Coastal Rivers Invertebrate Analysis

FINAL REPORT

Agreement No. 14MA0000004

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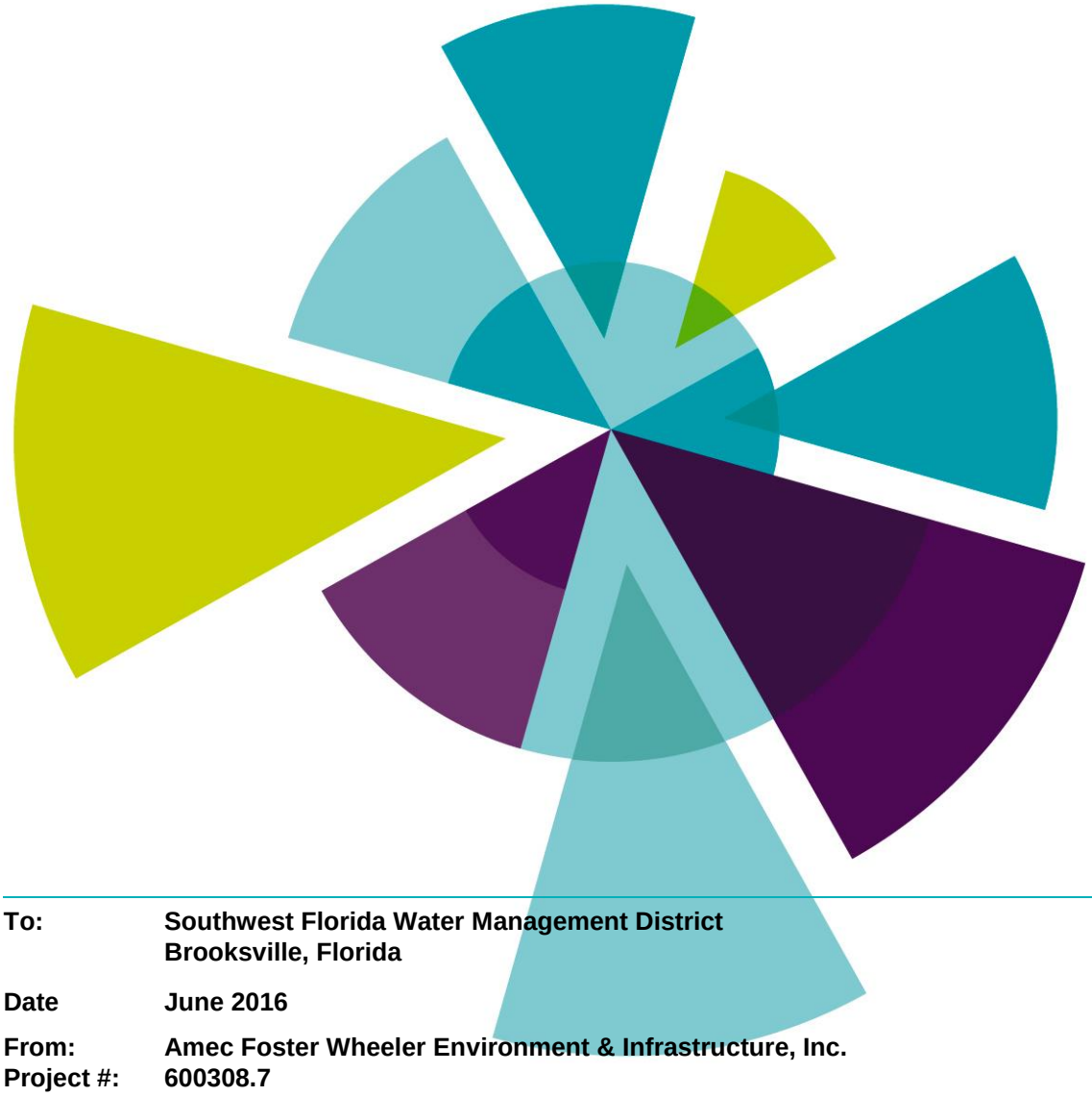

To:	**Southwest Florida Water Management District** **Brooksville, Florida**
Date	**June 2016**
From:	**Amec Foster Wheeler Environment & Infrastructure, Inc.**
Project #:	**600308.7**

COASTAL RIVERS INVERTEBRATE ANALYSIS
FINAL REPORT

Prepared for

Southwest Florida Water Management District
Brooksville, Florida

Prepared by

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Amec Foster Wheeler Project No. 600308.7

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EXECUTIVE SUMMARY

The Southwest Florida Water Management District (SWFWMD or District) contracted Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler) to characterize the spatial variability of the benthic macroinvertebrate community abundance and distribution within three first magnitude coastal spring-fed rivers, the Homosassa, Chassahowitzka, and Weeki Wachee Rivers. The overall objective of this project was to characterize the spatial variability of the benthic macroinvertebrate community abundance and distribution within each coastal spring-fed river. The benthic communities were assessed and compared across physicochemical gradients and among habitat types in various areas within the mainstem of the rivers along with their associated head spring areas, spring runs, and tributaries. Macroinvertebrate community composition is a widely used tool to assess waterbody health and can aid in the determination of departures from biological integrity or changes in natural and unnatural stressors over time. Thus, the results from this study will 1) assist the District in understanding the complex and unique issues and drivers affecting the selected waterbodies, and 2) will be integrated into the upcoming Surface Water Improvement and Management (SWIM) Plans, which will provide a path forward for protection, restoration and management of these important ecosystems.

Based on site reconnaissance and the results of previous studies, Amec Foster Wheeler identified different kinds of sampling zones within each of the three spring-fed coastal river systems to assure that a full spectrum of system conditions were sampled. River systems, spring head areas, and associated tributaries from upstream to the salt marsh and/or tidal zone were evaluated. The existing habitats, salinity gradient, and any other obvious changes in the river (i.e. inflow from major tributary) were used to define the zones within each river section.

Amec Foster Wheeler collected samples during one physicochemical and biological event in each spring-fed system. The monitoring program established 32 sampling locations (zones) within the three river systems (13 in Chassahowitzka, 12 in Homosassa, and 7 in Weeki Wachee). Habitats that were observed in the three river systems included submerged aquatic vegetation (SAV), benthic macroalgal mats, snags/woody debris, rock/limestone outcropping and sediments. Equipment used during the field sampling effort including the petite ponar and D-frame dipnet, the choice of which depended on site conditions (depth, habitat type, etc.). A total of 105 macroinvertebrate samples were collected from the various habitats.

The collected physicochemical parameters included sample depth, canopy cover over the stream channel, water temperature, salinity, specific conductance, pH, dissolved oxygen, and turbidity. In addition, the last ten years of continuous specific conductance, discharge, and stage data were obtained from the USGS. Univariate and multivariate statistical analyses were conducted on the physicochemical and biological datasets to investigate associations between abiotic factors and the biological community between and among river systems, water body types, habitat, and longitudinal gradients.

The results of the study show that certain abiotic factors and invertebrate community structure within Weeki Wachee River were significantly different than the Chassahowitzka and Homosassa Rivers. However, richness and diversity indices were similar between the rivers. This result is comparable to previous studies within these systems. The tidal influences that occurred in Chassahowitzka and Homosassa River are likely driving factors controlling the distribution of the macroinvertebrate communities. In addition, the results show that there is a difference in the invertebrate community within different habitats. The diversity of habitat types was found to be an important component supporting species richness, and influencing the composition and abundance of invertebrate communities within these systems.

Longitudinal trends in the invertebrate community and in certain physicochemical factors were observed in the three river systems. Aside from the linear trends found along the longitudinal gradient, parabolic shaped distributions were also sometimes seen where, for example, lower species richness occurred in the headspring areas, followed by an increase in the upper-middle portion of the river, and then a sharp decrease further downstream in the lower river reaches. The sharp downstream decrease in species richness suggests a threshold shift in the macroinvertebrate community, likely driven by some combination of physicochemical and biological interactions. These kinds of distributions are indicative of coastal river systems in Florida, where biological communities have to adapt to dynamic shifts in environmental conditions. Longitudinal sampling of macroinvertebrate communities over time could be used to track the position and extent of each transitional zone to guide adaptive tactics for stream protection and restoration.

A comparison of the biological community within spring, river and tributary samples showed no significant differences when data from all three river systems were pooled. However, mean species richness indices were significantly lower in the tributaries than in the river. When the comparisons were made for the individual systems, differences between the spring, river, and tributary samples were apparent.

The various grazer invertebrate communities were evaluated in just the springs zones. The grazer invertebrate community, which was dominated by crustaceans, was found to be significantly different in Weeki Wachee spring as compared to the communities from Chassahowitzka and Homosassa springs. Chassahowitzka springs samples had the greatest number of different grazer taxa as compared to Homosassa springs and to Weeki Wachee spring. The decapod shrimp, *Palaemonetes* spp. genus, which was commonly found in Weeki Wachee spring can tolerate low dissolved oxygen levels (Li and Brouwer, 2007). Naturally low dissolved oxygen levels are common to many springs, thus further evaluation may be merited to determine if this grazer genus and other invertebrates have the ability to reduce macroalgal coverage in springs, an issue of some significant interest to restoration.

Positive correlations were found between canopy cover, dissolved oxygen, and species richness indices of the grazer community in the springs zones. Negative correlations between salinity and abundance of grazers in the springs zone were also found to be significant. Therefore, canopy cover, dissolved oxygen, and salinity are important abiotic factors that could be influencing the grazer invertebrate community in these springs. Future monitoring studies targeting the collection of invertebrate grazers in springs, and comparisons with algal biomass and abiotic factors, would help reinforce these complex interactions.

When examined individually, each river exhibited well-defined zones differing in physicochemical characteristics and benthic communities. The Weeki Wachee River has a freshwater upper riverine zone that was unique to the study. For example, pH, DO, and canopy cover were all greater in the river zones versus the spring zone. The Chassahowitzka and Homossassa River systems each have spring zones, upper river, lower river, and tributary zones. This does not mean these zone descriptions should be viewed as interchangeable between the rivers. However, some commonalities suggest an overall restoration strategy by which certain zones can be identified where the benthic communities could be sustained or restored by selective activities tailored to each zone.

Overall species richness and diversity indices found in the current study were comparable to those found in previous studies within these systems and other similar systems. Previous and current stressors that affect these systems include drought and ground water pumping, which can affect

freshwater flow from the springs. Canals and incompletely treated stormwater and wastewater can adversely affect macroinvertebrate communities with organic pollutants and sedimentation. All three rivers indicated that snags (large woody debris) and SAV provide beneficial habitat, supporting significant biodiversity of macroinvertebrates in the upper river zones. The value of these habitats decrease in the lower river zones, suggesting prioritization of maintaining and increasing snag densities and SAV cover in the upper river zones. Some tributaries also warrant prioritization of snag management. Sea level rise may further complicate the hydrology and ecology of these systems by changing the extent and magnitude of the tidal influence and subsequent salinity regimes. If these regimes shift the transition zones over time, priority restoration and protection areas can be adjusted accordingly.

Based on the results of the study, the following management, protection and restoration alternatives were provided as recommendations for the three river systems:

- Enhance the diversity of available habitats to increase the biodiversity of the macroinvertebrate community. Enhancement of habitat diversity can be accomplished with 1) removal of organic sediments, 2) planting native SAV, 3) add snag/woody debris to certain areas, 4) prevent or reduce de-snagging activities, 5) manage boat traffic and the types of recreation allowed in certain areas to reduce damage to sensitive habitats if warranted (especially SAV habitat).

- Address potentially adverse effects of canals on mainstem and tributary zone benthic communities, especially those related to turbidity, sedimentation, and nutrient enrichment. Reduce pollutant loads from canals as warranted.

- Sustain or increase spring flow and other clean freshwater discharge volumes to mitigate salt-water intrusion into the upper river and spring zones.

- Canopy cover routinely was associated with benthic diversity. Consider this association when assessing potential buffer restoration activities along denuded shorelines.

- Continue biological monitoring to evaluate seasonal and inter-annual variability, and to examine long-term trends and transitional zone changes in relation to species richness and biodiversity over time.

1.0 INTRODUCTION

Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler) was contracted by the District to conduct benthic monitoring of three first magnitude (greater than 100 cubic feet per second in discharge) coastal spring-fed rivers, the Homosassa, Chassahowitzka, and Weeki Wachee Rivers. Overall, benthic monitoring was performed to characterize the spatial variability of the benthic macroinvertebrate community abundance and distribution within each coastal spring-fed river, and to assess the benthic communities across physicochemical gradients and across habitat types in various areas within the mainstem of the rivers along with headspring areas, at the spring runs, and at the tributaries associated with the main rivers. In addition, characterization of the macroinvertebrate community composition (i.e. abundance) and distribution data can be used to assess current ecological conditions, and to compare historical and future conditions in these spring influenced coastal ecosystems.

In 2014, the District acknowledged the need to place additional emphasis on the restoration, protection, and management of these three spring-fed rivers. Thus the District designated these three spring-fed river systems as Surface Water Improvement and Management (SWIM) priority waterbodies. This effort will assist the District in understanding the complex and unique issues and drivers affecting the selected waterbodies. In addition, the knowledge gained throughout this study will be integrated into the upcoming SWIM Plans, which will provide both a baseline and path forward for protection, restoration and management of these important ecosystems.

1.1 Benthic Macroinvertebrates and their Environment

The aquatic biota (e.g. fish, insects, algae, and plants) are continuously exposed to their habitat stressors, and as such provide direct information about the ecosystem's health. Water chemistry measurements alone are like a "snapshot", because it can only provide information on the waterbody's health at the time of sampling and cannot assess the long-term effects of habitat degradation. Biological information, on the other hand, not only reflects current physical and chemical conditions, but also changes in conditions over time, and cumulative impacts (Barbour *et al*., 1999).

The most common group of organisms used for biological assessment is benthic macroinvertebrates. Benthic macroinvertebrates are small animals living among rocks, woody debris (snags), sediments, algal mats, aquatic plants, and other benthic (i.e. bottom-dwelling) habitats. They are large enough to see with the naked eye, have no backbone, and are typically sedentary. These ecologically important organisms include aquatic insects (e.g. mayflies, stoneflies, caddisflies, midges, and beetles), worms, clams, snails, crayfish, and shrimp, and are a crucial component of the food chain. Macroinvertebrates can feed on algae and bacteria and process organic matter, which are critical roles in the balance and natural flow of energy and nutrients in an aquatic ecosystem. The benthic macroinvertebrate community is used to evaluate the health of an aquatic system because the community responses are indicators of the state of the biotic and abiotic variables (Barbour *et al*., 1999) that vary across spatial and temporal scales. The macroinvertebrate community reflects the stability and diversity of the overall food web and aquatic ecosystem.

River flow and tidal state are important abiotic factors affecting the benthic macroinvertebrate community. Changes in freshwater flow and/or sea level rise can affect the water chemistry, habitat composition, and benthic macroinvertebrate community structure of a system. Like all organisms, insects must maintain their internal solute and water balance within a relatively narrow range. Freshwater insects actively regulate their internal solute concentration through

osmoregulation and the removal of excess water (Chapman, 1998). In contrast, saltwater insects rely primarily on water conservation to maintain their solute balance. In general, estuarine species are more tolerant to changing conditions than freshwater species. Therefore, they are more abundant in tidally influenced rivers than are freshwater species.

The combination of flow velocity and substratum size are usually the factors defining habitat in flowing systems. Substratum size can range from large boulders to fine sediments. The heterogeneity of substratum and flow result in a large range of habitats, which generally correlate with higher species richness (Merritt *et al*., 2008). Aquatic insects that are specialists at colonizing sand or silt habitat often have morphological adaptations allowing them to maintain position in shifting sands to keep respiratory surfaces from becoming clogged (Merritt *et al*., 2008). Organic substrates, wood debris or snags (larger woody debris such as a log), are another important habitat for benthic macroinvertebrates. Some insects which reside in snag habitat are wood-feeding specialists. However, the majority of wood-dwelling insects use the snag as a stable substratum for filter feeding, especially in unstable, sand bottom streams. Submerged aquatic vegetation (SAV) provides both a food source and refuge for aquatic insects. A variety of benthic macroinvertebrates utilize SAV habitat during their lifecycle. Some insects attach themselves to the SAV, and use the stratum for filter feeding, while other species feed off the SAV by scraping epiphytic (attached) algae or directly feeding off of the plant material itself.

1.2 Study Area

The following section will provide a brief description of the three spring-fed coastal river systems (Chassahowitzka, Homosassa, and Weeki Wachee Rivers) and their associated springs and tributaries investigated as part of this study (**Figure 1**). Summary background information on each system was derived from the SWFWMD Recommended Minimum Flows reports (SWFWMD, 2012a; SWFWMD, 2012b; and SWFWMD, 2008). During the field reconnaissance, Amec Foster Wheeler staff identified sampling zones within each spring-fed coastal river systems based on physicochemical parameters, sediment type and vegetation patterns. River systems, spring head areas, and associated tributaries from upstream (springs) to the salt marsh and/or tidal zone were assessed to identify existing habitats, and analyzed for water chemistry gradients. This information along with any other data gathered during the recon (i.e. inflow from major tributary) was used to define the zones within each river.

The Chassahowitzka River is 5.6 miles (9 kilometers (km)) long, flowing from its headsprings to where it meets the Gulf of Mexico at Chassahowitzka Bay. This river system is primarily located in the southeast corner of Citrus County, Florida, with some southern extents of the system crossing into Hernando County. More than a dozen springs contribute to the Chassahowitzka River system. This river system occurs in an area with karst limestone topography. The groundwater recharge area or springshed for Chassahowitzka Springs, is approximately 190 square miles with various land uses such as upland forests, urban, agriculture, and wetlands (SWFWMD, 2012a).

The Chassahowitzka River study area included the mainstem of the river, the headspring area, Potter Creek Spring, Potter Creek spring- run, and Crab Creek Spring. The Chassahowitzka River zones were determined based on salinity gradients and hydrologic contributions to the mainstem of the river, and are as follows: upper spring, headspring and six mainstem zones. The six mainstem zones were delineated with three upstream of Salt and Potter Creek tributary inflows and three downstream of the aforementioned inflows (**Figure 2**). These tannic contributions cause the mainstem of the Chassahowitzka River to be considerably darker in water color downstream of the inflows.

Physicochemical measurements that were collected during the reconnaissance included:

- Salinity ranged from 0.26 to 4.40 parts per thousand (ppt)
- Conductivity ranged from 543 to 5210 microsiemens per centimeter (µS/cm)
- Dissolved oxygen ranged from 2.97 to 12.03 milligrams per liter (mg/L)
- Water temperature ranged from 23.23 to 27.90 degrees Celsius (°C)
- pH ranged from 7.43 to 8.15
- Turbidity ranged from 0.50 to 9.83 Nephelometric Turbidity Units (NTU)
- Canopy cover ranged from 0 to 89.25 percent (%)

Sediment types that were observed within the study area during the reconnaissance included organic material, silty sand, sand, and detritus, with the majority of sediments being composed of fine organic material. SAV observed in the study area included *Vallisneria americana*, *Najas guadalupensis*, *Myriophyllum spicatum*, *Hydrilla verticillata*, and a negligible amount of *Cabomba caroliniana*. SAV was observed primarily in the upper portion of the river, however sparse *M. spicatum* was also observed in the lower portion of the river.

The Homosassa River is approximately 8 miles (12.9 km) long, flowing from the Homosassa Main Springs complex to where it meets the Gulf of Mexico at Homosassa Bay near Shell Island. The Homosassa River is located within Citrus County, Florida. More than 20 springs are associated with the Homosassa River system. This river system occurs in an area with karst geology and limestone topography. The springshed for Homosassa Springs is approximately 270 square miles of urban, natural (uplands and wetlands), and agricultural land uses (SWFWMD, 2012b).

The Homosassa River system study area comprises the area beginning at the Homosassa headspring, the main stem of the Homosassa River, the Halls River headspring to its confluence with the Homosassa River, and the Southeast Fork of the Homosassa River. The following zones were determined for the Homosassa River based on salinity gradients and hydrologic contributions to the mainstem of the river: headspring and six mainstem zones that were separated by the Halls River, with three zones upstream of Halls River inflow and three downstream of Halls River inflow (**Figure 3**). In addition to the mainstem of the Homosassa River, the Southeast Fork and the Halls River were also included as sampling zones. The Southeast Fork includes a single zone at the confluence of several small springs. Halls River zones include the Halls River headspring and three zones along the spring run.

Physicochemical measurements that were collected during the reconnaissance included:

- Salinity ranged from 0.25 to 5.15 ppt
- Conductivity ranged from 512 to 9211 µS/cm
- Dissolved oxygen ranged from 3.43 to 9.32 mg/L
- Water temperature ranged from 23.32 to 28.26 °C
- pH ranged from 7.55 to 8.40
- Turbidity ranged from 0.27 to 3.89 NTU
- Canopy cover ranged from 0 to 94.50%

Sediment material appeared to be dominated by organic fines and silty sand. SAV observed in the study area included very sparse *N. guadalupensis*, *H. verticillata,* and benthic filamentous macroalgae. SAV was observed in the upper portion of the river, but not further downstream. Although SAV was observed in some areas, it was not sampled because it was too sparse to collect an appropriate sample.

The Weeki Wachee River is approximately 7.4 miles (11.9 km) long, flowing from its main spring in Hernando County to where it meets the Gulf of Mexico at Bayport. Six spring vents contribute to this river system, which reside on and were created by karst limestone geology and topography (SWFMWD, 2008). The Weeki Wachee River study area consists of the Weeki Wachee headspring area to just above the tidal portion of the Weeki Wachee River. Zones within Weeki Wachee included one zone in the headspring area, and six mainstem zones that were separated by three upstream zones within the State Park, and three downstream zones below the park (**Figure 4**).

Physicochemical measurements that were collected during the reconnaissance included:

- Salinity ranged from 0.16 to 0.17 ppt
- Conductivity ranged from 337 to 351 µS/cm
- Dissolved oxygen ranged from 1.86 to 5.73 mg/L
- Water temperature ranged from 23.76 to 24.38 °C
- pH ranged from 7.38 to 7.79
- Turbidity ranged from 0.15 to 0.73 NTU
- Canopy cover ranged from 0 to 76%

Sand dominated the majority of sediment in the study area, however, some of the areas within the middle reaches also included some silty sand. SAV that was observed in the study area included *Sagittaria kurziana*, *V. americana*, and *N. guadalupensis*. SAV was abundant in the upper and middle reaches of the river, and less so in lower reaches. Filamentous benthic algal mats were also abundant habitat features within the study area.

The naming convention used to create zone area names is as follows: 1) the first three letters of the system, 2) Codes 'R' for mainstem of the river, 'S' for headspring, and the first three letters of the tributary (if applicable), and 3) mainstem zones 1-6, began with 1 as the most upstream and 6 as the most downstream. Photos representing examples of variability between the three rivers in regards to stream morphometry and habitat availability are shown in **Figures 5a, 5b**, and **5c**. **Table 1** provides the number of samples per system and habitat types that were collected for the biological sampling, processing, and analysis components for this study.

Table 1 - Number of Samples Collected in Available Habitats per Zone

Zone ID (Water Body Type in Parentheses)	Habitats				
	Submerged Aquatic Vegetation	Macroalgae	Snags	Rocks	Sediment
Chassahowitzka- 44 total samples					
CHA-S-1 (Spring)	1		1	1	1
CHA-S-2 (Spring)	1	1	1	1	1
CHA-R-1 (River)	1	1	1		1
CHA-R-2 (River)	1	1	1	1	1
CHA-R-3 (River)	1	1	1		1
CHA-R-4 (River)		1	1		1
CHA-R-5 (River)			1		1
CHA-R-6 (River)			1		1
CHA-CRA (Spring)	1		1	1	1
CHA-POT-S (Spring)	1		1		1
CHA-POT-1 (Tributary)	1		1		1
CHA-POT-2 (Tributary)	1		1		1
CHA-POT-3 (Tributary)			1		1
Homosassa- 29 total samples					
HOM-S (Spring)			1	1	1
HOM-SOU (Spring)		1	1	1	1
HOM-R-1 (River)		1	1		1
HOM-R-2 (River)			1		1
HOM-R-3 (River)		1	1		1
HOM-R-4 (River)			1		1
HOM-R-5 (River)			1		1
HOM-R-6 (River)			1		1
HOM-HAL-S (Spring)		1	1	1	1
HOM-HAL-1 (Tributary)		1			1
HOM-HAL-2 (Tributary)					1
HOM-HAL-3 (Tributary)					1
Weeki Wachee- 32 total samples					
WEE-S (Spring)	1	1		1	2
WEE-R-1 (River)	1	1	1		1
WEE-R-2 (River)	1	1	1	1	1
WEE-R-3 (River)	1	1	1	1	1
WEE-R-4 (River)	1	1	1	1	1
WEE-R-5 (River)	1	1	1		1
WEE-R-6 (River)	1	1	1		1
Total Samples– 105 total samples	**16**	**16**	**28**	**11**	**33**

Figure 1 - Overall Project Location Map

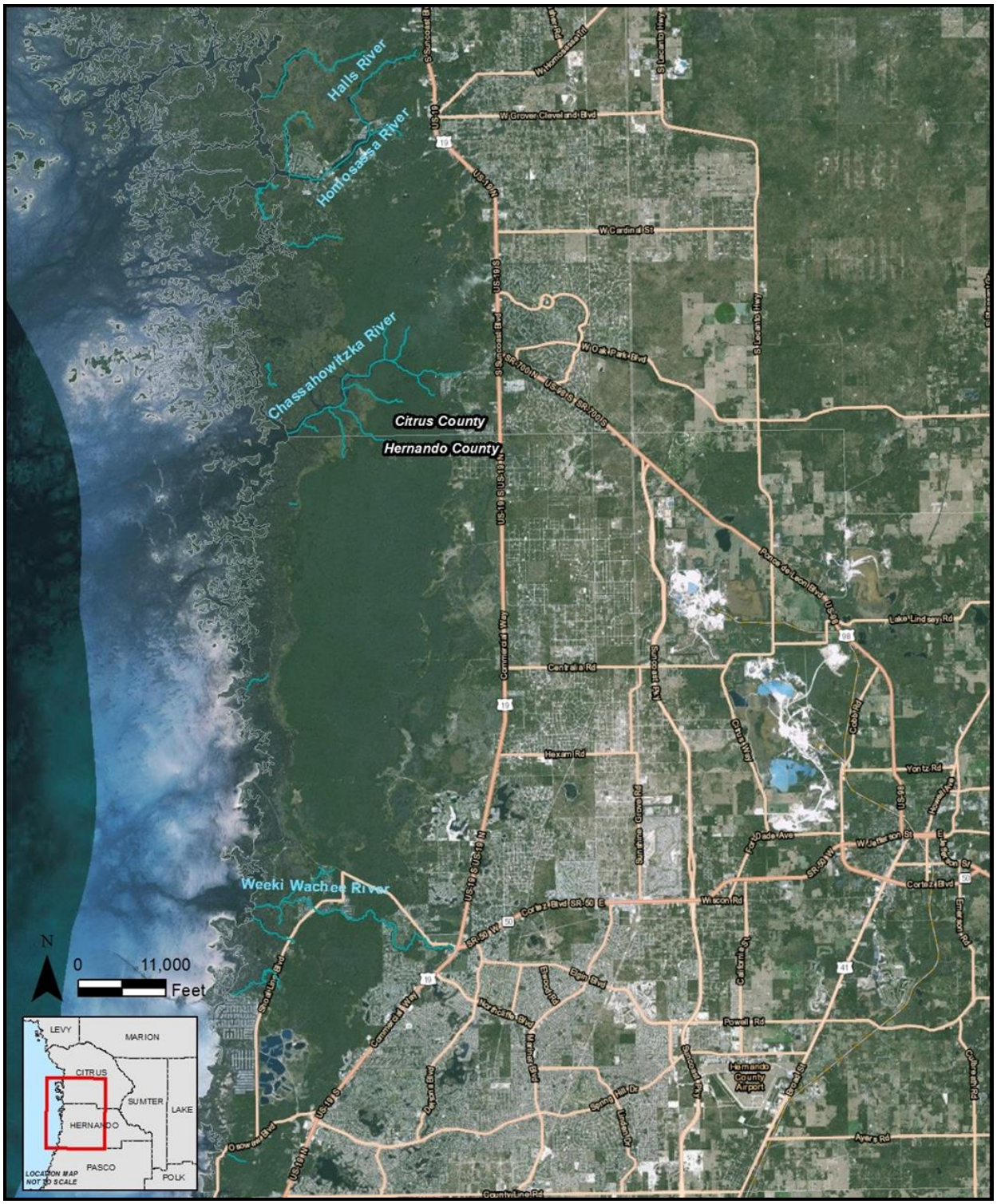


Figure 2 - Chassahowitzka River Sample Zones Map

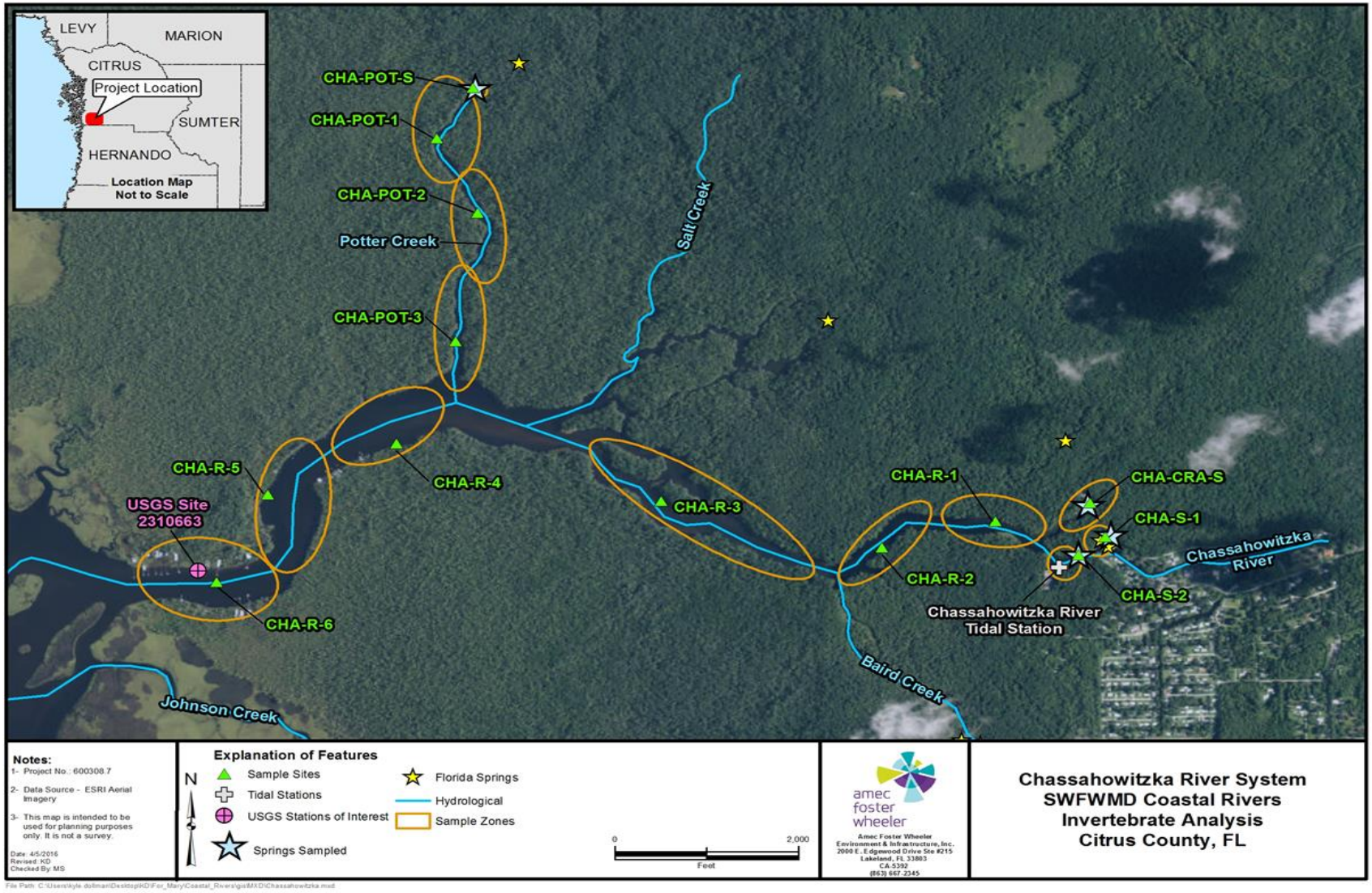


Figure 3 - Homosassa River Sample Zones Map

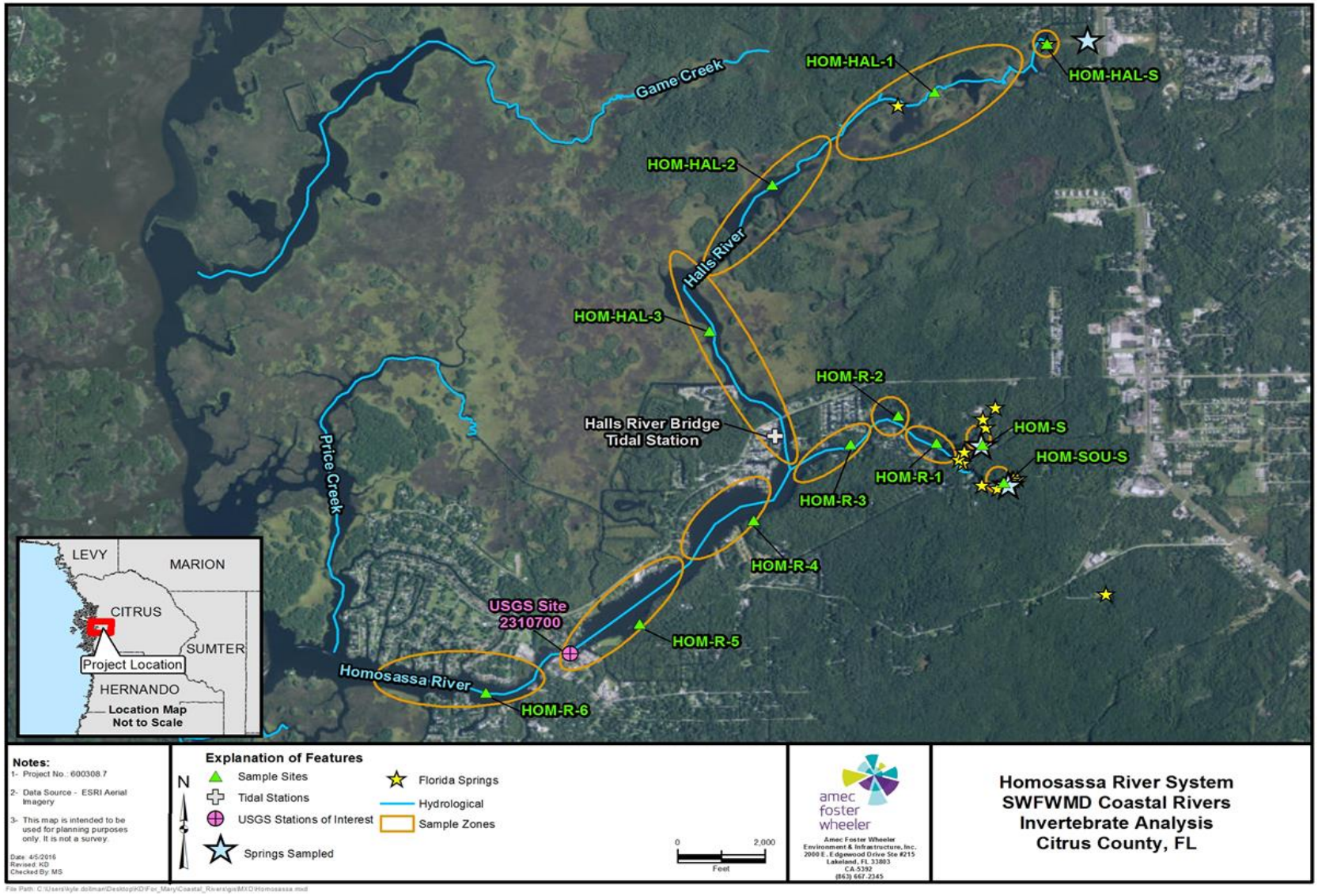


Figure 4 – Weeki Wachee River Sample Zones Map

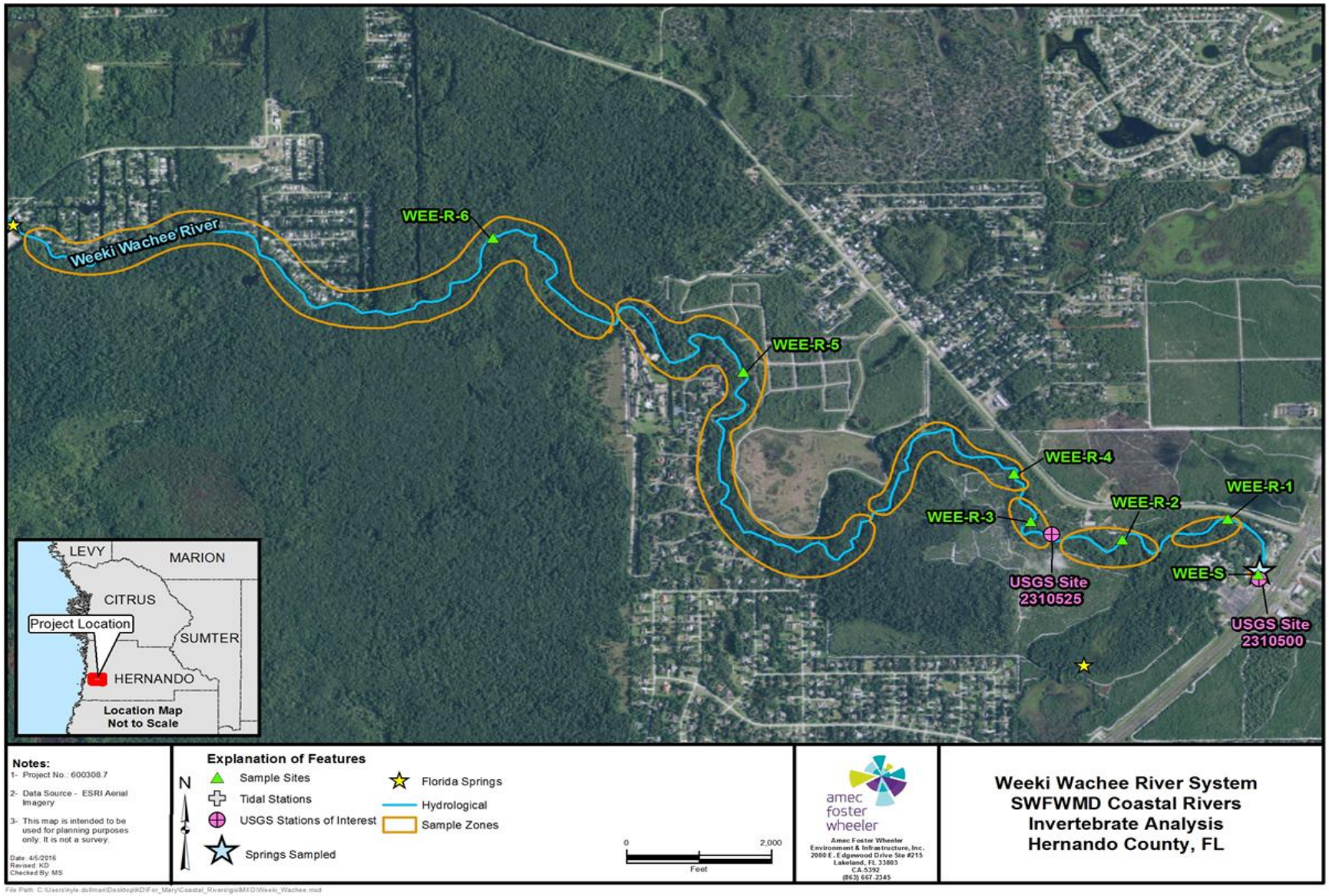


Figure 5a - Example of Habitat Variability of Zone Areas
Zone ID: CHA-R-1 – Chassahowitzka River Upstream

Figure 5b - Example of Habitat Variability of Zone Areas
Zone ID: HOM-R-1 – Homosassa River Upstream

Figure 5c - Example of Habitat Variability of Zone Areas
Zone ID: WEE-R-1 – Weeki Wachee Upstream

2.0 METHODS

The following sections provide details on field sample collection, laboratory analytical methods, data management and statistical analysis methods that were employed during the project to achieve the stated objectives.

2.1 Field Monitoring Component – Sample Collection Methodology

Field monitoring activities included physiochemical and biological sampling. Amec Foster Wheeler conducted one sampling event in each spring-fed system, during which physicochemical and biological data was measured and collected respectively. For sites located within a state park, Amec Foster Wheeler coordinated access and permission to the site with the Florida Department of Environmental Protection (FDEP) prior to each sampling event. Habitats identified in the three river systems during initial recon and during sampling events included SAV, benthic macroalgal mats, snags/woody debris, rock/limestone outcropping and sediments. Sampling equipment used during the field sampling effort depended on site conditions (depth, habitat type, etc.), but was limited to the petite ponar and D-frame dipnet. Further details on sampling methods are provided below.

Physical and Chemical Sampling

FDEP 2012 Field SOPs for Surface Water Sampling were followed to collect *in-situ* water chemistry measurements at each of the sampling stations (zones). A total of 32 zones were monitored, and were split amongst the three river systems as follows 13 at Chassahowitzka, 12 at Homosassa, and 7 at Weeki Wachee. Parameters assessed include:

- Sample depth (m), with a levelling rod or a wading rod
- Canopy cover over the stream channel (%), with a spherical densiometer (Model–C)
- Water temperature (°C), Salinity (ppt), Specific conductance (µS/cm), pH (units), Dissolved oxygen (mg/L and % saturation), with a YSI- 5 series
- Turbidity (NTU), with a portable turbidimeter

Quantitative Benthic Macroinvertebrate Sampling from Various Habitats

At each of the sampling sites within the zones, and based on existing habitats, above-sediment SAV, rock, snag and macroalgae samples were collected with a D-Frame dipnet. Each macroinvertebrate sample was collected by sweeping the D-frame net a total of four times (0.125 m^2 each), for a total sample area of 0.5 m^2 for each habitat. Petite ponar (0.023 m^2) was used to collect a quantitative sample of macroinvertebrates from bare sediment. D-frame net and petite ponar samples were carefully transferred into containers and preserved with formalin for later processing at the laboratory.

2.2 Laboratory Component – Sample Processing and Analysis Methodology

Amec Foster Wheeler conducted laboratory biological sample processing and analyses. Tasks included:

- Habitat sample processing, and removal of macroinvertebrates for taxonomic identification
- Macroinvertebrate processing, taxonomic identification from all habitats, and macroinvertebrate community measurements

Samples received at the Amec Foster Wheeler Taxonomy Lab were logged-in and processed in general accordance with FDEP SOP for Invertebrate Core/Grab/Dredge Sample Prepared (IZ-04). Invertebrate samples were emptied into a U.S. #30 mesh sieve over a discard bucket to catch waste formalin. The sieved samples were thoroughly rinsed with tap water. The remaining material was transferred to white trays for sorting under a dissecting microscope (approximately 10X magnification). Samples were subsampled to a target count of 200 organisms or all organisms were picked from the sample material and placed in a vial filled with 80% ethanol. QA/QC checks were completed on 10% of sorted aliquots.

Amec Foster Wheeler's experienced taxonomists then identified the organisms in each sample according to FDEP SOP IZ-06. Organisms in each sample were identified to lowest practical taxonomic level (LPTL) and the identifications and enumeration were noted on benchsheets. Midges and worms were separated from the remainder of the sample for mounting and further identification under compound magnification. Midges and worms were mounted in general accordance with FDEP SOP IZ-08 and identified to LPTL. Identifications and enumeration were noted on benchsheets. Amec Foster Wheeler's extensive collection of taxonomic keys and reference specimens for invertebrates from Florida streams were used throughout the project to aid in identification. If an organism was found within the samples that was not already represented in the voucher reference collection, the individual was placed in a labeled vial in 95% ethanol and maintained for expert verification.

2.3 Data Analyses

Sample collection, sorting, and taxonomic data for all samples were entered into a relational database using SQL. The physicochemical and biological data were compiled into datasets and processed in various ways to prepare for statistical data analyses. All data were subjected to a QA/QC process prior to further analyses. The SQL database was queried to produce a taxa list for each river system which included functional feeding group and life habit information for each taxon. Final taxonomic data was exported from SQL to Excel and PRIMER v7 for further analyses. PRIMER v7 software was used for univariate and nonparametric, multivariate statistical analyses. This software application includes nonparametric, multivariate analyses often used in ecological studies, such as species assemblages, environmental/biological data interactions and modeling data (Clarke and Gorley, 2006). In addition, MINITAB v17 statistical software was used to conduct univariate techniques to investigate relationships between abiotic factors and biological metrics. Further detail on the various statistical techniques employed are provided below.

<u>Biological Metrics</u>

Biological metrics such as the abundance (normalized over an aerial basis), taxa richness, Margalef's species richness index (d), Shannon's diversity index ($H'(\log_e)$), Simpson's diversity (1-λ'), and Pielou's evenness index (J') were calculated for each sample by using the DIVERSE function in PRIMER, as defined below:

- Abundance – # individuals/m^2 of sampled area by species and by sample (N);
- Taxa richness – total number of taxa (S);
- Diversity – Margalef's species richness index (d) = $(S– 1)/\log_e(N)$
- Diversity – Shannon's Index ($H'(\log_e)$) = $- \sum P_i * \log_e(P_i)$; where P_i = proportion of individuals found in the i^{th} species
- Diversity – Simpson's index (1-λ') = $1 - \{\sum_i N_i(N_i – 1)\}/\{N(N-1)\}$; and
- Evenness – Pielou's Evenness (J') = $H'/\log_e S$.

