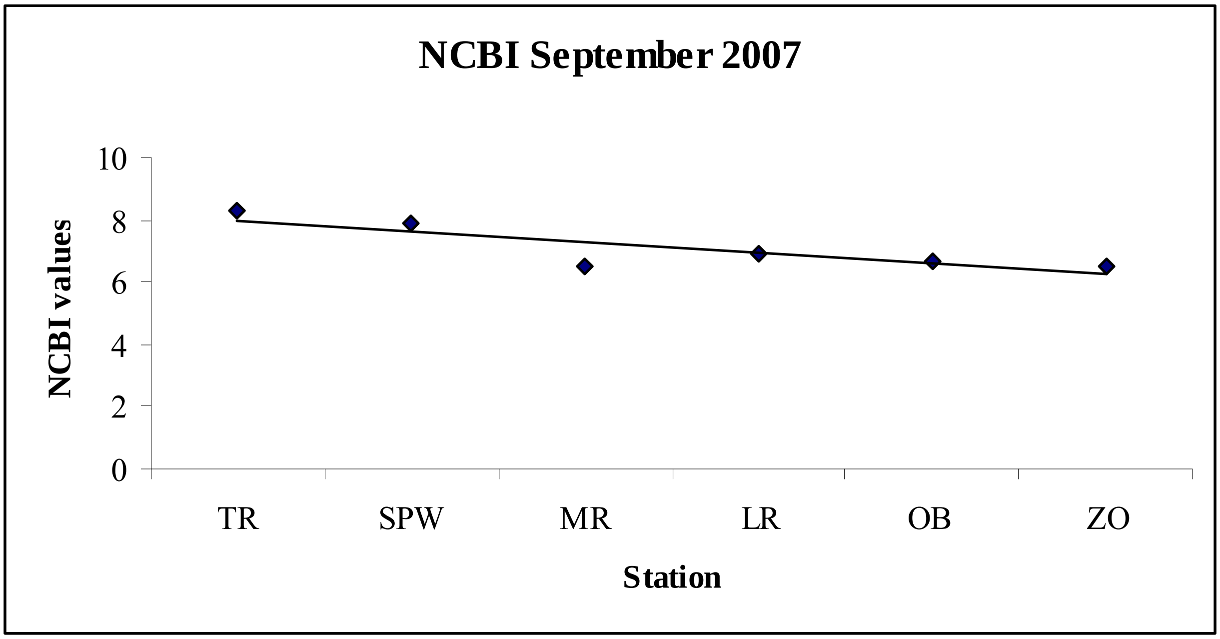


Table 11. Results of the two-factor ANOVA without replication to detect differences in taxa richness between samples collected on 25 and 30 July 2007 and 19 September 2007.

ANOVA for Taxa Richness						
Source of Variation	**SS**	**df**	**MS**	**F**	**P-value**	**F crit**
Station	0.03320	5	0.00664	2.19517	0.20423	5.05033
Month	0.00054	1	0.00054	0.17978	0.68919	6.60789
Error	0.01513	5	0.00303			
Total	0.04887	11				

Table 12. Results of the two-factor ANOVA without replication to detect differences in total abundance between samples collected on 25 and 30 July 2007 and 19 September 2007.

ANOVA for Total Abundance						
Source of Variation	**SS**	**df**	**MS**	**F**	**P-value**	**F crit**
Station	0.04551	5	0.00910	2.05498	0.22403	5.05033
Month	0.00001	1	0.00001	0.00220	0.96441	6.60789
Error	0.02215	5	0.00443			
Total	0.06767	11				

Table 13. Results of the two-factor ANOVA without replication to detect differences in EPT index values between samples collected on 25 and 30 July 2007 and 19 September 2007.

ANOVA for EPT Index values						
Source of Variation	**SS**	**df**	**MS**	**F**	**P-value**	**F crit**
Station	0.32522	5	0.06504	11.31868	0.00933	5.05033
Month	0.00030	1	0.00030	0.05155	0.82938	6.60789
Error	0.02873	5	0.00575			
Total	0.35425	11				

Table 14. Results of the two-factor ANOVA without replication to detect differences in EPT Abundance between samples collected on 25 and 30 July 2007 and 19 September 2007.

ANOVA for EPT Abundance						
Source of Variation	**SS**	**df**	**MS**	**F**	**P-value**	**F crit**
Station	1.89295	5	0.37859	9.14559	0.01485	5.05033
Month	0.02863	1	0.02863	0.69172	0.44347	6.60789
Error	0.20698	5	0.04140			
Total	2.12857	11				

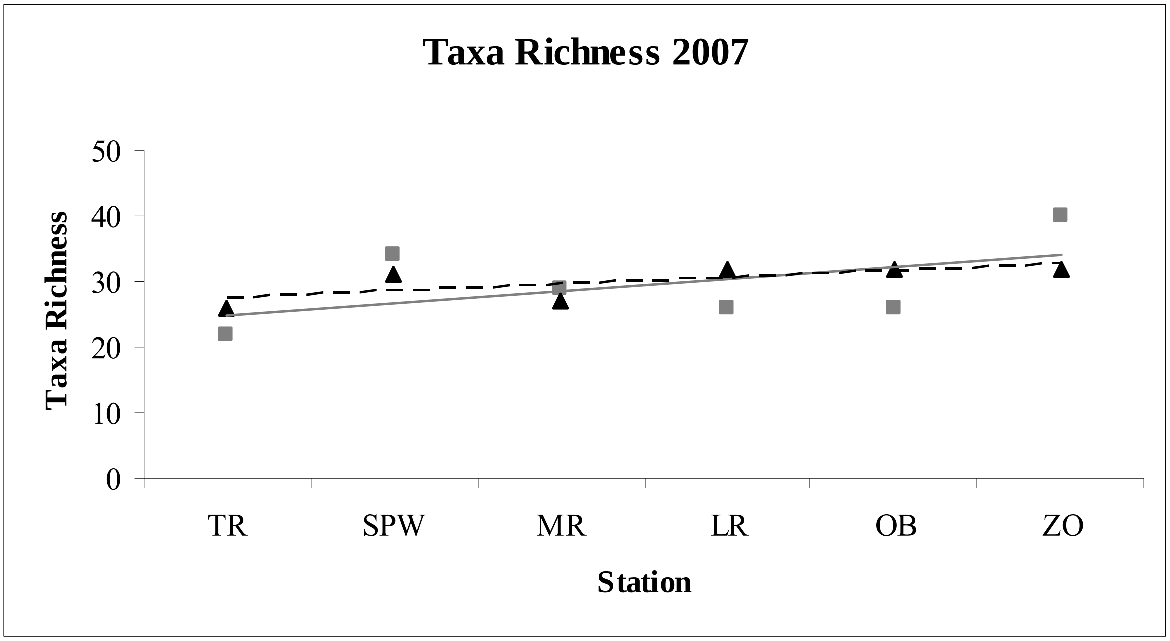
Table 15. Results of the two-factor ANOVA without replication to detect differences in NCBI between samples collected on 25 and 30 July 2007 and 19 September 2007.

ANOVA for NCBI						
Source of Variation	**SS**	**df**	**MS**	**F**	**P-value**	**F crit**
Station	0.01495	5	0.00299	11.72379	0.00863	5.05033
Month	0.00031	1	0.00031	1.20907	0.32162	6.60789
Error	0.00128	5	0.00026			
Total	0.01654	11				

Table 16. Results of the two-factor ANOVA without replication to detect differences in percent dominant taxon between samples collected on 25 and 30 July 2007 and 19 September 2007.

ANOVA for Percent Dominant Taxon						
Source of Variation	**SS**	**df**	**MS**	**F**	**P-value**	**F crit**
Station	0.12919	5	0.02584	2.39509	0.17989	5.05033
Month	0.01770	1	0.01770	1.64065	0.25643	6.60789
Error	0.05394	5	0.01079			
Total	0.20082	11				

Figure 4. Plots comparing data from rapid bioassessment samples collected on 25 and 30 July 2007 and 19 September 2007 from the lower Saluda River, downstream of the Saluda Hydroelectric Project (Lake Murray) operated by SOUTH CAROLINA ELECTRIC & GAS, Lexington County, South Carolina.