Life history characteristics for each taxonomic group were defined using the following resources:

- Functional Feeding Group categorization – for each invertebrate taxon, a functional feeding group (FFG) category was associated with it in the database developed. These were based on the FFG designations used by the FDEP (http://www.dep.state.fl.us/labs/cgi-bin/sbio/database.asp).
- Life Habit categorization – for each invertebrate taxon, a Life Habit category as defined by Merritt and Cummins (1996) was associated with it in the database developed.
- Taxa identified by FDEP as "long-lived" (http://www.dep.state.fl.us/labs/cgibin/sbio/database.asp#lists) were identified in the database developed.
- Taxa identified by FDEP as "sensitive" and "very tolerant" were identified in the database developed (http://www.dep.state.fl.us/labs/cgi-bin/sbio/database.asp#lists).

The fifteen dominant macroinvertebrate taxa for each system were determined using a procedure developed by Janicki (2006) and Janicki (2008). The Dominance Index (DI) was calculated for all taxa as a geometric mean of the frequency of occurrence (P_o) and the relative abundance (P_a) where:

P_o = (# of samples with taxon/Total # of samples collected) x 100

P_a = (Total # of taxon individuals in all samples/Total # of Individuals of all species in all samples) x 100

The geometric mean of these terms equals the square root of their product:

$DI = (P_o \times P_a)^{-0.5}$

Univariate Analysis

Statistical analyses were performed using MINITAB v17. Results were considered significant if the p-value was less than 0.05 ($p<0.05$). All analyses were performed on untransformed data unless specified. The means between river systems and waterbody types (i.e. spring, river, or tributary) for biological metrics were compared to test for significant differences using one-way ANOVA (analysis of variance) with the Tukey and/or Fisher Pairwise Comparison Method when assumptions of normality and homogeneity of variances were met. The nonparametric counterpart to the ANOVA, the Mann-Whitney test, could not be used to find significant differences for the medians because the number of records between sites were uneven.

Parametric and nonparametric correlation statistics such as Pearson's R, Spearman's Rho, and Kendall's Tau were used to investigate associations between each of the biological metrics and physicochemical parameters. Linear and non-parametric trend analyses were used to evaluate changes with time or to evaluate spatial changes along the longitudinal gradient for the abiotic factors and biological metrics. Abundance (normalized over an aerial basis), total number of taxa and Shannon's diversity index were examined in more detail using multivariate statistics by habitat type and zone in each river system and methods for those statistics are further discussed in the next section.

In addition to the physicochemical and biological data that were collected as part of this project, continuous daily minima and maxima specific conductance, daily discharge and daily minima and maxima stage data were acquired from four USGS stations. Two stations in the upper reach of the Weeki Wachee River provided stage and discharge data, USGS stations 2310500, and 2310525, respectively. The upper Weeki Wachee River stations did not have continuous specific conductance data available. The other two USGS stations provided specific conductance, tidally filtered discharge and stage data in Chassahowitzka (Station 2310663) and Homosassa (Station 2310700) Rivers. These four USGS station locations are shown in **Figures 2-4** in reference to the springs and sampling zones for each system. In addition, USGS daily minima and maxima continuous specific conductance and daily discharge data was obtained from a station approximately 8.4 river kilometers downstream of the headspring on Weeki Wachee River (Station 2310545; latitude 28.531106, longitude -82.623156). This station is not shown in the location figure due to it being out of the desired map frame.

Time series analyses of monthly median historical discharge data were conducted for the last ten years. Further analyses were conducted to evaluate the effects of tidal range and discharge on benthic communities that included calculations of the 30-day antecedent cumulative daily discharge, and the 30-day antecedent cumulative difference in daily stage. Moreover, the discrete discharge and stage data measured on the specific dates of sampling were assessed for comparison across systems.

Tidal stage data was obtained from http://tbone.biol.sc.edu/tide/index.html. Tide data was obtained for the "Halls River bridge, Homosassa River, Florida" station for all Homosassa system sampling sites, and from the "Chassahowitzka, Chassahowitzka River, Florida" station for all Chassahowitzka system sampling sites. Tidal stage locations are provided in **Figures 2** and **3**. Tide data was obtained for the sampling dates, then assigned tide stages based on the high and low tides given for those dates.

Multivariate Analysis

To examine for potential spatial differences in the water quality data, several tests were conducted in PRIMER. Draftsman plots were constructed for the environmental data prior to statistical analyses to check whether transformations of the environmental variables were necessary. These plots indicated that a mild square-root transformation was required due to right-skewness for water temperature, salinity, conductivity and turbidity. All environmental data were then normalized prior to analysis in order to reference these variables to a common measurement scale (Clarke and Gorley, 2006). Euclidean distance similarities were calculated between water quality samples to produce a resemblance matrix. Water quality samples were ordinated with non-metric multidimensional scaling (nMDS). The Analysis of Similarities (ANOSIM) procedure was then used to determine if water quality samples were significantly different across the various factors. Principal Component Analysis (PCA) was used to determine which environmental variables were driving the observed spatial trends.

Nonparametric, multivariate analyses were performed in PRIMER to evaluate benthic community structure and to make comparisons between the physicochemical and biological data. To determine the adequacy of the sampling effort for detecting variability in the benthic community structure, a species-accumulation plot in PRIMER was produced from the abundance data for each of the river systems (Chassahowitzka, CHA; Homosassa, HOM; Weeki Wachee, WEE). The plotted curves reached asymptotes prior to the number of samples actually collected in each river system, thereby indicating that the sampling effort was sufficient. Once the sampling effort

was determined to be sufficient, raw abundance data were pre-treated prior to further analyses. Because samples were collected using a dipnet and a Petite Ponar dredge with different sampling areas, the raw abundance data was standardized to number of individuals per square meter. Then a square-root transformation was applied to the data to minimize the effect of dominant taxa when calculating similarities between samples (Clarke *et al.*, 2006a). Further transformations of the raw abundance data were explored (fourth-root and log), and were ordinated by nMDS. These nMDS plots were compared to the nMDS plots from data that were square-root transformed. Similar patterns and stress values in the nMDS plots for the fourth-root and log transformations were observed. Consequently, the more conservative square-root transformation was utilized in all subsequent multivariate analyses.

To examine overall trends with the biological data among river systems, the standardized, square-root transformed abundance data were averaged by river system. Bray-Curtis similarities were calculated between samples to produce a resemblance matrix (Bray and Curtis, 1957; Clarke *et al.*, 2006b). The CLUSTER function in PRIMER, which uses hierarchical agglomerative clustering with group average sorting, was applied to the Bray-Curtis resemblance matrix. Similarity profile permutation tests (SIMPROF) used 1000 permutations to identify significant sample groups within the dendrogram produced by the CLUSTER analysis.

To examine trends in more detail among river systems, Bray-Curtis similarities were calculated between all samples using the standardized, square-root transformed data to produce a resemblance matrix. The Bray-Curtis similarities were ordinated with nMDS. River System (CHA, HOM, and WEE) was used as a factor in the nMDS to identify spatial trends in benthic community structure between systems. Waterbody Type (Spring, Tributary, River); Waterbody Area (Spring, Upper (R-1 through R-3), Lower (R-4 through R-6)); and Zone (Sample Site) were also used as factors in the nMDS to identify potential longitudinal trends in the benthic community. ANOSIM identified which factor levels were significantly different. The similarity percentages routine (SIMPER) determined which taxa contributed the most to the significant pairwise comparisons identified in the ANOSIM procedure (Clarke and Gorley, 2006).

To further evaluate trends associated with habitat requirements, Habitat Type was also used as a factor which included factor levels of macroalgae (MA), rock, SAV, sediment (sed), and snag. ANOSIM and SIMPER were again used to determine which factor levels were significantly different and which taxa contributed the most to the significant pairwise comparisons identified in the ANOSIM procedure (Clarke and Gorley, 2006).

Each river system was analyzed separately for trends in benthic community structure. Bray-Curtis resemblance matrices were calculated and were ordinated with nMDS. ANOSIM was used to determine where significant pairwise comparisons existed between the various factor levels. SIMPER listed the taxa which contributed the most to the significant differences between these factor levels. PRIMER's BEST procedure with the BIOENV option was utilized to identify which combination of physicochemical variables were best correlated with the observed benthic community structure in each river system. These significant physicochemical variables were then superimposed on the samples within the nMDS plots as bubbles. The size of the bubble was directly correlated with the value of the physicochemical variable. The bubble plots identified how each significant physicochemical variable from the BEST analysis was influencing the invertebrate community structure in each river system.

3. 0 RESULTS

Benthic macroinvertebrate communities of the three river systems, Chassahowitzka, Homosassa, and Weeki Wachee, are discussed below in relation to abiotic physicochemical parameters, habitat type, waterbody type, and longitudinal gradient. The results in the following sections provide comparisons and associations between abiotic factors and macroinvertebrate community structure, and biological metrics on two different analysis levels. The first hierarchical analysis level provides an overall comparison among the three (or four when Halls River is broken out separately) river systems. As will be explained in further detail in a later section, the biological community of the Halls River was found to be significantly different than Homosassa River, therefore some of the multivariate analyses treated Halls River as its own river system for comparison purposes. The second hierarchical analysis level includes comparisons within each river system. At both levels, evaluations across waterbody types (i.e. spring, river, tributary), and habitats are provided in relation to macroinvertebrate community distribution and abundance and abiotic factors.

3.1 Comparisons among Rivers

Abiotic Factors

The complete physicochemical dataset collected by Amec Foster Wheeler during biological sampling is provided in **Table A-1**, **Appendix A**. Physicochemical factors and hydrologic data are described in this section, along with some associations between physicochemical data and biological data. Data were pooled across the three waterbody types for analyses described in this section. Descriptive summary statistics for abiotic factors pooled by river system (all stations in each river system) are presented in **Tables 2-4** for comparison. Overall, mean water temperature ranged from a low of 24.07°C in Weeki Wachee to a high of 25.57°C in Chassahowitzka. Mean dissolved oxygen (DO) mg/L was lowest in Weeki Wachee at 4.23 mg/L and highest in Homosassa at 6.42 mg/L. Mean salinities were similar in Homosassa and Chassahowitzka at around 2 ppt and lowest in Weeki Wachee River at 0.16 ppt. Homosassa River had the highest conductivity and Weeki Wachee had the lowest, by an order of magnitude. Mean pH was similar across all three systems ranging from 7.59 to 7.78. Mean turbidity was an order of magnitude lower in Weeki Wachee at 0.38 NTU as compared to 2.31 in Chassahowitzka River. Mean canopy cover was about the same for all three systems around 30%.

Table 2 – Descriptive Summary Statistic Results for Chassahowitzka River

	Water Temperature (°C)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (%)	Salinity (ppt)	Conductivity (µS/cm)	pH (SU)	Turbidity (NTU)	Canopy Cover (%)
Minimum	23.23	2.97	35.70	0.26	543.00	7.43	0.50	0
Maximum	27.90	12.03	155.10	4.40	5210.00	8.15	9.83	89
Mean	25.57	5.60	69.32	2.06	3589.77	7.61	2.31	21
Median	25.09	5.05	60.20	2.28	4251.00	7.57	1.31	10
Standard Error	0.45	0.65	8.39	0.29	400.19	0.05	0.68	9
Std. Dev.	1.61	2.33	30.26	1.05	1442.92	0.18	2.47	32
N	13	13	13	13	13	13	13	13

Table 3 – Descriptive Summary Statistic Results for Homosassa River

	Water Temperature (°C)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (%)	Salinity (ppt)	Conductivity (µS/cm)	pH (SU)	Turbidity (NTU)	Canopy Cover (%)
Minimum	23.32	3.43	40.30	0.25	512.00	7.55	0.27	0
Maximum	28.26	9.32	115.80	5.15	9211.00	8.40	3.89	95
Mean	25.31	6.42	79.95	2.63	4820.83	7.78	1.41	31
Median	25.25	6.66	84.10	2.38	4334.50	7.70	1.13	30
Standard Error	0.45	0.65	8.60	0.50	885.47	0.07	0.30	8
Std. Dev.	1.55	2.27	29.77	1.74	3067.37	0.24	1.05	28
N	12	12	12	12	12	12	12	12

Table 4 – Descriptive Summary Statistic Results for Weeki Wachee River

	Water Temperature (°C)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (%)	Salinity (ppt)	Conductivity (µS/cm)	pH (SU)	Turbidity (NTU)	Canopy Cover (%)
Minimum	23.76	1.86	21.81	0.16	337.00	7.38	0.15	0
Maximum	24.38	5.73	68.70	0.17	351.00	7.79	0.73	76
Mean	24.07	4.23	50.26	0.16	341.86	7.59	0.38	36
Median	24.06	4.38	52.10	0.16	339.00	7.58	0.38	35
Standard Error	0.08	0.54	6.45	0.00	2.39	0.05	0.07	9
Std. Dev.	0.21	1.42	17.07	0.00	6.34	0.14	0.19	25
N	7	7	7	7	7	7	7	7

Similar summary tables are provided in **Tables 5-7** to show the summary statistics of abiotic variables and biological metrics when the data were pooled by waterbody type. When comparing pooled waterbody data and comparing across springs, rivers and tributaries, mean temperature was about 3°C lower in the springs than in the tributaries. Mean DO was also lowest in the springs and highest in the tributaries. Mean salinity and conductivity were lowest in the rivers and highest in tributaries. Mean pH was similar across waterbody types. Mean turbidity was similar in the rivers and tributaries and lowest in the springs. Mean canopy cover was lowest in the tributaries (1%) and highest in the springs (60%). One-way ANOVA was used to determine if significant differences existed across waterbody types for the mean abiotic factor data. Mean DO was significantly greater in the tributaries than the mean DO in the springs ($p = 0.030$), but not different than the rivers. Mean salinity was significantly higher in the tributaries than the mean salinity in both of the springs and rivers ($p = 0.001$), but the rivers and springs were not significantly different. Mean canopy cover in the springs was significantly higher than the mean canopy cover in both the rivers and the tributaries ($p = 0.000$). Mean turbidity and pH were not found to be significantly different across the waterbody types.

Table 5 - Descriptive Summary Statistic Results for All Springs Zones

	Water Temperature (°C)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (%)	Salinity (ppt)	Conductivity (µS/cm)	pH (SU)	Turbidity (NTU)	Canopy Cover (%)
Minimum	23.23	2.97	35.70	0.25	512.00	7.43	0.27	13
Maximum	24.22	5.05	60.20	5.15	9211.00	7.65	1.76	95
Mean	23.66	4.01	47.79	1.81	3360.86	7.54	0.78	60
Median	23.47	3.95	46.90	1.64	3135.00	7.55	0.68	58
Standard Deviation	0.41	0.78	9.21	1.76	3123.85	0.08	0.51	30
Standard Error	0.15	0.30	3.48	0.66	1180.70	0.03	0.19	12
N	8	8	8	8	8	8	8	8

Table 6 - Descriptive Summary Statistic Results for All River Zones

	Water Temperature (°C)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (%)	Salinity (ppt)	Conductivity (µS/cm)	pH (SU)	Turbidity (NTU)	Canopy Cover (%)
Minimum	23.90	2.86	33.70	0.16	337.00	7.50	0.15	0
Maximum	27.82	12.03	155.10	2.54	4767.00	8.40	9.83	76
Mean	25.25	5.98	73.48	1.31	2483.17	7.72	1.87	25
Median	24.79	5.61	66.90	1.30	2525.50	7.67	1.16	23
Standard Deviation	1.24	2.22	28.86	0.98	1816.70	0.23	2.31	23
Standard Error	0.29	0.52	6.80	0.23	428.20	0.05	0.54	5
N	18	18	18	18	18	18	18	18

Table 7 - Descriptive Summary Statistic Results for All Tributary Zones

	Water Temperature (°C)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (%)	Salinity (ppt)	Conductivity (µS/cm)	pH (SU)	Turbidity (NTU)	Canopy Cover (%)
Minimum	25.54	4.51	55.50	2.33	4212.00	7.51	0.92	0
Maximum	28.26	9.20	115.80	5.03	9005.00	8.01	2.77	12
Mean	26.81	6.97	88.90	3.85	6391.17	7.72	1.68	4
Median	26.76	6.88	89.50	4.37	6151.50	7.62	1.44	1
Standard Deviation	1.20	2.07	26.82	1.20	2271.38	0.20	0.76	6
Standard Error	0.49	0.84	10.95	0.49	927.29	0.08	0.31	2
N	6	6	6	6	6	6	6	6

Continuous daily specific conductance, discharge, and stage data were obtained from USGS stations for each of the river systems (stations are shown in **Figures 2-4**). The last ten years of monthly medians of available (period of record, POR 3/2005-9/2015) discharge data (tidally filtered) were calculated and are presented in time series plots for each system in **Figures A1-A3** in **Appendix A**.

The last ten years of monthly medians were calculated from available (period of record, POR 6/2006-9/2015) specific conductance data using individual daily minima (representative of low tide) and daily maxima (representative of high tide) values. Specific conductance was collected *in-situ* near the bottom of the water column. Time series plots for each river are shown in **Figures A4-A6** in **Appendix A**.

Monthly median tidally filtered discharge data were significantly inversely correlated to both the minima and maxima monthly median specific conductance data for all three rivers. Results from the specific conductance (maxima) versus discharge data correlations are shown in **Figures A7-A9** in **Appendix A.**

The discharge and stage datasets for each river system were queried to provide information regarding the hydrologic conditions encountered on each sampling date (ranging between 8/28/2015-9/15/2015 for all systems). In **Table 8**, the daily discharge values and daily minima and maxima stage values are provided along with the estimated tidal range for the dates sampled in each system. Discharge on the dates between the three systems ranged from 119 to 377 cfs, with Homosassa River having the greatest discharge (tidally filtered) and Chassahowitzka River (tidally filtered) having the lowest discharge on the days of sampling within September 2015.

The daily tidal range for the two tidally influenced systems was approximately 2 ft. and 0.7 ft. for Chassahowitzka and Homosassa Rivers, respectively. In addition, the table provides a summary of the 30-day antecedent cumulative daily discharge, and the 30-day antecedent cumulative difference in daily stage to give an understanding to the effects of tidal fluctuations and discharge on benthic communities during a colonization window. **Figures 6-8** provide visual representations of the 30-Day antecedent discharge and stage (minima and maxima) conditions prior to sampling in each system. It is evident from the minima and maxima data, that there is significant tidal influence on these two systems, with Chassahowitzka experiencing a greater effect from changes in tide than the other two rivers, as seen by the 30-day antecedent cumulative difference in daily stage data in **Table 8**. The sampling areas included in this study in Weeki Wachee were not tidally influenced and stage did not change to any noticeable extent. The relatively large fluctuations in tide (and salinity) as was seen in Chassahowitzka River may be influential in controlling the distribution of the macroinvertebrate communities.

Table 8 - Comparison of Hydrologic Conditions across All Rivers

System	USGS Station	Dates Sampled	*Discharge (cfs)	**Stage (ft, Max, NAVD88)	**Stage (ft, Min, NAVD88)	30-Day Antecedent Cumulative Difference in Daily Stage (ft)	30-Day Antecendent Cumulative Daily Discharge (cfs)	Tide During Sampling Event
Chassahowitzka	2310663	9/10/2015	126	1.56	-0.36	61.50	4195	Incoming and Outgoing
	River km ca. 3.63	9/11/2015	119	1.51	-0.52	61.33	4218	Incoming and Outgoing
Homosassa	2310700	9/14/2015	377	0.26	-0.47	26.04	7328	Incoming and Outgoing
	River km ca. 3.79	9/15/2015	295	-0.08	-0.78	25.96	7388	Outgoing
Weeki Wachee	2310525	8/28/2015	225	1.48***		1.15	6200	NA
	River km ca. 1.26	9/10/2015	228	1.46***		0.70	6660	NA

Note: *Discharge measured on day of sampling. ** Stage measured on day of sampling. ***Maximum and minimum NAVD88 stage data was unavailable, therefore gage height (ft) observations at noon from USGS station 2310500 (at Weeki Wachee headspring) were used instead.

Figure 6 - 30-Day Antecedent Stage and Discharge in Chassahowitzka River (USGS Station 2310663)

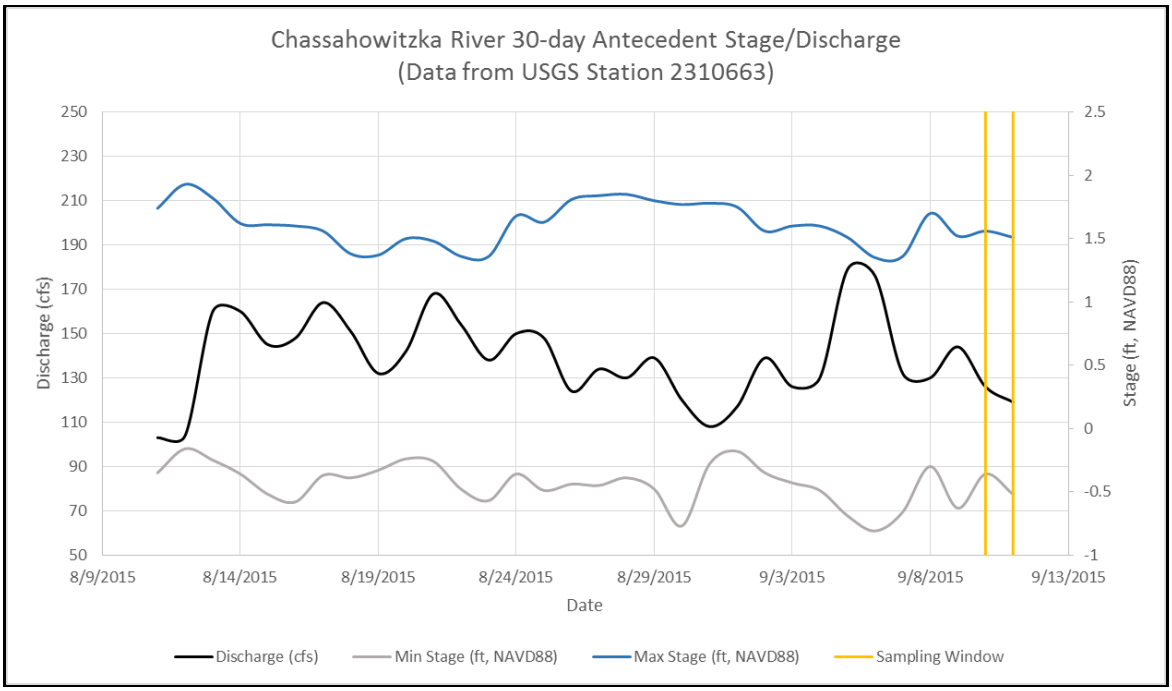


Figure 7 - 30-Day Antecedent Stage and Discharge in Homosassa River (USGS Station 2310700)

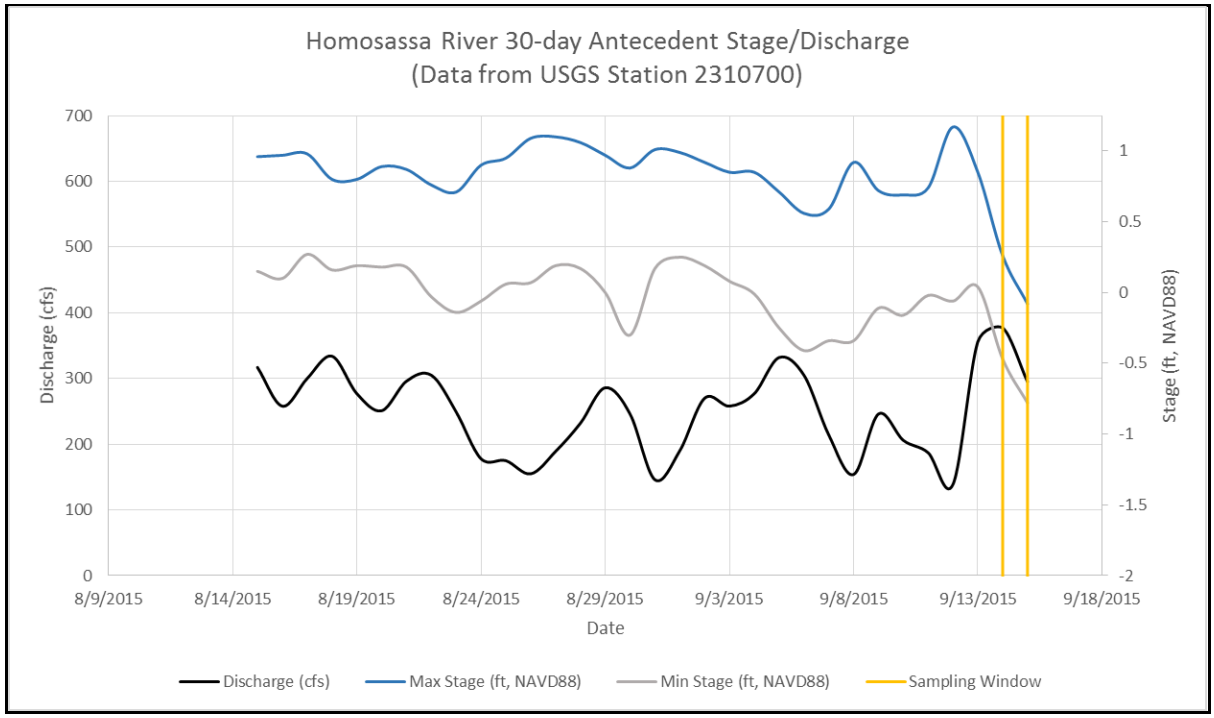
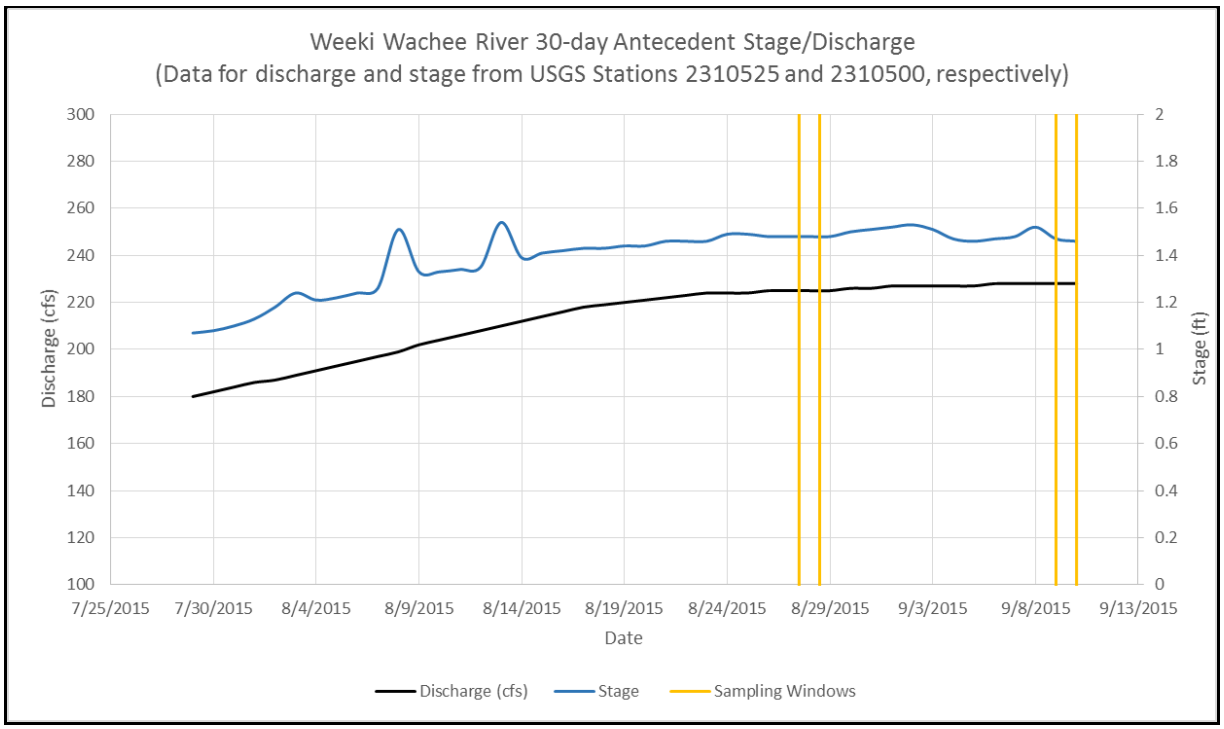


Figure 8 - 30-Day Antecedent Stage and Discharge in Weeki Wachee River (USGS Station 2310500 and 2310525)



Results of the PCA analysis illustrated that the water quality and environment at Weeki Wachee was distinctly different from the water quality and environment observed in the Chassahowitzka and Homosassa Rivers (**Figure 9**). The first principal coordinate (PC1) explained 46.4% of the total variation and was positively correlated with water temperature and conductivity, meaning that Weeki Wachee is characterized by lower temperatures and conductivity compared to Chassahowitzka and Homosassa. The second principal coordinate (PC2) explained 18.5% of the total variation and was positively correlated with pH and distance from the spring in kilometers. Lower turbidity, lower percent dissolved oxygen, lower salinity and deeper depths were also important parameters in distinguishing the water-quality at Weeki Wachee compared to Chassahowitzka and Homosassa (**Tables 9** and **10**). The values highlighted in yellow in **Table 10** were the two environmental parameters that had the highest correlation with their respective principal component axes.

Figure 9 - PCA results for Environmental and Water-Quality Parameters from all River Systems

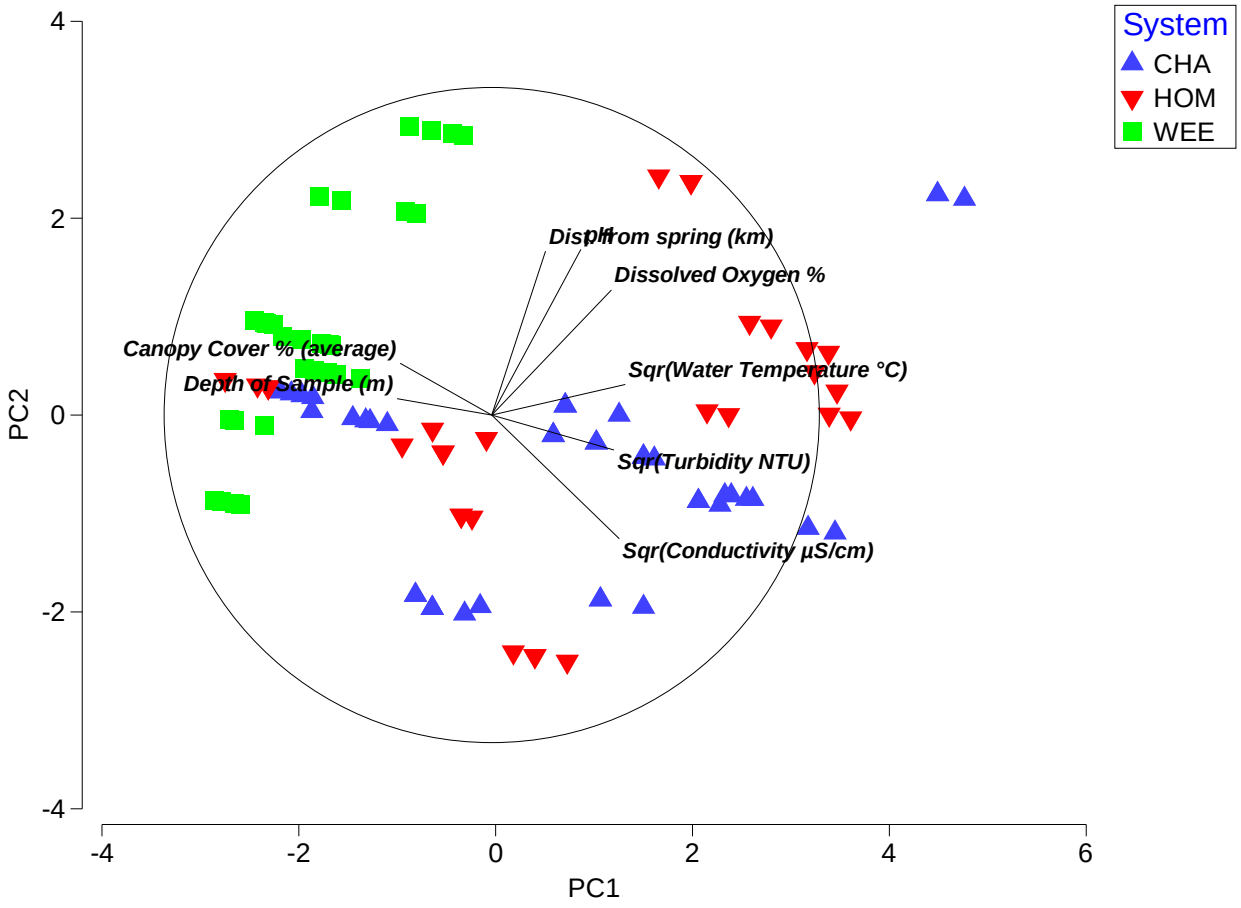


Table 9 - Percent and Cumulative Percent of Variation Explained by Principal Coordinates

PC	Eigenvalues	% Variation	Cumulative % Variation
1	4.17	46.4	46.4
2	1.66	18.5	64.9
3	1.13	12.5	77.4
4	0.81	9	86.4
5	0.514	5.7	92.1

Table 10 - Correlations of Water-Quality and Environmental Parameters for each Principal Coordinate

Parameter	PC1	PC2	PC3	PC4	PC5
Depth of Sample (m)	-0.289	0.05	-0.501	0.48	-0.176
Water Temperature (°C)	0.408	0.093	-0.33	-0.087	0.352
Dissolved Oxygen (%)	0.365	0.382	0.175	0.338	0.17
Salinity (ppt)	0.382	-0.397	0.155	0.135	-0.365
Conductivity (µS/cm)	0.39	-0.378	0.174	0.131	-0.36
pH	0.272	0.506	0.314	0.315	0.023
Turbidity (NTU)	0.373	-0.107	-0.21	-0.476	0.295
Canopy Cover % (average)	-0.28	0.158	0.564	-0.37	-0.066
Distance from spring (km)	0.164	0.5	-0.308	-0.387	-0.679

*Note: The correlation coefficients with the highest values in PC1 and PC2 are highlighted.

Invertebrate Community Structure

Taxa lists for each river system were produced from the SQL database and included functional feeding group and life habit information for each taxon. The raw macroinvertebrate data, taxa lists, and diversity data are provided in **Tables B1 – B7** in **Appendix B**. Dominance scores were calculated for the taxa within each river system. The 15 macroinvertebrate taxa with the highest dominance scores for each system are listed in **Table 11** with their dominance scores as well as their percent contribution to the total number of organisms in all samples from each site.

The tanaid Leptocheliidae spp.; the amphipods *Gammarus* spp., *Grandidierella bonnieroides,* and *Apocorophium louisianum*; and the polychaete worm *Laeonereis culveri* were the most dominant taxa found in samples collected from the Chassahowitzka River system. These five taxa made up 56% of the organisms found in these samples.

The amphipods *G. bonnieroides* and *A. louisianum*; the tanaid Leptocheliidae spp.; the midge *Dicrotendipes* spp.; and the polychaete worm *L. culveri* were the most dominant taxa found in the samples collected from the Homosassa River system (excluding the Halls River). These five taxa made up 63% of the organisms found in the samples.

Hydrobiidae spp. snails; the tanaid Leptocheliidae spp.; the amphipods *Gammarus* spp. and *A. louisianum*; and the polychaete worm *L. culveri* were the most dominant taxa found in samples collected from the Halls River system. These five taxa made up 65% of the organisms found in the samples.

The amphipod *Hyalella azteca* sp. complex was the dominant taxon in the samples collected from Weeki Wachee making up 58% of the organisms found in the samples. Tubificinae spp. worms; Hydrobiidae spp. snails; the bivalve *Melanoides* spp.; and the caddisfly *Cheumatopsyche* spp. were the following dominant taxa from the samples collected from Weeki Wachee River system, and combined, made up 20% of the organisms found in the samples.

Table 11 - Dominant 15 Taxa in Each River System

Common Classification	Scientific Name	Chassahowitzka		Homosassa		Hall's		Weeki Wachee	
		Dominance Index Score	% of Total	Dominance Index Score	% of Total	Dominance Index Score	% of Total	Dominance Index Score	% of Total
Annelida (worms)	*Boccardiella ligerica*			8.92	3.34				
	Dero pectinata								
	Laeonereis culveri	21.23	7.35	22.10	9.32	3.72	13.85		
	Limnodriloidinae spp.					0.96	2.46		
	Limnodrilus hoffmeisteri			5.43	1.24			0.89	2.53
	Naididae spp.			4.63	1.50				
	Tubificinae spp.	16.08	5.99	18.38	5.91			2.40	10.24
	Pristina leidyi	5.77	0.86						
Crustacea	*Americorophium ellisi*	6.24	1.90						
	Apocorophium louisianum	19.08	8.90	23.93	10.02	2.60	13.48		
	Apocorophium spp.								
	Cassidinidea ovalis								
	Cerapus spp.					1.44	8.33		
	Corophiidae spp.					0.85	1.45		
	Cyathura polita					0.94	2.38		
	Gammarus spp.	23.47	8.36	7.31	1.25	2.07	5.73		
	Grandidierella bonnieroides	35.63	16.43	46.53	25.26	1.82	6.61		
	Hargeria rapax					0.52	0.55		
	Hyalella azteca sp. complex							7.26	58.22
	Leptocheliidae spp.	32.66	15.14	25.64	9.20	2.86	13.10		
	Sinelobus stanfordi	10.55	2.88						
	Uromunna reynoldsi	12.80	2.77	8.84	1.64	0.49	0.48		
Insects									
	Ablabesmyia mallochi								

Common Classification	Scientific Name	Chassahowitzka		Homosassa		Hall's		Weeki Wachee	
		Dominance Index Score	% of Total	Dominance Index Score	% of Total	Dominance Index Score	% of Total	Dominance Index Score	% of Total
Diptera (Midge)	*Apedilum spp.*								
	Chironomidae spp.							0.62	0.73
	Cladotanytarsus spp.			5.51	1.60			0.74	1.10
	Cricotopus or *Orthocladius*	9.52	1.73					0.84	1.26
	Dicrotendipes spp.	15.59	3.34	25.44	9.06	1.57	3.28	0.69	1.18
	Polypedilum illinoense group	6.70	1.10						
	Polypedilum halterale group			4.54	0.72				
	Polypedilum scalaenum group							0.71	1.62
	Pseudochironomus spp.								
	Tanytarsus spp.	18.78	5.54	6.49	0.89			0.86	1.47
Ephemeroptera (Mayfly)	*Baetis intercalaris*							0.63	1.28
	Caenis diminuta								
	Callibaetis floridanus								
	Tricorythodes albilineatus								
Trichoptera (Caddisfly)	*Cheumatopsyche* spp.							0.93	1.86
	Hydropsyche rossi							0.56	0.84
Gastropoda (Snail)	*Melanoides* spp.							1.06	2.25
	Hydrobiidae spp.	18.50	5.38	22.01	5.99	4.06	18.83	1.52	5.31
	Pleurocera floridensis					0.56	0.63		
Mollusca	Bivalvia spp.					0.42	1.42		
Platyhelminthes (Flat worms)	Platyhelminthes spp.							0.44	0.56

Descriptive summary statistics for the biological metrics pooled by river system are presented in **Tables 12-14** for comparison. Interestingly, mean richness was exactly the same for all three rivers (17). Mean abundance did not range widely with a low of 4308 in Homosassa to a high of 5108 in Chassahowitzka. Margalef's richness index values for the three systems were all around 2. For mean Pielou's evenness index and the two diversity indices (Shannon's and Simpson's), Weeki Wachee had the lowest values and the other two systems had relatively similar but higher values. One-way ANOVA was used to determine if significant differences existed across systems for the mean biological metrics data. Only one metric, mean Pielou's evenness, was found to be slightly significantly lower in Weeki Wachee River than the mean Pielou's evenness in the other two systems ($p = 0.05$). None of the other metrics were found to be significantly different across the three systems.

Table 12 - Descriptive Summary Statistic of Biological Metrics Results for Chassahowitzka River

	Richness (# of taxa)	Abundance (total # of individuals/m^2)	Margalef's Richness Index	Pielou's Evenness Index	Shannon's Diversity Index	Simpson's Diversity Index
Minimum	1	43	0.00	0.00	0.00	0.00
Maximum	29	34304	3.88	1.00	2.52	0.90
Mean	17	5108	2.06	0.65	1.73	0.70
Median	18	2450	2.09	0.64	1.79	0.75
Standard Error	1	1042	0.15	0.03	0.08	0.03
Std. Dev.	7	6909	0.96	0.18	0.52	0.18
N	44	44	44	44	44	44

Table 13 - Descriptive Summary Statistic of Biological Metrics Results for Homosassa River

	Richness (# of taxa)	Abundance (total # of individuals/m^2)	Margalef's Richness Index	Pielou's Evenness Index	Shannon's Diversity Index	Simpson's Diversity Index
Minimum	2	130	0.18	0.29	0.45	0.28
Maximum	40	26130	4.57	0.94	2.37	0.87
Mean	17	4308	2.15	0.66	1.79	0.72
Median	15	2672	2.09	0.66	1.87	0.77
Standard Error	1	1084	0.19	0.02	0.09	0.03
Std. Dev.	8	5840	1.04	0.13	0.48	0.16
N	29	29	29	29	29	29

Table 14 - Descriptive Summary Statistic of Biological Metrics Results for Weeki Wachee River

	Richness (# of taxa)	Abundance (total # of individuals/m^2)	Margalef's Richness Index	Pielou's Evenness Index	Shannon's Diversity Index	Simpson's Diversity Index
Minimum	0	0	0.00	0.00	0.00	0.00
Maximum	39	26272	4.66	0.95	2.62	0.90
Mean	17	4777	2.10	0.54	1.47	0.59
Median	14	1704	1.78	0.58	1.37	0.62
Standard Error	2	1166	0.22	0.04	0.12	0.04
Std. Dev.	9	6599	1.23	0.22	0.69	0.24
N	32	32	32	32	32	32

Similar summary tables are provided in **Tables 15-17** to show the summary statistics of biological metrics when the data were pooled by waterbody type. When comparing pooled waterbody data and comparing across springs, rivers and tributaries, mean richness was lowest in the tributaries and greatest in the river zones with a range of 8 to 17. Mean abundance varied with a low of 1997 in the springs to a high of 5058 in the river zones. Margalef's richness index values for the three waterbody types ranged 1.39 to 2.13, with the tributaries having the lowest mean value. Mean Pielou's evenness index was similar for all three waterbody types, which was around 0.6. The tributaries had lower mean values than the other two waterbody types for the two diversity indices (Shannon's and Simpson's). One-way ANOVA was used to determine if significant differences existed across waterbody types for the mean biological metrics data. Mean richness and Margalef's richness index were both significantly lower in the tributaries than in the river ($p = 0.010$ and 0.075, respectively), however the springs and the river means were not different. No other significant differences were found for the other biological metrics across waterbody type.

Table 15 - Descriptive Summary Statistic of Biological Metrics Results for All Springs Zones

	Richness (# of taxa)	Abundance (total # of individuals/m^2)	Margalef's Richness Index	Pielou's Evenness Index	Shannon's Diversity Index	Simpson's Diversity Index
Minimum	1	2	0.86	0.51	1.21	0.55
Maximum	21	3723	3.19	0.81	2.26	0.85
Mean	12	1997	1.97	0.67	1.76	0.72
Median	12	2954	2.03	0.66	1.81	0.71
Standard Deviation	7	1597	0.75	0.10	0.41	0.12
Standard Error	3	604	0.28	0.04	0.15	0.04
N	7	7	7	7	7	7

Table 16 - Descriptive Summary Statistic of Biological Metrics Results for All River Zones

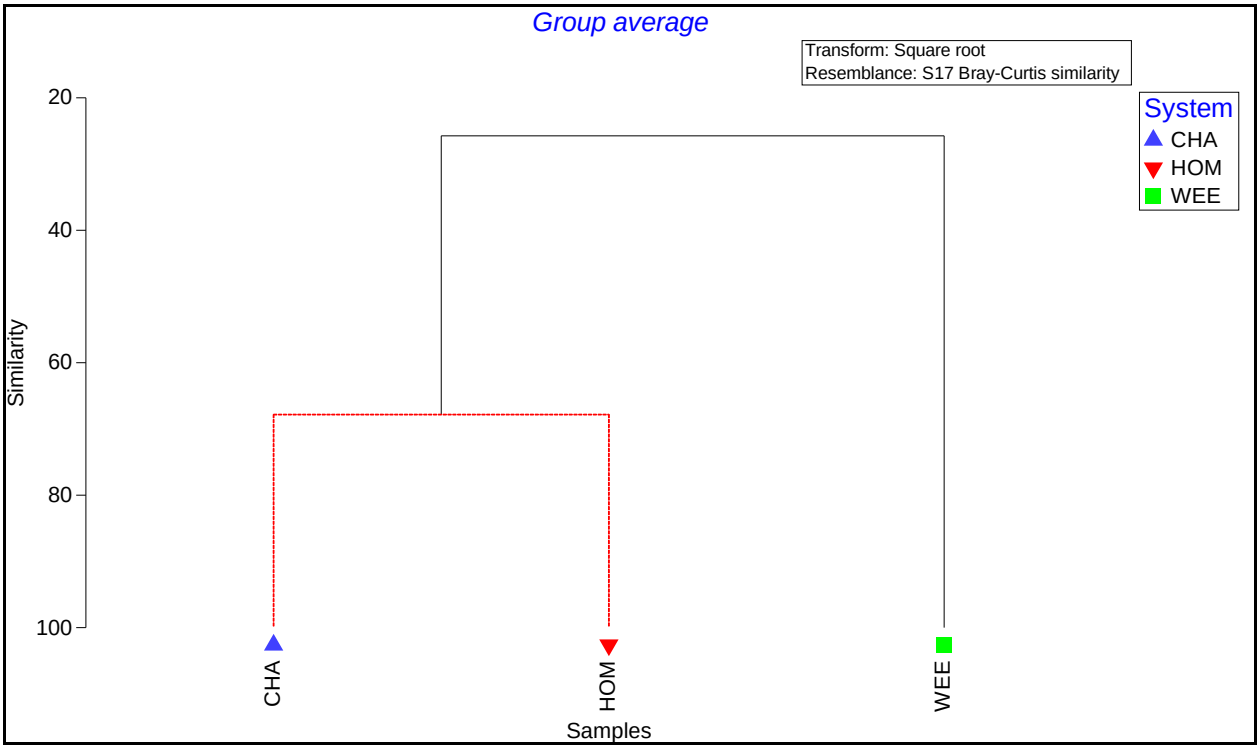
	Richness (# of taxa)	Abundance (total # of individuals/m^2)	Margalef's Richness Index	Pielou's Evenness Index	Shannon's Diversity Index	Simpson's Diversity Index
Minimum	11	543	1.14	0.31	0.90	0.34
Maximum	29	15601	3.31	0.89	2.13	0.86
Mean	17	5058	2.13	0.62	1.70	0.68
Median	17	3355	2.03	0.66	1.73	0.73
Standard Deviation	5	4037	0.56	0.13	0.35	0.14
Standard Error	1	952	0.13	0.03	0.08	0.03
N	18	18	18	18	18	18

Table 17 - Descriptive Summary Statistic of Biological Metrics Results for All Tributary Zones

	Richness (# of taxa)	Abundance (total # of individuals/m^2)	Margalef's Richness Index	Pielou's Evenness Index	Shannon's Diversity Index	Simpson's Diversity Index
Minimum	1	2	0.18	0.61	0.45	0.28
Maximum	21	22161	2.20	0.70	2.14	0.83
Mean	8	4763	1.39	0.65	1.42	0.62
Median	4	1315	1.66	0.64	1.56	0.66
Standard Deviation	9	8660	0.82	0.04	0.58	0.18
Standard Error	4	3536	0.34	0.02	0.24	0.07
N	6	6	6	6	6	6

To examine overall trends in invertebrate community structure between river systems, organism abundances were averaged for all samples (pooled) within each river system, and then analyzed with the CLUSTER and SIMPROF analyses in PRIMER. The invertebrate community structure at Weeki Wachee was significantly different than that within the Chassahowitzka and Homosassa Rivers with only a 25.74% similarity ($p = 0.001$). Whereas invertebrate communities at Chassahowitzka and Homosassa were not significantly different than each other and were 67.83% similar (**Figure 10**).