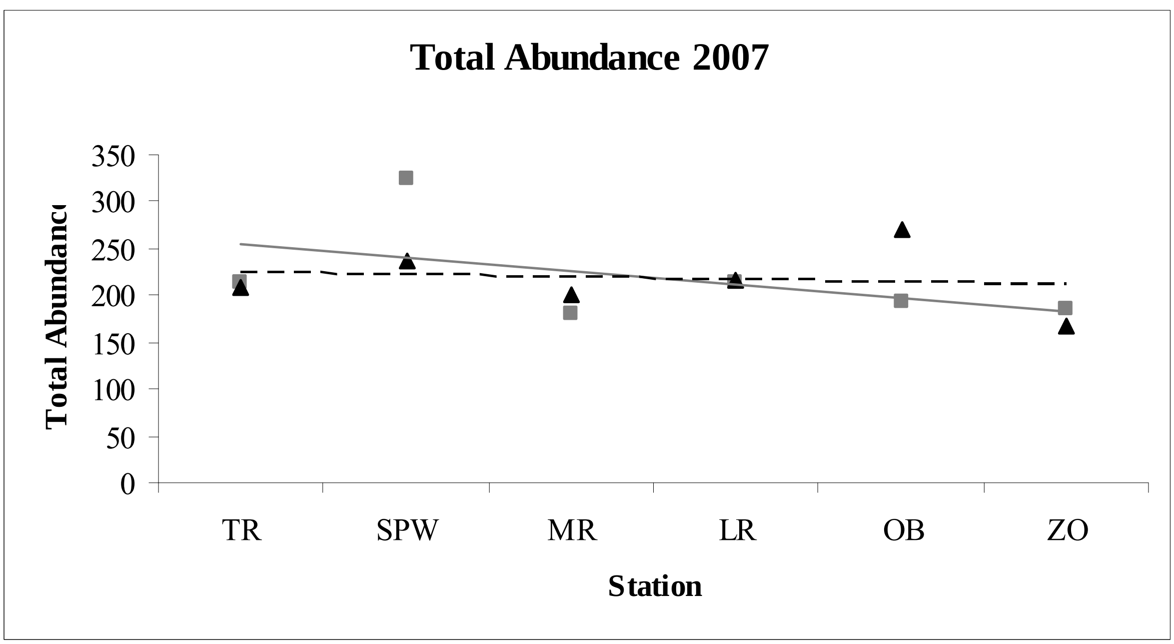
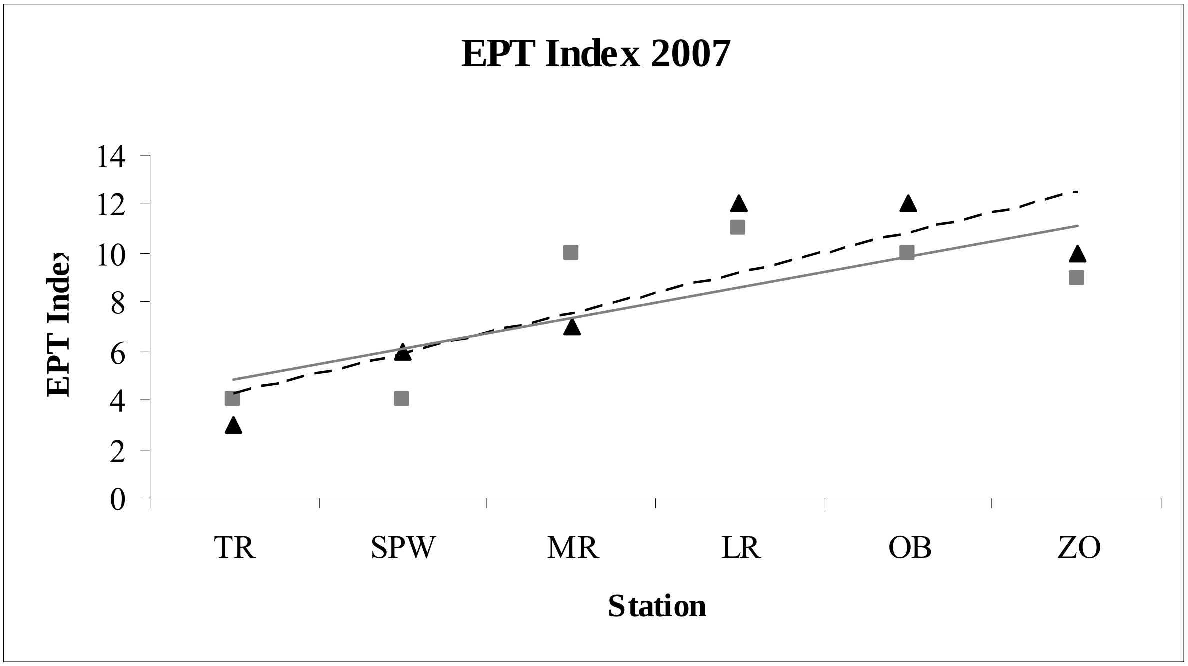


Figure 4. Continued.



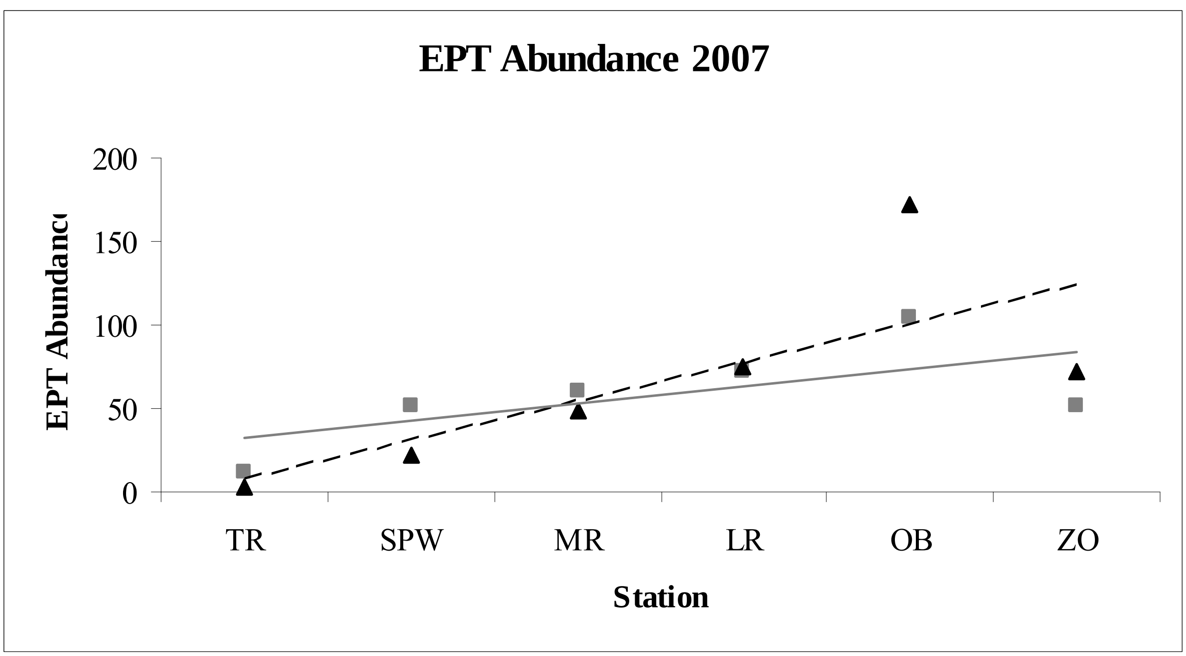
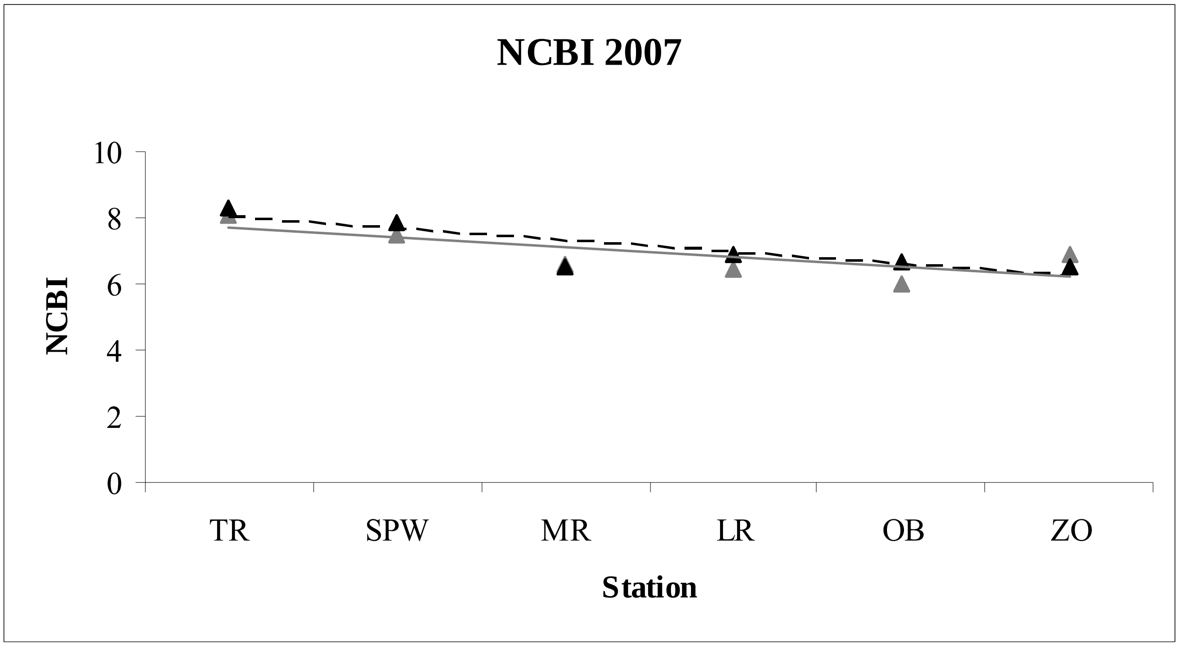


Figure 4. Continued.