Figure 10 - CLUSTER and SIMPROF results for samples averaged by River System



When samples from all river systems were not averaged by system and then ordinated with nMDS, a similar trend was observed, with the Weeki Wachee samples isolated from the Chassahowitzka and Homosassa samples (**Figure 11**). Furthermore, ANOSIM detected a statistically significant difference between the invertebrate community structure at Weeki Wachee compared to the other two river systems (**Table 18**). Weeki Wachee was characterized by lower temperatures and conductivity when compared to Chassahowitzka and Homosassa. Chassahowitzka and Homosassa Rivers are also more tidally influenced and could experience higher salinities throughout a tidal cycle. The fluctuations in salinity may limit the occurrence of certain species in a river system and may also account for some of the differences observed in invertebrate communities between these river systems.

Figure 11 - nMDS for all Samples with River System as the Factor

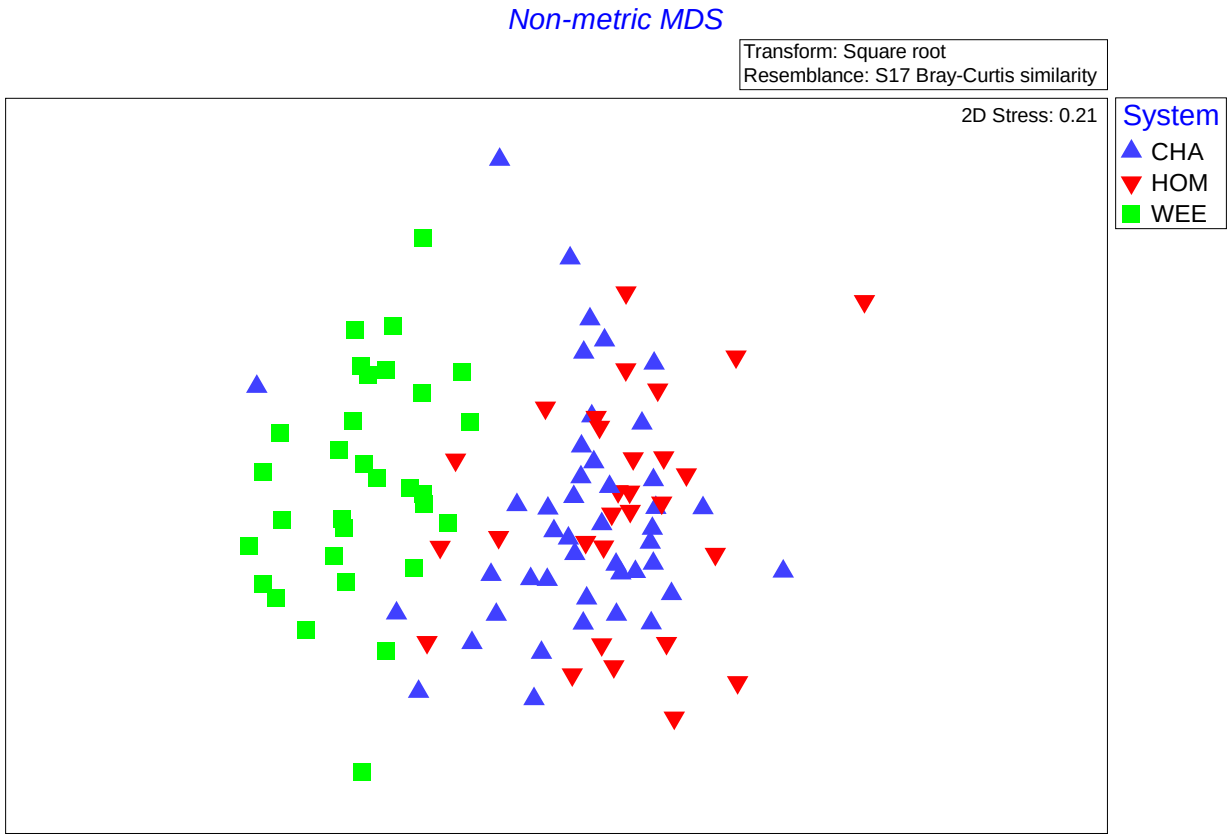


Table 18 - ANOSIM Results for all Samples with River System as the Factor

	CHA	HOM	WEE
CHA			
HOM	0.054674		
WEE	0.584281	0.636003	
Global R = 0.402, p = 0.001			

Habitats

Habitat diversity (number of habitats sampled) was evaluated to determine if the number of habitats that were available to sample within each zone was correlated to other abiotic factors or biological metrics. It must be noted that there was a limited amount of data to conduct these analyses. In addition, significant correlations do not necessarily indicate causation of one parameter onto another. Given these two caveats, for all sites combined, habitat diversity was negatively correlated with water temperature (Rho = -0.694, p = 0.000), DO (Rho = -0.353, p = 0.048), salinity (Rho = -0.691, p = 0.000), conductivity (Rho = -0.699, p = 0.000), turbidity (Rho = -0.656, p = 0.000), and sediment type (i.e. higher organic material supported a fewer number habitats; Rho = -0.492, p = 0.004). Habitat diversity was also positively correlated with canopy cover (Rho = 0.451, p = 0.010), richness, and Margalef's richness (**Table 19**). The full correlation matrix results output from MINITAB is provided in **Table C-1** in **Appendix C**.

Habitat Type was used as a factor to evaluate trends in invertebrate community structure among macroalgae, rock, sediment, SAV and snag habitats. Samples collected from sediment habitats clustered at the top of the nMDS plot (**Figure 12**). ANOSIM indicated that the invertebrate communities from sediment samples were significantly different, albeit slightly, than those within SAV or Snag habitats when samples from all three river systems were accounted for. Additionally, invertebrate communities collected from macroalgal habitats were significantly different from those collected from snag habitats (**Table 20**).

Dominance scores were calculated for the taxa within each habitat for all samples. The 15 macroinvertebrate taxa with the highest dominance scores for each habitat are listed in **Table 21** with their dominance scores as well as their percent contribution to the total number of organisms in all samples from each site. Snag habitat displayed the highest total species richness of 142 taxa, followed by SAV and macroalgae (which had the same species richness of 118 taxa). Sediment and rock habitat had similar taxa richness with 86 and 84 taxa, respectively. The dominant taxon found in the macroalgae samples was the amphipod *Hyalella azteca* sp. complex making up 49% of the organisms found in macroalgae samples. Hydrobiidae snails are the second most dominant taxon in the macroalgae samples. Dominant taxa found in the rock samples were the tanaid Leptocheliidae spp., followed by the amphipod *G. bonnieroides*. Dominant taxa found in the SAV samples were the midges *Tanytarsus* spp. and *Cricotopus/Orthocladius* spp. making up 22% and 12% of the organisms found in all of the SAV samples, respectively. Dominant taxa found in the sediment samples were the amphipod *G. bonnieroides* and Tubificinae worms making up 20% and 15% of the total organisms found in all of the sediment samples, respectively. Dominant taxa found in snag samples were the tanaid Leptochellidae spp., followed by the amphipod *A. louisianum,* making up 30% and 22% of the total organisms found in all snag samples, respectively.

Table 19 - Spearman's Rank Correlation Results for Biological Metrics and Abiotic Factors for All Systems

Physical-Chemical Parameters	Richness (# of taxa)	Abundance (total # of individuals/m^2)	Margalef's Richness Index (d)	Pielou's Evenness Index (J')	Shannon's Diversity Index (H'(loge))	Simpson's Diversity Index (1-Lambda')
Water Temperature (°C)	Rho = -0.287 p = 0.112	Rho = -0.071 p = 0.688	**Rho = -0.404 p = 0.022**	Rho = 0.0148 p = 0.418	Rho = -0.125 p = 0.495	Rho = -0.029 p = 0.877
Dissolved Oxygen (mg/L)	Rho = 0.056 p = 0.763	Rho = 0.008 p = 0.967	Rho = -0.073 p = 0.691	Rho = -0.054 p = 0.767	Rho = 0.052 p = 0.779	Rho = 0.012 p = 0.949
Dissolved Oxygen (%)	Rho = 0.024 p = 0.896	Rho = -0.001 p = 0.995	Rho = -0.109 p = 0.554	Rho = -0.038 p = 0.834	Rho = 0.034 p = 0.854	Rho = -0.002 p = 0.991
Salinity (ppt)	**Rho = -0.354 p = 0.047**	Rho = -0.071 p = 0.700	**Rho = -0.410, p = 0.020**	Rho = 0.299 p = 0.097	Rho = -0.036 p = 0.846	Rho = 0.155 p = 0.398
Conductivity (µS/cm)	**Rho = -0.421 p = 0.016**	Rho = -0.020 p = 0.914	**Rho = -0.494 p = 0.004**	Rho = 0.303 p = 0.092	Rho = -0.064 p = 0.726	Rho = 0.155 p = 0.397
pH (SU)	Rho = 0.035 p = 0.851	Rho = 0.002 p = 0.991	Rho = -0.061 p = 0.741	Rho = -0.112 p = 0.540	Rho = 0.001 p = 0.995	Rho = -0.042 p = 0.818
Turbidity (NTU)	**Rho = -0.351 p = 0.049**	Rho = -0.133 p = 0.467	**Rho = -0.422 p = 0.016**	Rho = 0.157 p = 0.392	Rho = -0.099 p = 0.590	Rho = -0.005 p = 0.978
Canopy Cover (%)	**Rho = 0.383 p = 0.031**	Rho = -0.228 p = 0.209	**Rho = 0.625 p = 0.000**	Rho = 0.031 p = 0.865	Rho = 0.307 p = 0.088	Rho = 0.187 p = 0.306
Habitat Diversity	**Rho = 0.420 p = 0.017**	Rho = 0.207 p = 0.255	**Rho = 0.501 p = 0.004**	Rho = -0.316 p = 0.078	Rho = 0.151 p = 0.409	Rho = -0.030 p = 0.869

Note: Rho is the correlation coefficient, bolded cells are considered to be statistically significant at $p<0.05$.

Figure 12 - nMDS for all Samples with Habitat Type as the Factor

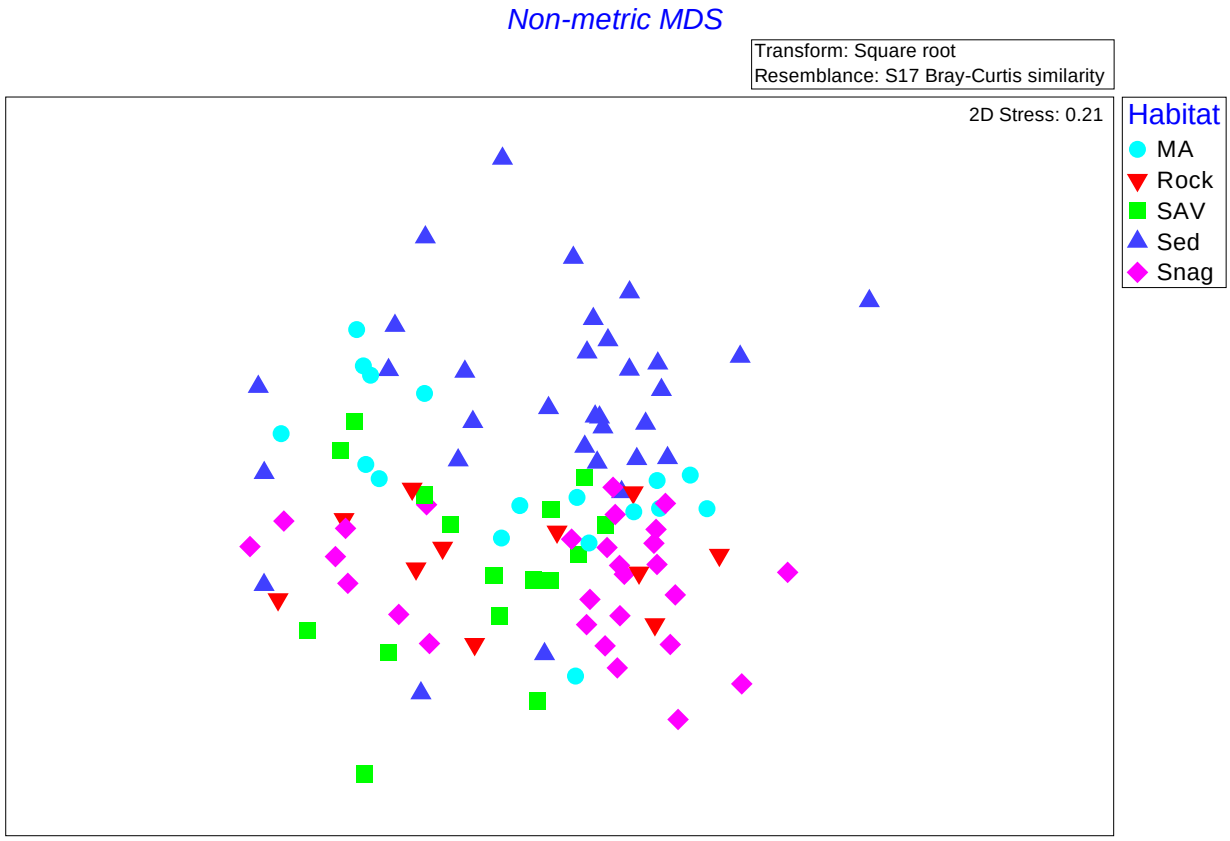


Table 20 - ANOSIM Results for all Samples with Habitat Type as the Factor

	MA	Rock	SAV	Sed	Snag
MA					
Rock	0.172019				
SAV	0.131463	0.095455			
Sed	0.179481	0.189026	0.265882		
Snag	0.199277	0.04349	0.123929	0.313547	
Global R = 0.195, p = 0.001					

Table 21 - Dominant 15 Taxa in Each Habitat

Common Classification	Scientific Name	Macroalgae		Rock		SAV		Sediment		Snag	
		Dominance Index Score	% of Total	Dominance Index Score	% of Total	Dominance Index Score	% of Total	Dominance Index Score	% of Total	Dominance Index Score	% of Total
Annelida (worms)	*Laeonereis culveri*	5.00	0.67%	7.20	1.42%			28.37	13.28%		
	Limnodrilus hoffmeisteri							10.93	2.47%		
	Pristina leidyi			5.58	3.43%	6.63	1.01%			9.75	1.90%
	Tubificinae spp.	6.88	1.08%			7.61	1.32%	31.04	14.45%		
Crustaceans	*Americorophium ellisi*							6.25	1.84%		
	Americorophium sp. A									7.93	3.52%
	Apocorophium louisianum	10.70	3.05%					11.88	5.82%	34.17	20.44%
	Cassidinidea ovalis					8.01	1.28%				
	Cyathura polita							6.60	1.60%		
	Gammarus spp.	20.89	6.98%	12.73	4.46%	18.82	7.08%	9.52	2.99%	7.73	1.40%
	Grandidierella bonnieroides	16.16	4.64%	34.78	19.01%	8.77	2.05%	31.81	18.56%	17.29	5.23%
	Hyalella azteca sp. complex	52.44	48.90%	18.44	4.68%	21.83	8.48%	6.55	1.41%	10.04	2.57%
	Leptocheliidae spp.	18.19	5.29%	41.07	37.11%	11.15	2.84%	9.82	3.54%	44.52	27.75%
	Melita nitida complex			6.21	0.85%						
	Sinelobus stanfordi									19.12	7.88%
	Uromunna reynoldsi	11.16	2.49%	11.99	2.64%	11.77	3.17%			7.05	1.16%
Insects											
Diptera	Chironomidae spp.			5.69	0.59%	10.05	1.62%				
	Cladotanytarsus spp.			6.74	0.83%			5.24	1.13%		
	Cricotopus or Orthocladius			6.75	0.72%	31.75	11.52%			5.72	0.61%
	Dicrotendipes spp.	15.31	3.41%	19.00	4.97%	21.82	6.92%	11.90	3.11%	14.20	2.69%
	Nanocladius spp.					7.88	1.99%				
	Polypedilum halterale group							5.16	1.25%		
	Polypedilum scalaenum group							7.75	1.98%		
	Polypedilum illinoense group					12.73	3.71%			6.04	1.02%
	Tanytarsus spp.	9.02	1.18%	12.75	2.98%	41.11	20.80%			14.54	3.48%
Ephemeroptera (mayfly)	*Caenis diminuta*	3.71	0.44%								
Tichoptera (caddisfly)	*Cheumatopsyche* spp.	4.02	0.86%							5.75	1.32%
Gastropoda (snail)	Hydrobiidae spp.	29.92	10.23%	16.58	5.04%	20.74	5.74%	24.21	12.09%	17.27	4.64%
	Melanoides spp.	6.84	1.50%	5.16	0.73%						
Platyhelminthes(flatworms)	Platyhelminthes spp.	5.01	0.50%								
Total Species Richness		**118**		**84**		**118**		**86**		**142**	
Chassahowitzka Species Richness		**50**		**40**		**72**		**46**		**80**	
Homosassa Species Richness		**68**		**41**				**57**		**74**	
Weeki Wachee Species Richness		**58**		**40**		**76**		**29**		**61**	

Correlations between the Biological Community and Abiotic Factors

Associations were made between physicochemical parameters and biological metrics for all systems combined using the nonparametric correlation statistic Spearman's Rank, which is shown in the correlation matrix **Table 19**. Water temperature, salinity, conductivity, and turbidity were all significantly inversely correlated with Margalef's richness index. Conversely, Margalef's richness index was positively correlated with habitat diversity (number of habitats sampled) and canopy cover, as was richness. Richness was inversely correlated with salinity, conductivity (a covariate of salinity), and turbidity. None of the diversity indices nor abundance metrics were correlated to any of the abiotic factors.

Spearman's Rank correlation analysis was used to look at percent composition of major taxonomic groups within each zone and the water quality parameter measurements. **Table 22** presents the significant correlations. Percent composition of several insect groups were negatively correlated with salinity, conductivity, water temperature, and turbidity. The caddisflies (Trichoptera) and mayflies (Ephemeroptera) are known to be sensitive to pollution and salinity, which in this case was evident by the stronger negative correlations to salinity and turbidity as compared to the other taxa groups. Annelid worms, however, were positively correlated with salinity and turbidity. The insect taxa tend to be associated more with freshwater, while worms are more common in estuarine and marine waters.

Table 22 - Significant Spearman's Rank Correlation Results for Percent of Major Taxonomic Groups per Zone and Water Quality for All Systems

Percentage of Major Taxonomic Group by Zone	Salinity ppt	Conductivity µS/cm	Water Temperature °C	Turbidity NTU	Dissolved Oxygen %
Acari	**-0.530**	**-0.505**	**-**	**-**	**-**
	0.002	*0.003*	*NS*	*NS*	*NS*
Annelida	**0.421**	**0.368**	**-**	**0.354**	**-**
	0.017	*0.038*	*NS*	*0.047*	*NS*
Coleoptera	**-0.609**	**-0.612**	**-0.480**	**-0.575**	**-**
	0.000	*0.000*	*0.005*	*0.001*	*NS*
Diptera	**-**	**-0.349**	**-0.384**	**-0.509**	**-**
	NS	*0.050*	*0.030*	*0.003*	*NS*
Ephemeroptera	**-0.613**	**-0.659**	**-0.491**	**-0.688**	**-**
	0.000	*0.000*	*0.004*	*0.000*	*NS*
Heteroptera	**-0.377**	**-0.376**	**-**	**-**	**-**
	0.033	*0.034*	*NS*	*NS*	*NS*
Lepidoptera	**-0.519**	**-0.531**	**-0.453**	**-0.560**	**-**
	0.002	*0.002*	*0.009*	*0.001*	*NS*
Trichoptera	**-0.701**	**-0.732**	**-0.637**	**-0.740**	**-0.362**
	0.000	*0.000*	*0.000*	*0.000*	*0.042*
Odonata	**-0.546**	**-0.542**	**-**	**-0.473**	**-**
	0.001	*0.001*	*NS*	*0.006*	*NS*

Note: The top bolded value in each cell is Rho, the correlation coefficient. The bottom value in italics is the p-value. All results reported in this table are considered to be statistically significant at $p<0.05$

Longitudinal Patterns

Waterbody Area and Waterbody Type were used as factors to investigate longitudinal trends in invertebrate communities for samples from all three river systems. No distinctive pattern was observed in the nMDS plot when Waterbody Area was used as a factor (**Figure 13**). However, ANOSIM indicated a slightly significant difference between invertebrate communities within the Lower river samples when compared with those from the Upper and Spring samples (**Table 23**). As discussed previously, lower portions of each river system are more influenced by tides, therefore, the fluctuations in salinity may limit the occurrence of certain species in lower reaches of each river system. No significant differences existed between the invertebrate communities from Spring, Tributary and River samples when samples from all three river systems were examined with nMDS and ANOSIM (Global R = 0.03, p = 0.206).

Figure 13 - nMDS for all Samples with Waterbody Area as the Factor

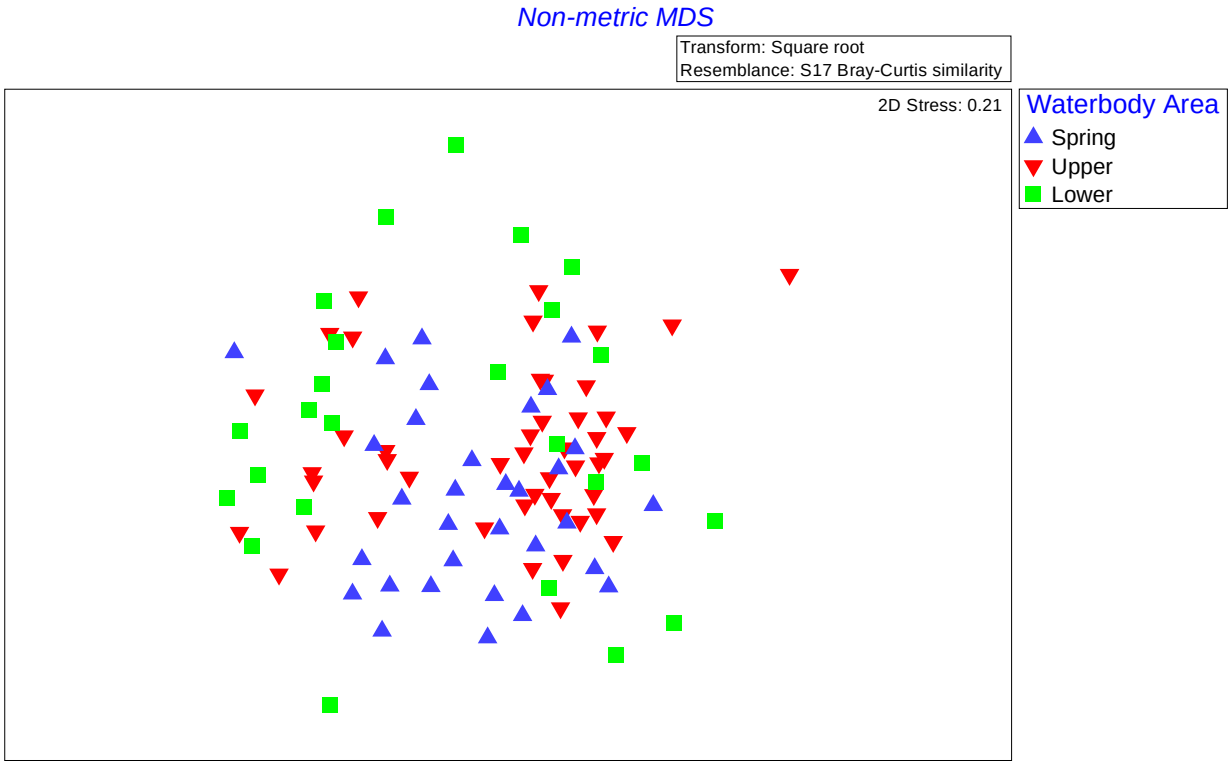


Table 23 - ANOSIM Results for all Samples with Waterbody Area as the Factor

	Spring	Upper	Lower
Spring			
Upper	0.082782		
Lower	0.275369	0.228566	
Global R = 0.174, p = 0.001			

Comparison to Previous Studies

Janicki Environmental, Inc. (2006) defined four salinity classes for Southwest Florida tidal rivers based on benthic macroinvertebrate community structures: 0-7 ppt = oligohaline; 8-18 ppt = mesohaline; 19-29 ppt = polyhaline; and >29 ppt = eurohaline. During the Amec Foster Wheeler sampling events, all measured salinities were less than 7 ppt; therefore, they are classified as oligohaline based on Janicki's classification system.

3.2 Comparisons within Rivers

Benthic macroinvertebrate communities of the three river systems, Chassahowitzka, Homosassa, and Weeki Wachee, will be discussed below on an individual river basis. Results will be summarized in relation to abiotic physicochemical parameters, habitat type, waterbody type, and longitudinal gradient. To examine trends in more detail for each river system, the same factors were used in similar analyses as above, with the addition of the BEST analysis to investigate correlations with environmental parameters. Percent composition of major taxonomic groups and functional feeding groups within each system were examined by habitat and by zone. Percent composition of functional feeding groups by waterbody type were also examined. Furthermore, average abundance, total species richness and average diversity by each river zone were examined for trends in invertebrate community structure along a longitudinal gradient within each river system.

3.3 Chassahowitzka

Invertebrate communities of the Chassahowitzka and its associated springs and tributaries will be discussed below in relation to abiotic factors, habitat type, waterbody type, and longitudinal gradient.

Abiotic Factors

Table D-1 in **Appendix D** provides a comprehensive correlation matrix for the Chassahowitzka River zones that includes parametric (Pearson's R) and nonparametric (Spearman's Rho and Kendall's Tau) correlation results between physicochemical parameters and biological metrics. Distance from the headspring in river kilometer was included as a factor to determine whether a longitudinal gradient existed, therefore results from those analyses will be provided in the appropriate section below. Additionally, the biological metrics and abiotic factors will also be provided in a subsequent section.

Habitats

Habitat diversity (number of habitats sampled) was evaluated to determine if the number of habitats that were available to sample within each zone in Chassahowitzka River was correlated to other abiotic factors or biological metrics. It must be noted that there was a limited amount of data to conduct these analyses. In addition, significant correlations do not necessarily indicate causation of one parameter onto another. This nuance can be applied to the other two river systems as well. Given these two caveats, for all sites combined, habitat diversity was negatively correlated with water temperature (Rho = -0.732, p = 0.004), salinity (Rho = -0.629, p = 0.021), conductivity (Rho = -0.643, p = 0.018), and turbidity (Rho = -0.720, p = 0.005). Habitat diversity was also positively correlated with Shannon's diversity (Rho = 0.649, p = 0.016), richness (Rho =

0.586, p = 0.035), and Margalef's richness (Rho = 0.794, p = 0.001). The full correlation matrix results output from MINITAB is provided in **Table C-2** in **Appendix C**.

For Chassahowitzka, crustaceans were the dominant major taxonomic group in the macroalgae, rock, sediment and snag habitats, while midges were the most abundant and dominant taxa in the SAV habitats. Ephemeroptera were rare across all habitats; however they were most common in macroalgae samples. Trichoptera were also rare across all habitats; however they were most common in SAV samples (**Figure 14**). When percent composition of organisms within each functional feeding group was examined by habitat, collector-gatherer/deposit feeders were found to be the dominant group, followed by browser-grazers, in all habitats. Filter-feeders were most common in snag habitats (**Figure 15**).

Figure 14 - Percent Composition of Organisms from Major Taxa Groups by Habitat Type within the Chassahowitzka River

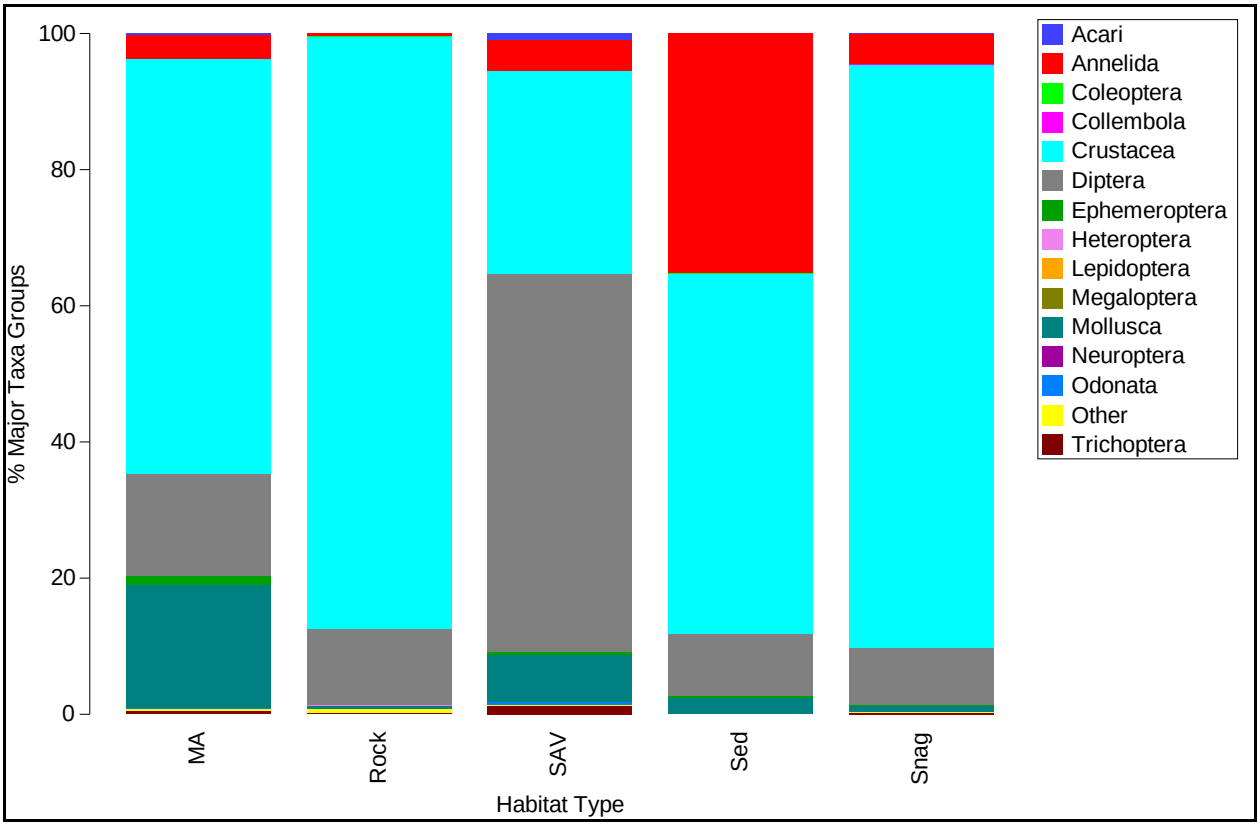
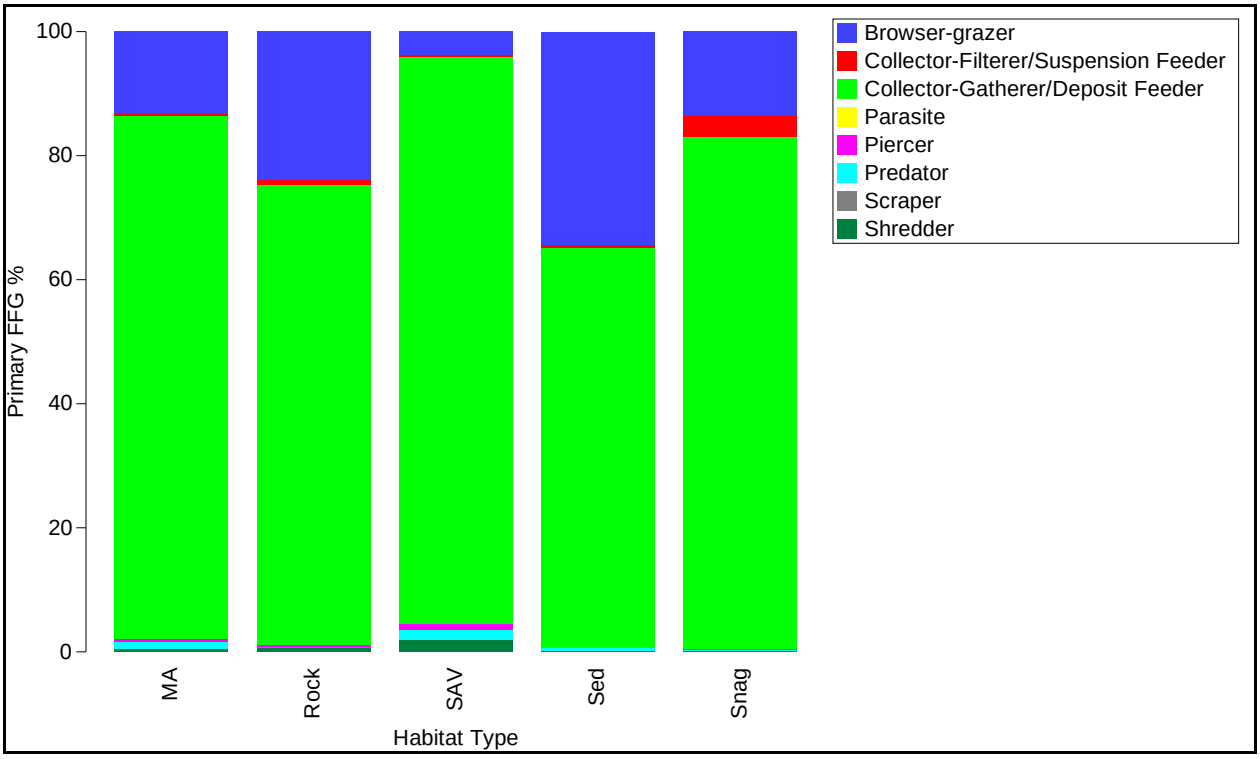


Figure 15 - Percent Composition of Organisms from each Functional Feeding Group by Habitat Type within the Chassahowitzka River



When samples from Chassahowitzka were ordinated with nMDS, a separation between the samples collected in sediment habitats versus some of the other habitats was evident (**Figure 16**). The ANOSIM results revealed additional significant differences for invertebrate communities between macroalgae and rock habitats, and between macroalgae and snag habitats (**Table 24**). SIMPER results listed the taxa that contributed up to 50% cumulatively to the dissimilarity between the significant pairwise comparisons observed in the ANOSIM for Habitat Type (**Table 25**). More motile speices including the snail, Hydrobiidae spp.; the amphipod, *Gammarus* spp.; the isopod, *Uromunna reynoldsi*; and the midge, *Dicrotendipes* spp. all had higher average abundances in the macroalgae habitats and contributed to the significant differences observed between the invertebrate communities in this habitat and those in the rock and snag habitats. This could be due to their mobility and/or dietary requirements as these organisms may feed directly on the macroalgae. The annelid worms, *L. culveri* and Tubificinae spp., and the amphipod, *G. bonnieroides*, had higher average abundances in the sediment habitats versus the SAV and snag. These organisms contributed to the significant differences observed between these invertebrate communities. Organisms such as the tanaid Leptocheliidae spp. and the amphipod *A. louisianum* are tube-dwelling organisms that can occur in high densities and typically attach to debris or submerged vegetation (Heard *et al.*, 2003; LeCroy, 2004). These two taxa had higher average abundances within the snag habitat as would be expected (**Table 25**). Additionally, organisms that are confined to the sediment, such as annelid worms, had higher average abundances as expected in this habitat.

Figure 16 - nMDS for the Chassahowitzka River Samples with Habitat Type as the Factor

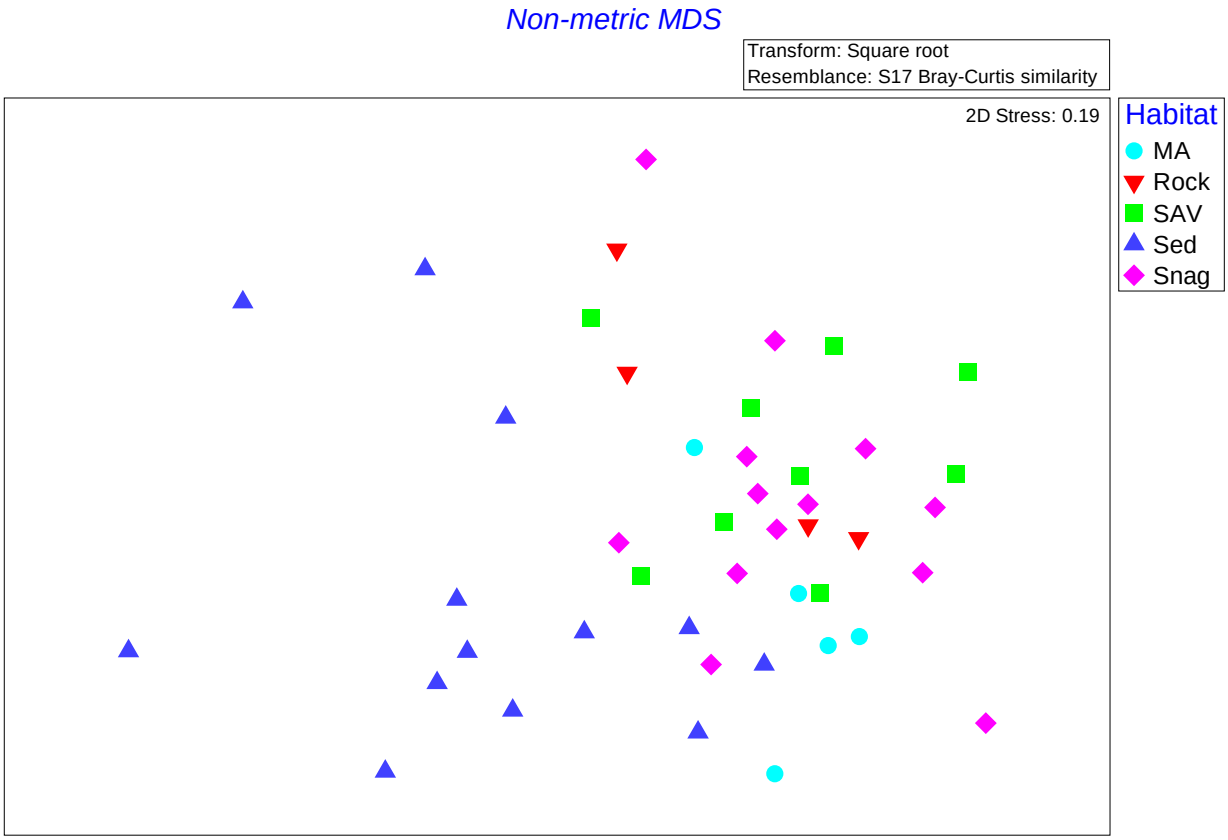


Table 24 - ANOSIM Results for the Chassahowitzka River Samples with Habitat Type as the Factor

	MA	Rock	SAV	Sed	Snag
MA					
Rock	0.38125				
SAV	0.16715	0.261905			
Sed	0.248252	0.26511	0.391963		
Snag	0.344056	0.157967	0.230469	0.495524	
Global R = 0.315, p = 0.001					

Table 25 - Chassahowitzka River SIMPER Results for Significant Pairwise Comparisons between Habitat Types

Taxa	Group 1 Average Abundance	Group 2 Average Abundance	% Contribution to Dissimilarity	% Cumulative Contribution to Dissimilarity
MA vs. Rock, Average Dissimilarity = 74.74				
	Rock	**MA**		
Hydrobiidae spp.	2.5	36.68	13.82	13.82
Gammarus spp.	10.61	38.72	10.64	24.46
Leptocheliidae spp.	28.41	23.08	9.03	33.49
Grandidierella bonnieroides	21.67	22.26	6.37	39.86
Dicrotendipes spp.	9.66	17.68	5.64	45.5
Uromunna reynoldsi	9.07	18.98	4.95	50.45
MA vs. Snag, Average Dissimilarity = 75.25				
	Snag	**MA**		
Hydrobiidae spp.	4.16	36.68	10.88	10.88
Gammarus spp.	5.36	38.72	9.79	20.67
Leptocheliidae spp.	30.81	23.08	7.42	28.08
Apocorophium louisianum	20.21	11.49	6.48	34.56
Dicrotendipes spp.	6.62	17.68	4.85	39.41
Grandidierella bonnieroides	7.07	22.26	4.78	44.19
Uromunna reynoldsi	5.16	18.98	4.53	48.72
Tanytarsus spp.	8.11	12.66	3.71	52.44
Sed vs. Snag, Average Dissimilarity = 86.98				
	Sed	**Snag**		
Leptocheliidae spp.	7.77	30.81	10.71	10.71
Laeonereis culveri	24.29	3.13	7.46	18.18
Apocorophium louisianum	5.99	20.21	7.23	25.41
Tubificinae spp.	23.99	0.96	7.08	32.49
Grandidierella bonnieroides	27.75	7.07	6.36	38.85
Sinelobus stanfordi	1.96	12.78	4.09	42.94
Americorophium ellisi	9.85	1.8	3.59	46.53
Tanytarsus spp.	3.51	8.11	3.32	49.85
Gammarus spp.	10.12	5.36	3.31	53.16
Sed vs. SAV, Average Dissimilarity = 85.40				
	Sed	**SAV**		
Laeonereis culveri	24.29	4.74	7.53	7.53
Tubificinae spp.	23.99	1.64	7.15	14.68
Grandidierella bonnieroides	27.75	7.31	6.47	21.15
Tanytarsus spp.	3.51	18.09	5.87	27.02
Cricotopus or *Orthocladius*	1.6	14.4	5.32	32.34
Gammarus spp.	10.12	14.21	5.21	37.55
Hydrobiidae spp.	7.17	12.19	5.05	42.6
Polypedilum illinoense group	0	9.52	4.17	46.77
Leptocheliidae spp.	7.77	8.97	3.81	50.58

Waterbody Type

Comparison of invertebrate communities by waterbody type at Chassahowitzka revealed that the spring invertebrate community was different than those in the tributaries and the river (**Figure 17**). ANOSIM results revealed these significant differences were slight with a low Global R and higher p-value (**Table 26**). SIMPER results listed the taxa that contributed up to 50% cumulatively to the dissimilarity between the significant pairwise comparisons observed in the ANOSIM for Waterbody Type (**Table 27**). Multiple taxa had higher average abundances in the spring invertebrate communities versus those in the river, and contributed to the significant difference observed between these two waterbody types. The amphipod, *A. louisianum* and the tanaid Leptocheliidae spp. are both found in low salinity waters which were characteristic of the river and tributaries in the Chassahowitzka (Heard *et al.*, 2003; LeCroy, 2004). These two taxa had higher average abundances in the river and tributaries than the spring, and contributed to the observed significant differences between these invertebrate communities (**Table 27**). The other taxa did not exhibit much differences in average abundances between the two waterbody types. When percent composition of organisms within each functional feeding group was examined by waterbody type, collector-gatherer/deposit feeders, followed by browser-grazers, were found to be the dominant group in spring, tributary and river samples (**Figure 18**).