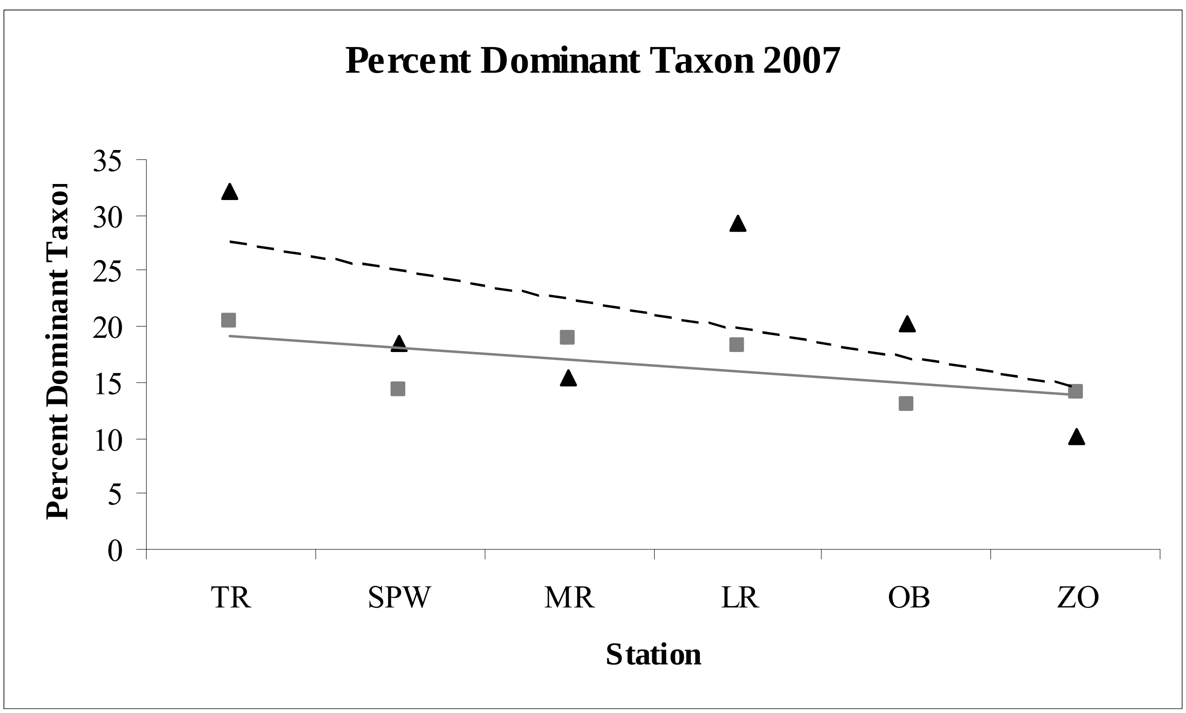


Table 17. Macroinvertebrates, their NCBI tolerance values (TV) and functional feeding groups (FG) for the six lower Saluda River Hester Dendy stations downstream from the Saluda Hydroelectric Project (Lake Murray) operated by SOUTH CAROLINA ELECTRIC & GAS, Lexington County, South Carolina, 25 and 30 July 2007 to 19 September 2007

				No. of Individuals															
Seq	**Taxon**	**TV**	**FG**	**TR1**	**TR2**	**TR3**	**SPW1**	**SPW2**	**SPW3**	**MR1**	**MR2**	**LR1**	**LR2**	**LR3**	**OB1**	**OB2**	**ZO1**	**ZO2**	**ZO3**
Annelida																			
Hirudinea																			
Rhynchobdellida																			
Glossiphoniidae																			
1	Helobdella triserialis	9.20	P								1	3		1					
Piscicolidae																			
2	Myzobdella sp.		P				2												
Oligochaeta																			
Lumbriculida																			
Lumbriculidae																			
3	Lumbriculidae Genus species	7.03	SC		1	2	5		1	1	3								
Tubificida																			
Naididae																			
4	Dero sp.	9.00	SC															1	
Tubificidae																			
5	Tubifex tubifex	10.00	SC	1	3	3				2	1		2	4	4	3		1	1

Functional feeding groups: CF = collector-filterer, CG = collector-gatherer, OM = omnivore, P = predator, SC = scraper, SH = shredder

Table 17. Continued.

				No. of Individuals															
Seq	**Taxon**	**TV**	**FG**	**TR1**	**TR2**	**TR3**	**SPW1**	**SPW2**	**SPW3**	**MR1**	**MR2**	**LR1**	**LR2**	**LR3**	**OB1**	**OB2**	**ZO1**	**ZO2**	**ZO3**
Arthropoda																			
Crustacea																			
Amphipoda																			
Gammaridae																			
6	Gammarus sp.	9.10	OM	19	10	13	26	6	12	46	21	4	13	7	2		3	2	1
Talitridae																			
7	Hyalella azteca	7.75	OM	18	3	1	80	5	31	7	10	23	21	16	1		6	2	2
Decapoda																			
Cambaridae																			
8	Cambaridae Genus species		OM					1											
Isopoda																			
Asellidae																			
9	Caecidotea sp.	9.11	SC	64	23	18	90	40	167	73	50	32	40	33	17		3	3	10
Ostracoda																			
10	Ostracoda Genus species		CF						3									1	
Hexapoda																			
Coleoptera																			
Elmidae																			
11	Ancyronyx variegatus	6.49	CG										2	7			1	1	1
12	Dubiraphia quadrinotata	5.93	CG														51	8	9

Functional feeding groups: CF = collector-filterer, CG = collector-gatherer, OM = omnivore, P = predator, SC = scraper, SH = shredder

Table 17. Continued.

				No. of Individuals															
Seq	**Taxon**	**TV**	**FG**	**TR1**	**TR2**	**TR3**	**SPW1**	**SPW2**	**SPW3**	**MR1**	**MR2**	**LR1**	**LR2**	**LR3**	**OB1**	**OB2**	**ZO1**	**ZO2**	**ZO3**
Elmidae cont.																			
13	Dubiraphia sp.	5.93	CG									1					1	2	1
14	Macronychus glabratus	4.58	CG									1		3	2	2			2
15	Stenelmis sp.	5.10	SC															1	
Hydrochidae																			
16	Hydrochus sp.	6.55	SH												1				
Diptera																			
Chironomidae																			
17	Ablabesmyia mallochi	7.19	P								2	3	1	2					
18	Corynoneura sp.	6.01	CG			1				4						1			
19	Dicrotendipes sp.	8.10	CG	5	65	38	4	4	18	7	3		1		1				
20	Nanocladius sp.	7.07	CG						1	1									
21	Orthocladius sp.	5.94	SH		1					3					6	5			
22	Parachironomus sp.	9.42	P											1					
23	Phaenopsectra obediens gr.	6.50	SC					2											
24	Phaenopsectra punctipes gr.	6.50	SC									1							
25	Polypedilum fallax gr.	6.39	SH								1								
26	Polypedilum flavum	5.78	SH													1			
27	Polypedilum illinoense gr.	9.00	SH							1			1	1					
28	Rheocricotopus robacki	7.28	CG	1	1						1		1						

Functional feeding groups: CF = collector-filterer, CG = collector-gatherer, OM = omnivore, P = predator, SC = scraper, SH = shredder

Table 17. Continued.