Figure 17 - nMDS for Chassahowitzka with Waterbody Type as the Factor

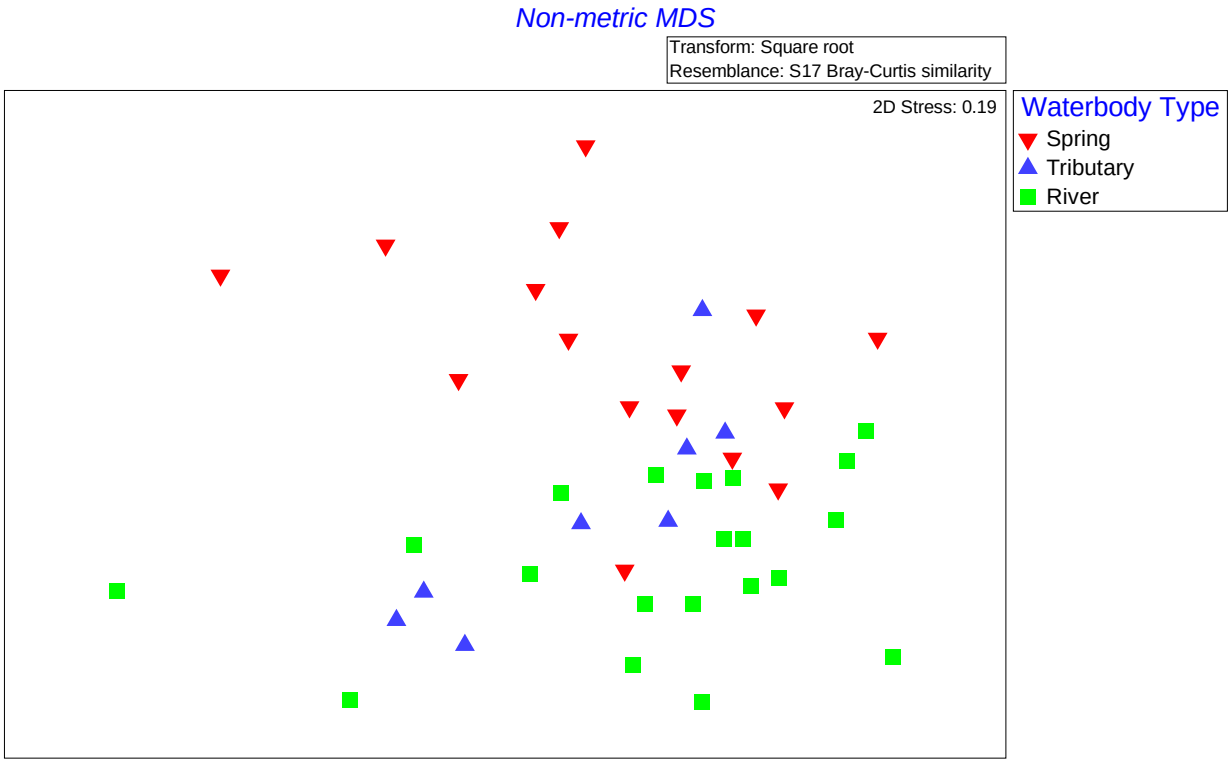


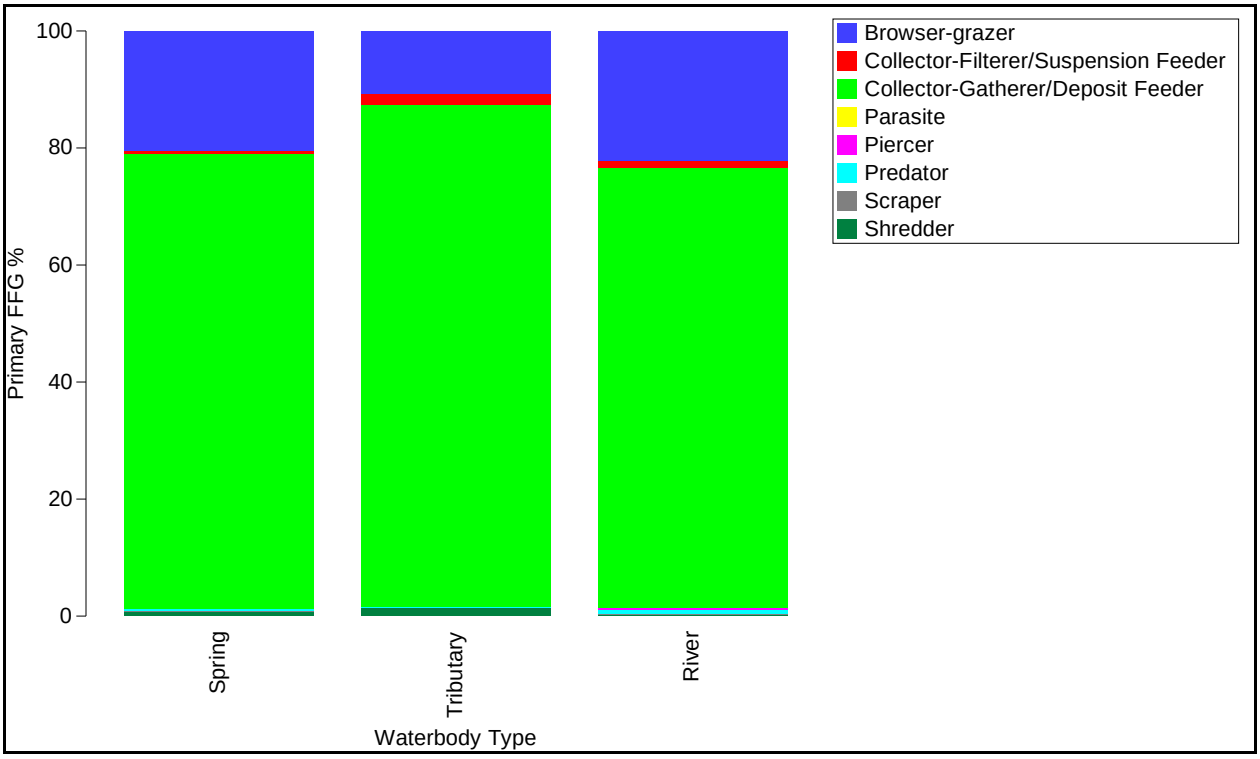
Table 26 - ANOSIM Results for Chassahowitzka with Waterbody Type as the Factor

	Spring	Tributary	River
Spring			
Tributary	0.170239		
River	0.195484	0.023681	
Global R = 0.146, p = 0.008			

Table 27 - Chassahowitzka River SIMPER Results for Significant Pairwise Comparisons between Waterbody Types

Taxa	Group 1 Average Abundance	Group 2 Average Abundance	% Contribution to Dissimilarity	% Cumulative Contribution to Dissimilarity
Spring vs. River, Average Dissimilarity = 80.70				
	Spring	**River**		
Leptocheliidae spp.	11.49	26.09	8.64	8.64
Grandidierella bonnieroides	13.02	19.97	6.12	14.76
Gammarus spp.	8.76	18.82	5.74	20.5
Laeonereis culveri	7.66	13.41	5.69	26.19
Hydrobiidae spp.	6.29	13.99	5.14	31.33
Tubificinae spp.	7.13	10.35	4.93	36.27
Apocorophium louisianum	1.51	15.83	4.9	41.16
Tanytarsus spp.	5.65	13	4.69	45.85
Dicrotendipes spp.	5.53	11.41	3.6	49.45
Sinelobus stanfordi	0.44	10.14	3.3	52.75
Spring vs. Tributary, Average Dissimilarity = 75.41				
	Spring	**Tributary**		
Apocorophium louisianum	1.51	21.38	10.42	10.42
Leptocheliidae spp.	11.49	14.27	8.07	18.5
Grandidierella bonnieroides	13.02	13.93	6.06	24.56
Laeonereis culveri	7.66	7.71	5.54	30.1
Hydrobiidae spp.	6.29	10.19	5.36	35.46
Polypedilum illinoense group	4.1	7.99	4.07	39.52
Gammarus spp.	8.76	4.48	4.03	43.55
Tubificinae spp.	7.13	1.43	3.28	46.83
Cricotopus or *Orthocladius*	3.82	5.37	3.22	50.06

Figure 18 - Percent Composition of Organisms from each Functional Feeding Group by Waterbody Type within the Chassahowitzka River



Longitudinal Patterns

As mentioned above, longitudinal gradients were examined using parametric (Pearson's R) and non-parametric (Spearman's Rho and Kendall's Tau) correlation analyses in the Chassahowitzka River. For the abiotic factors, habitat diversity, water temperature, salinity, conductivity and turbidity all had significantly strong and positive correlations with distance from the headspring, which indicates a strong longitudinal gradient that increases with distance. However, canopy cover decreased significantly along the longitudinal gradient (**Table D-1 in Appendix D**). In addition, biological metrics were evaluated, which resulted in two significant and strong longitudinal gradients where richness and Margalef's richness index both decrease with distance downstream. This is a similar pattern that was found in the overall correlations mentioned above. Additionally, Shannon's diversity index appeared to also decrease longitudinally downstream.

The total abundance of organisms in each sample was averaged by river zone to conduct analyses. Higher average abundances occurred in the upper zones of the mainstem of Chassahowitzka River (**Figure 19**). Total species richness peaked in the second spring zone (S-2) and declined downstream. Similarly, species richness peaked in the first river zone (R-1) and declined further downstream in the Potter Creek spring run (**Figure 20**). Average Shannon's diversity indices did not vary much longitudinally in the Chassahowitzka River (**Figure 21**). Average species richness on the mainstem river downstream of the junctions of Salt and Potter Creek is about half of that collected in the upper river. These results are also shown spatially in **Figure 22**.

The mainstem river channel included a lower river zone downstream of the Potter Creek junction, an upper river zone upstream of the Salt Creek junction, an intermediate area between those two stream junctions, and three separate spring zones. The data also suggests Potter Creek included a headspring zone, a short upper creek zone, and a longer lower creek zone.

Figure 19 - Average Abundance of Organisms by River Zone in the Chassahowitzka River

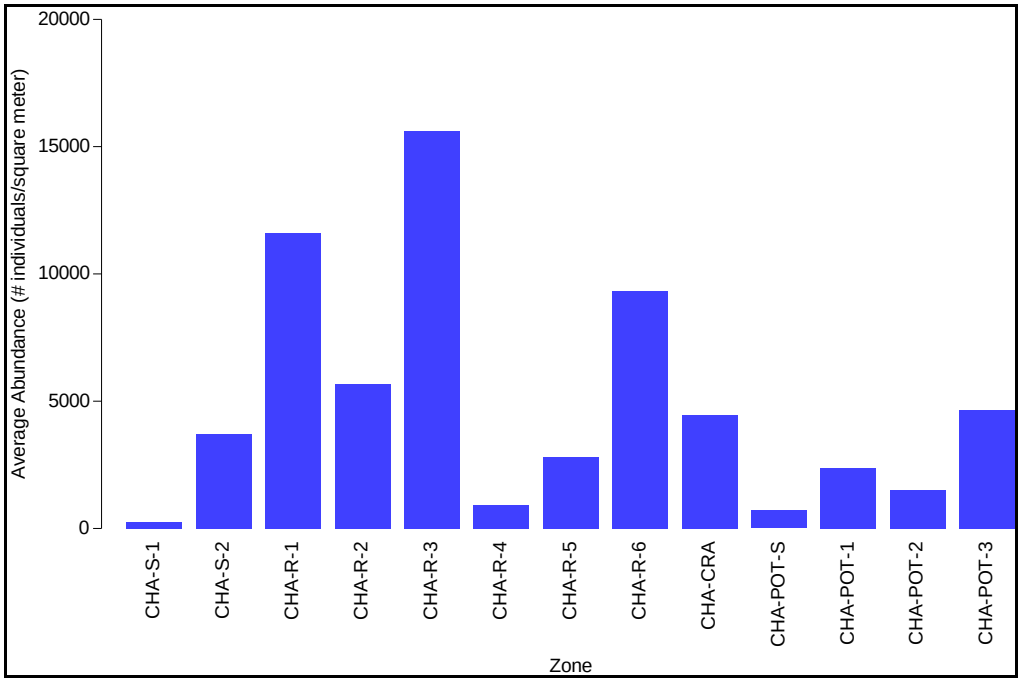


Figure 20 - Total Species Richness by River Zone in the Chassahowitzka River

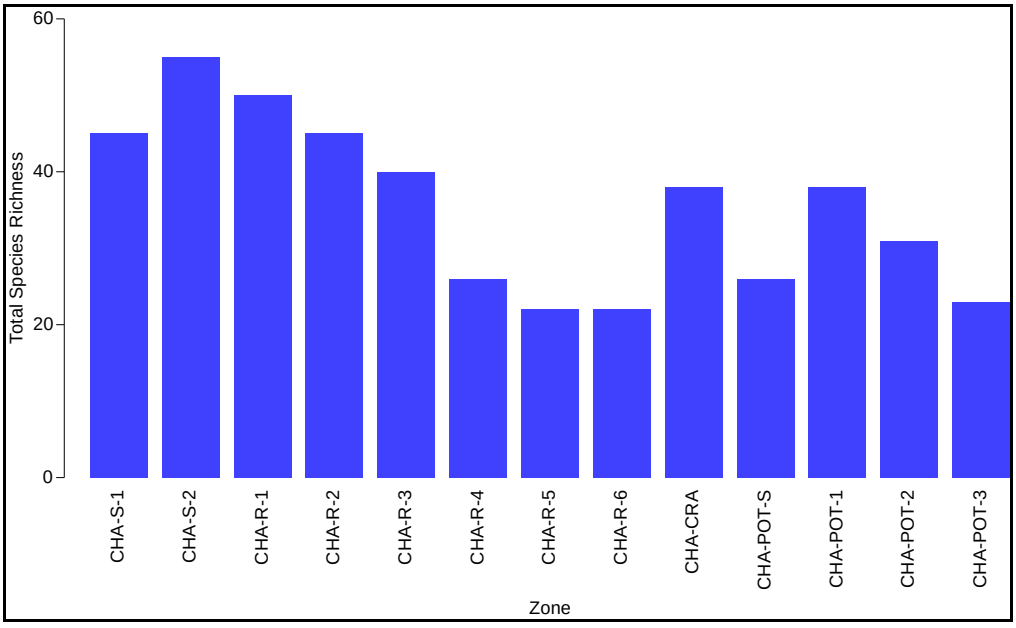
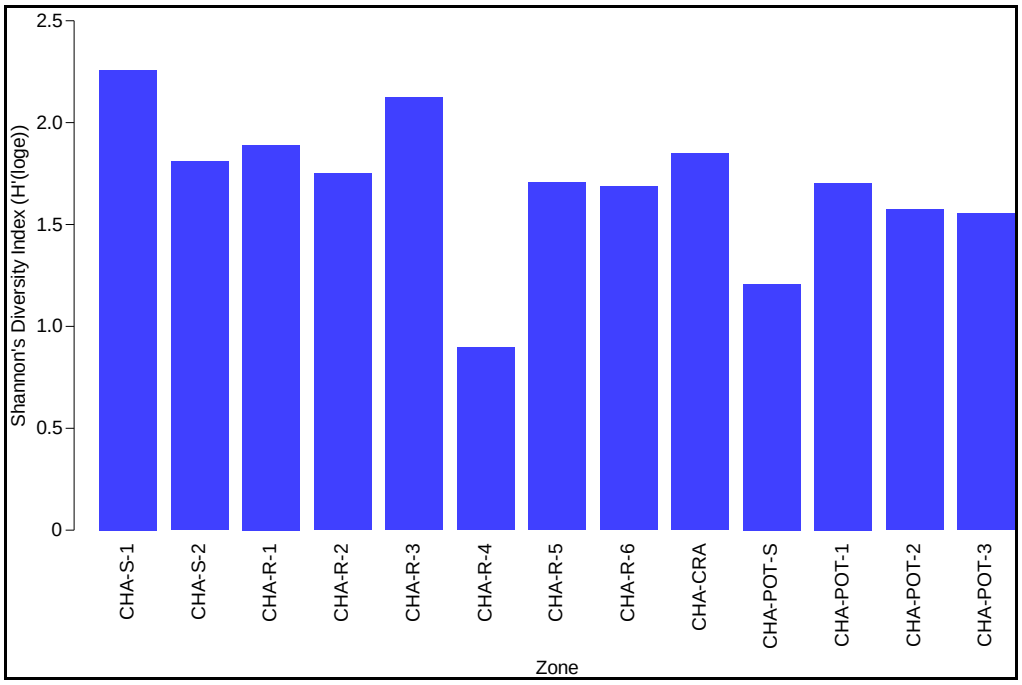


Figure 21 - Average Shannon's Diversity Index by River Zone for the Chassahowitzka River



Crustaceans were the dominant taxa in all zones except CHA-R-4 where molluscs were the dominant major taxon (**Figure 23**). Ephemeroptera, Odonata, and Trichoptera species were absent from lower river Chassahowtizka River samples (R-4, R-5, R-6); lower Potter Creek Samples (POT-R-2 and POT-R-3); and Crab Creek Spring (CRA). Collector-gatherer/deposit feeders were the dominant functional feeding group present in all zones within the Chassahowitzka River (**Figure 24**).

Figure 22 – Spatial Distribution of Selected Average Biological Metrics per Zone in the Chassahowitzka River

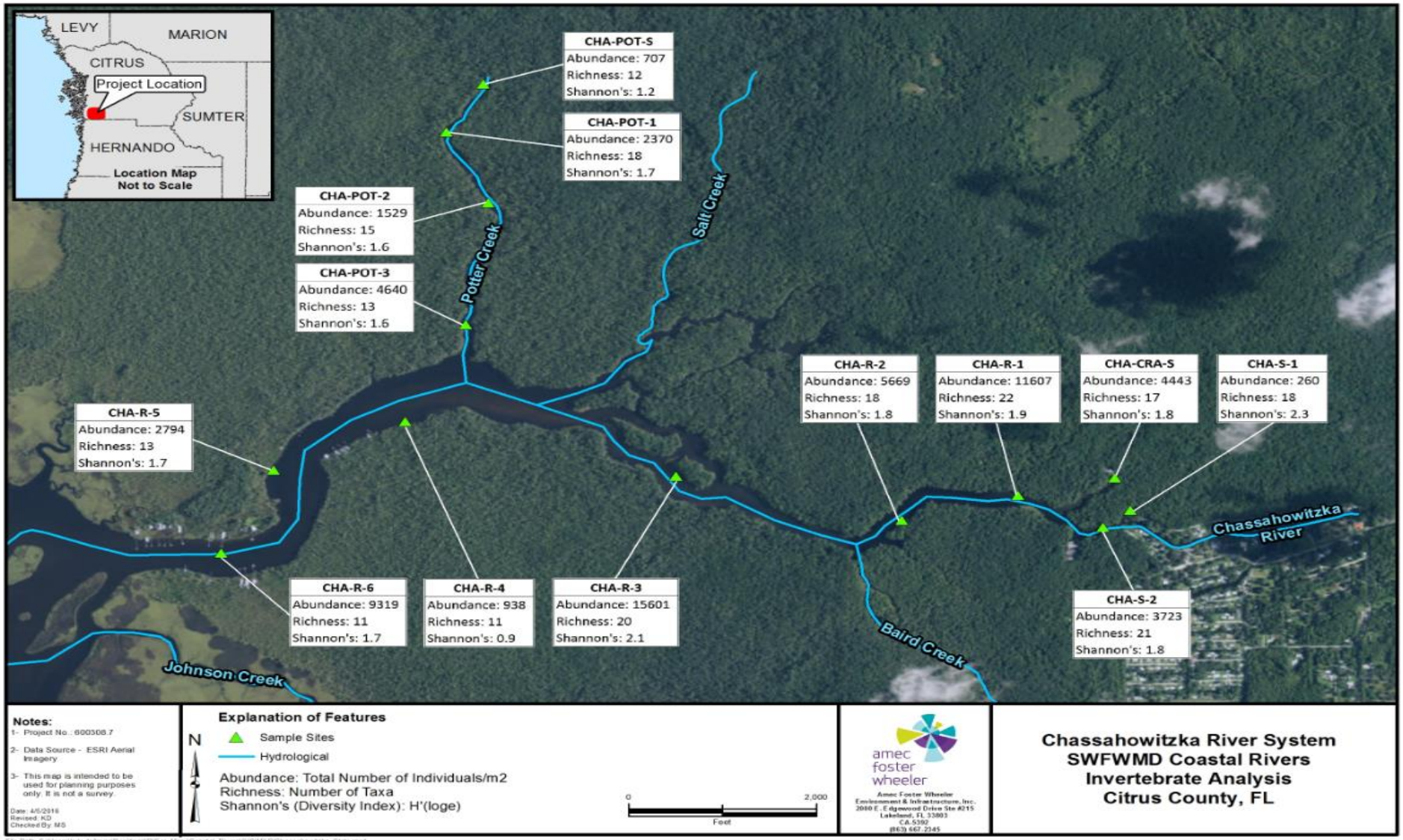


Figure 23 - Percent Composition of Organisms from Major Taxa Groups by River Zone in the Chassahowitzka River

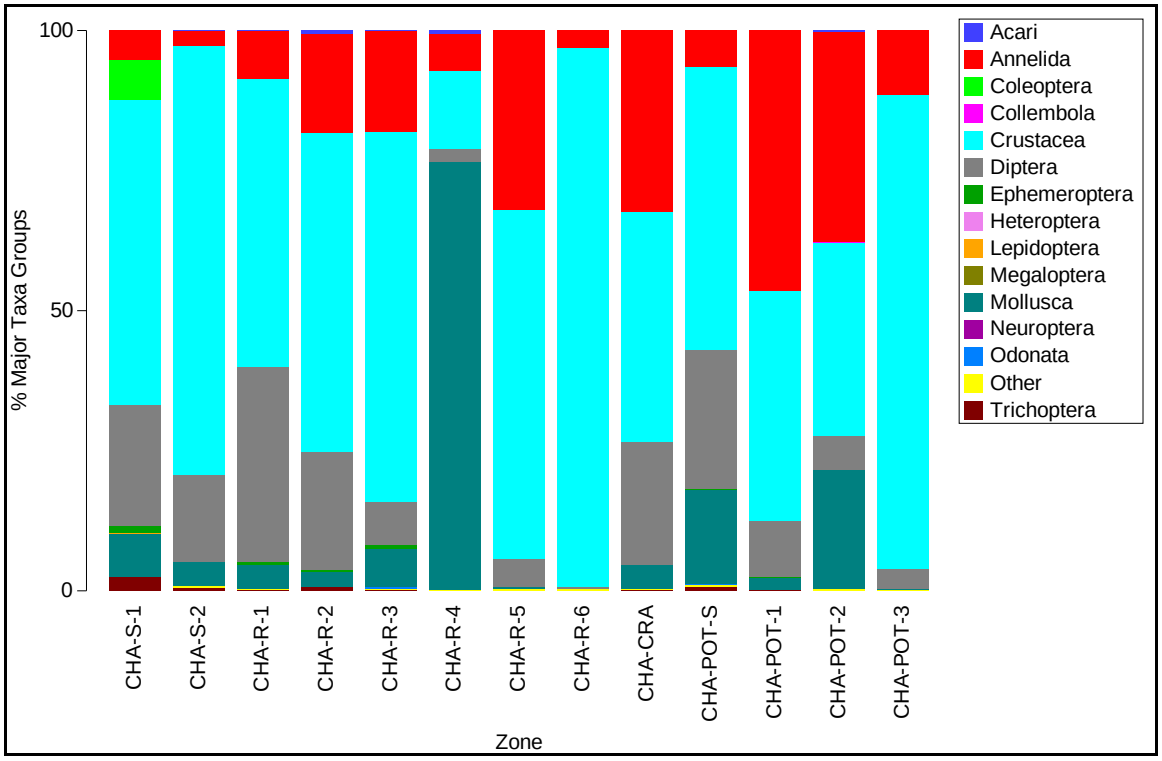
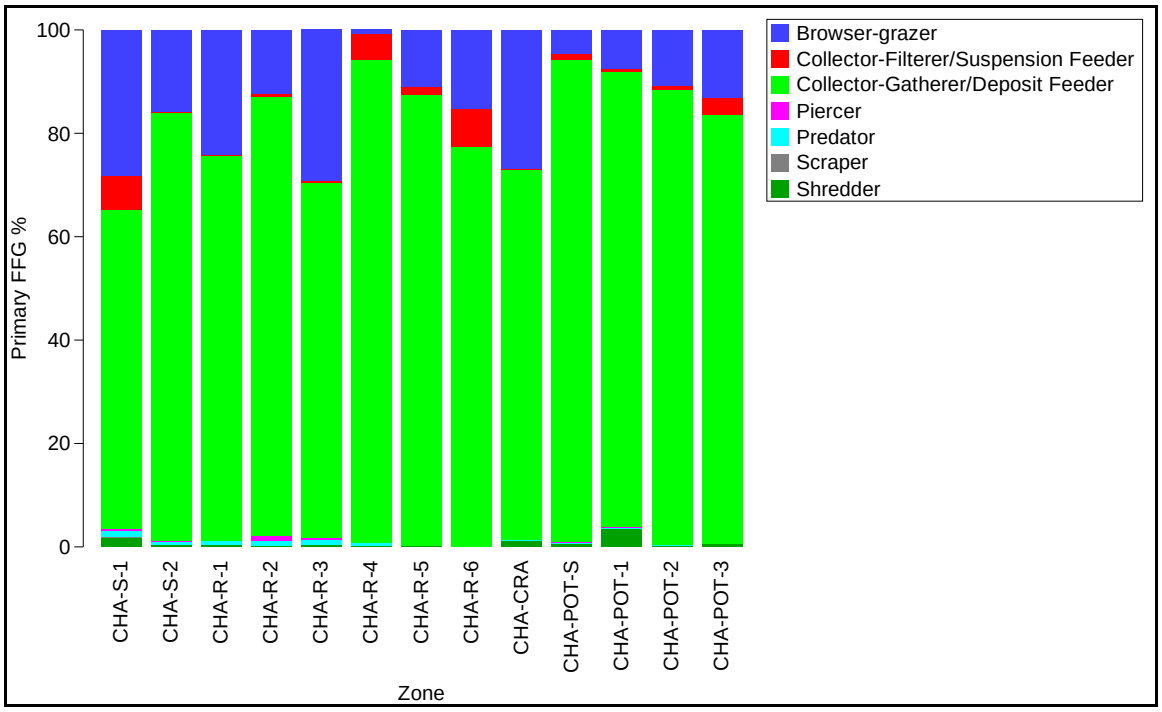


Figure 24 - Percent Composition of Organisms from each Functional Feeding Group by River Zone within the Chassahowitzka River



Longitudinal patterns within the Chassahowitzka were also examined by using Waterbody Area as a factor. The nMDS plot showed some separation between the different Waterbody Areas (**Figure 25**). ANOSIM indicated a significant difference between samples collected in the lower reaches of the Chassahowitzka when compared with those from the upper and spring areas of the river (**Table 28**). The amphipods, *G. bonnieroides*, *Gammarus* spp., and *H. azteca* sp. complex, all had higher average abundances in the spring versus the lower area of Chassahowitzka and contributed to the significant differences observed between these invertebrate communities. The *Hyalella* genus of amphipod has been noted to reside primarily in freshwaters, but can be swept downstream by rain events. It is currently unknown whether this species can survive long-term in higher salinities (LeCroy, 2007). The tanaid, Leptocheliidae spp.; the amphipods, *Gammarus* spp. and *G. bonnieroides*; and the midge, *Tanytarsus* spp., all had substantially higher average abundances in the upper versus the lower areas of the river. *Tanytarsus* spp. and *G. bonnieroides* have been known to occur in brackish waters (Epler, 1995; LeCroy, 2002). These taxa, along with several others, contributed to the dissimilarity observed between the invertebrate communities located in these two areas of the Chassahowitzka River (**Table 29**).

Figure 25 - nMDS Plot for Chassahowitzka with Waterbody Area as the Factor

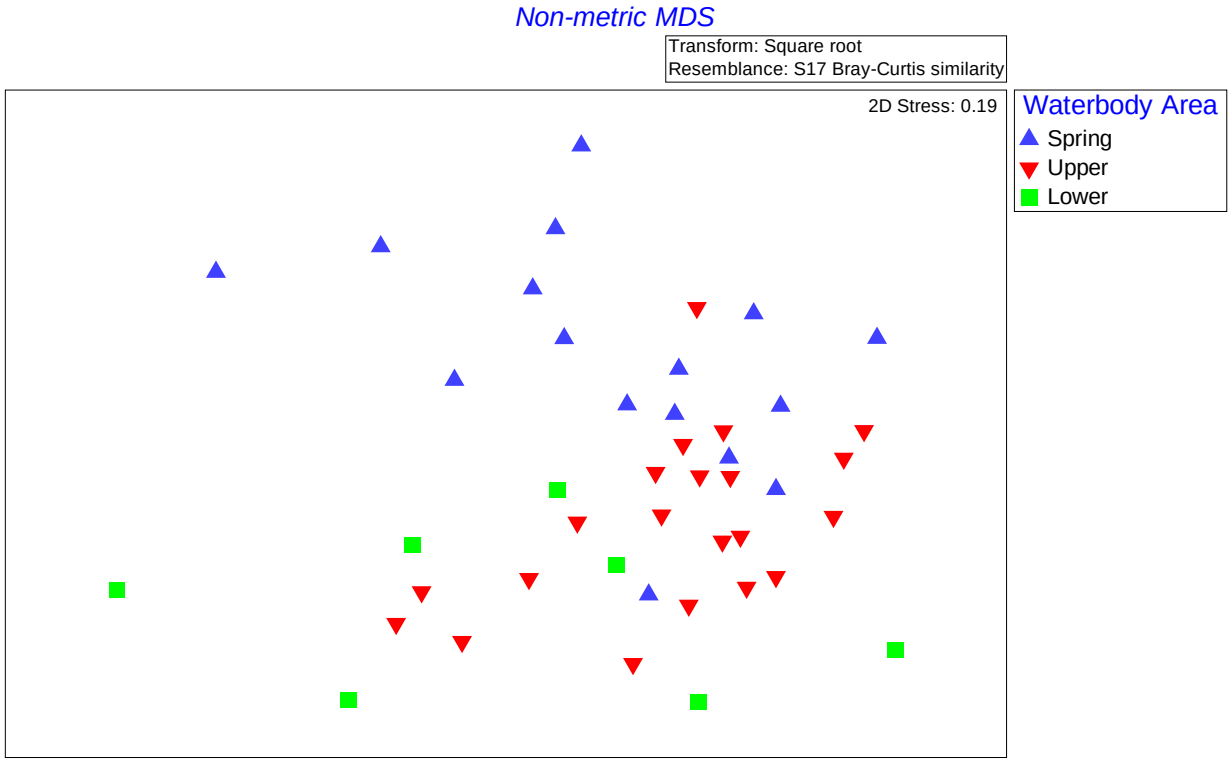


Table 28 - ANOSIM Results for Chassahowitzka with Waterbody Area as the Factor

	Spring	Upper	Lower
Spring			
Upper	0.22307		
Lower	0.443769	0.379922	
Global R = 0.300, p = 0.001			

Table 29 - Chassahowitzka River SIMPER Results for Significant Pairwise Comparisons between Waterbody Areas

Taxa	Group 1 Average Abundance	Group 2 Average Abundance	% Contribution to Dissimilarity	% Cumulative Contribution to Dissimilarity
Spring vs. Lower, Average Dissimilarity = 88.48				
	Spring	**Lower**		
Leptocheliidae spp.	13.64	14.92	7.54	7.54
Hydrobiidae spp.	6.89	9.08	6.71	14.25
Tubificinae spp.	4.15	7.64	5.85	20.1
Apocorophium louisianum	0.71	17.69	5.55	25.65
Grandidierella bonnieroides	12.63	2.38	4.9	30.55
Laeonereis culveri	3.13	7.32	4.62	35.18
Gammarus spp.	10.4	1.88	4.25	39.42
Americorophium ellisi	0	7.55	4.02	43.44
Sinelobus stanfordi	0.53	11.25	3.43	46.87
Hyalella azteca sp. complex	4.95	0.7	3.15	50.02
Upper vs. Lower, Average Dissimilarity = 80.50				
	Upper	**Lower**		
Leptocheliidae spp.	23.27	14.92	8.42	8.42
Apocorophium louisianum	15.1	17.69	7.27	15.7
Grandidierella bonnieroides	23.71	2.38	6.6	22.3
Laeonereis culveri	16.71	7.32	5.8	28.1
Hydrobiidae spp.	13.17	9.08	5.69	33.79
Gammarus spp.	18.36	1.88	5.12	38.92
Tubificinae spp.	10.94	7.64	4.99	43.91
Tanytarsus spp.	13.53	0.35	4.45	48.36
Sinelobus stanfordi	6.35	11.25	3.99	52.35

Correlations between the Biological Community and Abiotic Factors

Table D-1 in **Appendix D** provides a comprehensive correlation matrix that presents additional associations between biological metrics and abiotic factors found in Chassahowitzka River. Richness, Margalef's richness index and Shannon's diversity index all had strong significant inverse relationships with water temperature. DO was only negatively correlated with Pielou's evenness index and Simpson's diversity index (only with Pearson's R). Salinity and conductivity, which are covariates, were both strongly and negatively correlated with Margalef's richness index. pH was negatively correlated with Pielou's Evenness index and both diversity indices (only for Pearson's R). Situations where parameters are correlated by only the parametric test should be used with caution. Turbidity was correlated negatively with Margalef's richness index and Shannon's diversity index. Finally, Margalef's index was positively correlated with canopy cover. It appears that temperature, salinity, canopy cover, and turbidity may be good predictors for species richness (Margalef's index) in Chassahowitzka River. It should be noted that since several of the abiotic variables vary predictably with distance downstream, they may not actually influence the biological metrics despite significant correlations. For example, slight changes in temperature and pH with distance downstream are probably irrelevant related to the biology. It should be taken into consideration that regardless of the significant correlations with other parameters that 'Distance downstream' may be the most relevant variable. This distinction applies to the other two rivers as well.

The BEST analysis with the BIOENV option was utilized in PRIMER to identify significant correlations between the biological community structure and various environmental parameters. The combination of dissolved oxygen (%), conductivity (µS/cm) and turbidity (NTU) was best correlated with the invertebrate community structure in the Chassahowitzka River (rho = 0.421). Values for each of these significant environmental variables were overlaid as bubbles on the nMDS plot for each sample. The size of the bubble corresponded directly to the value of the environmental variable and the color of the bubble represented each Zone. Dissolved oxygen (%), conductivity (µS/cm) and turbidity (NTU) values were all lower in the spring zones and represented by the smaller bubbles, except for conductivity values in Potter Spring (**Figures 26a-c**). These results corroborated the longitudinal trends observed in the biological community. The invertebrate communities in the spring and upper zones are significantly different than the ones in the lower reaches of the river and some species such as beetles and the amphipod, *H. azteca* sp. complex prefer the physicochemical environmental in these areas of the Chassahowitzka River.

Figure 26a - Bubble Plot of Dissolved Oxygen (%) Values Superimposed on the nMDS Plot of River Zones within the Chassahowitzka River

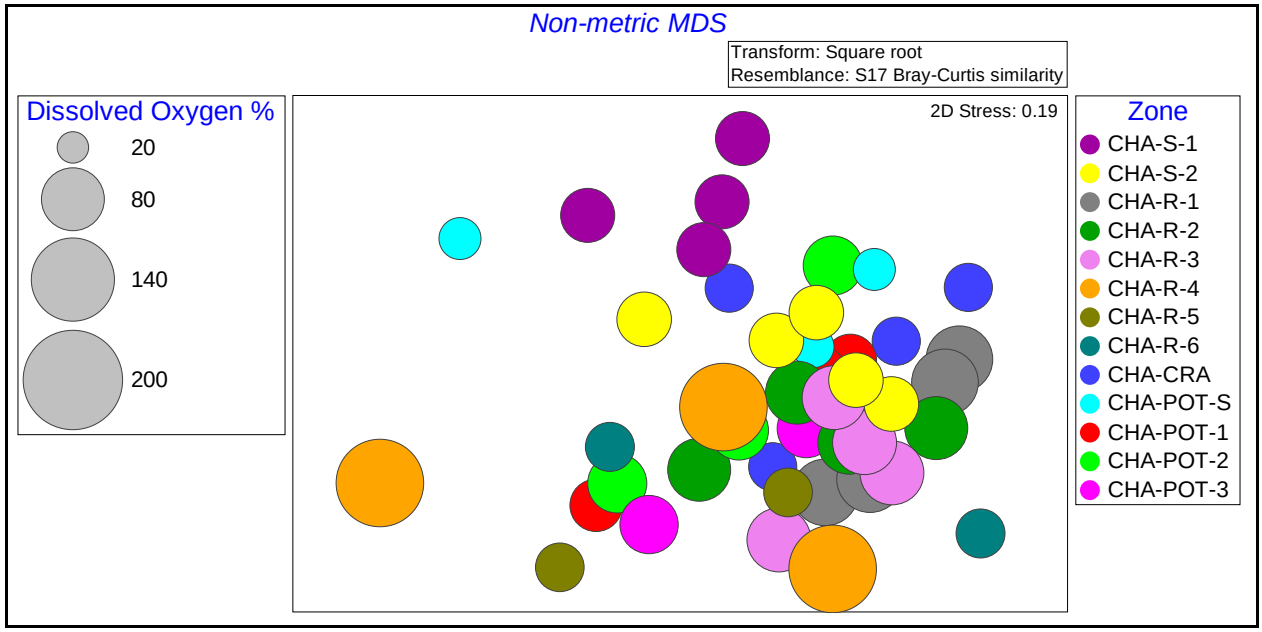


Figure 26b - BubblePplot of Conductivity (µS/cm) Values Superimposed on the nMDS Plot of River Zones within the Chassahowitzka River

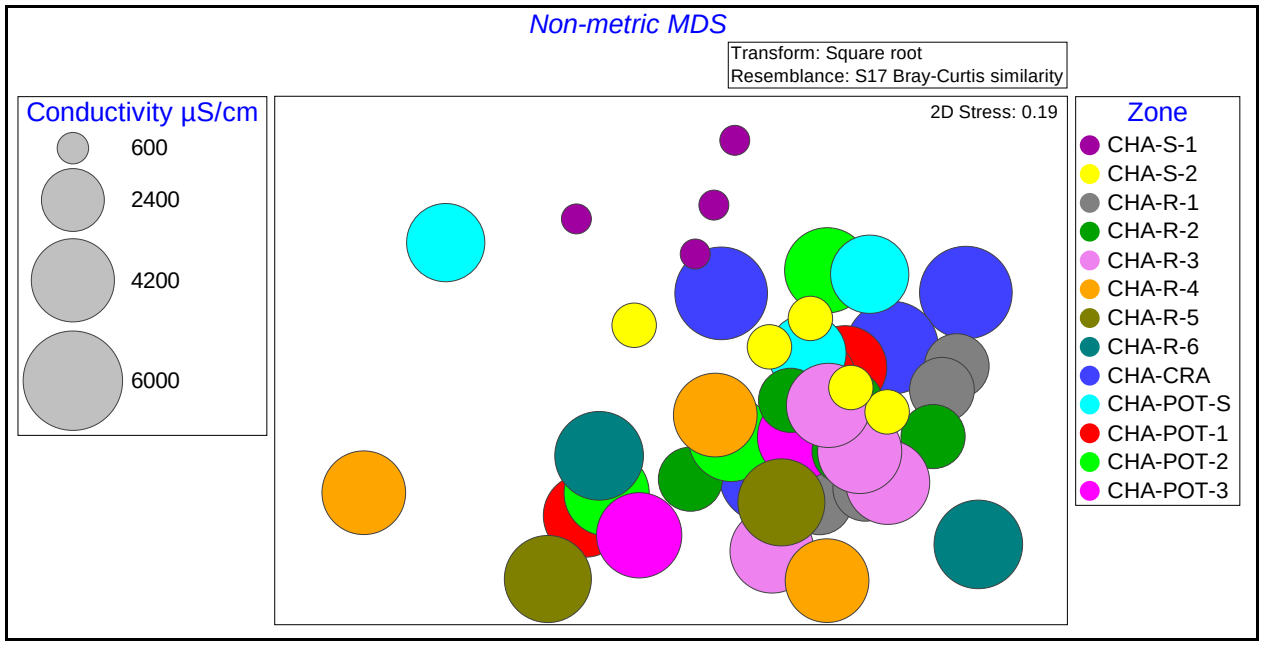
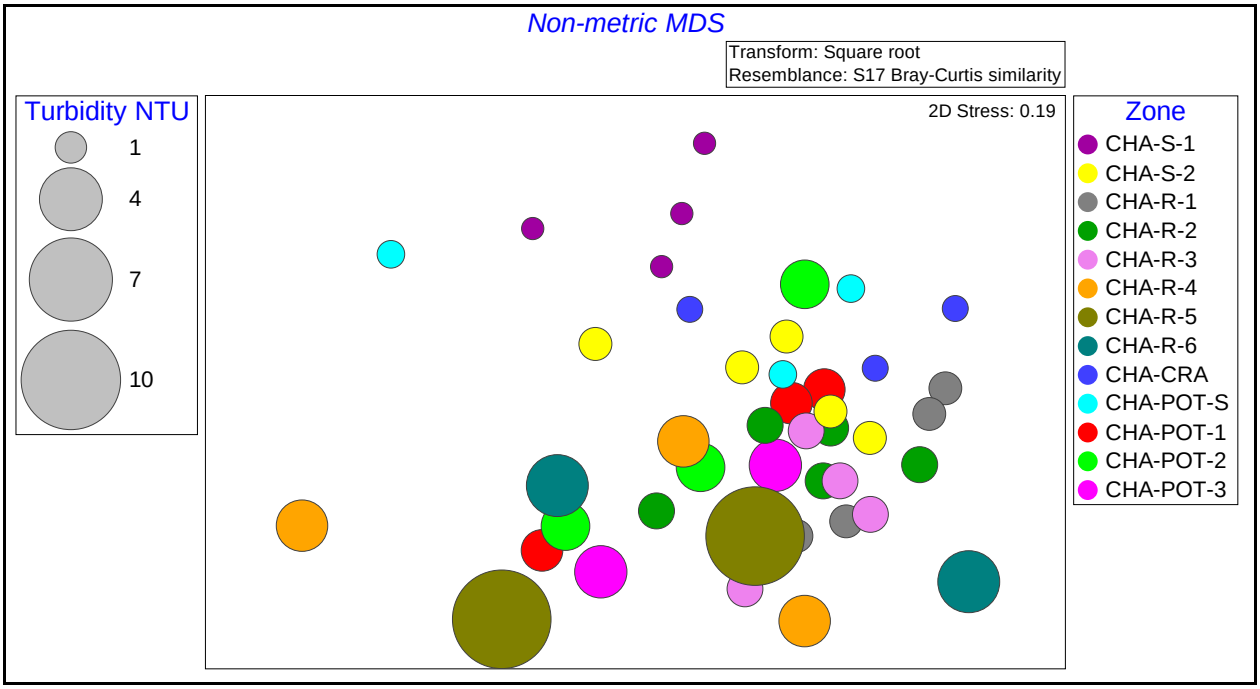


Figure 26c – Bubble Plot of Turbidity (NTU) Values Superimposed on the nMDS Plot of River Zones within the Chassahowitzka River



Comparison to Previous Studies

Janicki Environmental, Inc.'s (2006) analysis of the benthic community structure in the Chassahowitzka River revealed the dominant taxa to be the amphipod *Gammarus mucronatus,* and the polychaete worm *L. culveri. Laeonereis culveri* and *Gammarus* spp. were among the top fifteen dominant taxa in Chassahowitzka during the current study; however, the tanaid Leptocheliidae spp. was the most dominant taxa found during this study.

Mote Marine Laboratory (2006) collected and processed invertebrate samples from Chassahowitzka River over a gradient from the head spring to the mouth using a coring device and dipnet sweeps. Results illustrated a general trend in increased species diversity with distance downstream. The current study found a similar trend with a positive correlation between species richness and distance from headspring; however, there was not a longitudinal trend in Shannon's diversity index.

Janicki Environmental, Inc. (2008) performed a study of the macroinvertebrate community within Chassahowitzka River and its tributaries. Samples were collected with a Van Veen modified sampler within the mainstem of the river, Crab Spring Run, Lettuce Spring, Salt Creek, Potter Creek, Crawford Creek and Ryle Creek. Janicki Environmental, Inc. (2008) reported a mean number of species per samples as < 15 taxa, similar to the current study of approximately 16 taxa per sample. They also observed that the invertebrate community of the downstream estuarine creeks (Crawford and Ryles Creeks) differed from the other creek systems and the river. General trends differentiating the creeks included higher abundances of oligochaetes and the amphipod *G. mucronatus* in the Potter-Salt Creek systems and in the upper river. *Gammarus* spp. was the

second dominant taxa found in the current study behind the tanaid Leptocheliidae spp., however, oligocheate worms were not common in the current study. Janicki Environmental, Inc. (2008) also found the highest abundance of *Ampelisca* in the two most downstream creeks (Ryles and Crawford). *Ampelisca* spp. was not found in the current study; however the current study was limited to the upper portion of the river, and did not extend to the mouth.

3.4 Homosassa

Invertebrate communities of the Homosassa River and its associated springs and tributaries will be discussed below in relation to abiotic factors, habitat type, waterbody type, and longitudinal gradient.

Abiotic Factors

Table D-2 in **Appendix D** provides a comprehensive correlation matrix for the Homosassa River zones that includes parametric (Pearson's R) and nonparametric (Spearman's Rho and Kendall's Tau) correlation results between physicochemical parameters and biological metrics. Distance from the headspring in river kilometer was included as a factor to determine whether a longitudinal gradient existed. Therefore results from those analyses will be provided in the appropriate section below. Additionally, the biological metrics and abiotic factors will also be provided in a subsequent section.

Habitats

Habitat diversity (number of habitats sampled) was evaluated to determine if the number of habitats that were available to sample within each zone in Homosassa River was correlated to other abiotic factors or biological metrics. For all sites combined, habitat diversity was negatively correlated with water temperature (Rho = -0.829, p = 0.001) and DO (Rho = -0.730, p = 0.007). Habitat diversity was also positively correlated with canopy cover (Rho = 0.772, p = 0.003). The full correlation matrix results output from MINITAB is provided in **Appendix C in Table C-3**.

For Homosassa, crustaceans were the dominant taxonomic group within all habitats. Rock, macroalgae, and snag habitats displayed similar major taxonomic group distribution, with the second and third dominant groups being molluscs and Diptera (midges). Annelida worms were the second dominant taxa in sediment (**Figure 27**). Although Ephemeroptera were rare across all habitats, they were most common in macroalgae samples. Collector-gatherer/deposit feeders were the most dominant functional feeding group in all habitats within the Homosassa River (**Figure 28**) and the Halls River. Browser-grazers contributed substantially to the overall composition of the invertebrate communities from rock habitats within the Halls River (**Figure 29**).

Figure 27 - Percent Composition of Organisms from Major Taxa Groups by Habitat Type within the Homosassa River

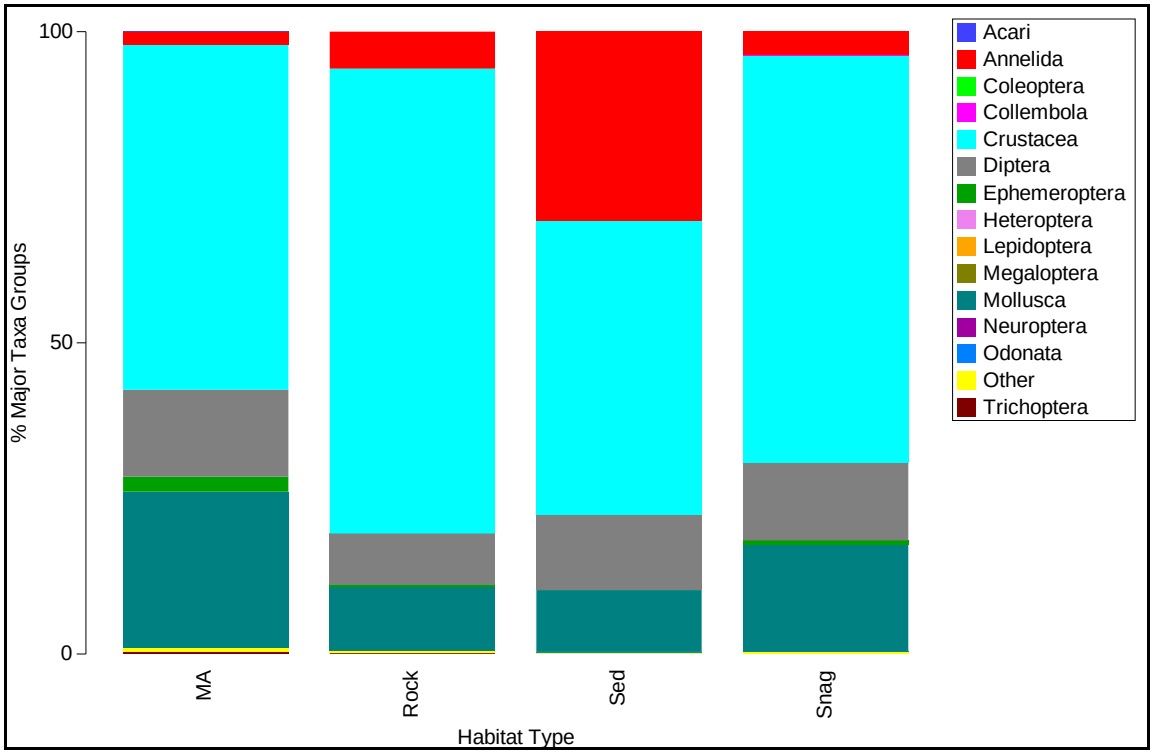


Figure 28 - Percent Composition of Organisms from each Functional Feeding Group by Habitat Type within the Homosassa River

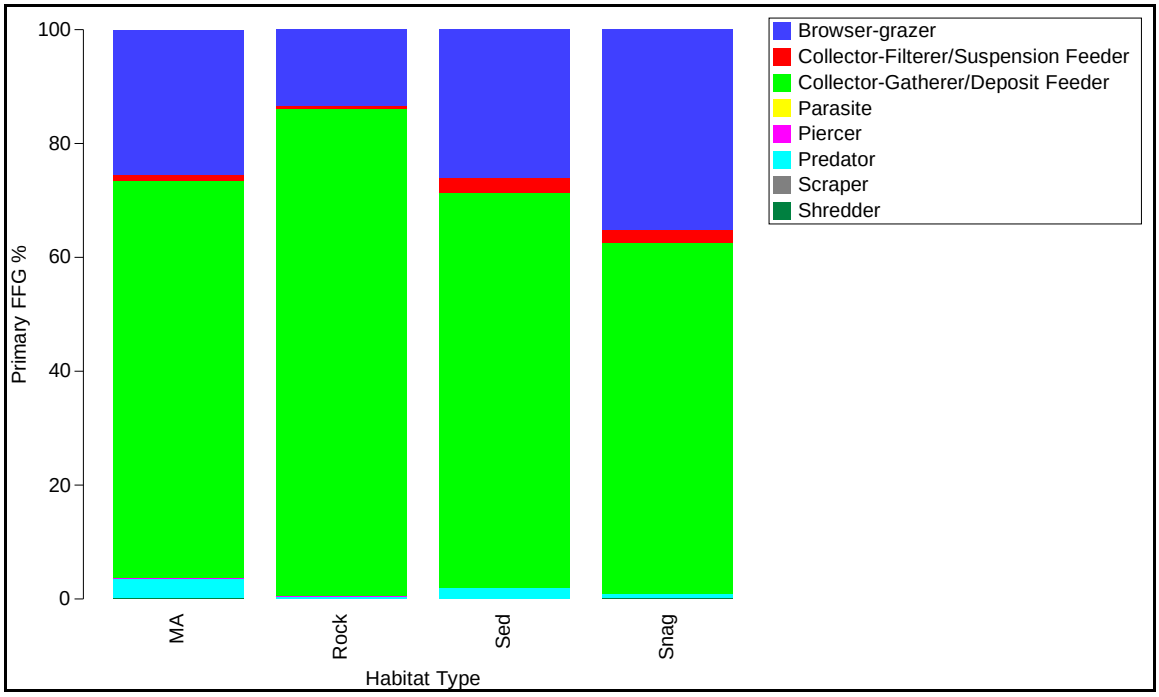
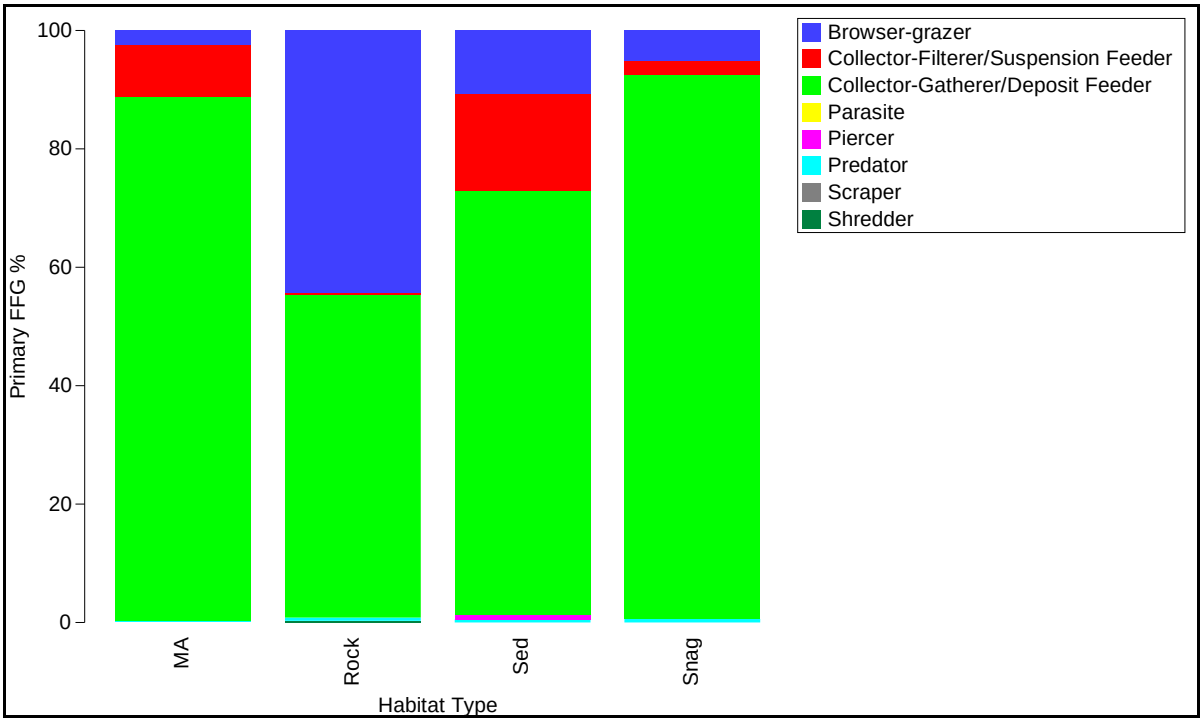


Figure 29 - Percent Composition of Organisms from each Functional Feeding Group by Habitat Type within the Halls River



Samples from Homosassa were ordinated with nMDS and indicated that sediment and snag samples grouped with themselves (**Figure 30**). ANOSIM results depicted a significant difference between samples collected from these two habitats (**Table 30**). Several annelid worms, crustaceans and bivalves had higher average abundances in the sediment habitats than the snag habitats, as this is expected given their sedentary lifestyle, and contributed to the significant difference observed between these two invertebrate communities (**Table 31**).

Figure 30 - nMDS for Homosassa with Habitat Type as the Factor

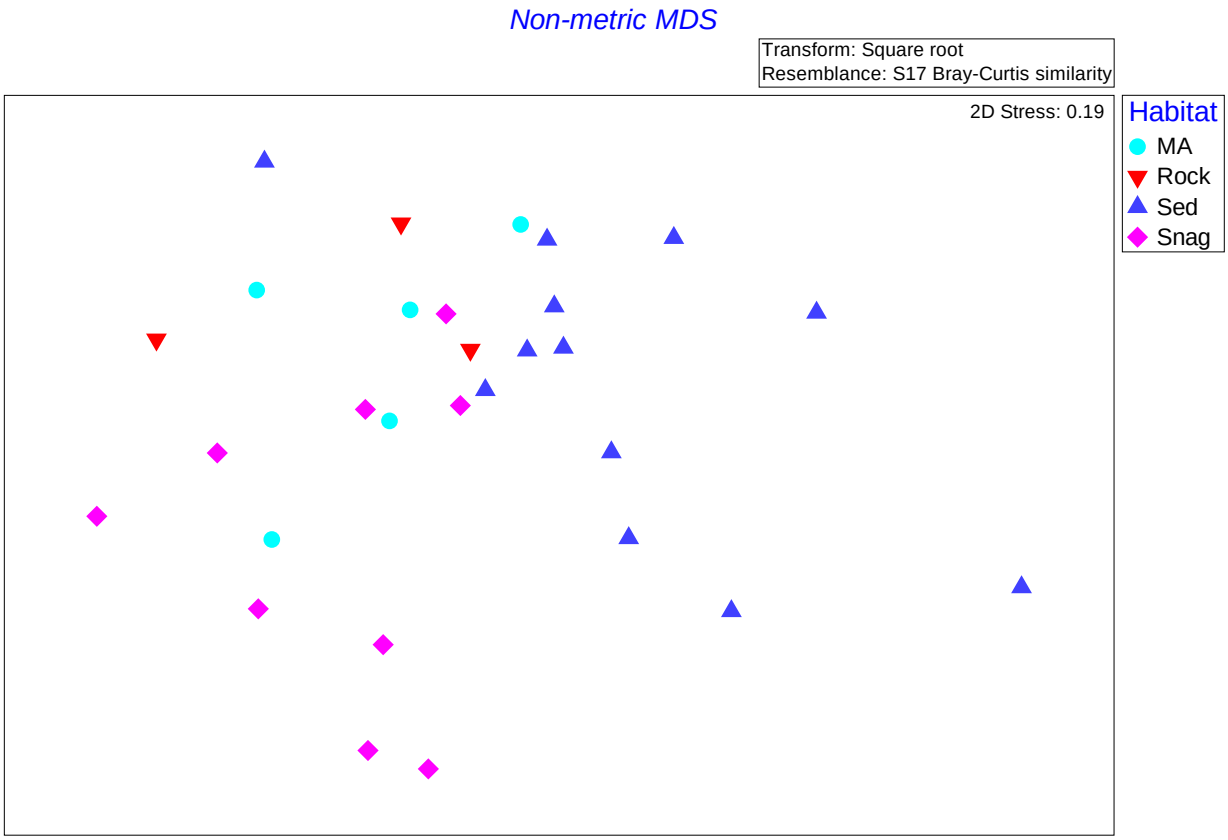


Table 30 - ANOSIM Results for Homosassa with Habitat Type as the Factor

	MA	Rock	Sed	Snag
MA				
Rock	0.107692			
Sed	0.114035	0.031401		
Snag	0.113043	0.109212	0.39833	
Global R = 0.197, p = 0.013				

Table 31 - Homosassa River SIMPER Results for Significant Pairwise Comparisons between Habitat Types

Taxa	Group 1 Average Abundance	Group 2 Average Abundance	% Contribution to Dissimilarity	% Cumulative Contribution to Dissimilarity
Sed vs. Snag, Average Dissimilarity = 85.67				
	Sed	**Snag**		
Laeonereis culveri	25.26	1.39	8.46	8.46
Grandidierella bonnieroides	24.34	10.97	8.37	16.83
Apocorophium louisianum	15.07	11.9	6.78	23.61
Hydrobiidae spp.	15.72	8.18	6.63	30.24
Leptocheliidae spp.	11.14	11.36	5.47	35.71
Dicrotendipes spp.	12.21	7.59	4.51	40.23
Tubificinae spp.	10.96	1.19	4.31	44.53
Boccardiella ligerica	5.24	0.31	2.38	46.91
Bivalvia spp.	4.83	0.16	2.2	49.12
Cyathura polita	6.26	0.16	1.98	51.1

Waterbody Type

The nMDS plot for Homosassa samples with Waterbody Type as the factor revealed distinct separation of samples from each other (**Figure 31**). However, ANOSIM indicated that only the invertebrate communities in the tributary (Halls River) were significantly different than the invertebrate community structure in the spring and river samples (**Table 32**). The snail, Hydrobiidae spp.; the amphipods, *A. louisianum*, *Cerapus* spp., and *Gammarus* spp.; the tanaid, Leptocheliidae spp.; and the annelid, *L. culveri* all had substantially higher average abundances in the Halls River samples when compared to the spring and river samples. These differences contributed to the significant pairwise comparison between the invertebrate community in Halls River with those in the spring and river samples (**Table 33**). Collector-gatherer/deposit feeders were the most dominant functional feeding group across all Waterbody Types in the Homosassa River. Browser-grazers comprised a considerable portion of the total in the river samples, but were not the majority; and filter feeders comprised a considerable portion of the total in the Halls River (Tributary), but again were not the majority (**Figure 32**).

Figure 31 - nMDS for Homosassa with Waterbody Type as the Factor

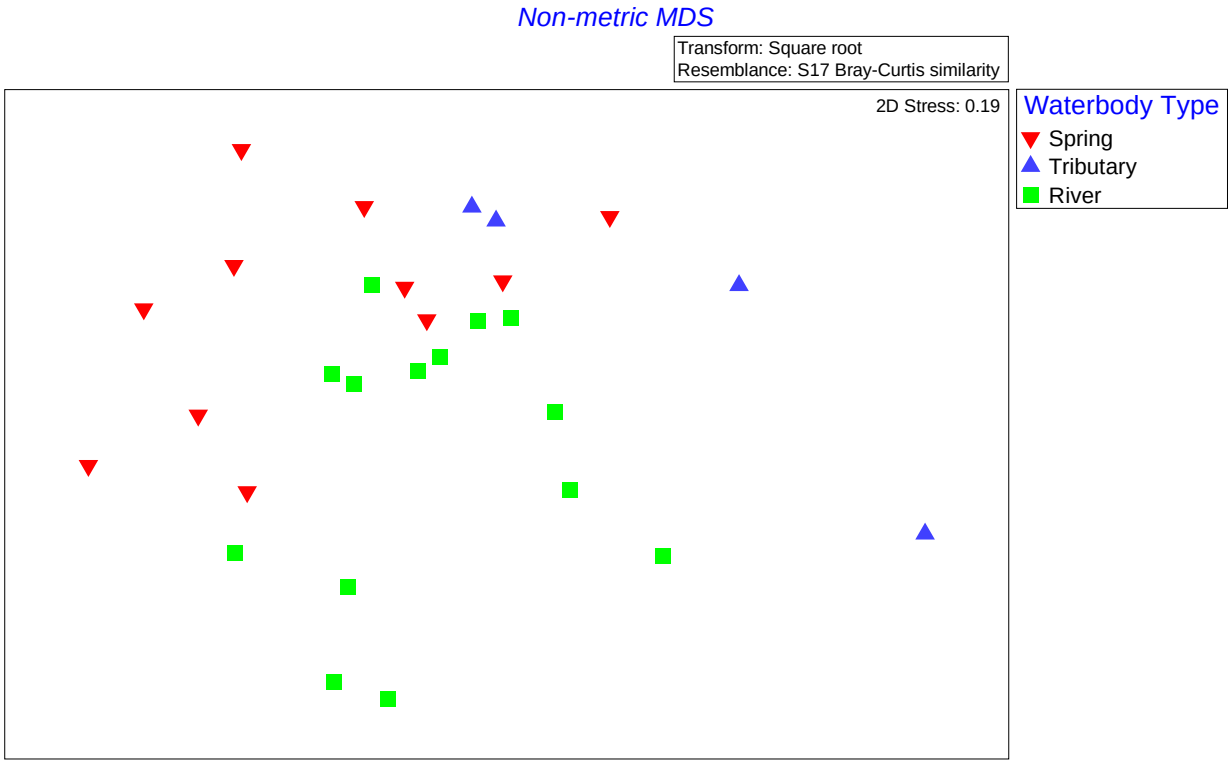


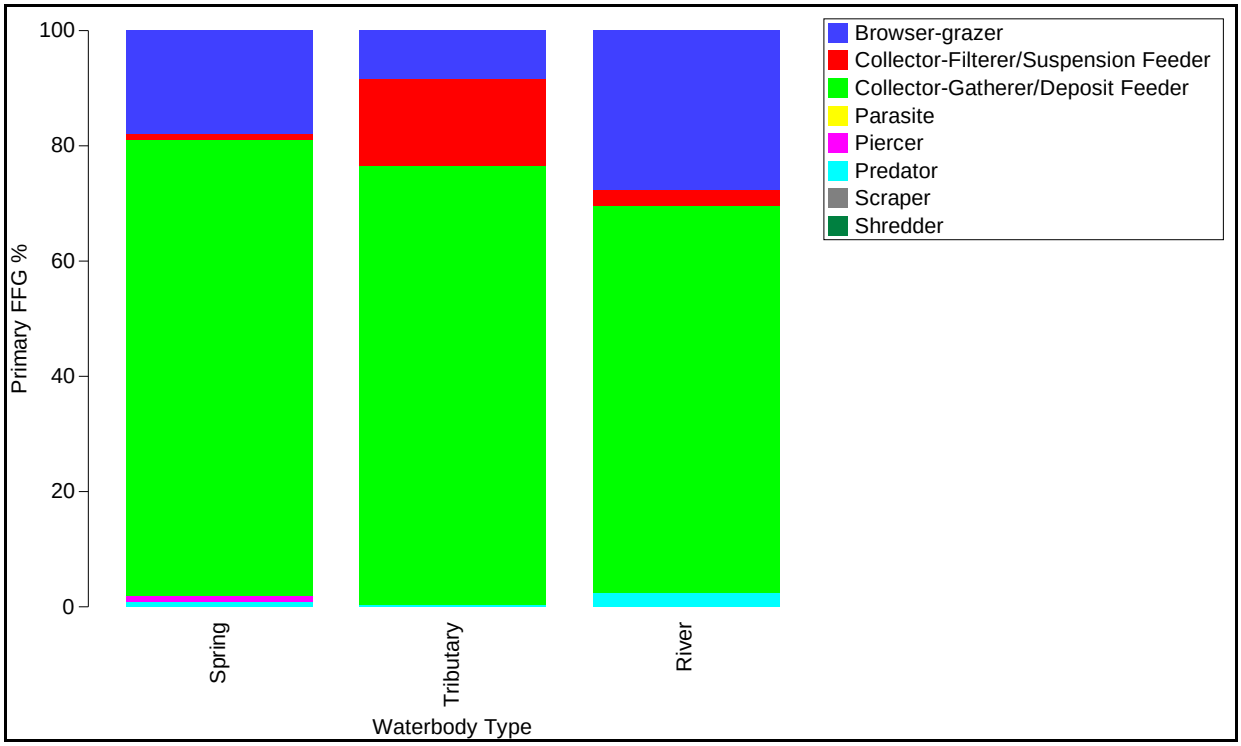
Table 32 - ANOSIM Results for Homosassa with Waterbody Type as the Factor

	Spring	Tributary	River
Spring			
Tributary	0.376304		
River	0.186533	0.391016	
Global R = 0.259, p = 0.001			

Table 33 - Homosassa River SIMPER Results for Significant Pairwise Comparisons between Waterbody Types

Taxa	Group 1 Average Abundance	Group 2 Average Abundance	% Contribution to Dissimilarity	% Cumulative Contribution to Dissimilarity
Tributary vs. Spring, Average Dissimilarity = 86.10				
	Tributary	**Spring**		
Hydrobiidae spp.	35.05	11.41	10.22	10.22
Leptocheliidae spp.	26.59	14.11	8.06	18.28
Laeonereis culveri	28.59	8.57	7.05	25.32
Grandidierella bonnieroides	16.35	14.66	6.02	31.35
Apocorophium louisianum	31.11	1.16	5.74	37.09
Gammarus spp.	19.49	6.76	4.83	41.92
Dicrotendipes spp.	10.83	10.33	4.48	46.39
Cerapus spp.	23.7	0	4.18	50.57
Tributary vs. River, Average Dissimilarity = 84.67				
	Tributary	**River**		
Hydrobiidae spp.	35.05	11.19	9.56	9.56
Apocorophium louisianum	31.11	16.19	8.5	18.07
Grandidierella bonnieroides	16.35	22.12	6.61	24.68
Laeonereis culveri	28.59	10.61	6.45	31.12
Leptocheliidae spp.	26.59	9.72	6.29	37.42
Cerapus spp.	23.7	0.57	4.2	41.62
Dicrotendipes spp.	10.83	12.96	4.18	45.8
Gammarus spp.	19.49	1.95	3.77	49.57
Bivalvia spp.	7.37	2.26	3.67	53.24

Figure 32 - Percent Composition of Organisms from each Functional Feeding Group by Waterbody Type within the Homosassa River



Longitudinal Patterns

As mentioned above, longitudinal gradients were examined using parametric (Pearson's R) and nonparametric (Spearman's Rho and Kendall's Tau) correlation analyses in the Homosassa River. A similar pattern was found for the Homosassa River as was found in the Chassahowitzka River where water temperature, salinity, and conductivity significantly increased and canopy cover decreased along the downstream longitudinal gradient. Converse to Chassahowitzka, habitat diversity significantly decreased with distance from the headspring. None of the biological metrics were found to significantly vary with distance downstream (**Table D-2 in Appendix D**).

The total abundance of organisms in each sample was averaged by zone. The highest average abundance occurred in one of the zones within the Halls River. The remaining abundances varied slightly across the longitudinal gradient (**Figure 33**). Total species richness was highest in the first river zone and declined downstream. Similarly, richness peaked in the first river zone in the Halls River and declined downstream, but was particularly low in the HOM-HAL-2 zone (**Figure 34**). Average Shannon's diversity varied slightly along the gradient and was particularly low in the HOM-HAL-2 zone (**Figure 35**). These results are also shown spatially in **Figure 36**.

The mainstem river channel included an upper and lower river division occurring somewhere between zones HOM-R-5 and HOM-R-6, and two separate spring zones. Much like the Potter Creek tributary of the Chassahowitzka River, the Halls River tributary to the Homosassa River appears to have sub-zones including a headspring zone, a short upper channel zone, and a longer lower channel zone, where the lower channel zone has much lower species richness than the other zones.

Figure 33 - Average Abundance of Organisms by River Zone in the Homosassa River

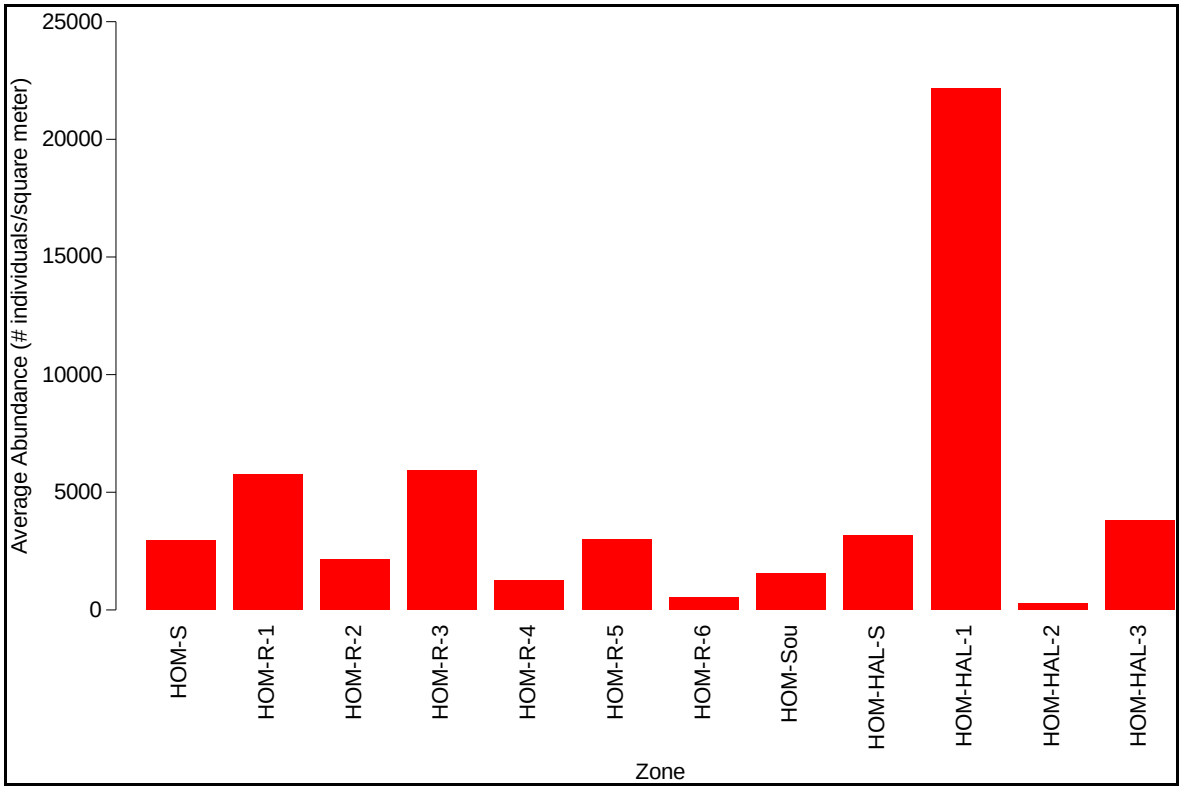


Figure 34 - Total Species Richness by River Zone in the Homosassa River

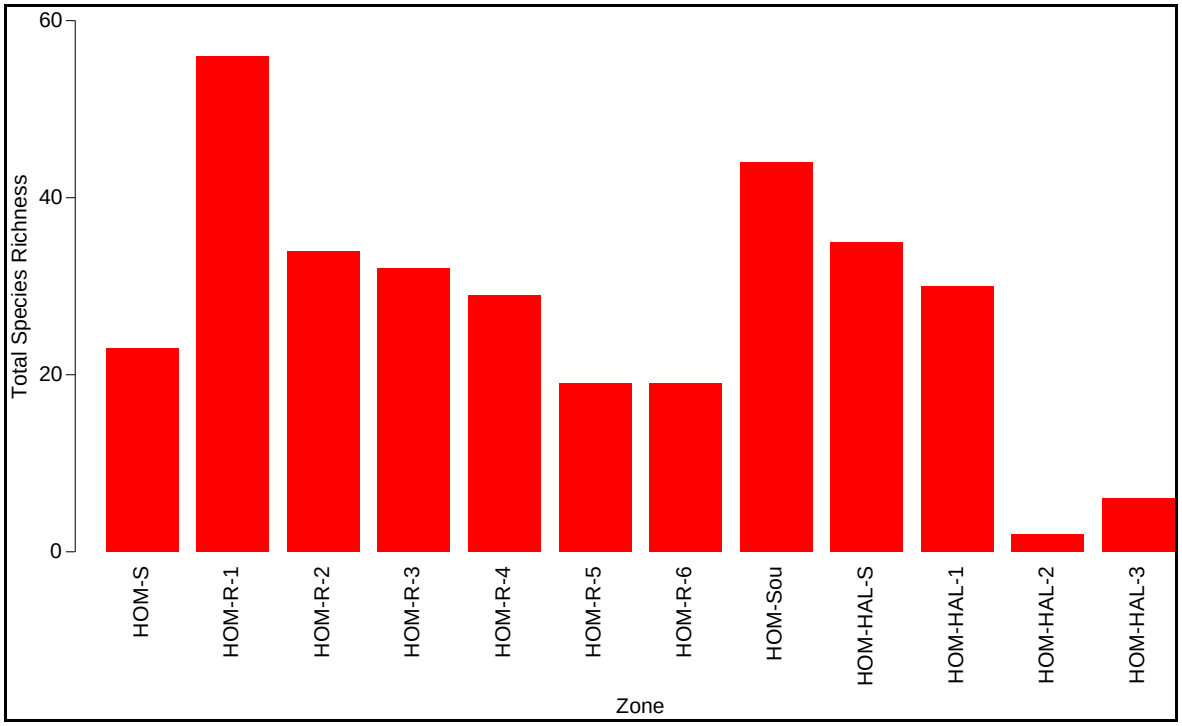
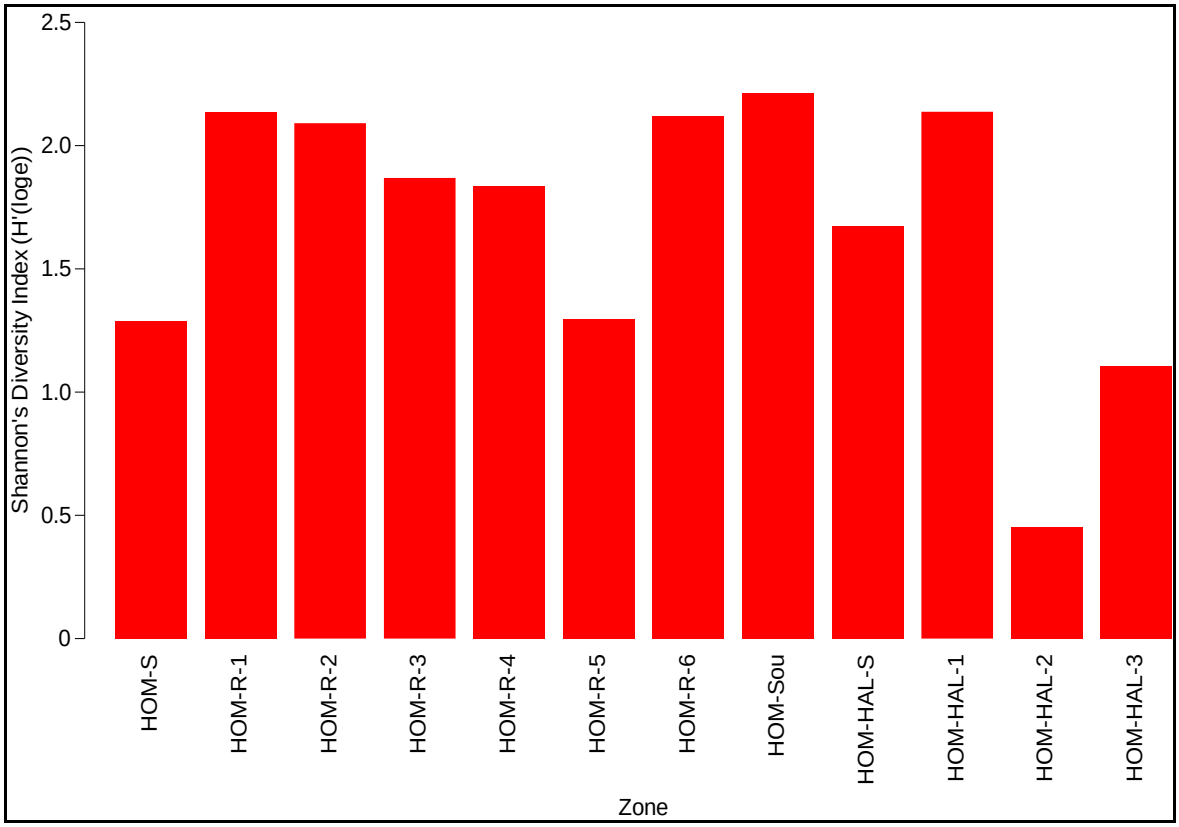


Figure 35 - Average Shannon's Diversity Index by River Zone for the Homosassa River



Crustaceans dominated all zones except HOM-R-4 where annelid worms were the most dominant, and HOM-HAL-3 where molluscs were the most dominant (**Figure 37**). Ephemeroptera, Trichoptera, and Odonata were absent from the Homosassa headspring samples (HOM-S), and Ephemeroptera were absent from the lower Homosassa (HOM-R-4, HOM-R-5, HOM-R-6) and Halls (HOM-HAL-2 and HOM-HAL-3) River samples. Collector-gatherer/deposit feeders were the dominant functional feeding group for all river zones except HOM-R-2. Browser-grazers were the dominant functional feeding group in this zone and comprised a large portion of the HOM-S and HOM-R-1 zones. The zone furthest downstream, HOM-R-6, and half of the Halls River zones had suspension feeders comprising an ample portion of the total (**Figure 38**).

Figure 36 – Spatial Distribution of Selected Average Biological Metrics per Zone in the Homosassa River

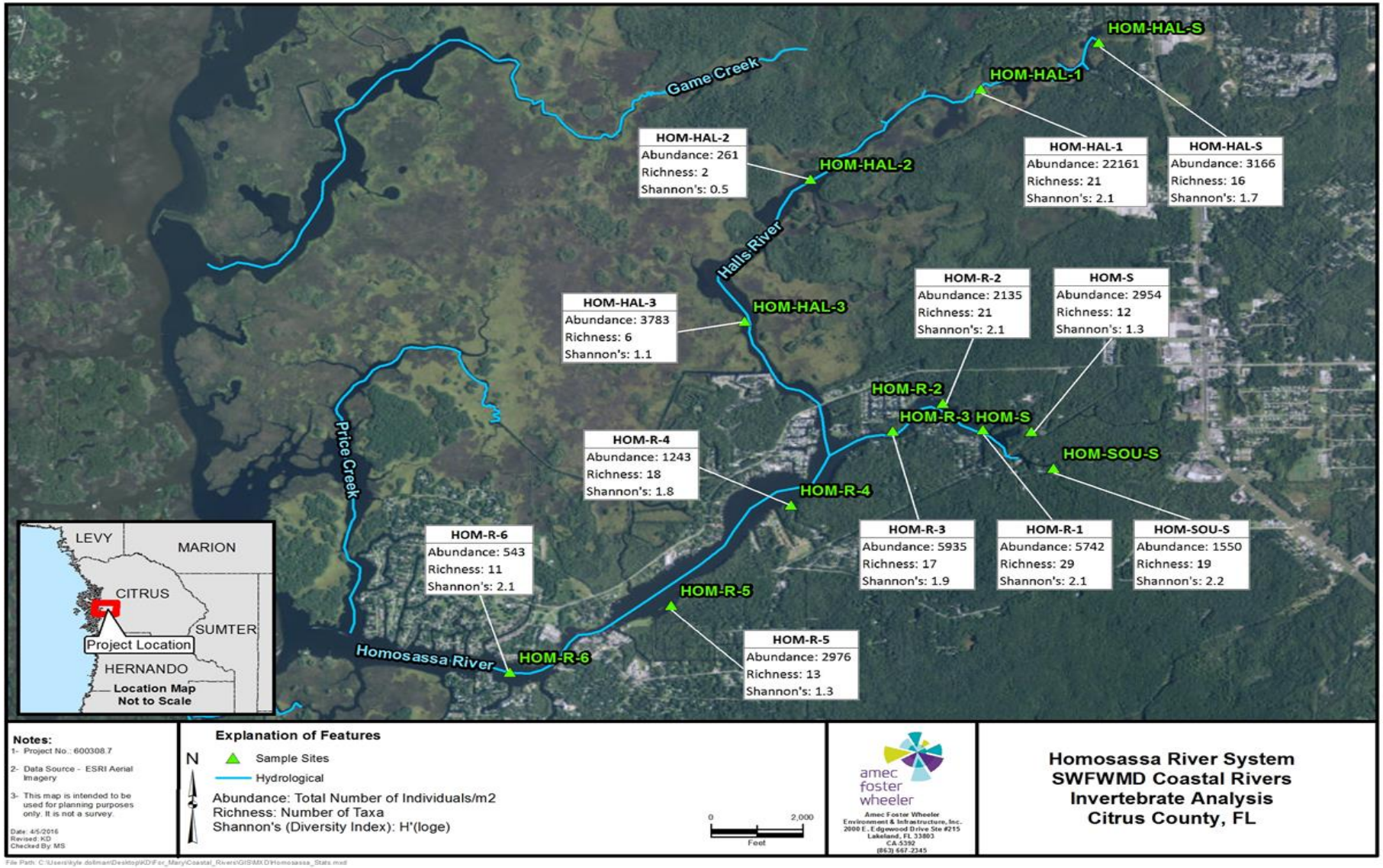


Figure 37 - Percent Composition of Organisms from Major Taxa Groups by River Zone in the Homosassa River

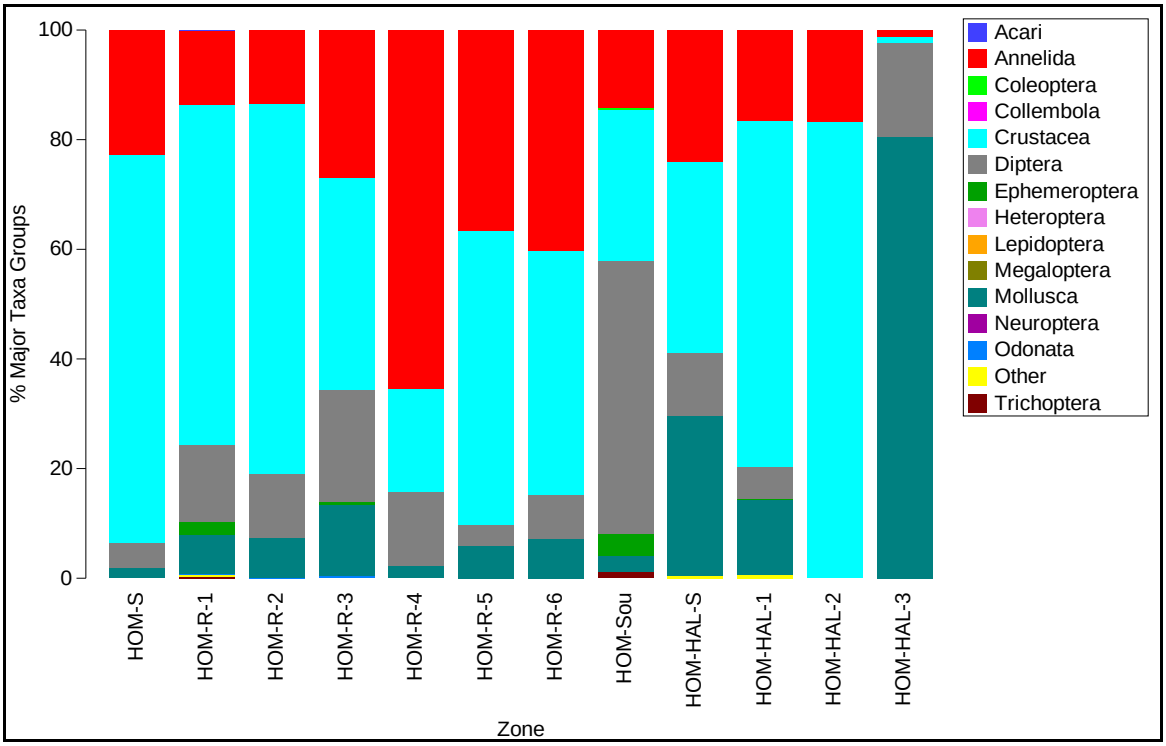
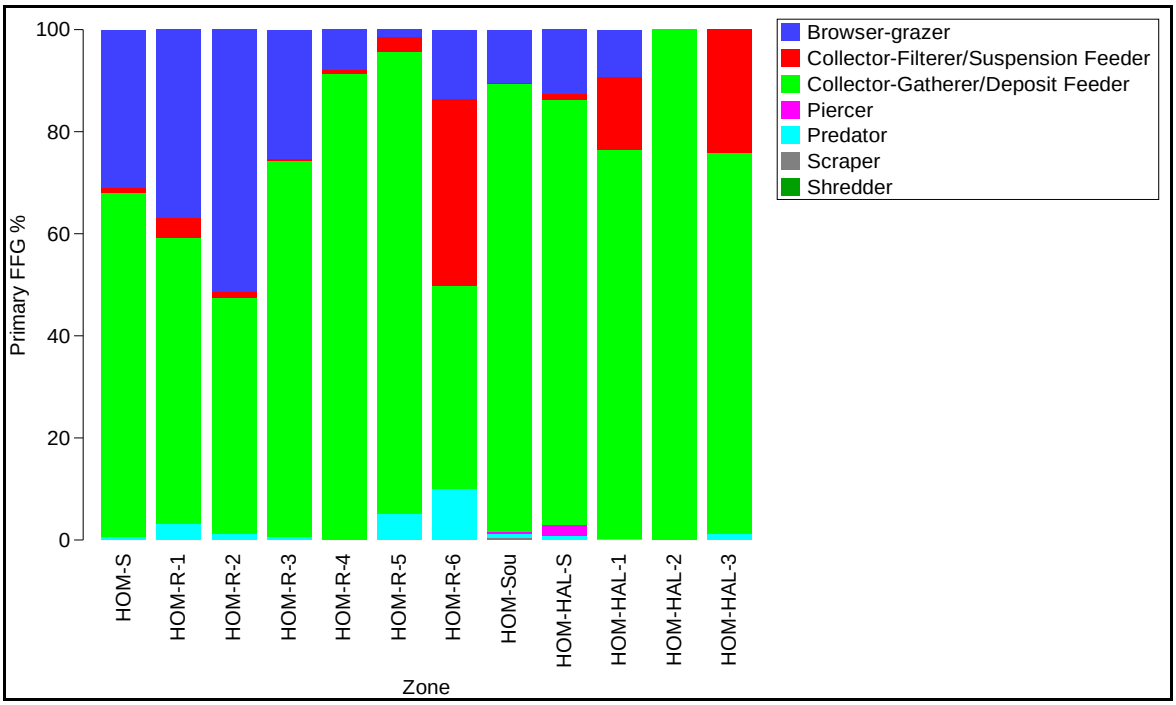


Figure 38 - Percent Composition of Organisms from each Functional Feeding Group by River Zone within the Homosassa River



Longitudinal patterns within the Homosassa were also examined by using Waterbody Area as a factor. The nMDS plot revealed distinct separation between samples collected in the lower reaches of the Homosassa River (**Figure 39**). ANOSIM results further corroborated this observation by depicting a significant difference between samples collected in the lower reaches of the river versus those collected from the upper and spring areas of the river (**Table 34**). The tanaid, Leptocheliidae spp.; the amphipod, *G. bonnieroides*; the polychaete worm, *L. culveri*; the snail, Hydrobiidae spp.; and the midge, *Dicrotendipes* spp. had higher average abundances in the spring and upper reaches of the Homosassa River compared with the lower area. Additionally, more estuarine species, such as the crab, *Rhithropanopeus harrisii,* and the polychaete worm, *Boccardiella ligerica*, were more abundant in the lower areas (**Table 35**). These taxa, along with the others listed in the table, contributed the most to the dissimilarity observed between the invertebrate communities in the lower area versus those in the spring and upper reaches of Homosassa River.