				No. of Individuals															
Seq	**Taxon**	**TV**	**FG**	**TR1**	**TR2**	**TR3**	**SPW1**	**SPW2**	**SPW3**	**MR1**	**MR2**	**LR1**	**LR2**	**LR3**	**OB1**	**OB2**	**ZO1**	**ZO2**	**ZO3**
Chironomidae cont.																			
29	Rheotanytarsus exiguus gr.	5.89	CF												4	2			
30	Thienemannimyia gr.	8.42	P												2				
31	Xestochironomus sp.		P											2		1			
Tipulidae																			
32	Antocha sp.	4.25	CG												7	2			
33	Tipula sp.	7.33	SH										1						
Ephemeroptera																			
Baetidae																			
34	Baetis sp.	4.71	CG								1					2			
Heptageniidae																			
35	Maccaffertium modestum	5.50	SC								3				2	4			1
36	Stenacron interpunctatum	6.87	SC					2	1	3	1	7	3	6	4		1		
Heteroptera																			
Veliidae																			
37	Microvelia sp.		P							1		2			1				
Odonata																			
Aeshnidae																			
38	Boyeria vinosa	5.89	P																1

Functional feeding groups: CF = collector-filterer, CG = collector-gatherer, OM = omnivore, P = predator, SC = scraper, SH = shredder

Table 17. Continued.

				No. of Individuals															
Seq	**Taxon**	**TV**	**FG**	**TR1**	**TR2**	**TR3**	**SPW1**	**SPW2**	**SPW3**	**MR1**	**MR2**	**LR1**	**LR2**	**LR3**	**OB1**	**OB2**	**ZO1**	**ZO2**	**ZO3**
Coenagrionidae																			
39	Argia bipunctulata	8.17	P														1		
40	Enallagma sp.	8.91	P														1		
Trichoptera																			
Brachycentridae																			
41	Micrasema sp.		SH							1	2					2			
Hydropsychidae																			
42	Cheumatopsyche sp.	6.22	CF			1				3	1			2	18	23		2	
43	Hydropsyche betteni	7.78	CF												17	9			
44	Hydropsyche mississippiensis		CF												17	5			
45	Hydropsyche venularis	4.96	CF												34	39		1	
Hydroptilidae																			
46	Hydroptila sp.	6.22	SC	2	25	12		3	1	62	6	4	1	2	11	6	1	2	
Leptoceridae																			
47	Oecetis avara	4.70	P										4	4			2	1	
48	Triaenodes sp.	4.46	SH								1					1			
Polycentropodidae																			
49	Cernotina sp.		P					1	1		1	2							
50	Phylocentropus placidus	6.20	CF									6	1	5	2			2	

Functional feeding groups: CF = collector-filterer, CG = collector-gatherer, OM = omnivore, P = predator, SC = scraper, SH = shredder

Table 17. Continued.

				No. of Individuals															
Seq	**Taxon**	**TV**	**FG**	**TR1**	**TR2**	**TR3**	**SPW1**	**SPW2**	**SPW3**	**MR1**	**MR2**	**LR1**	**LR2**	**LR3**	**OB1**	**OB2**	**ZO1**	**ZO2**	**ZO3**
Mollusca																			
Bivalvia																			
Unionoida																			
Corbiculidae																			
51	Corbicula fluminea	6.12	CF				5				1			4			2	3	3
Gastropoda																			
Limnophila																			
Ancylidae																			
52	Ferrissia sp.	6.55	SC				4		1	1	1						1		
Physidae																			
53	Physa sp.	8.84	SC			2				3	11	2	8	15	2		6	3	2
Planorbidae																			
54	Gyraulus parvus	4.23	SC		1												7	1	
55	Helisoma anceps	6.23	SC	3	7	3	4	5	1	1	1	2	2		1	1	1	3	
Mesogastropoda																			
Hydrobiidae																			
56	Somatogyrus virginicus	6.37	SC														31	13	12

Functional feeding groups: CF = collector-filterer, CG = collector-gatherer, OM = omnivore, P = predator, SC = scraper, SH = shredder

Table 17. Continued.

Seq	Taxon	TV	FG	TR1	TR2	TR3	SPW1	SPW2	SPW3	MR1	MR2	LR1	LR2	LR3	OB1	OB2	ZO1	ZO2	ZO3
Platyhelminthes																			
Turbellaria																			
Tricladida																			
Planariidae																			
57	Dugesia tigrina	7.23	OM										2	1			4	5	

Functional feeding groups: CF = collector-filterer, CG = collector-gatherer, OM = omnivore, P = predator, SC = scraper, SH = shredder

Table 18. Bioassessment metrics for the six lower Saluda River Hester Dendy stations downstream from the Saluda Hydroelectric Project (Lake Murray) operated by SOUTH CAROLINA ELECTRIC & GAS, Lexington County, South Carolina, 25 and 30 July 2007 to 19 September 2007.