Figure 39 - nMDS Plot for Homosassa with Waterbody Area as the Factor

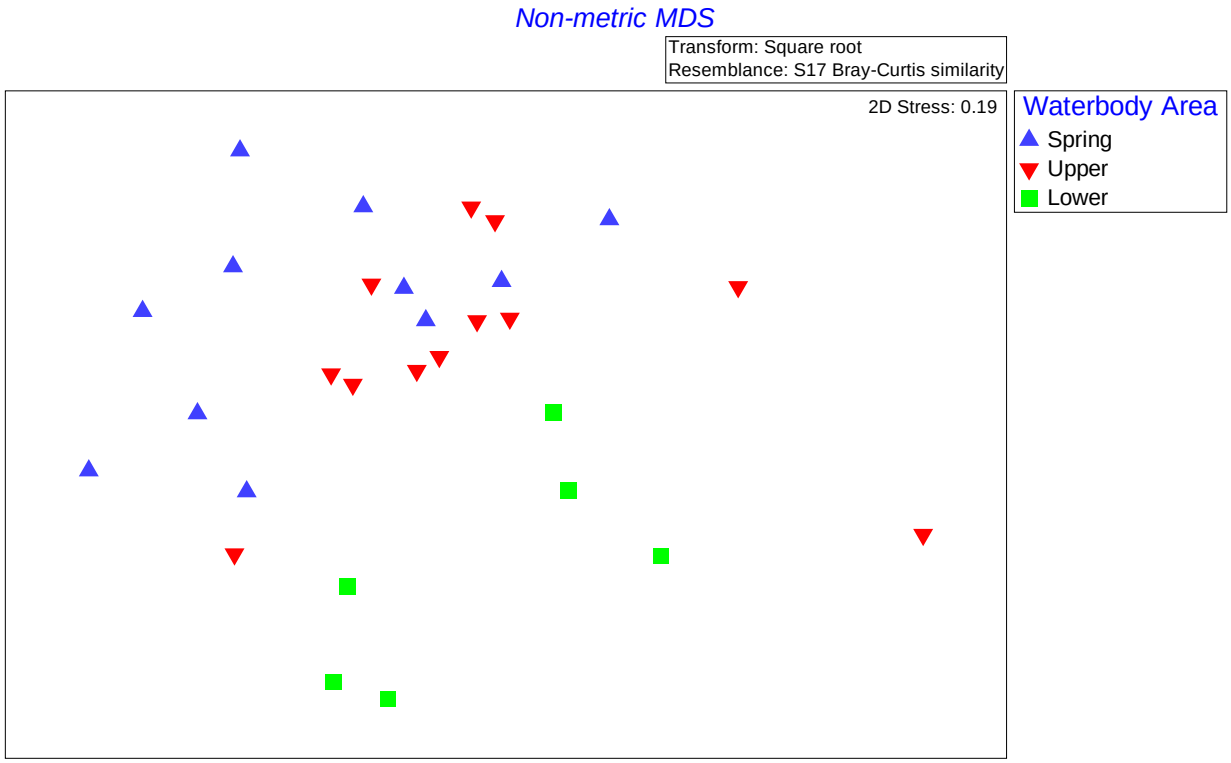


Table 34 - ANOSIM Results for Homosassa with Waterbody Area as the Factor

	Spring	Upper	Lower
Spring			
Upper	0.118332		
Lower	0.478355	0.337106	
Global R = 0.253, p = 0.001			

Table 35 - Homosassa River SIMPER Results for Significant Pairwise Comparisons between Waterbody Areas

Taxa	Group 1 Average Abundance	Group 2 Average Abundance	% Contribution to Dissimilarity	% Cumulative Contribution to Dissimilarity
Spring vs. Lower, Average Dissimilarity = 87.60				
	Spring	**Lower**		
Leptocheliidae spp.	14.11	1.48	7.25	7.25
Apocorophium louisianum	1.16	13.76	6.95	14.2
Grandidierella bonnieroides	14.66	3.69	6.55	20.75
Laeonereis culveri	8.57	7.87	5.36	26.11
Hydrobiidae spp.	11.41	4.54	5.06	31.17
Dicrotendipes spp.	10.33	4.35	4.71	35.88
Tubificinae spp.	2.02	7.88	4.12	40
Boccardiella ligerica	0	9.4	3.9	43.9
Gammarus spp.	6.76	0	3.24	47.14
Rhithropanopeus harrisii	0	5.13	2.48	49.62
Polypedilum scalaenum group	0.35	5.01	2.39	52.02
Upper vs. Lower, Average Dissimilarity = 83.93				
	Upper	**Lower**		
Grandidierella bonnieroides	29.41	3.69	9.25	9.25
Apocorophium louisianum	22.38	13.76	7.43	16.68
Hydrobiidae spp.	22.47	4.54	7.31	23.98
Laeonereis culveri	17.98	7.87	5.69	29.68
Leptocheliidae spp.	19.46	1.48	5.66	35.34
Dicrotendipes spp.	16.55	4.35	5.27	40.6
Tubificinae spp.	6.27	7.88	3.94	44.54
Boccardiella ligerica	0.78	9.4	3.3	47.84
Gammarus spp.	8.77	0	2.34	50.18

Correlations between the Biological Community and Abiotic Factors

Correlation results found in **Table D-2** in **Appendix D** show that the only significant correlations between abiotic factors and biological metrics while conducting univariate analyses was the inverse relationships found between richness and salinity (and conductivity, which is a covariate of salinity). Thus it may be possible to predict richness values from one of these abiotic factors.

The BEST analysis with the BIOENV option was conducted in PRIMER to identify the combination of environmental variables that are best correlated with the invertebrate community structure. Depth (m), turbidity (NTU), canopy cover (%) and distance from the spring (km) comprised the combination of environmental variables that were best correlated with the invertebrate community structure in the Homosassa River system (rho = 0.545). Values for each of these significant environmental variables were overlaid as bubbles on the nMDS plot for each sample. The size of the bubble corresponded directly to the value of the environmental variable and the color of the bubble represented each Zone. Depth of sample appeared to vary within and across zones (**Figure 40a**). Samples located within the upper left quadrant of the nMDS plots were collected from the spring and upper areas of the Homosassa and were characterized by lower turbidity, higher percentage of canopy cover and closer distances to the spring (**Figures 40b-d**). The longitudinal patterns above in the invertebrate community structure can be attributed to correlations with these environmental variables.

Figure 40a - Bubble Plot of Depth of Sample (m) Values Superimposed on the nMDS plot of River Zones within the Homosassa River.

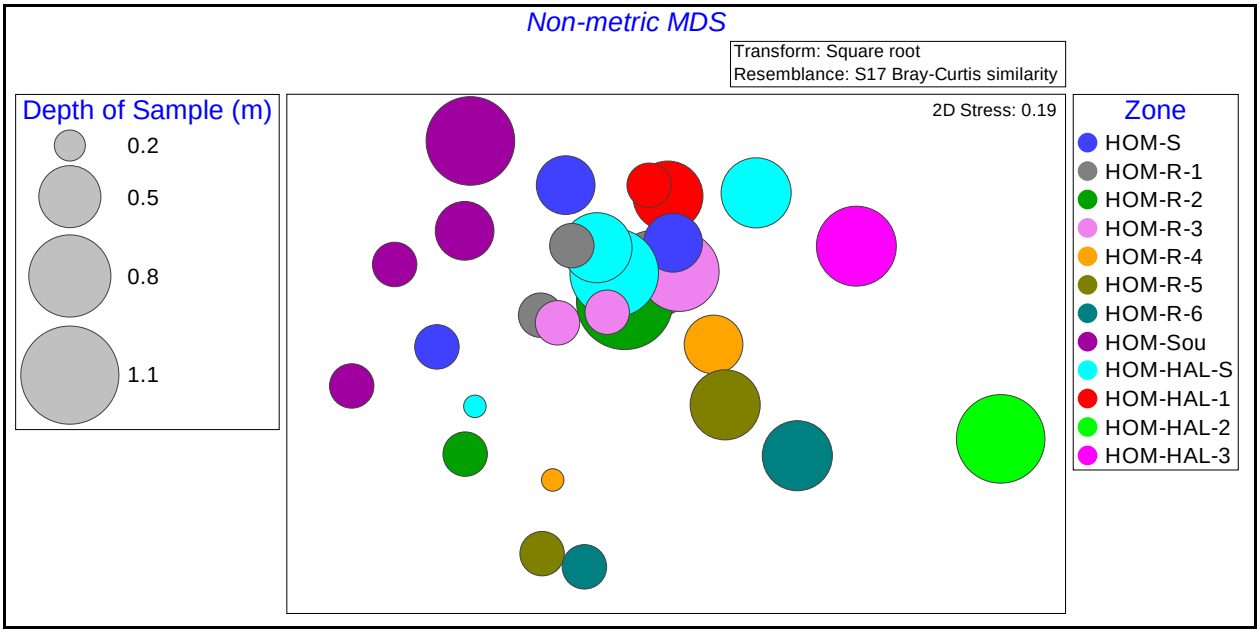


Figure 40b - Bubble Plot of Turbidity (NTU) Values Superimposed on the nMDS plot of River Zones within the Homosassa River

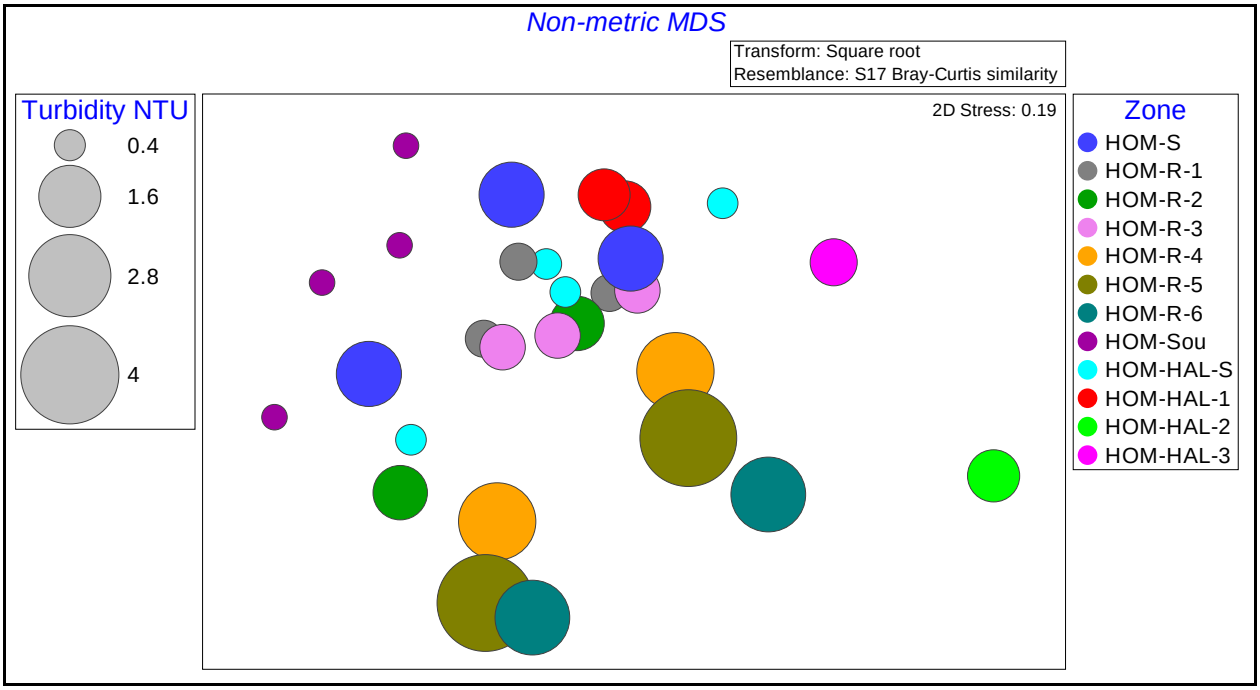


Figure 40c - Bubble Plot of Canopy Cover (%) Values Superimposed on the nMDS plot of River Zones within the Homosassa River

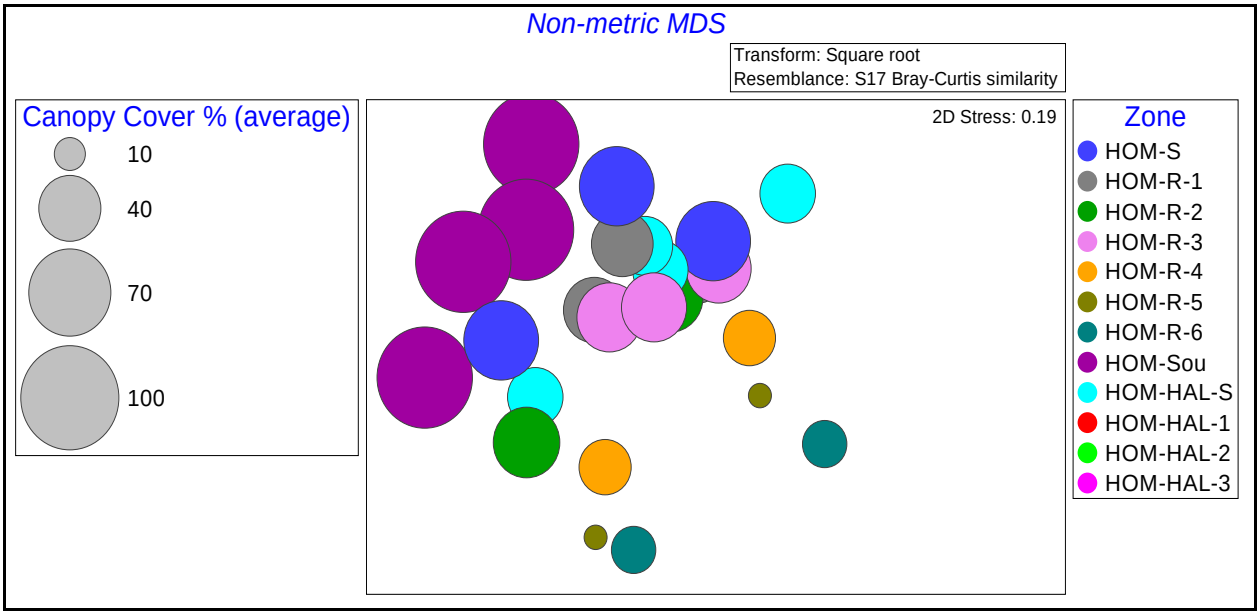
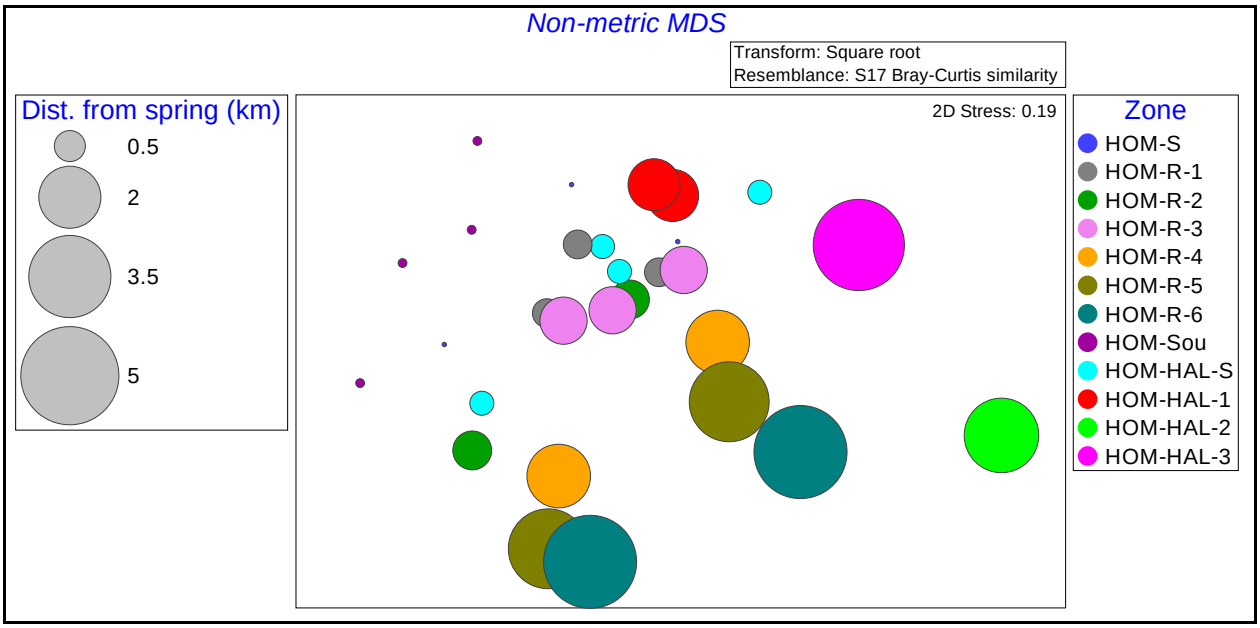


Figure 40d - Bubble Plot of Distance from Spring (km) Values Superimposed on the nMDS plot of River Zones within the Homosassa River



Comparison to Previous Studies

Sloan (1956) evaluated the distribution of aquatic insects in Homosassa River. Sloan collected invertebrate samples using dipnet sweeps at transects located between the headspring and the mouth of the river. Sloan found that the diversity at the headspring was low, and sharply increased in the upper river and declined moving downstream toward the estuaries. The results of this study show a similar trend, with slightly lower species richness within the headspring, and an increase in the upper river, with a decline as one moved downstream. Shannon's diversity index showed a similar trend; however, diversity increased in the furthest downstream samples. When diversity was evaluated based on taxonomic group, Sloan found that Ephemeroptera, Odonata, Hemiptera (recently renamed as Heteroptera), Trichoptera, and Diptera showed similar trends in species diversity, where species diversity within each order was lower in the headspring, increased in the upper river, and decreased downstream. The current study found no Ephemeroptera, Odonata, Hemiptera, or Trichoptera in the headspring; however, Ephemeroptera, Odonata, and Trichoptera were present in the upper river, but absent from the lower river, and Diptera species richness showed a similar trend to overall species richness with a lower species richness in the headspring and an increase in the upper river, and a decline moving downstream. Sloan (1956) noted the presence of rooted vegetation throughout the portion of the Homosassa River which was sampled for the current study. Vegetation included *Vallisneria neotropicalis, Potamogeton pectinatus* and *N. guadelupensis*; however, during the current study sampling, very minimal vegetation was observed within the Homosassa Spring and River.

Janicki (2010) performed a characterization of the benthic macroinvertebrate community of Homosassa and Halls Rivers, which included samples from the spring run, Southeast Fork, Halls River, and through the mouth of the river. Within the Homosassa River the dominant taxa included the amphipods *G. bonnieroides* and *Ampelisca* spp., along with the polychaete worm *Mediomastus* spp. Only *G. bonnieroides* was found in the current study and was the most dominant taxa within the Homosassa River and the spring. The other two taxa were absent in all samples. This may be due to the fact that the current study did not extend into the estuary to the mouth of the river and that the current study used a petite ponar and dipnet; while the 2010 study implemented a coring device.

Janicki (2010) also found that diversity decreased upstream from the mouth of the river to River km 10-11; then increased in the Halls River and near the headspring and the Southeast Fork. In comparison, the current study only extended downstream to approximately River km 8. Lower diversity was observed in the headspring, it increased in the upper river, then decreased moving downstream, and ended with a peak at station R-6 (approximately River km 8). Furthermore, average diversity was higher in the Southeast Fork Spring and Halls River Spring samples than the main headspring samples.

Janicki (2010) found that the Halls River samples were dominated by the amphipod species *G. mucronatus, Cerapus benthophilus, and G. bonnieroides.* These three species were amongst the top ten dominant species in the current study; however, the gastropod Hydrobiidae spp. and the tanaid Leptocheliidae spp. were the dominant taxa.

3.5 Weeki Wachee

Abiotic Factors

Table D-3 in **Appendix D** provides a comprehensive correlation matrix for the Weeki Wachee River zones that includes parametric (Pearson's R) and nonparametric (Spearman's Rho and Kendall's Tau) correlation results between physicochemical parameters and biological metrics. Distance from the headspring in river kilometer was included as a factor to determine whether a longitudinal gradient existed, therefore results from those analyses will be provided in the appropriate section below. Additionally, the biological metrics and abiotic factors will also be provided in a subsequent section.

Habitats

Habitat diversity (number of habitats sampled) was evaluated to determine if the number of habitats that were available to sample within each zone in Weeki Wachee River was correlated to other abiotic factors or biological metrics. For all sites combined, habitat diversity was only negatively correlated with conductivity (Rho = -0.882, p = 0.009). The full correlation matrix results output from MINITAB is provided in **Appendix C, Table C-4**.

Annelida worms were the dominant taxonomic group in the rock and sediment habitats within the Weeki Wachee River. Crustaceans were the dominant taxonomic group in the macroalgae habitats, Diptera were dominant in SAV, and caddisflies (Trichoptera) were dominant in the snags (**Figure 41**). Ephemeroptera and Odonata were absent from sediment samples. Collector-gatherer/deposit feeders dominated the functional feeding group composition regardless of habitat in the Weeki Wachee River. Filter feeders were most common in snag samples compared to other habitats (**Figure 42**).

Figure 41 - Percent Composition of Organisms from Major Taxa Groups by Habitat Type within the Weeki Wachee River

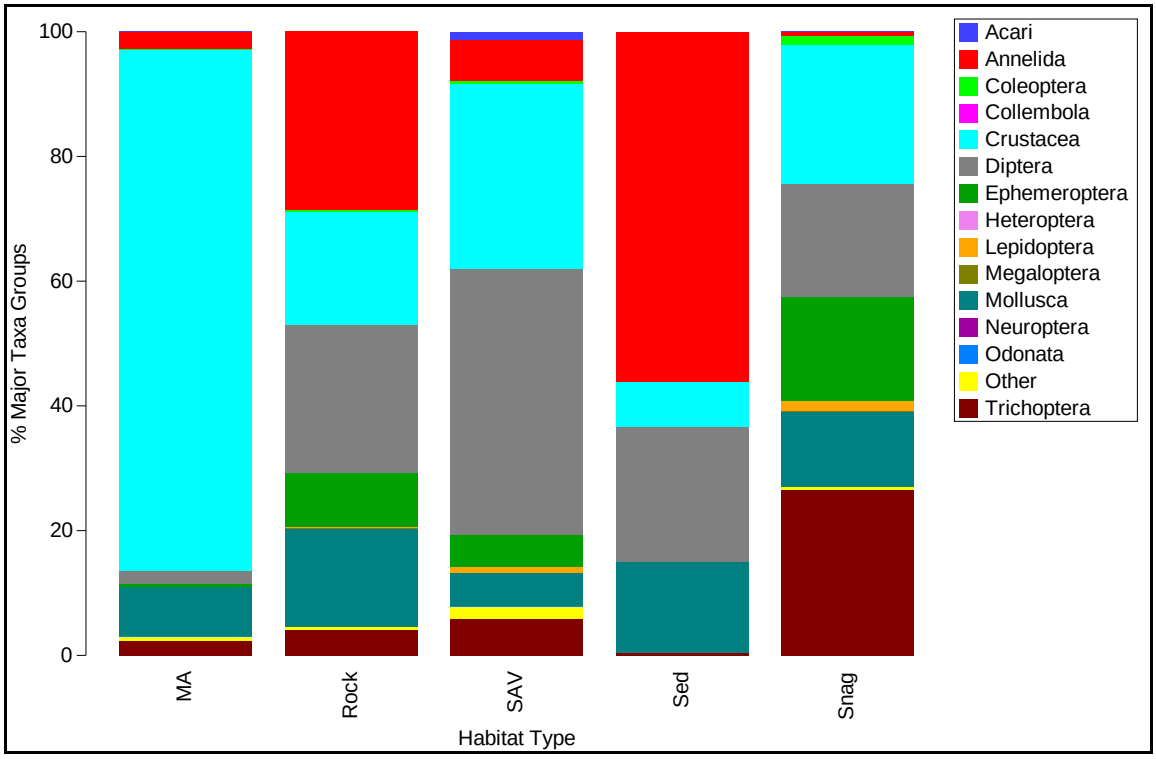
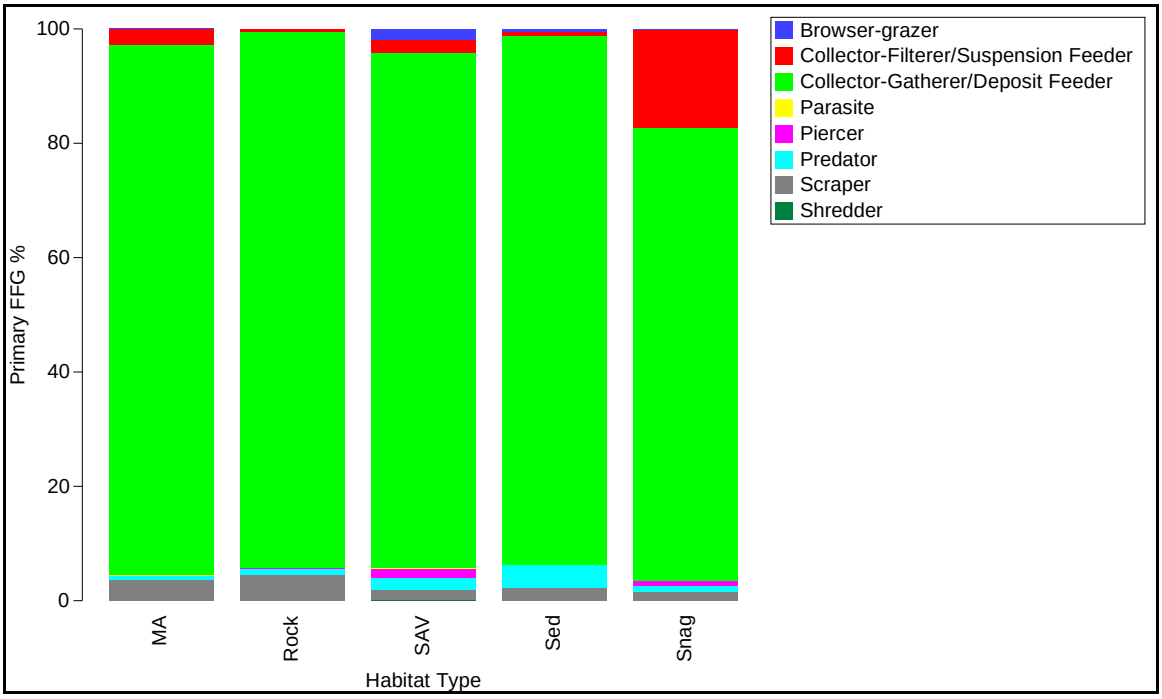


Figure 42 - Percent Composition of Organisms from each Functional Feeding Group by Habitat Type within the Weeki Wachee River



Some slight trends were observed in the nMDS plot with habitat as the factor for the Weeki Wachee samples. Samples collected from the macroalgae and snag habitats clustered with themselves (**Figure 43**). ANOSIM depicted significant differences between macroalgae and all other habitat types. Additionally, samples collected from snag habitats were significantly different than those collected from sediment habitats (**Table 36**). These significant differences were all due mostly to the higher average abundances of *H. azteca* sp. complex in the macroalgae samples compared to samples collected from other habitats (**Table 37**). The preference for a macroalgae habitat by this species cannot be compared to the literature, because this organism is part of a species complex and may be an undescribed species. Some morphological and molecular work has been conducted on this species complex to describe some of the species, but more work needs to be done before information about habitat preferences are available for all the different species that comprise this species complex (Gonzalez and Watling, 2002). The oligochaete worms, Tubificinae spp. and *Limnodrilus hoffmeisteri* had higher average abundances in the sediment samples versus those collected from snag habitats, which is to be expected considering their sedentary lifestyle. Furthermore, the caddisflies, *Cheumatopsyche* spp. and *Hydropsyche rossi*, and the mayfly, *Baetis intercalaris*, had higher average abundances in the snag habitats versus the sediment. These taxa, along with the others listed in the table, contributed to the dissimilarity observed between the invertebrate communities in sediment versus snag habitats (**Table 37**).

Figure 43 - nMDS for Weeki Wachee with Habitat Type as the Factor

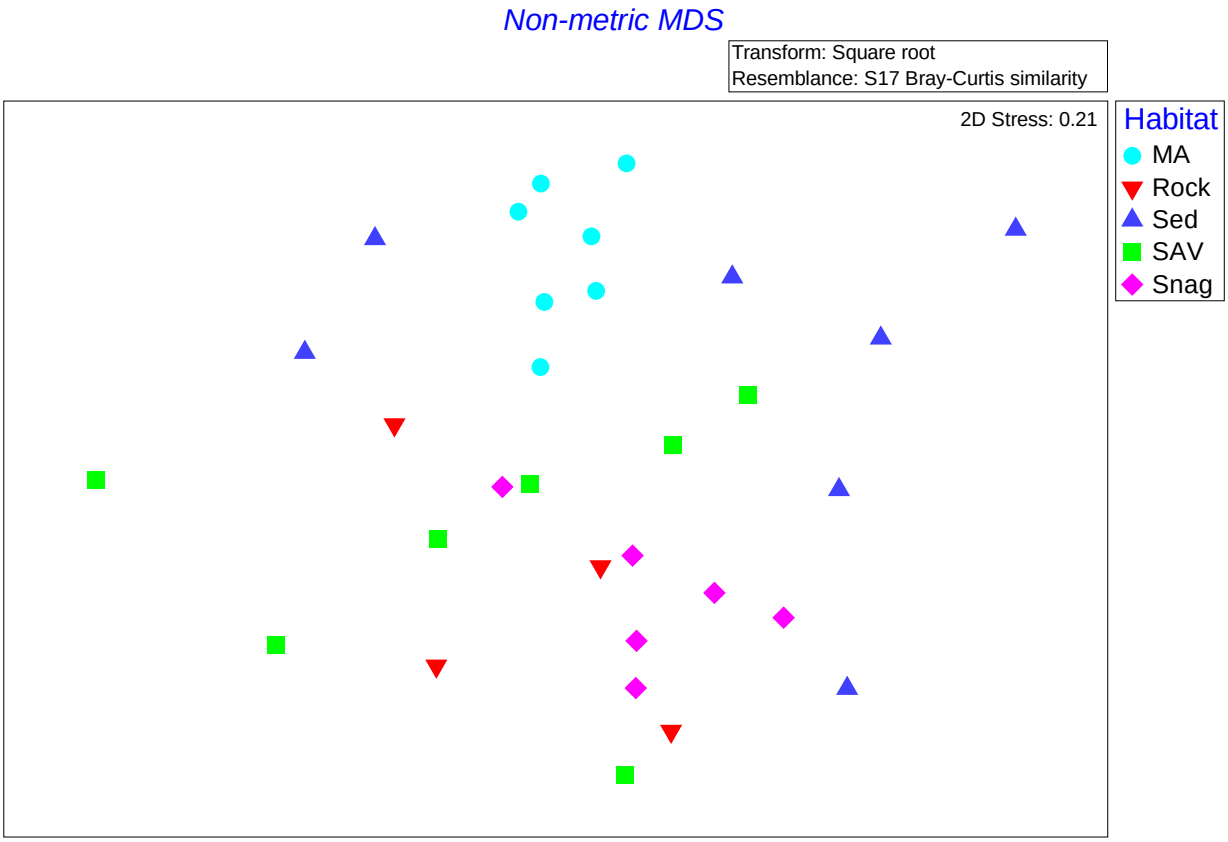


Table 36 - ANOSIM Results for Weeki Wachee with Habitat Type as the Factor

	MA	Rock	SAV	Sed	Snag
MA					
Rock	0.857143				
SAV	0.49757	-0.11905			
Sed	0.599611	0.206349	0.248785		
Snag	0.910053	0.059524	0.070767	0.513228	
Global R = 0.403, p = 0.001					

Table 37 - Weeki Wachee River SIMPER Results for Significant Pairwise Comparisons between Habitat Types

Taxa	Group 1 Average Abundance	Group 2 Average Abundance	% Contribution to Dissimilarity	% Cumulative Contribution to Dissimilarity
MA vs. Rock, Average Dissimilarity = 82.12				
	MA	**Rock**		
Hyalella azteca sp. complex	103.71	12.03	32.8	32.8
Hydrobiidae spp.	10.6	6.11	4.6	37.39
Melanoides spp.	14.19	5.64	4.35	41.74
Tubificinae spp.	10.33	1.48	3.17	44.91
Tanytarsus spp.	4.55	6.83	2.9	47.81
Cheumatopsyche spp.	7.43	1.57	2.78	50.59
MA vs. SAV, Average Dissimilarity = 81.02				
	MA	**SAV**		
Hyalella azteca sp. complex	103.71	16.65	30.53	30.53
Melanoides spp.	14.19	1.7	4.53	35.06
Hydrobiidae spp.	10.6	4.95	3.66	38.72
Cricotopus or *Orthocladius*	2.54	10.4	3.09	41.81
Tubificinae spp.	10.33	5.55	3.07	44.88
Cheumatopsyche spp.	7.43	3.42	2.82	47.7
Tanytarsus spp.	4.55	7.24	2.5	50.21
MA vs. Sed, Average Dissimilarity = 83.55				
	Sed	**MA**		
Hyalella azteca sp. complex	11.59	103.71	31.61	31.61
Tubificinae spp.	23.83	10.33	6.15	37.75
Hydrobiidae spp.	11.5	10.6	5.15	42.9
Melanoides spp.	6.25	14.19	4.33	47.23
Limnodrilus hoffmeisteri	13.53	5.52	3.85	51.08
MA vs. Snag, Average Dissimilarity = 80.82				
	MA	**Snag**		
Hyalella azteca sp. complex	103.71	15.7	29.74	29.74
Melanoides spp.	14.19	1.05	4.58	34.32
Hydrobiidae spp.	10.6	5.2	4.24	38.56
Cheumatopsyche spp.	7.43	11.06	3.8	42.37
Tubificinae spp.	10.33	1.08	3.04	45.41
Baetis intercalaris	1.4	10.04	3.03	48.44
Hydropsyche rossi	2.29	9.36	2.96	51.41
Sed vs. Snag, Average Dissimilarity = 83.59				
	Sed	**Snag**		
Tubificinae spp.	23.83	1.08	7.78	7.78
Hyalella azteca sp. complex	11.59	15.7	6.55	14.33
Hydrobiidae spp.	11.5	5.2	5.83	20.15
Cheumatopsyche spp.	1.63	11.06	5.12	25.27
Polypedilum scalaenum group	9.57	0.67	4.87	30.15
Limnodrilus hoffmeisteri	13.53	0	4.75	34.89
Hydropsyche rossi	0	9.36	4.48	39.38
Baetis intercalaris	0	10.04	4.43	43.8
Cladotanytarsus spp.	10.5	4.9	4.32	48.12
Corynoneura spp.	5.81	0.33	3.21	51.33

Waterbody Type

Comparison of invertebrate communities by waterbody type in Weeki Wachee depicted a slightly significant difference between communities in the spring versus the river. No samples were collected from tributaries (**Figure 44**). ANOSIM results confirmed the significant difference between the invertebrate communities in the spring versus the river (**Table 38**). The amphipod, *H. azteca* sp. complex, had slightly higher average abundances in the river versus the spring and was responsible for contributing the most to the observed dissimilarity between the invertebrate communities in the river versus the spring. The snail, Hydrobiidae spp., and the annelid worm, Tubificinae spp., had distinctly higher average abundances in the spring compared to the river samples and helped contribute to the dissimilarity observed between invertebrate communities in these two types of waterbodies (**Table 39**). In fact, annelid worms, crustaceans, midges, molluscs, a few organisms from miscellaneous phyla and trichopterans were the only major taxa groups present in the spring samples. All other insect groups such as mayflies (Ephemeroptera), beetles (Coleoptera) and damselflies and dragonflies (Odonata) were absent from the spring samples (**Figure 45**). Collector-gatherer/deposit feeders were the dominant functional feeding group for both waterbody types in the Weeki Wachee River. Scrapers were more abundant in the spring versus the river samples, while filter feeders were more common in the river than in the spring samples (**Figure 46**).

Figure 44 - nMDS for Weeki Wachee with Waterbody Type as the Factor

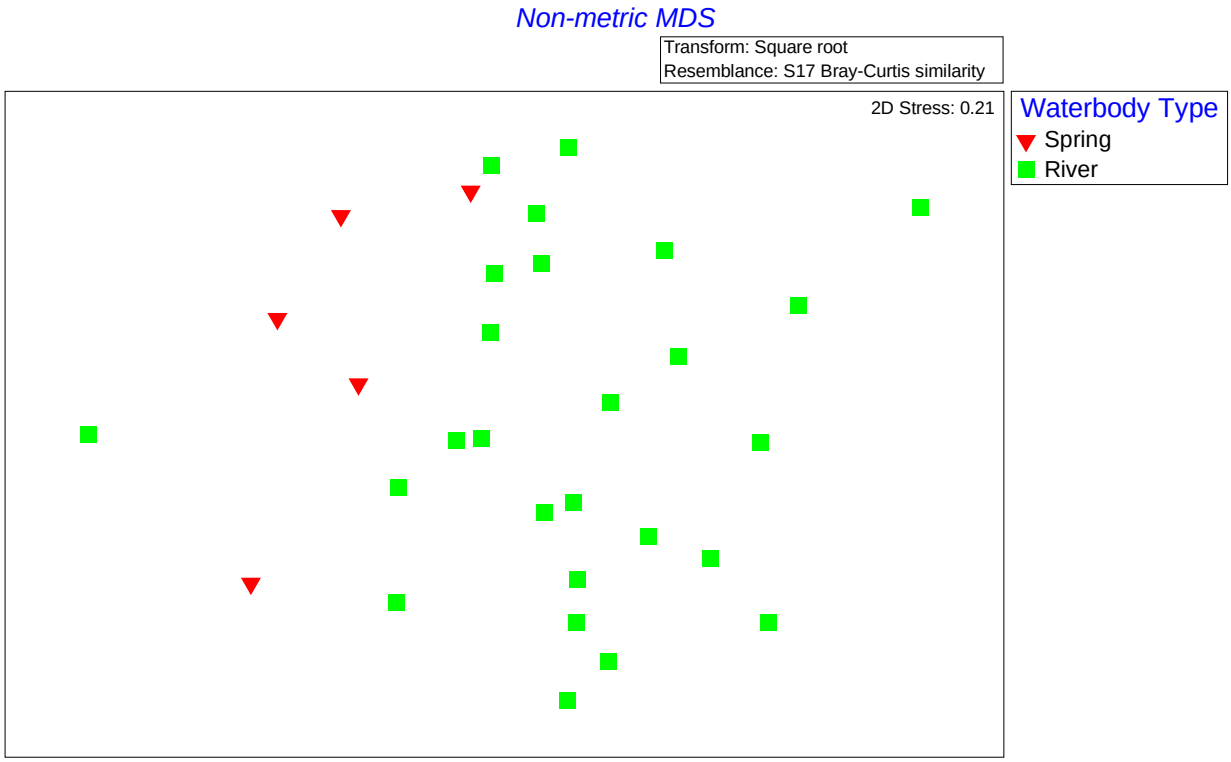


Table 38 - ANOSIM Results for Weeki Wachee with Waterbody Type as the Factor

	Spring	River
Spring		
River	0.244	
Global R = 0.244, p = 0.045		

Table 39 - Weeki Wachee River SIMPER Results for Significant Pairwise Comparisons between Waterbody Types

Taxa	Group 1 Average Abundance	Group 2 Average Abundance	% Contribution to Dissimilarity	% Cumulative Contribution to Dissimilarity
River vs. Spring, Average Dissimilarity = 82.17				
	River	**Spring**		
Hyalella azteca sp. complex	34.89	31.79	15.18	15.18
Hydrobiidae spp.	3.26	32.02	11.85	27.03
Tubificinae spp.	6.35	25.03	7.83	34.86
Melanoides spp.	5.63	7.47	3.74	38.6
Limnodrilus hoffmeisteri	3.54	9.31	3.46	42.06
Dicrotendipes spp.	3.14	8.81	3.39	45.44
Cheumatopsyche spp.	6.15	0	2.62	48.06
Cricotopus or *Orthocladius*	5.25	2	2.57	50.63

Figure 45 - Percent Compositions of Organisms from Major Taxa Groups by Waterbody Type in the Weeki Wachee River

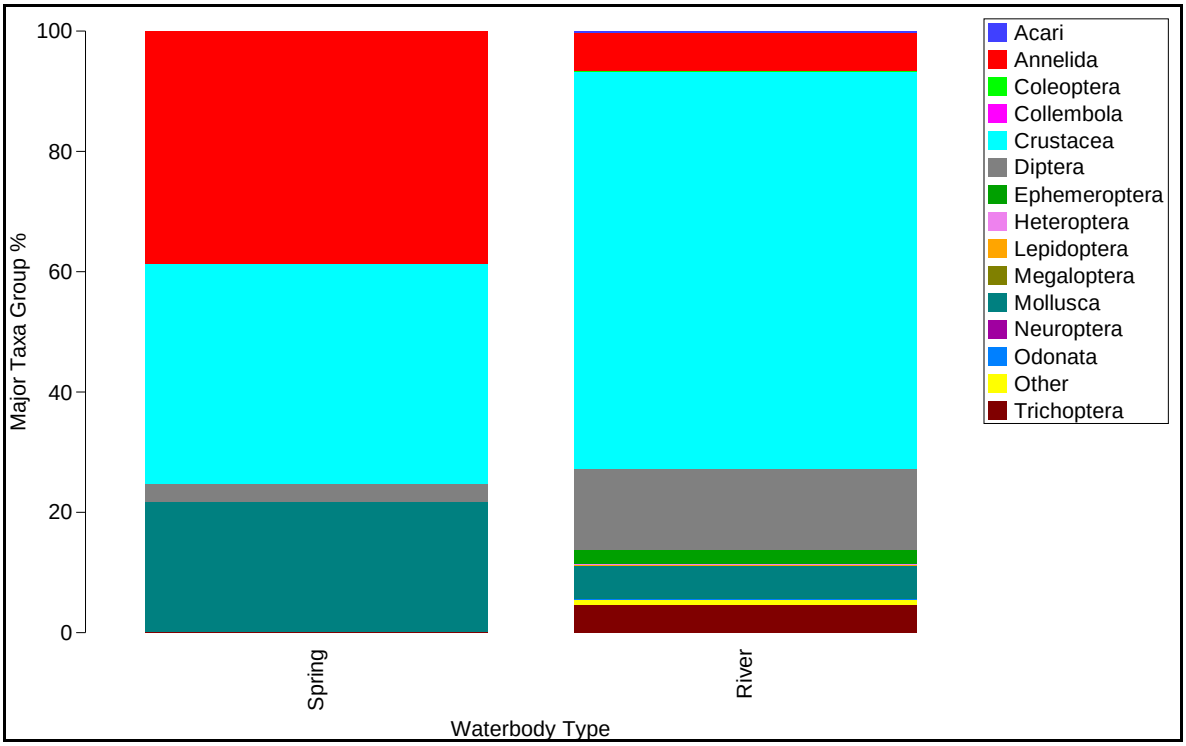
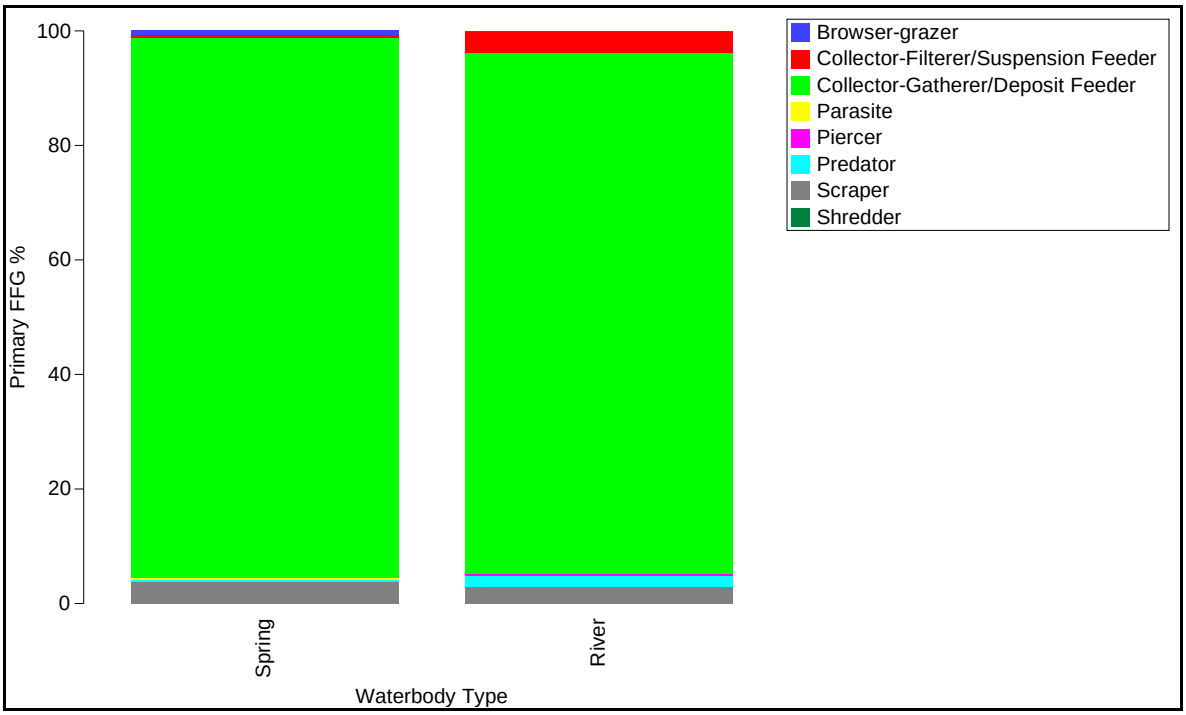


Figure 46 - Percent Composition of Organisms from each Functional Feeding Group by Waterbody Type within the Weeki Wachee River



Longitudinal Patterns

As mentioned above, longitudinal gradients were examined using parametric (Pearson's R) and nonparametric (Spearman's Rho and Kendall's Tau) correlation analyses in the Weeki Wachee River. **Table D-3** in **Appendix D** provides a comprehensive correlation matrix with results from the correlation analysis. Canopy cover, salinity and pH all significantly increased along the longitudinal gradient, with strong correlation relationships (Rho = 0.821, 0.791 and 0.929, respectively). None of the biological metrics had a discernable longitudinal pattern.

The total abundance of organisms in each sample was averaged by zone and were higher in the spring zone and the first river zone (**Figure 47**). Total species richness peaked in WEE-R-2, declined downstream, but increased again in the last zone, WEE-R-6 (**Figure 48**). Average Shannon's diversity index peaked at WEE-R-2 and fluctuated slightly thereafter further downstream (**Figure 49**). These results are also shown spatially in **Figure 50**.

The mainstem river channel included an upper river zone downstream of the spring zone. Because the upper river zone was indicated for the entire non-spring area sampled within the study area, the lower limits of this zone cannot be described based on these samples. More zones almost definitely occur downstream based on previous studies. Future sampling should be extended downstream to identify and track the position between the upper and lower mainstem zones.