Metric	TR1	TR2	TR3	SPW1	SPW2	SPW3	MR1	MR2	LR1	LR2	LR3	OB1	OB2	ZO1	ZO2	ZO3
Taxa Richness	8	11	11	9	10	12	18	22	15	17	19	22	18	18	21	13
Number of Specimens	113	140	94	220	69	238	220	123	93	104	116	156	109	123	58	46
EPT Index	1	1	2	0	3	3	4	8	4	4	5	8	9	3	5	1
EPT Abundance	2	25	13	0	6	3	69	16	19	9	19	105	91	4	8	1
Chironomidae Taxa	2	3	2	1	2	2	5	4	2	4	4	4	5	0	0	0
Chironomidae Abundance	6	67	39	4	6	19	16	7	4	4	6	13	10	0	0	0
EPT/Chironomidae Abundance	0.33	0.37	0.33	0.00	1.00	0.16	4.31	2.29	4.75	2.25	3.17	8.08	9.10	-	-	-
North Carolina Biotic Index	8.36	7.96	8.04	8.04	8.02	8.27	7.71	7.97	7.79	8.04	7.76	6.84	6.05	6.83	6.83	7.29
SCDHEC Bioclassification	1.0	1.0	1.0	1.0	1.0	1.0	1.3	1.5	1.2	1.0	1.2	2.0	2.8	1.5	1.5	1.5
Percent Collector-Filterers	0.00	0.00	1.06	2.27	0.00	0.00	1.36	1.63	6.45	0.96	9.48	58.97	71.56	1.63	13.79	6.52
Percent Collector-Gatherers	5.31	47.14	41.49	1.82	5.80	9.24	5.45	4.07	2.15	3.85	8.62	6.41	6.42	43.09	20.69	28.26
Percent Omnivores	32.74	9.29	14.89	48.18	17.39	18.07	24.09	25.20	29.03	34.62	20.69	1.92	0.00	10.57	15.52	6.52
Percent Predators	0.00	0.00	0.00	0.91	1.45	0.42	0.45	3.25	10.75	4.81	8.62	1.92	0.92	3.25	1.72	2.17
Percent Scrapers	61.95	42.86	42.55	46.82	75.36	72.27	66.36	62.60	51.61	53.85	51.72	26.28	12.84	41.46	48.28	56.52
Percent Shredders	0.00	0.71	0.00	0.00	0.00	0.00	2.27	3.25	0.00	1.92	0.86	4.49	8.26	0.00	0.00	0.00
Scraper/Scraper & Collector-Filterers	-	-	40.00	20.60	-	-	48.67	38.50	8.00	56.00	5.45	0.45	0.18	25.50	3.50	8.67
Shredders/Total	0.00	0.01	0.00	0.00	0.00	0.00	0.02	0.03	0.00	0.02	0.01	0.04	0.08	0.00	0.00	0.00
Percent Dominant Taxon	56.64	46.43	40.43	40.91	57.97	70.17	33.18	40.65	34.41	38.46	28.45	21.79	35.78	41.46	22.41	26.09
Number Of Dominant Taxa	3	5	4	3	5	4	3	4	4	4	6	6	4	3	7	4

Table 19. Results of the linear regressions to detect differences in taxa richness, total abundance, EPT index, EPT abundance, NCBI, and percentage of the dominant taxon among sampling stations for the Hester Dendy data collected on the lower Saluda River, downstream from the Saluda Hydroelectric Project (Lake Murray) operated by SOUTH CAROLINA ELECTRIC & GAS, Lexington County, South Carolina, 25 and 30 July 2007 to 19 September 2007.

Hester Dendy 2007: taxa richness regressed on station

Source of Variation	*df*	*SS*	*F*	*P-value*
Regression	1	0.15502	19.10946	0.00064
Residual	14	0.11357		
Total	15	0.26859		

Hester Dendy 2007: EPT abundance regressed on station

Source of Variation	*df*	*SS*	*F*	*P-value*
Regression	1	0.37939	1.12929	0.30591
Residual	14	4.70337		
Total	15	5.08276		

Hester Dendy 2007: total abundance regressed on station

Source of Variation	*df*	*SS*	*F*	*P-value*
Regression	1	0.09918	2.84034	0.11408
Residual	14	0.48885		
Total	15	0.58803		

Hester Dendy 2007: NCBI value regressed on station

Source of Variation	*df*	*SS*	*F*	*P-value*
Regression	1	0.00963	16.65633	0.00112
Residual	14	0.00809		
Total	15	0.01772		

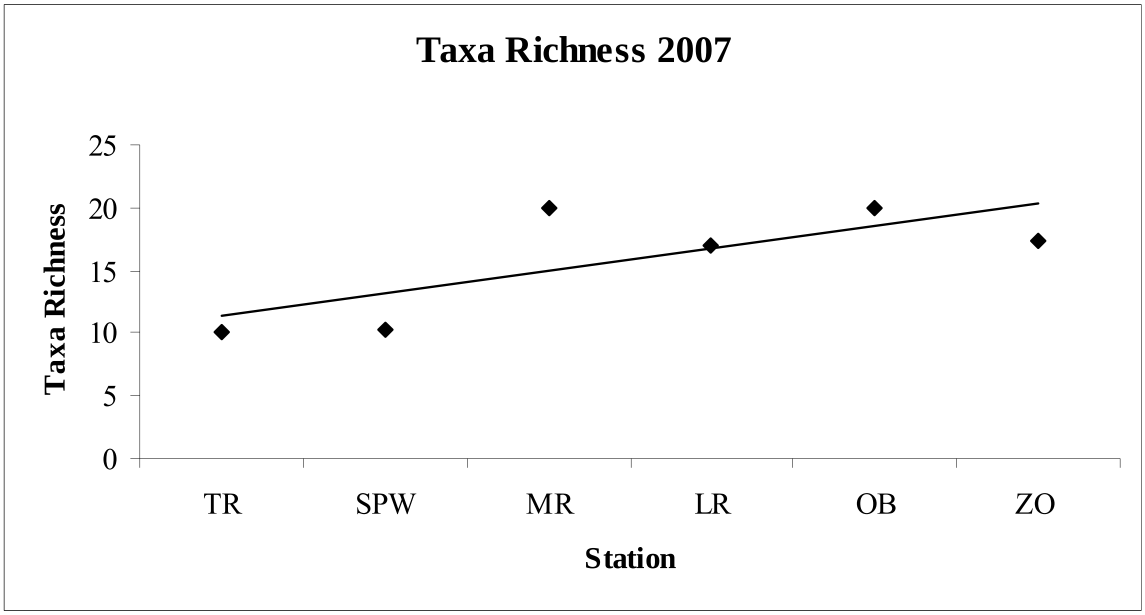
Hester Dendy 2007: EPT index regressed on station

Source of Variation	*df*	*SS*	*F*	*P-value*
Regression	1	0.32324	5.50206	0.03425
Residual	14	0.82249		
Total	15	1.14573		

Hester Dendy 2007: percentage of the dominant taxon regressed on station

Source of Variation	*df*	*SS*	*F*	*P-value*
Regression	1	0.16642	18.93456	0.00066
Residual	14	0.12305		
Total	15	0.28947		

Figure 5. Plot comparing data from Hester Dendy samples collected from the lower Saluda River, downstream of the Saluda Hydroelectric Project (Lake Murray) operated by SOUTH CAROLINA ELECTRIC & GAS, Lexington County, South Carolina, retrieved 05 and 19 September 2007.



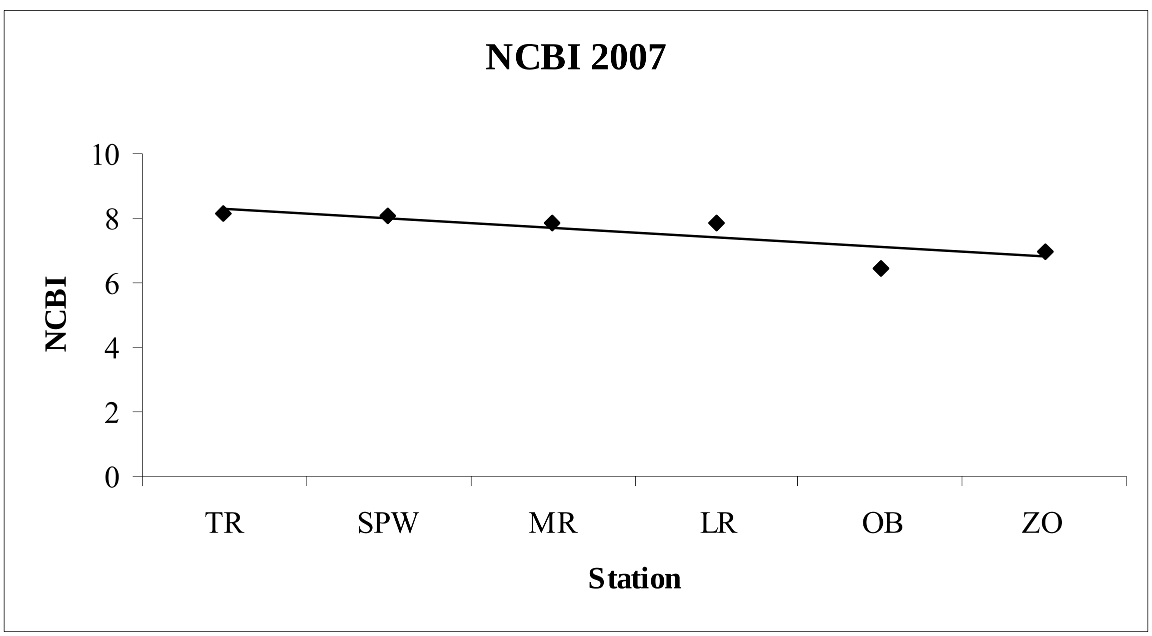


Figure 5. Continued.