Figure 47 - Average Abundance of Organisms by River Zone in the Weeki Wachee River

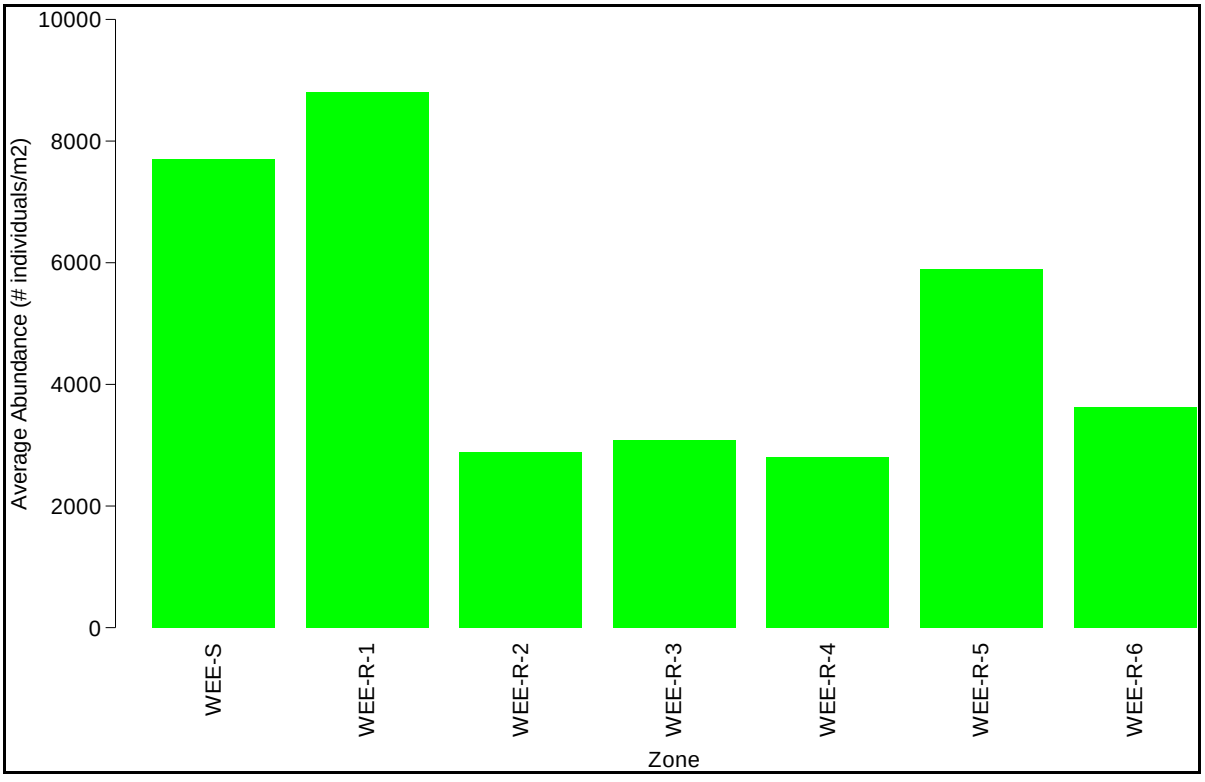


Figure 48 - Total Species Richness by River Zone in the Weeki Wachee River

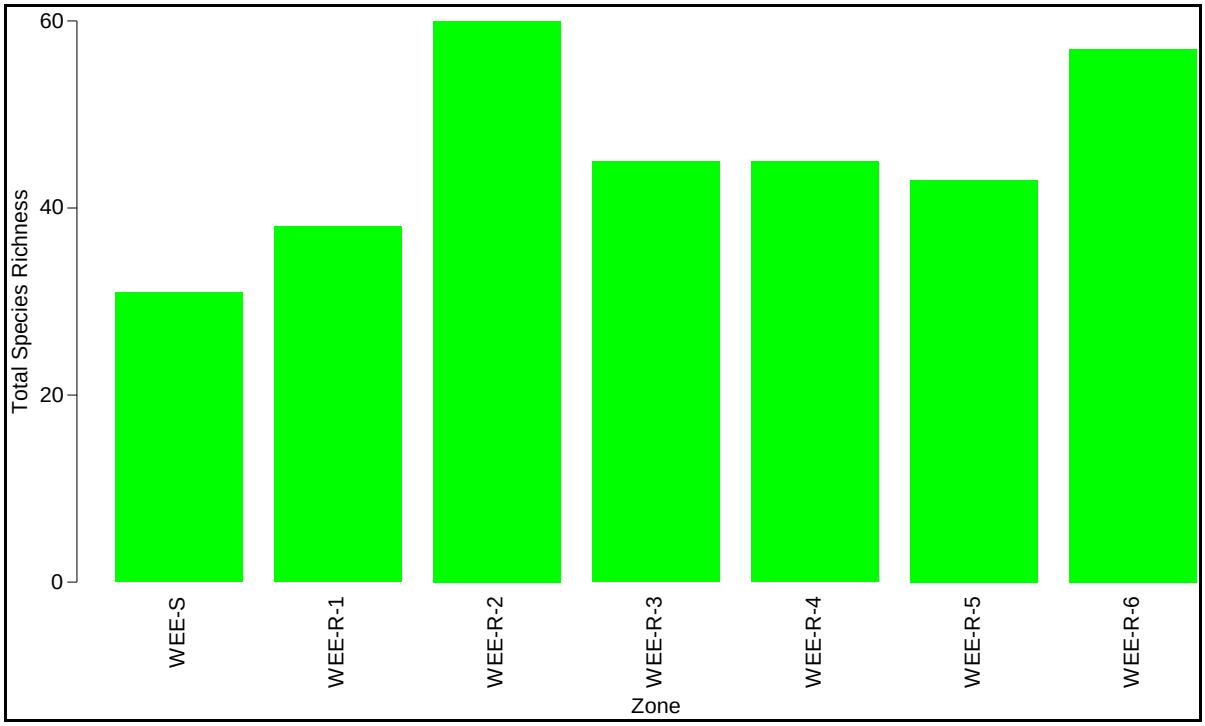


Figure 49 - Average Shannon's Diversity Index by River Zone in the Weeki Wachee River

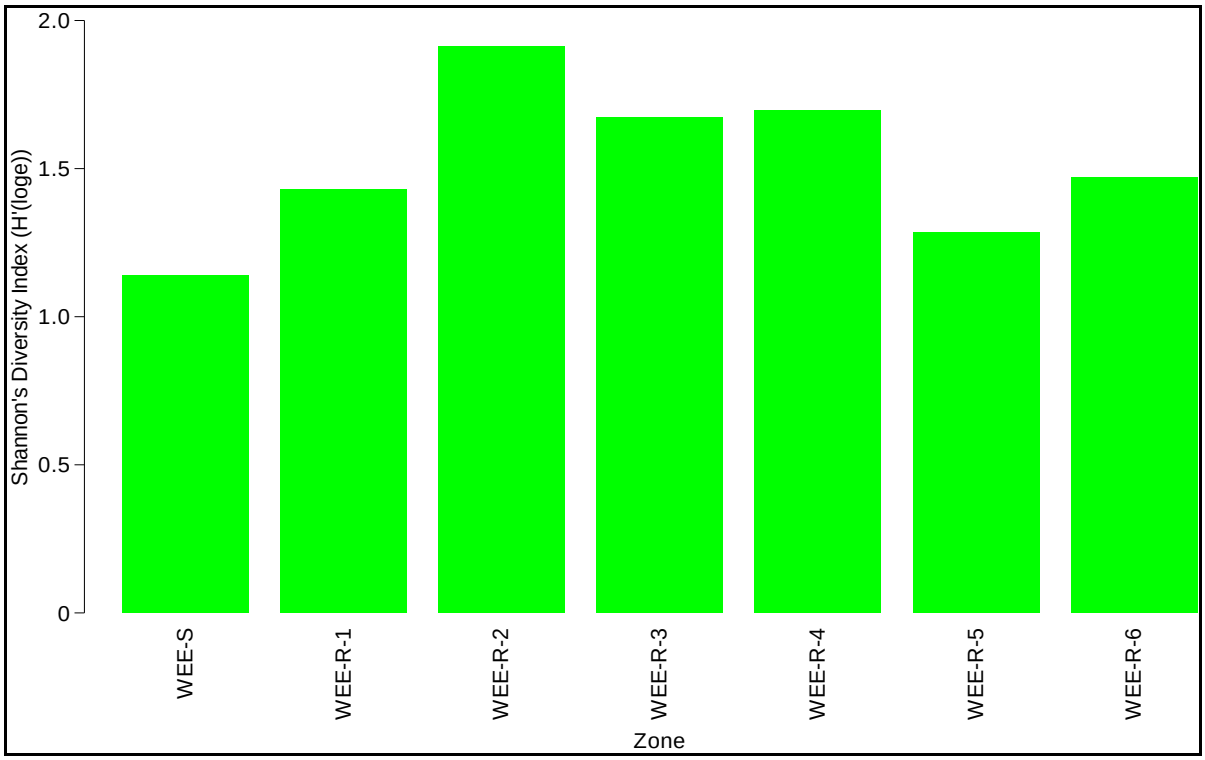
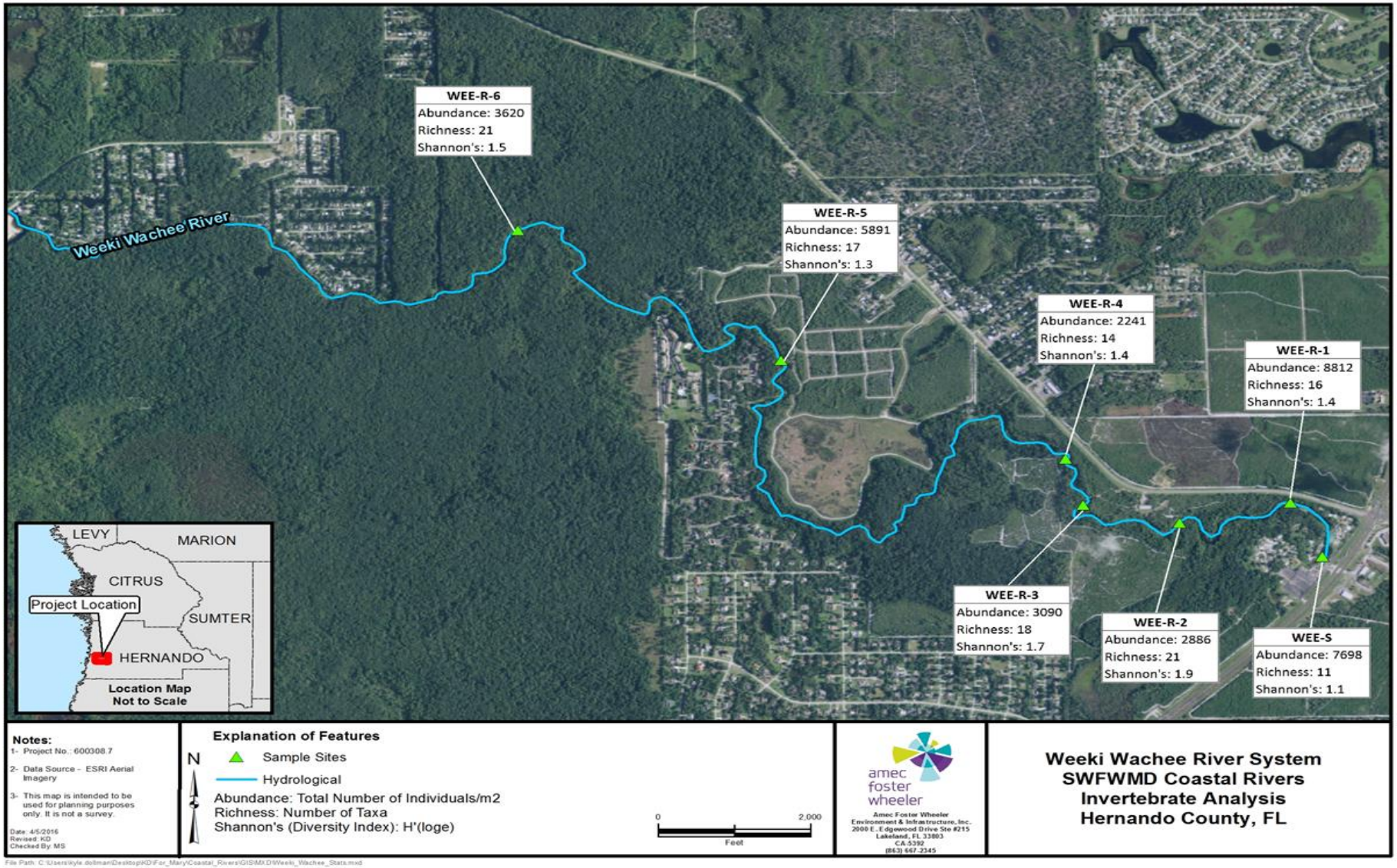


Figure 50 – Spatial Distribution of Selected Average Biological Metrics per Zone in the Weeki Wachee River



Crustaceans were the dominant taxonomic group for all river samples within the Weeki Wachee River. Annelid worms were the dominant taxonomic group for the spring samples (**Figure 51**). Ephemeroptera, Odonata, and Coleoptera were absent from the spring samples; however, they were present in the river samples. Collector gatherer/deposit feeders were the dominant functional feeding group for all river zones. Suspension feeders and scrapers exhibited a slightly higher composition in the middle portions of the Weeki Wachee River when compared with other river zones (**Figure 52**).

Figure 51 - Percent Composition of Organisms from Major Taxa Groups by River Zone in the Weeki Wachee River

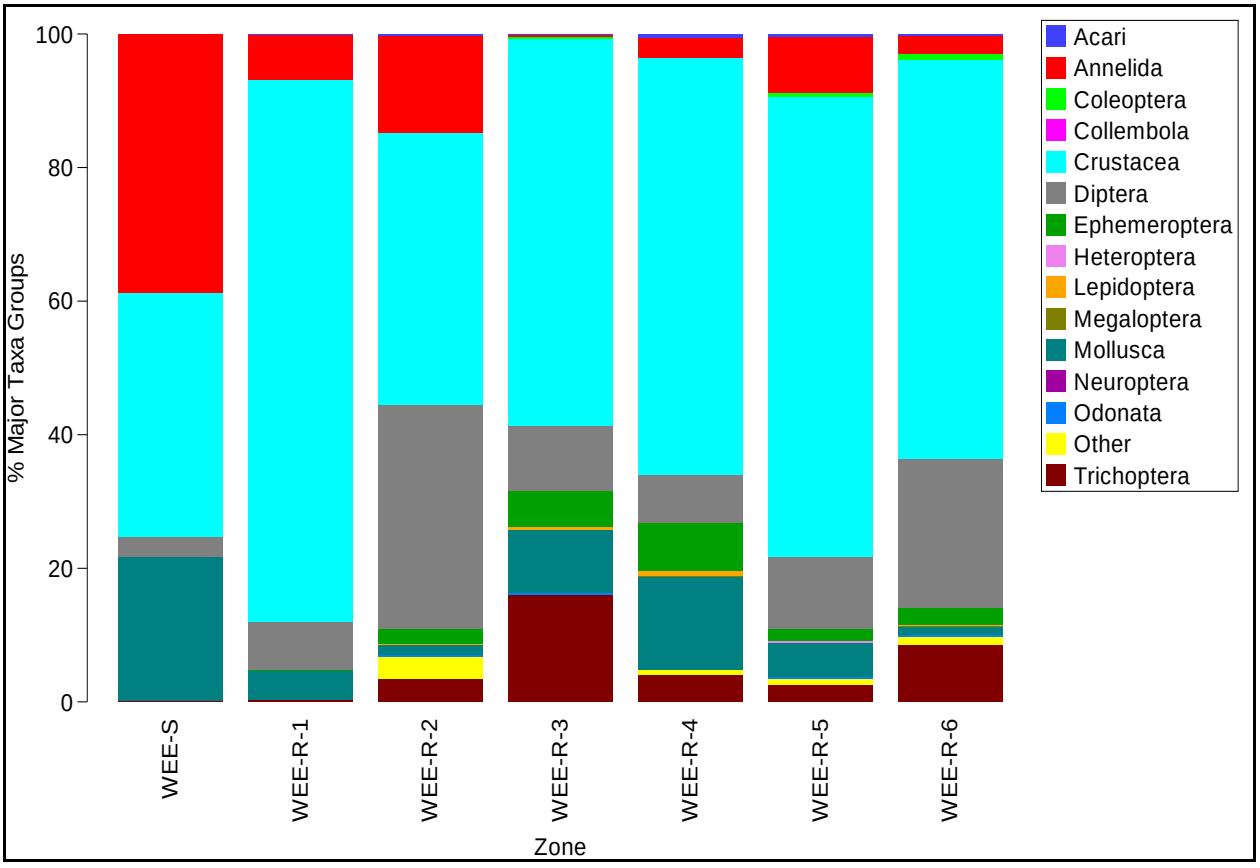
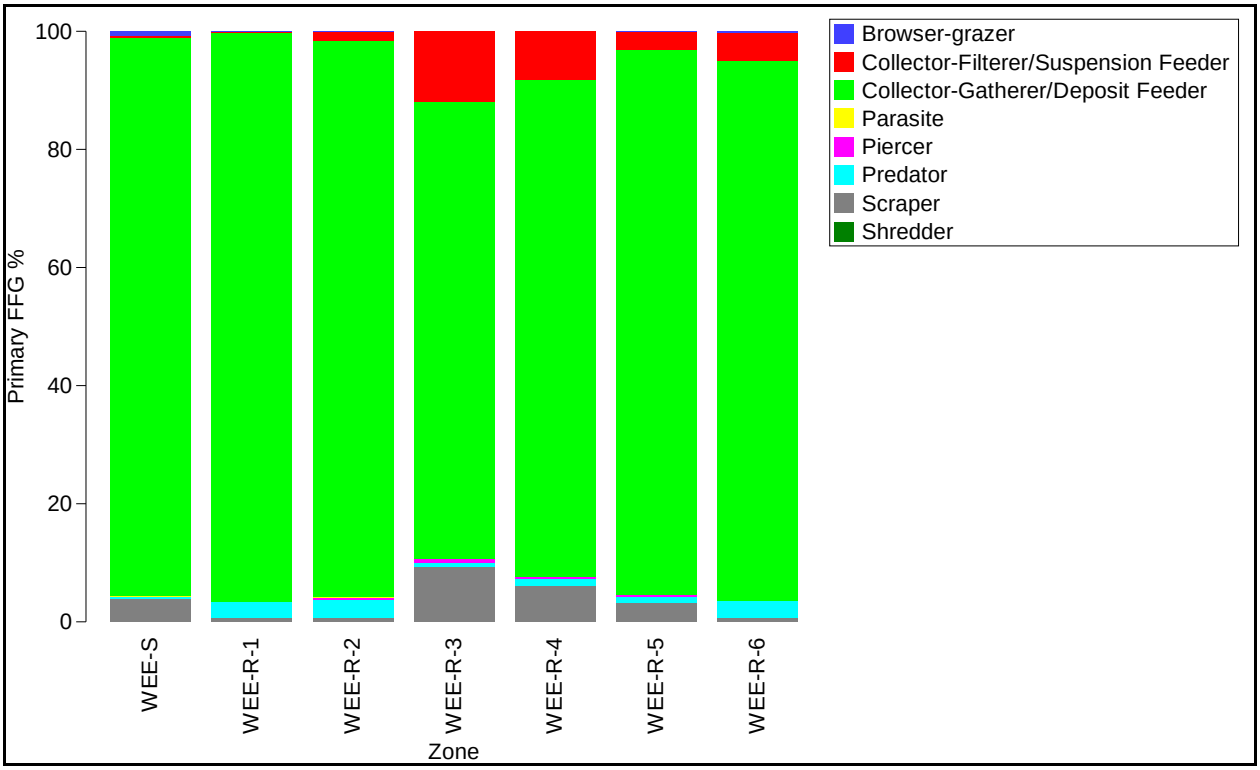


Figure 52 - Percent Composition of Organisms from each Functional Feeding Group by River Zone within the Weeki Wachee River



Samples collected from the spring area were slightly separated in the nMDS plot from samples collected in the upper and lower reaches of Weeki Wachee River (**Figure 53**). ANOSIM confirmed a slight significant difference between the invertebrate community structure in the spring samples and those within the upper and lower reaches of the river (**Table 40**). The amphipod, *H. azteca* sp. complex, had slightly higher average abundances in the upper and lower portions of the river when compared with the spring area. This species contributed the most to the observed dissimilarity between the invertebrate communities in the spring area versus the upper and lower areas of the Weeki Wachee River (**Table 41**).

Figure 53 - nMDS Plot for Weeki Wachee with Waterbody Area as the Factor

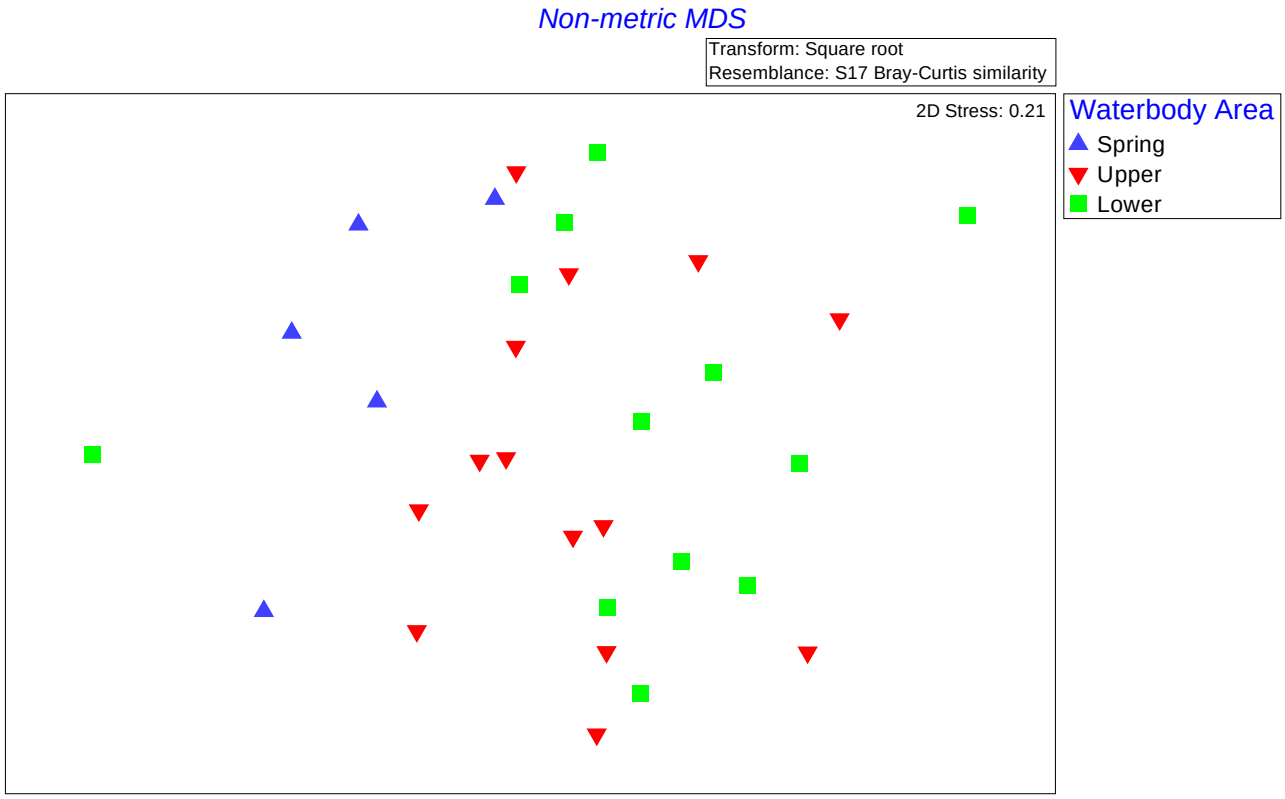


Table 40 - ANOSIM Results for Weeki Wachee with Waterbody Area as the Factor

	Spring	Upper	Lower
Spring			
Upper	0.327298		
Lower	0.269956	0.073476	
Global R = 0.177, p = 0.006			

Table 41 - Weeki Wachee River SIMPER Results for Significant Pairwise Comparisons between Waterbody Areas

Taxa	Group 1 Average Abundance	Group 2 Average Abundance	% Contribution to Dissimilarity	% Cumulative Contribution to Dissimilarity
Spring vs. Upper, Average Dissimilarity = 80.15				
	Spring	**Upper**		
Hyalella azteca sp. complex	31.79	35.36	15.58	15.58
Hydrobiidae spp.	32.02	5	11.48	27.06
Tubificinae spp.	25.03	5.63	7.8	34.86
Limnodrilus hoffmeisteri	9.31	4.45	3.87	38.74
Melanoides spp.	7.47	4.95	3.76	42.5
Cricotopus or *Orthocladius*	2	7.45	3.64	46.14
Tanytarsus spp.	0	8.64	3.59	49.72
Dicrotendipes spp.	8.81	5.34	3.43	53.16
Spring vs. Lower, Average Dissimilarity = 84.52				
	Spring	**Lower**		
Hyalella azteca sp. complex	31.79	34.34	14.73	14.73
Hydrobiidae spp.	32.02	1.24	12.26	27
Tubificinae spp.	25.03	7.19	7.86	34.85
Melanoides spp.	7.47	6.44	3.71	38.57
Dicrotendipes spp.	8.81	0.58	3.34	41.9
Limnodrilus hoffmeisteri	9.31	2.48	3	44.9
Cladotanytarsus spp.	2.27	5.3	2.98	47.89
Polypedilum scalaenum group	2.26	6.7	2.93	50.82

Correlations between the Biological Community and Abiotic Factors

Table D-3 in **Appendix D** provides results for correlations conducted between biological metrics and abiotic factors. Significant and strong positive associations were found between richness and water temperature, and DO. The same pattern was found for Margalef's richness and the aforementioned abiotic factors. Shannon's diversity index was also positively correlated to water temperature.

The BEST analysis with the BIOENV option in PRIMER was used to determine the combination of environmental variables that were best correlated with the invertebrate community structure within Weeki Wachee. Dissolved oxygen (%), pH, turbidity (NTU) and canopy cover (%) were best correlated with the invertebrate community structure within the Weeki Wachee River (rho = 0.255). Values for each of these significant environmental variables were superimposed as bubbles on the nMDS plot for each sample. The size of the bubble corresponded directly to the value of the environmental variable and the color of the bubble represented each Zone. Dissolved oxygen (%), pH and canopy cover (%) were all lower in the spring zone, represented by the smaller bubbles, while turbidity (NTU) was slightly higher in the spring, R-4 and R-6 zones represented by larger bubbles (**Figures 54a-d**).

Figure 54a - Bubble Plot of Dissolved Oxygen (%) Values Superimposed on the nMDS Plot of River Zones within the Weeki Wachee River

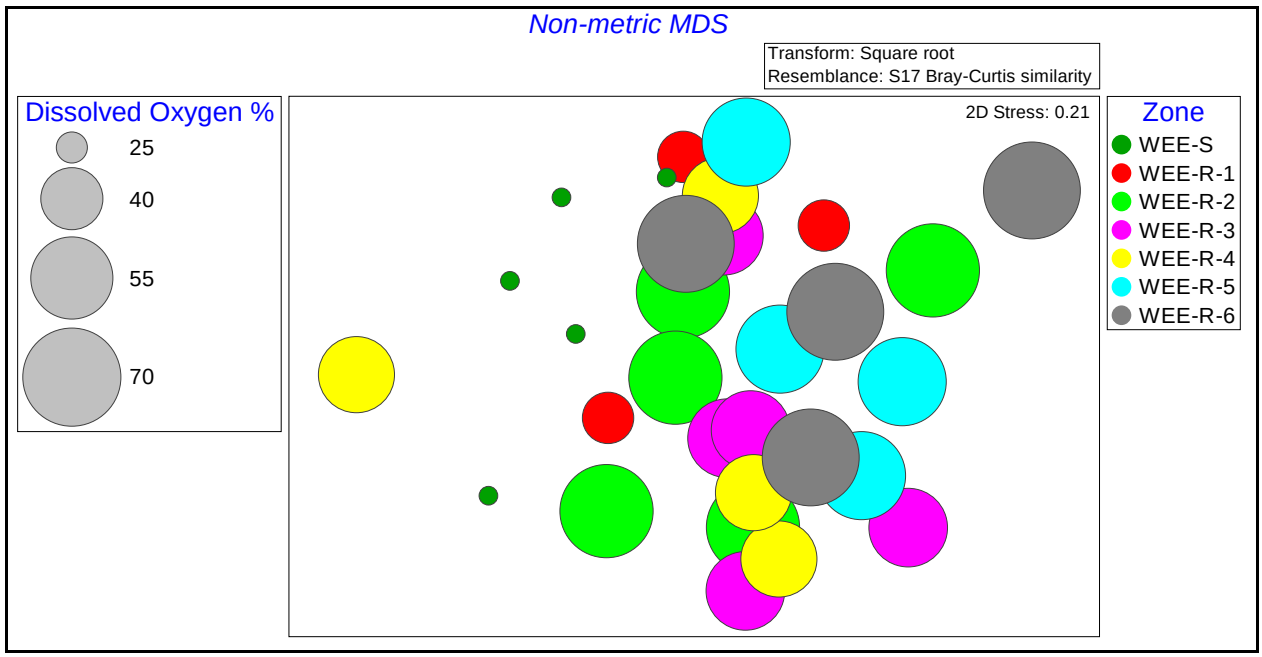


Figure 54b - Bubble Plot of pH Values Superimposed on the nMDS Plot of River Zones within the Weeki Wachee River

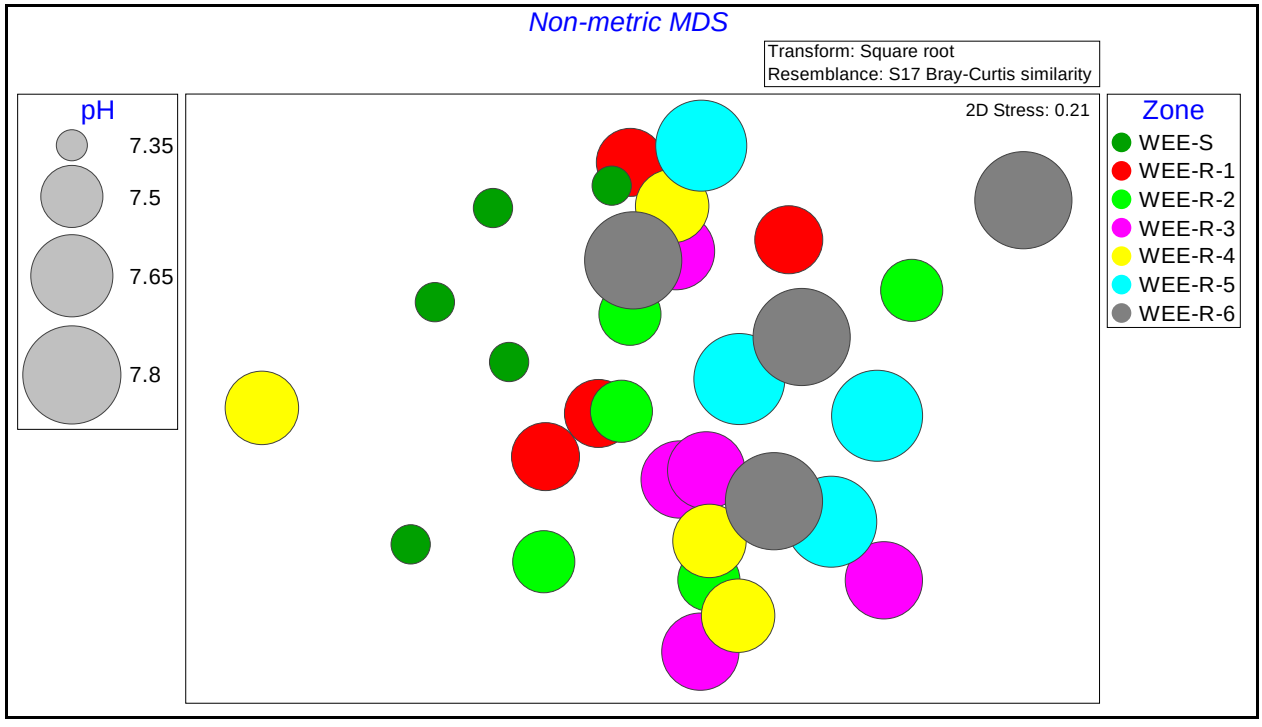


Figure 54c - Bubble Plot of Turbidity (NTU) Values Superimposed on the nMDS Plot of River Zones within the Weeki Wachee River

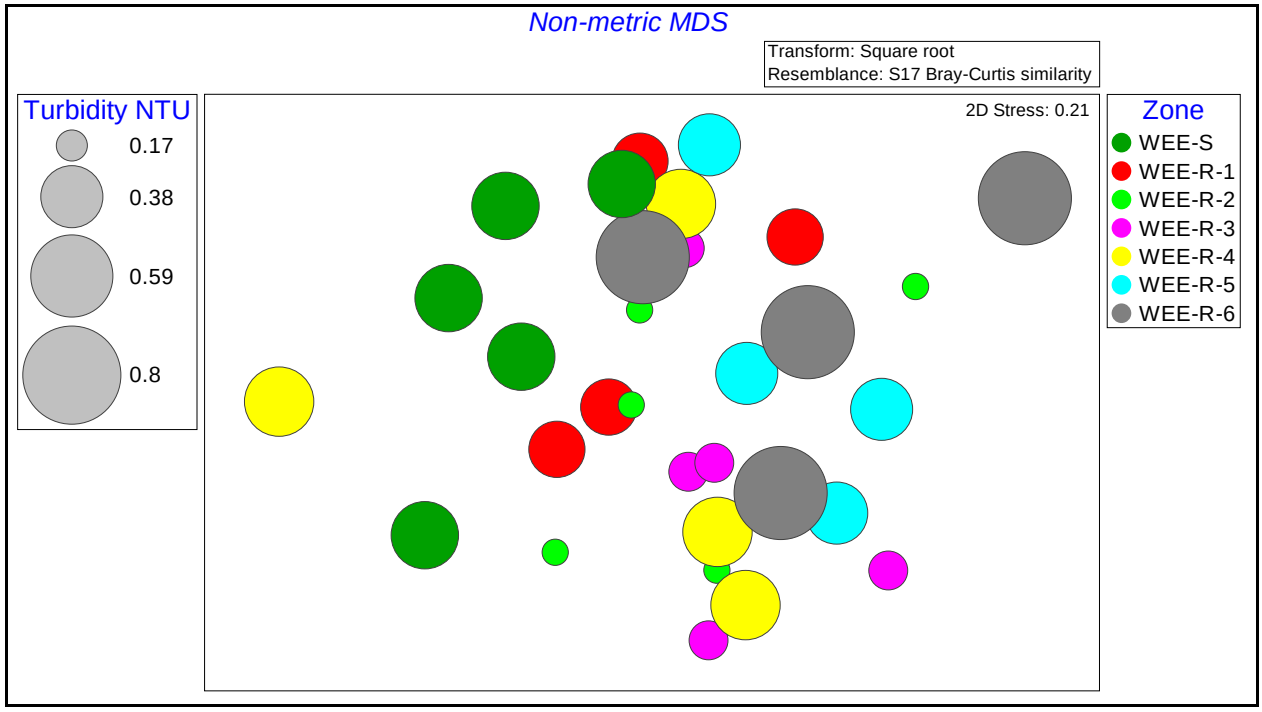
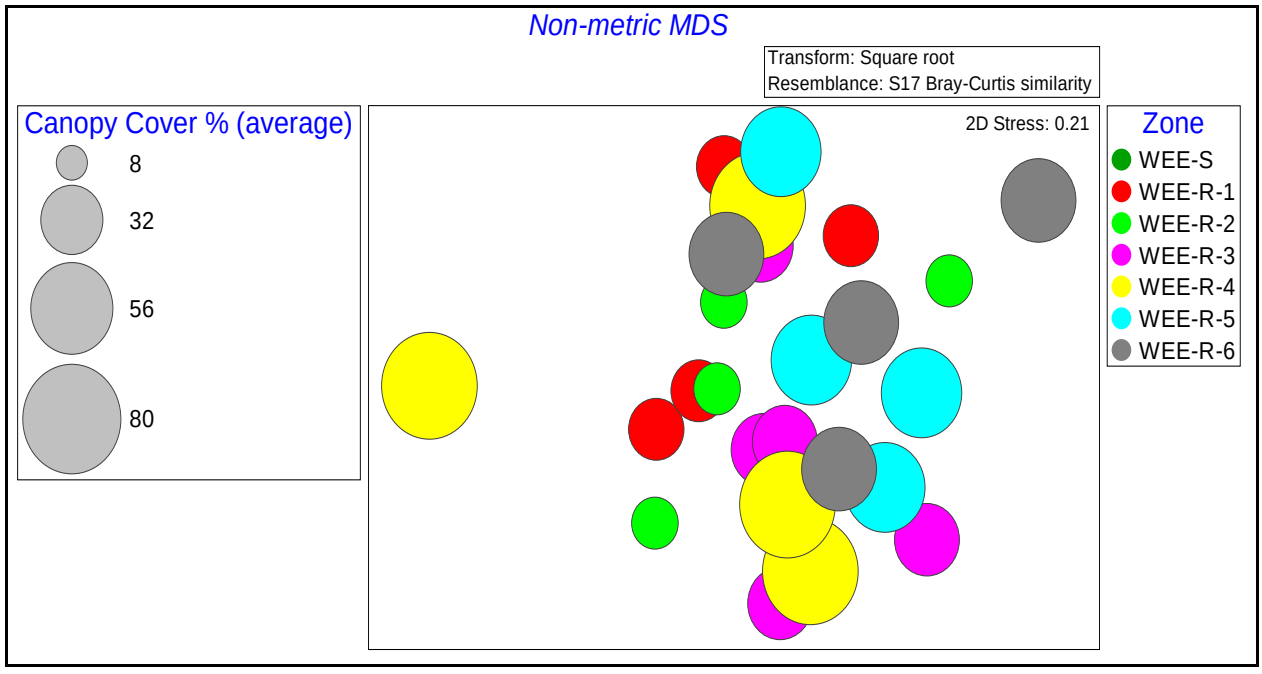


Figure 54d - Bubble Plot of Canopy Cover (%) Values Superimposed on the nMDS Plot of River Zones within the Weeki Wachee River



Comparison to Previous Studies

Sloan (1956) evaluated the distribution of aquatic insects in Weeki Wachee River. Invertebrate samples were collected using dipnet sweeps at transects located between the headspring and the mouth of the river. Sloan (1956) found that the diversity at the headspring was low in both Weeki Wachee and Homosassa Rivers, and sharply increased in the upper river and declined moving downstream toward the estuary. The results of this study showed a similar trend, with slightly lower species richness within the headspring, an increase in the upper river, and a decline as one moved downstream. Species richness between sample transects were very similar between the two studies.

Sloan (1956) looked at the macroinvertebrate groups by order and their species richness along a longitudinal gradient from the headspring to mouth of the river. He found that in Weeki Wachee River, Ephemeropertera, Hemiptera, and Trichoptera had low diversity in the headspring, were more diverse in the upper reaches of the river and decreased moving downstream. He also found no Coleoptera species in the headspring. In the current study, Ephemeroptera, Coleoptera, and Odonata taxa were absent from the headspring; however, they were common in the river samples.

As part of the benthic portion of a comprehensive study, Mote Marine Laboratory (1986) characterized the benthic infaunal communities in the Weeki Wachee River. The study's main goal was to evaluate the composition of the macroinvertebrate communities in relation to salinity regimes. Faunal samples were collected with stainless steel box cores. However, all four of their sampling locations were downstream of Roger's Park/Shoal Line Road, which is downstream of the furthest downstream sampling location for this study.

Janicki Environmental, Inc. (2006) also performed an analysis of the benthic community structure in the Weeki Wachee River. However, samples were also limited to downstream of Roger's Park/Shoal Line Road, which is downstream of the furthest downstream sampling location for this study.

3.6 Comparisons among Springs

Physicochemical factors are important macroinvertebrate structuring forces in aquatic systems, and especially within spring systems. The benthic macroinvertebrate community structure and associated biological metrics and abiotic factors data from the limited springs zones dataset were further evaluated to determine if the variability seen in **Table 5** (Section 3.1) could be influencing the macroinvertebrate community. The aim of the analyses was to determine which physicochemical parameters best explain the variability in community structure due to species-specific tolerances to spring discharge and instream water chemistry and physical factors. Results from the statistical analyses of the limited springs zones dataset are provided below.

Correlations between the Biological Community and Abiotic Factors

Springs zones from Chassahowitzka, Homosassa, and Weeki Wachee were pooled together and correlations were conducted between abiotic factors and biological metrics. Results from the springs zones only correlation matrix are provided in **Table C-5** in **Appendix C**. Only pH and canopy coverage were significantly correlated with the taxa richness metric (rho = 0.76, p = 0.02; rho = 0.79, p = 0.02, respectively). Canopy cover was significantly correlated with Margalef's richness and both Shannon's and Simpson's diversity indices (rho = 0.76, p = 0.02; rho = 0.79, p = 0.02; rho = 0.78, p = 0.03 respectively). Log_{10} transformed Margalef's richness was significantly

correlated with DO concentrations (R= 0.76, p = 0.03). Abundance and taxa richness values were not correlated with any of the indices. However, Margalef's richness, Pielou's evenness and the two diversity indices were highly correlated to each other (rho ranging from 0.76 to 0.90, p<0.05; **Table C-5, Appendix C**).

Results of the PCA analysis illustrated that the water quality and environmental parameters were different between samples collected from the various spring systems (**Figure 55, Tables 42 and 43**). The first principal component (PC1) axis explained 49.9% of the total variation and was positively correlated with canopy cover and negatively correlated with depth of sample. The samples collected from Chassahowitzka springs (CHA-S-1, and CHA-S-2) and the Homosassa South Fork spring (HOM-Sou) generally had more canopy cover and were collected from shallower depths than those from the other spring vents. Additionally, the samples from Weeki Wachee spring were characterized by deeper depths and less canopy cover. The second principal component (PC2) axis explained 33.5% of the total variation and was largely negatively correlated with salinity. The samples collected from the Hall's River spring were characterized by higher salinities compared to samples from other spring vents. The values highlighted in yellow in **Table 43** were the three environmental parameters that had the highest correlation with their respective principal component axes.

Figure 55 - PCA Results for Environmental and Water Quality Parameters from all Springs Zones

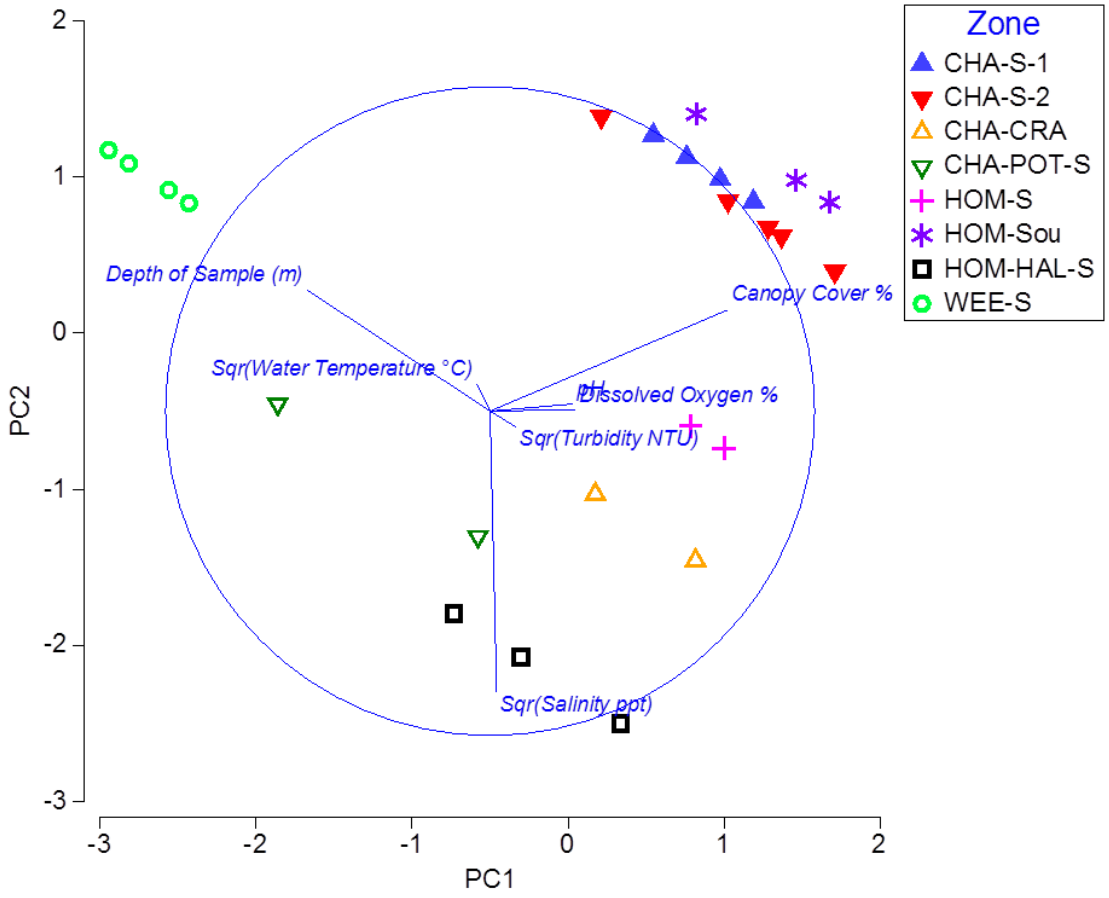


Table 42 - Percent and Cumulative Percent of Variation Explained by Principal Coordinates

PC	Eigenvalues	% Variation	Cumulative % Variation
1	2.13	49.9	49.9
2	1.43	33.5	83.4

Table 43 - Correlations of Water Quality and Environmental Parameters for each Principal Coordinate for Springs Zones

Parameter	PC1	PC2	PC3	PC4	PC5
Depth of Sample (m)	-0.565	0.374	-0.676	0.252	-0.128
Water Temperature (°C)	-0.042	0.086	-0.145	-0.222	0.373
Dissolved Oxygen (%)	0.264	0.005	-0.368	-0.161	0.427
Salinity (ppt)	0.020	-0.867	-0.409	0.240	0.003
pH	0.255	0.022	-0.071	0.094	-0.761
Turbidity (NTU)	0.080	-0.049	-0.330	-0.843	-0.280
Canopy Cover % (average)	0.733	0.313	0.325	0.291	0.064

*Note: The correlation coefficients with the highest values in PC1 and PC2 are highlighted.

The BEST analysis with the BIOENV option in PRIMER depicted the combination of environmental variables that were best correlated with the invertebrate community structure across all of the springs zones. The combination of five physicochemical variables provided the greatest combined correlation coefficient (rho = 0.339) and explained the greatest variability in invertebrate community structure, which included 1) depth of sample, 2) dissolved oxygen, 3) conductivity, 4) pH, and 5) turbidity. These five variables were cumulatively best correlated and were the best explanatory variables of invertebrate community structure from all of the spring samples. When the BEST analysis was forced to provide the best result for only two variables, then depth of sample and conductivity were found to provide a correlation coefficient of rho = 0.304. For up to three variables, depth of sample, dissolved oxygen and conductivity increased the coefficient to rho = 0.320. With the addition of the other two variables, pH and turbidity, the correlation coefficient only increased slightly.

Values for each of the five environmental variables identified in the BEST analysis were overlaid as bubbles on the nMDS plot for each spring sample (**Figures 56a-e**). The size of the bubble directly corresponds to the value of the environmental variable and the color of the bubble represents the spring zone from which the sample was collected from. Weeki Wachee spring was characterized by deeper depths, much lower dissolved oxygen, conductivity and salinity when compared with the other spring samples. This contributed to the difference in the invertebrate community structure observed in this spring system compared to the others. Chassahowitzka springs samples were highest in dissolved oxygen. Homosassa spring had the highest turbidity, and Hall's River spring had the highest conductivity values. Homosassa South Fork spring samples had the highest pH and lowest turbidity values.

Figure 56a - Bubble Plot of Depth of Sample (m) Values Superimposed on the nMDS Plot of Spring Zones for all Systems

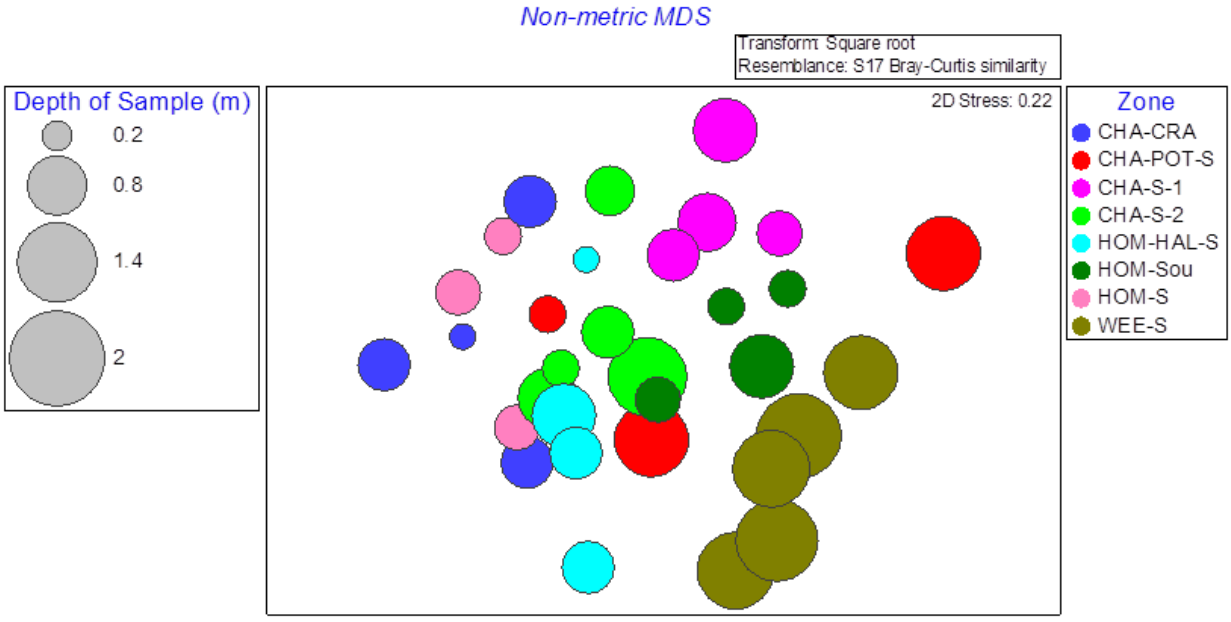


Figure 56b - Bubble Plot of Dissolved Oxygen (%) Values Superimposed on the nMDS Plot of Spring Zones for all Systems

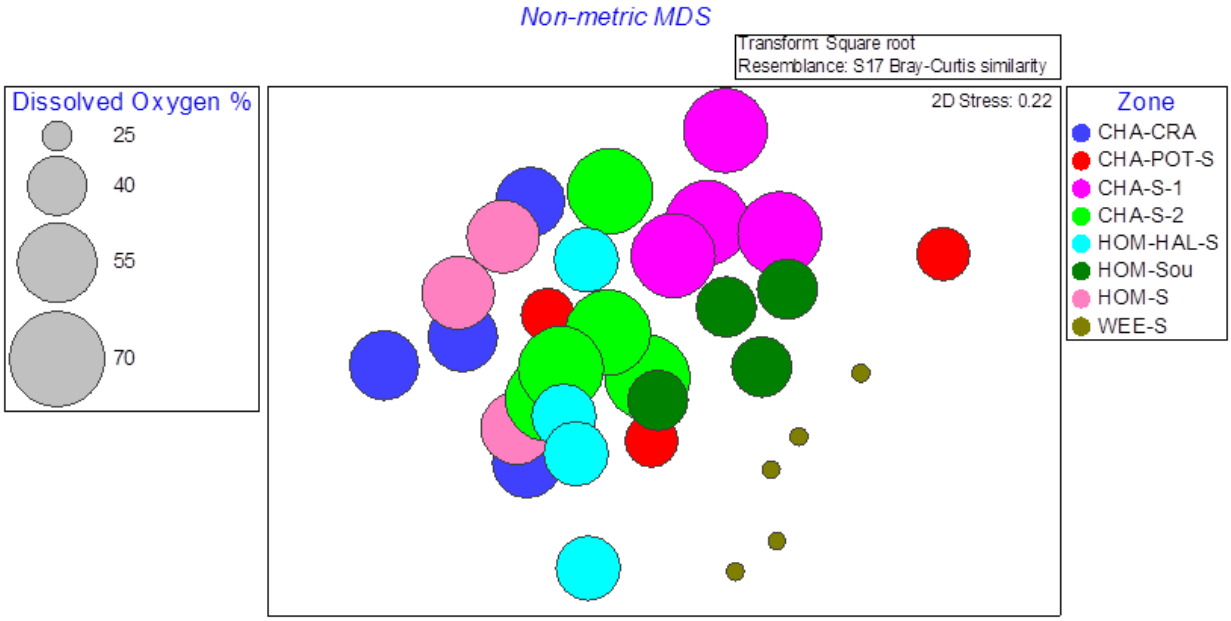


Figure 56c - Bubble Plot of Conductivity (µS/cm) Values Superimposed on the nMDS Plot of Spring Zones for all Systems

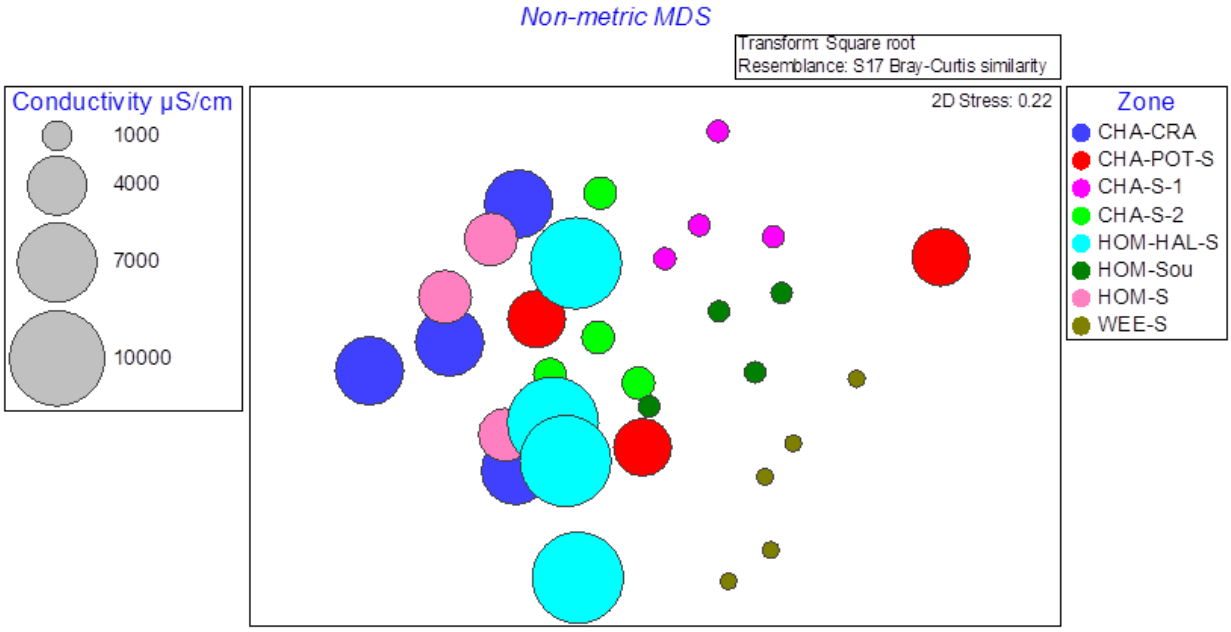


Figure 56d - Bubble Plot of pH Values Superimposed on the nMDS Plot of Spring Zones for all Systems

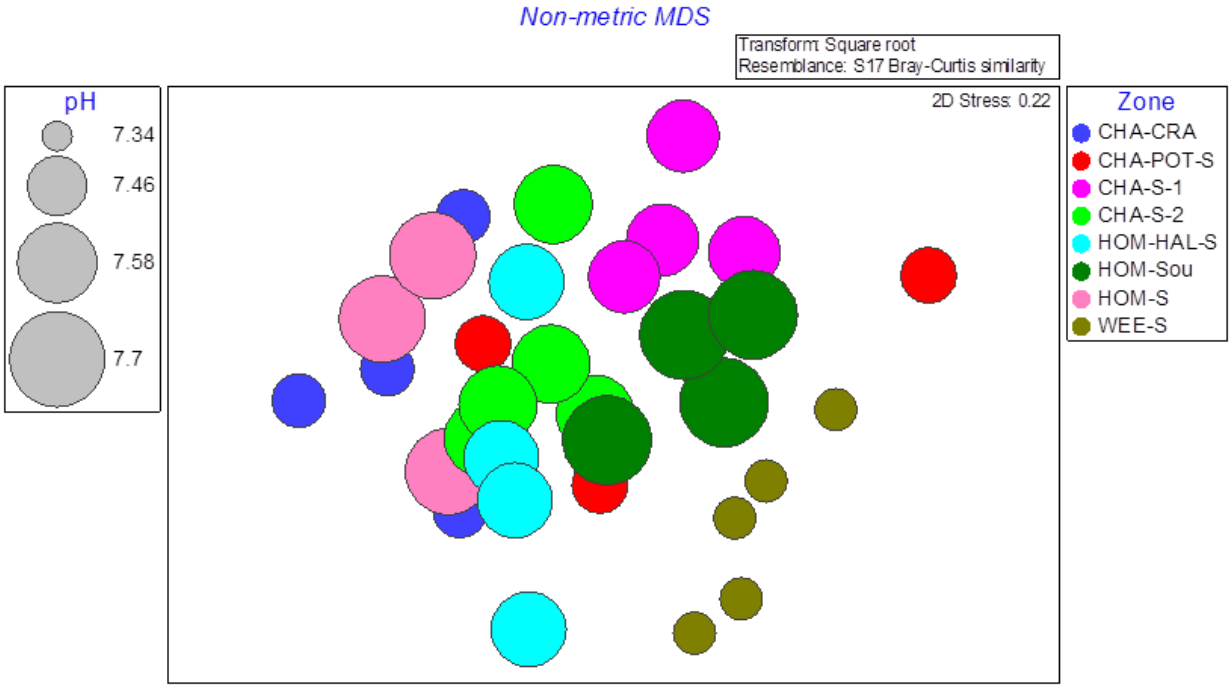
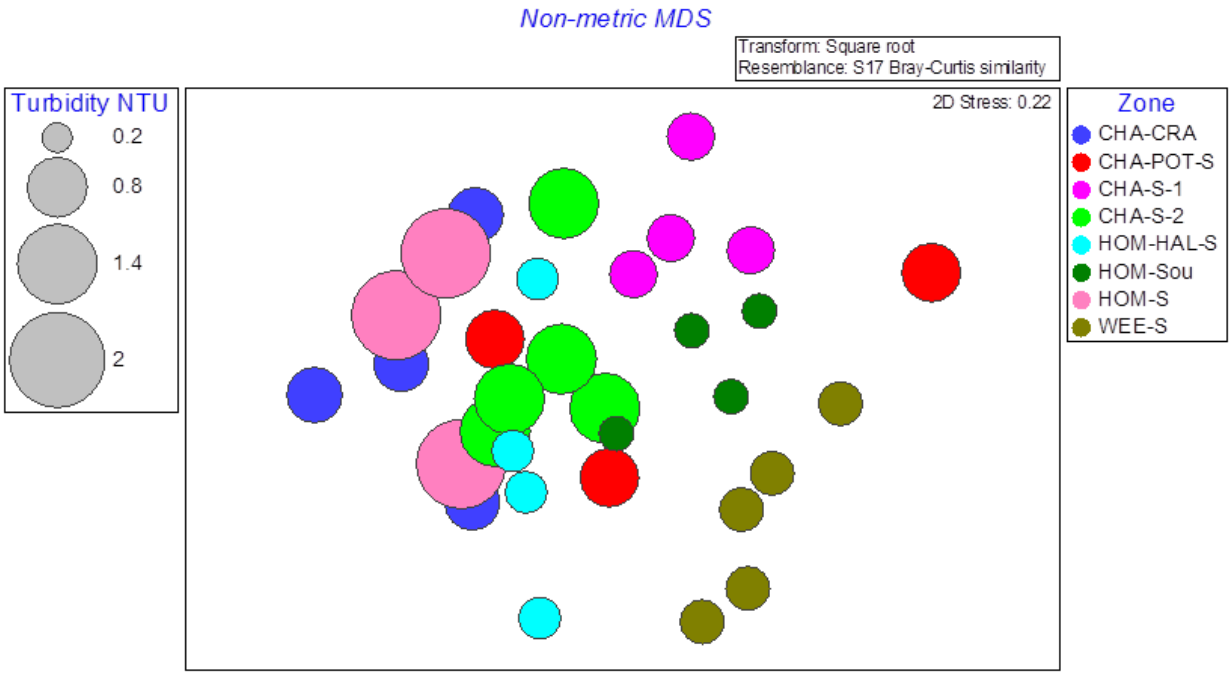


Figure 56e - Bubble Plot of Turbidity (NTU) Values Superimposed on the nMDS Plot of Spring Zones for all Systems



Correlations between the Invertebrate Grazer Community and Abiotic Factors among Spring Zones

Potential relationships between the grazer invertebrate community and the various abiotic factors were investigated because previous studies have shown that densities and biomass of certain gastropods, and their inherent grazing, can largely influence algal biomass. Due to differences in defining specific taxa as grazers between previous studies in the literature and the functional feeding group classification scheme according to the FDEP, three datasets comprised of different taxa were subjected to the same multivariate analyses and results were compared. The three datasets were 1) taxa with the primary functional feeding group listed as browsers-grazers according to FDEP, 2) taxa identified as gastropods because these are considered grazers by several studies in the literature (e.g. Liebowitz *et al.*, 2014), and 3) the taxa classified as browser-grazers by FDEP plus the taxa belonging to the Class Gastropoda.

For the spring zone samples, only some of the brackish and estuarine crustaceans from the entire taxa list from this study were classified as browser-grazers according to FDEP's classification scheme. These few crustaceans comprised the first dataset that was subjected to multivariate analyses examining potential interactions between the grazer community structure and the abiotic factors. The browser-grazer community from the Weeki Wachee spring zone was significantly different than that observed in Homosassa and Chassahowitzka spring zones (**Figure 57 and Table 44**). The BEST analysis with the BIOENV option in PRIMER revealed that a combination of five abiotic variables were best correlated with the browser-grazer invertebrate community structure across all spring zones. These variables were 1) depth of sample, 2) dissolved oxygen, 3) salinity, 4) pH and 5) canopy cover (rho = 0.333, p = 0.007).

Bubble plots illustrated how each of these abiotic variables related to the grazer invertebrate community structure (**Figures 58a-e)**. Weeki Wachee samples were characterized by deeper depths, no canopy cover, and lower pH, salinity and dissolved oxygen. The HOM-Sou and CHA-S-1 spring zones had similar low salinity levels when compared to Weeki Wachee, but were shallower sites, with little to no canopy cover and had lower dissolved oxygen than Weeki Wachee spring samples.

Chassahowitzka springs samples had seven different browser-grazers and Homosassa springs had only five, as classified by the FDEP. Weeki Wachee spring only had one species of FDEP classified browser-grazer, which was found in SAV habitat in that spring. All FDEP classified grazers were from phylum arthropoda (subphylum crustacea). Results of the SIMPER analysis revealed that the decapod shrimp, *Palaemonetes* spp., had five times higher average abundances in the Weeki Wachee spring samples than the spring samples from Chassahowitzka and Homosassa (**Table 45**). It was the only invertebrate, classified as a browser-grazer according to the FDEP scheme that was found in the Weeki Wachee spring samples. The larvae of this genus of shrimp has been shown to prefer brackish and marine conditions, but as an adult can tolerate a wider range of salinities such as the lower salinities observed in Weeki Wachee spring (Knowlton and Kirby, 1984). Furthermore, *Palaemonetes pugio* possesses a transcription factor that helps regulate cellular and homeostatic responses to hypoxic conditions (Li and Brouwer, 2007). It is possible that the species present in the Weeki Wachee spring samples is *P. pugio*, or that the species present in these samples also possesses this transcription factor, and can tolerate the lower dissolved oxygen levels present in Weeki Wachee Spring.

Figure 57 - nMDS Plot of Browser-Grazer Invertebrate Samples from Spring Zones in all Systems

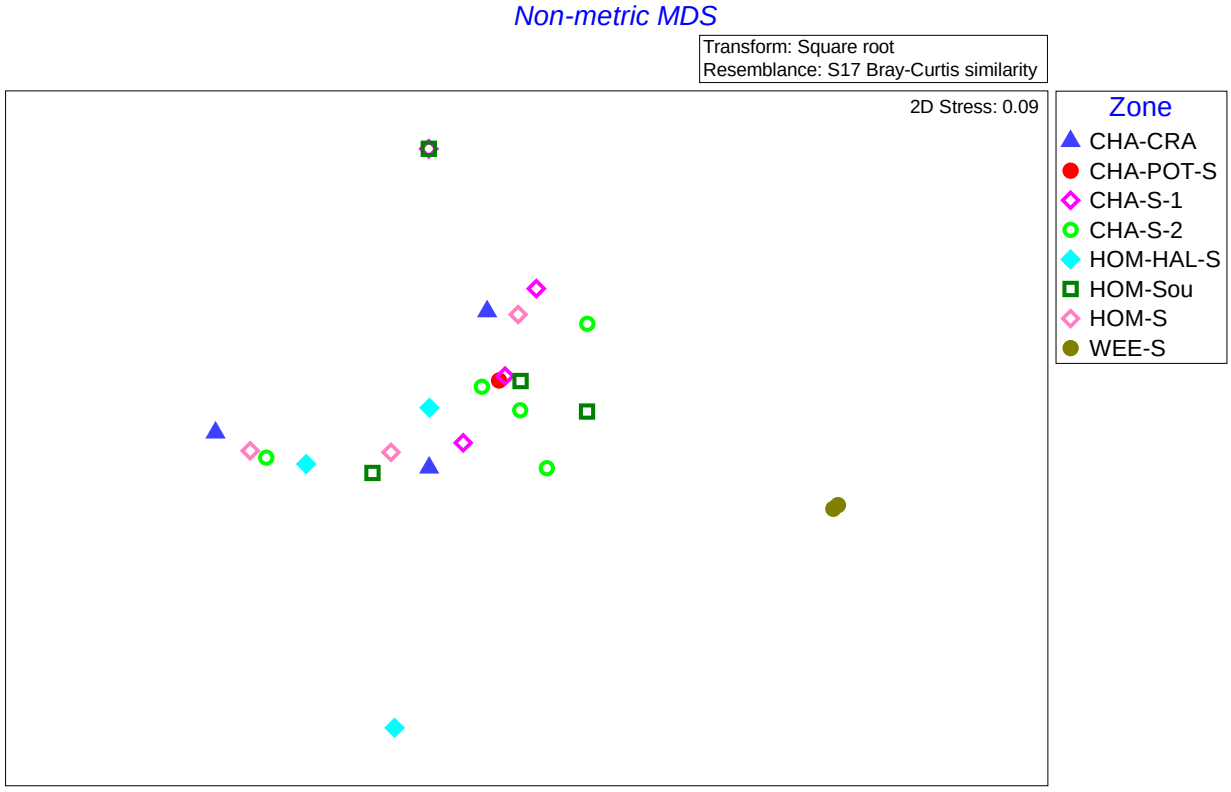


Table 44 - ANOSIM Results for Browser-Grazer Invertebrate Samples from Spring Zones in all Systems

	CHA	HOM	WEE
CHA			
HOM	0.025391		
WEE	0.9591	0.76739	
Global R = 0.256, p = 0.007			

Figure 58a - Bubble Plot of Depth of Sample (m) Values Superimposed on the nMDS Plot of Browser-Grazer Samples from Spring Zones in all Systems

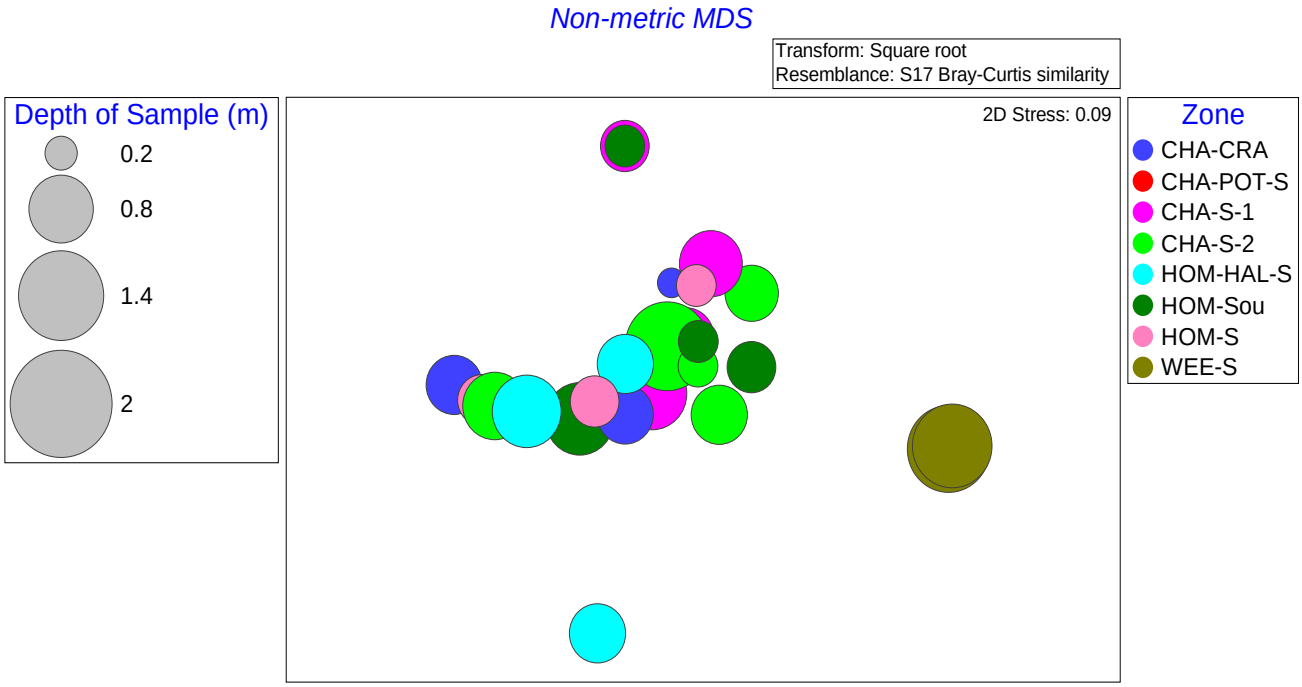


Figure 58b - Bubble Plot of Dissolved Oxygen (%) Values Superimposed on the nMDS Plot of Browser-Grazer Samples from Spring Zones in all Systems

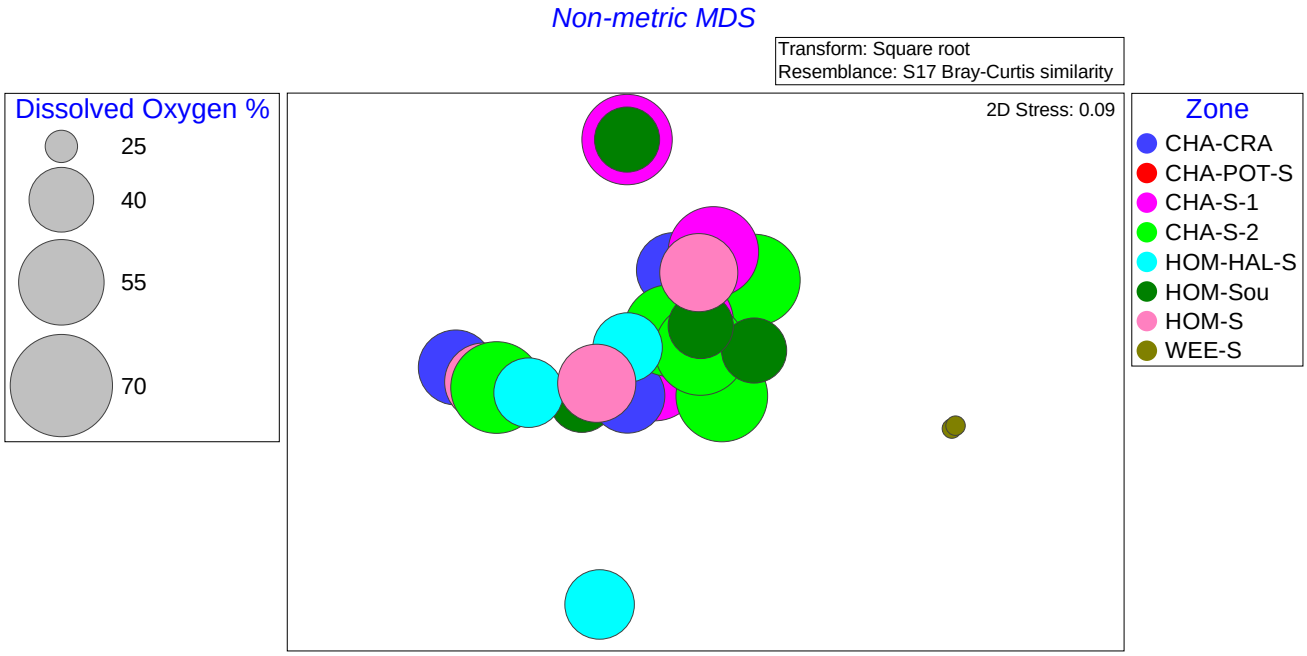


Figure 58c - Bubble Plot of Salinity (ppt) Values Superimposed on the nMDS Plot of Browser-Grazer Samples from Spring Zones in all Systems

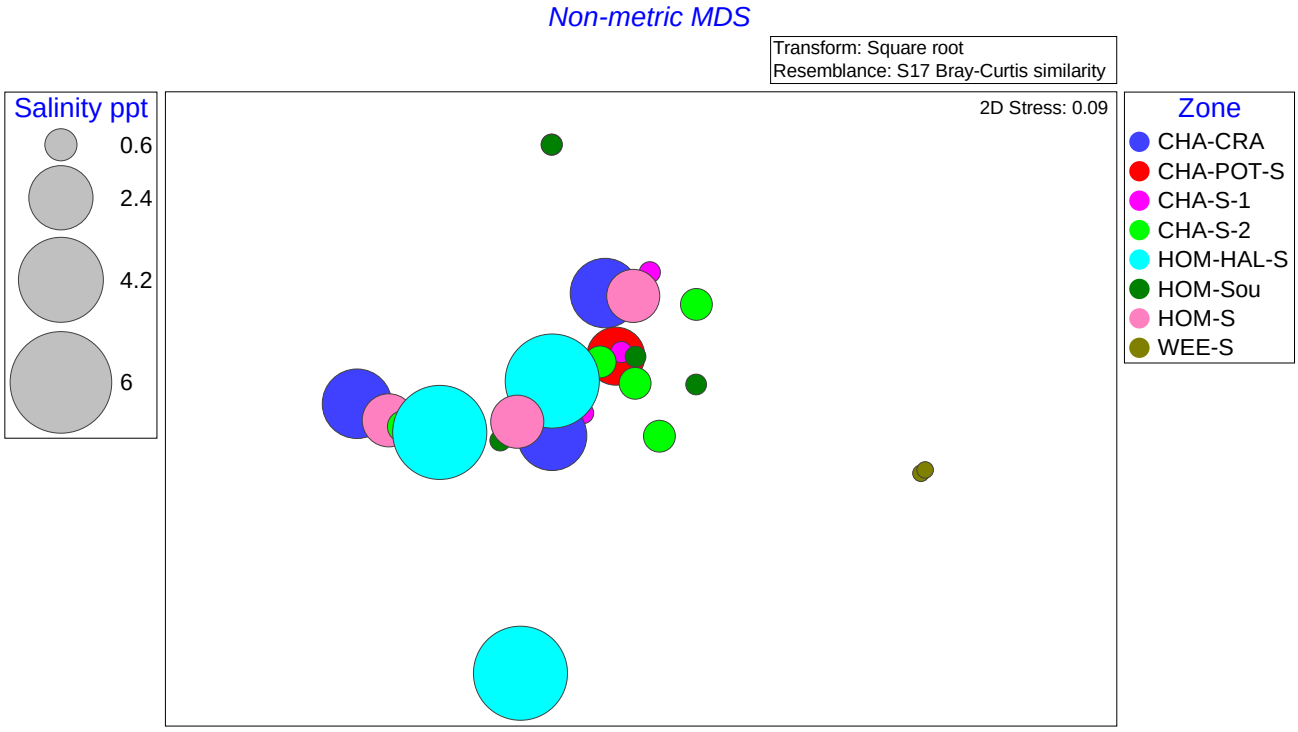


Figure 58d - Bubble Plot of pH Values Superimposed on the nMDS Plot of Browser-Grazer Samples from Spring Zones in all Systems

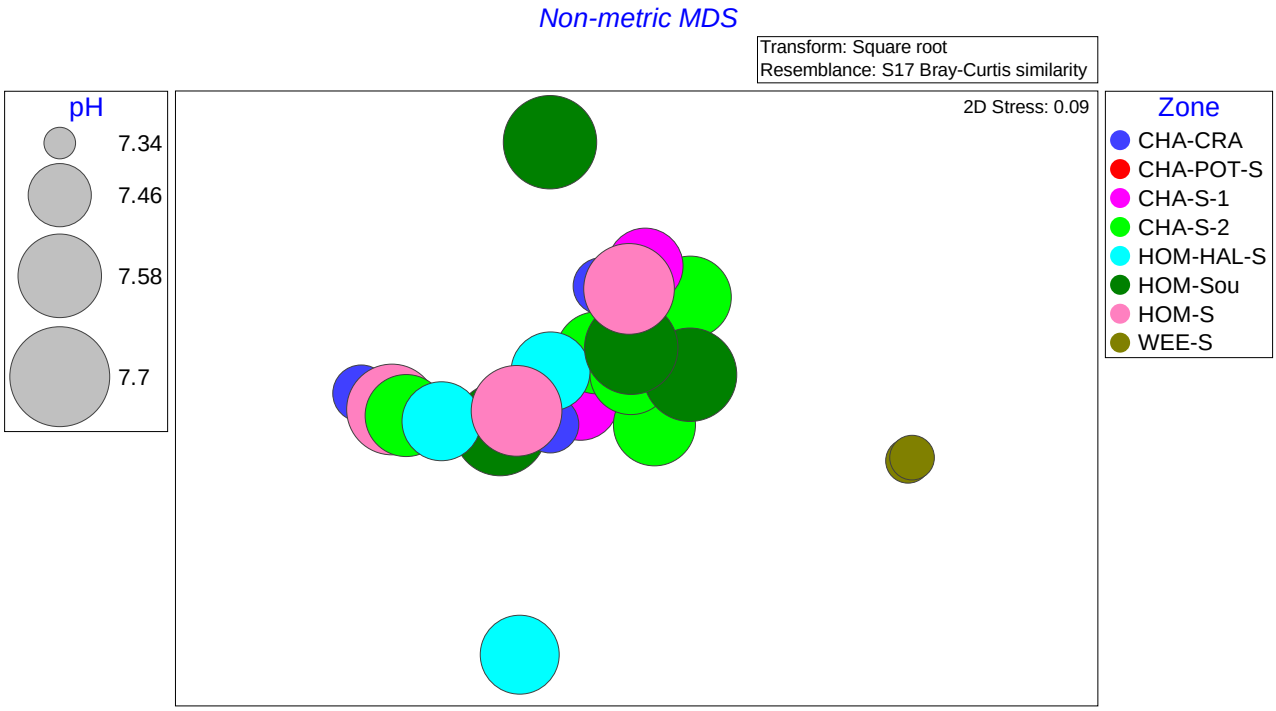


Figure 58e - Bubble Plot of Canopy Cover (%) Values Superimposed on the nMDS Plot of Browser-Grazer Samples from Spring Zones in all Systems

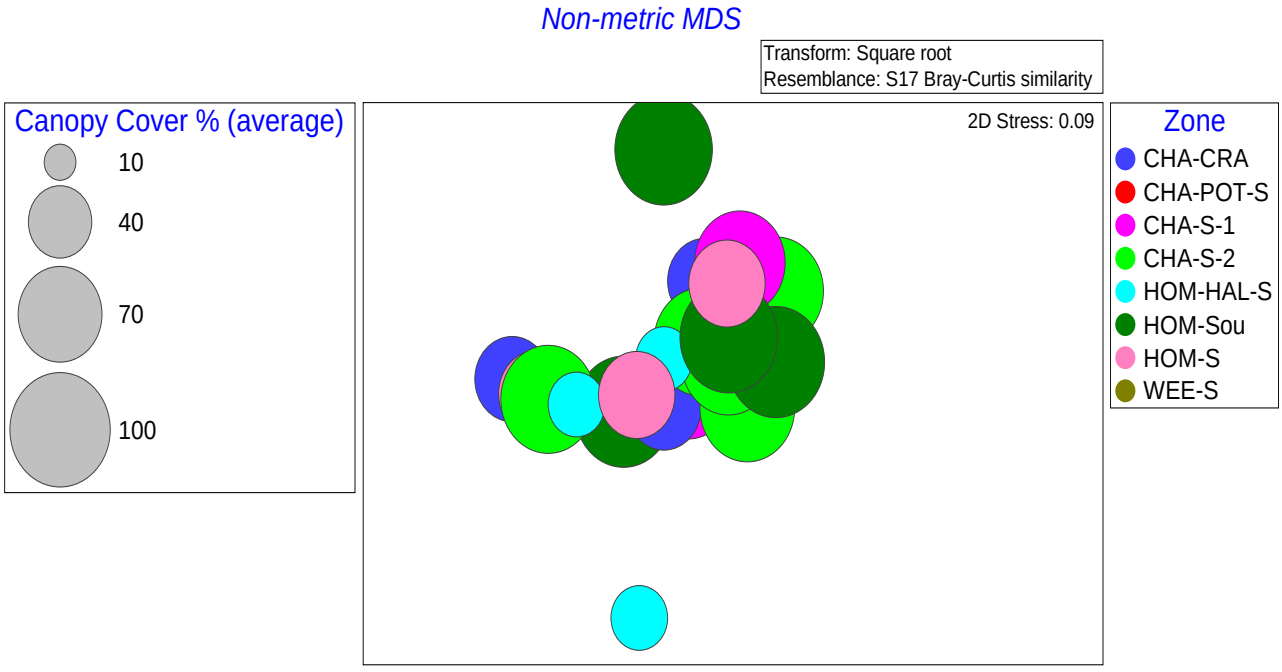


Table 45 - SIMPER Results for Significant Pairwise Comparisons between Systems for Browser-Grazer Samples from Spring Zones

Taxa	Group 1 Average Abundance	Group 2 Average Abundance	% Contribution to Dissimilarity	% Cumulative Contribution to Dissimilarity
CHA vs. WEE, Average Dissimilarity = 97.71				
	CHA	**WEE**		
Palaemonetes spp.	0.36	11.71	45.54	45.54
Grandidierella bonnieroides	15.54	0.00	38.87	84.40
Melita nitida complex	2.54	0.00	6.51	90.91
Cyathura polita	2.64	0.00	3.93	94.85
Sinelobus stanfordi	0.65	0.00	2.64	97.49
Sphaeroma spp.	0.51	0.00	2.09	99.57
Gammaridea spp.	0.15	0.00	0.43	100.00
HOM vs. WEE, Average Dissimilarity = 94.36				
	HOM	**WEE**		
Palaemonetes spp.	0.67	11.71	45.30	45.30
Grandidierella bonnieroides	16.13	0.00	42.84	88.14
Cyathura polita	3.35	0.00	9.43	97.57
Melita nitida complex	0.92	0.00	1.93	99.50
Gammaridea spp.	0.28	0.00	0.50	100.00
Sinelobus stanfordi	0.00	0.00	0.00	100.00
Sphaeroma spp.	0.00	0.00	0.00	100.00

The second dataset that was analyzed for potential trends between the grazer invertebrate community and the abiotic factors in the spring zones included taxa identified as gastropods only because these were considered “grazers” by several studies in the literature (e.g. Liebowitz 2013, Liebowitz *et al.*, 2014). The ANOSIM results indicated that no significant differences existed in the gastropod communities between systems. Previous studies have indicated that *Pleurocera* species (as *Elimia*, see Dillon 2011 for discussion of taxonomy) can occur in very high densities in the southeastern United States (Brown *et al.* 2008). *Pleurocera* species were classified as collector-gatherer/deposit feeders as their primary functional feeder group and scraper as their secondary functional feeding group by the FDEP. However, *Pleurocera* species were rarely found in this study and instead, hydrobiid snails were the dominant gastropod found in all springs samples in this study. This could be due to differences in the sampling techniques employed, such as the smaller mesh size that was used to capture invertebrates in this study compared to Liebowitz *et al.* (2014).

Chassahowitzka and Homosassa springs samples had only three to four gastropod taxa, with the total gastropod abundance being made up of 98% hydrobiid snails for both systems. Weeki Wachee spring had nearly the same number of gastropod individuals (N=2522) as the cumulative number of gastropod individuals from all of the other springs combined (N=2587). Hydrobiids made up 77% of the total gastropod abundance in Weeki Wachee spring. The remaining gastropods were the exotic snail species *Melanoides spp*. and *Physella cubensis.* Gastropods were found in sediment, rock, SAV and macroalgae habitat types in Weeki Wachee spring.

Hydrobiid snails are classified as deposit feeders by the FDEP and their relative abundances have been shown to be positively correlated with algal biomass, unlike *Pleurocera*, whose biomass was found to be inversely correlated with algal biomass (Liebowitz *et al.*, 2014). Additionally, species belonging to the genus *Pleurocera* have been the focus of historical studies investigating effects of grazing pressure on algal biomass and how their abundances and biomass are influenced by abiotic factors, such as dissolved oxygen (Liebowitz *et al.*, 2014). *Pleurocera floridensis* was present in only three springs samples from the Halls River spring in snag, sediment and macroalgae habitat. *Pleurocera floridensis* made up only 2% of the total gastropod abundance in the Hall's River spring/Homosassa system. Hall's River spring had an intermediate DO concentration (3.56 mg/L) and the highest salinity values (5.15 ppt) compared to all of the other springs, suggesting that *Pleurocera floridensis* can tolerate a higher salinity regime. Due to low abundance of *Pleurocera* species, it is unlikely that gastropods exert much control on algal biomass in these systems.

The third combined dataset included gastropods plus taxa classified as browser-grazers by FDEP. Results similar to the first dataset were observed, where the combined browser-grazer plus gastropod community of Weeki Wachee spring was significantly different from those communities found in the Chassahowitzka and Homosassa springs (ANOSIM $R = 0.238$, $p = 0.003$). The multivariate BEST with the BIOENV results revealed that the browser-grazer plus gastropod invertebrate community was best correlated with only two abiotic variables, depth and canopy cover ($rho = 0.425$, $p = 0.01$). Bubble plots for the third dataset, which included organisms classified as browser-grazers according to FDEP plus gastropods were similar to the bubble plots shown in **Figure 58** from the first dataset (only browser-grazers), and therefore were not displayed. In addition, univariate statistical results showed that the combined dataset of % gastropods plus % browser-grazers (i.e. % of total abundance) was not correlated to any of the abiotic variables, including DO. However, abundance (i.e. number of individuals normalized for area) data for gastropods plus browser-grazers were significantly inversely correlated with salinity and specific conductance, which are covariates (**Appendix C, Table C-5**). Therefore, salinity may be the strongest predictor of gastropods plus browser-grazers abundance.

4.0 DISCUSSION AND CONCLUSIONS

The information from this study will increase the District's understanding of the complex and unique issues and drivers affecting these spring-fed rivers. The results provide both a baseline and path forward for protection, restoration and management of these iconic ecosystems. The results also provide a basis to describe the stability of the biological communities that will be incorporated into the upcoming SWIM plans for these three water bodies.

Although all three systems are first magnitude springs and are tidally influenced, the portion of Weeki Wachee River that was sampled was freshwater throughout. On the contrary, Chassahowitzka and Homosassa displayed tidal influences all the way up to the headsprings.

However, the maximum salinity recorded during the study was less than 5.5 ppt, which places these areas under study in the oligohaline zone of the salinity gradient, although the sites with the higher salinities were approaching salinities in the mesohaline zone. The abiotic environment and invertebrate community structure within the Weeki Wachee River was significantly different than the Chassahowitzka and Homosassa Rivers. Organisms found within the Weeki Wachee samples were primarily freshwater species, while those found in Homosassa and Chassahowitzka were more indicative of brackish waters.

Mean species richness, abundance, diversity and evenness indices were very similar between the three river systems and were similar to those reported in previous studies within these systems and other similar systems (Sloan 1956, Mote Marine Laboratory 2006, Janicki Environmental, Inc. 2008, Janicki Environmental, Inc. 2010). Previous studies (Janicki Environmental, Inc. 2006) were highly focused on salinity and evaluated larger extents of the river that extended beyond the scope of this study's reach, which included higher ranges of salinities. In this study, salinity was inversely correlated to species richness and to the percent composition of several taxonomic groups of invertebrates, but not to diversity and abundance when evaluating the systems overall. For the Weeki Wachee River, salinity was not a factor because the portion of the river sampled in this study was entirely fresh. However, in the Chassahowitzka and Homosassa Rivers, salinity was strongly inversely correlated to richness indices, indicating that salinity is an important driver of the invertebrate community in these systems.

There was a significant difference in the invertebrate communities from the Lower river samples compared to those in the Upper and Spring samples when looking at samples from all three river systems. Trends showing parabolic shaped distributions were similar to previous studies where low overall species richness was seen in the headspring, an increase was seen in the upper river and then a sharp decrease in the lower downstream region. The sharp downstream decrease in species richness suggests a threshold shift in the macroinvertebrate community, likely driven by some combination of physicochemical and biological interactions. Such abrupt longitudinal changes in riverine ecology are common, thus enabling scientists to identify and inventory distinctly different functional process zones along a river valley separated by comparatively short transition zones (Thorp et al., 2008). These trends were only seen for total species richness (not diversity indices), and were apparent in all three river systems. In addition, previous studies (Sloan 1956, Janicki 2010) found an increase in species richness moving towards the estuary, with a slight increase in species richness at the furthest downstream sampling location in Homosassa, which may be related to an increase in estuarine taxa. The middle portion of the rivers that constituted the transition zones between fresh and estuarine reaches may experience the greatest variability in salinity, making it difficult for many species to adapt to the ever changing conditions, resulting in lower species richness.

The dominant taxa found in the Homosassa and Chassahowitzka river systems overall, and when separating out springs zones alone, were similar to each other and consisted primarily of brackish water crustacean amphipods and Polychaeta worms. The dominant taxa found in Weeki Wachee river and spring zones were different from Homosassa and Chassahowitzka and consisted of freshwater amphipods, gastropods (i.e. snails) and a variety of insects. Collector-gatherer/deposit feeders were the dominant functional feeding group for all habitats, across all rivers, and zones, with the exception of HOM-R-2. Collector-gatherer/deposit feeders were still present in high concentrations within HOM-R-2; however, browser-grazers were the dominant functional feeding group in this zone (according to the FDEP classification system). Collector-gatherers that feed on small particles have previously been identified as the most abundant functional feeding group in

stream macroinvertebrate communities. However, their functional role has received little attention in the literature (Wallace and Webster, 1996).

Potential relationships between the grazer invertebrate community and the various abiotic factors were investigated for the springs only zones because previous studies have shown that densities and biomass of certain gastropods, and their inherent grazing, can largely influence algal biomass. In turn, low dissolved oxygen levels can be detrimental to gastropods affecting fecundity, growth and survival, thereby reducing the grazing pressure on macroalgae (Liebowitz *et al.*, 2014). When the browser-grazer invertebrate community, as classified by the FDEP, was employed in the multivariate analyses, the grazer community from Weeki Wachee spring was significantly different than the communities from Chassahowitzka and Homosassa springs. Notably, none of the gastropod taxa found in this study were classified as browser-grazers by the FDEP. The dominant browser-grazers found in this study were from phylum arthropoda (subphylum crustacea), with Chassahowitzka springs samples having the greatest number of different browser-grazer taxa (N=7) when compared to Homosassa (N=5) and Weeki Wachee spring (N=1).

The difference between Weeki Wachee and the browser-grazer communities in Chassahowitzka and Homosassa springs was largely due to the presence of the decapod shrimp, *Palaemonetes* spp. *Palaemonetes* spp. had five times higher average abundances in Weeki Wachee spring than in Chassahowitzka and Homosassa springs. Species belonging to this genus have been shown to possess a transcription factor that allows the organism to tolerate low dissolved oxygen levels, such as those observed at Weeki Wachee spring (Li and Brouwer, 2007). Because *Palaemonetes* spp. can tolerate lower dissolved oxygen levels that are common to many springs, further evaluation may be merited to determine if this species and other crustaceans have the ability to reduce macroalgal coverage in springs.

The naturally low oxygen conditions observed in the Weeki Wachee spring zone may be limiting the occurrence of other important grazers, such as *Pleurocera* snail (gastropod) species. Because *P. floridensis* was collected only from three spring samples (from the Hall's River spring) and that previous studies have focused primarily on *Pleurocera* species densities and biomass in relation to grazing pressure and algal biomass, it is difficult to make comparisons about grazing pressures on algal biomass between this study and others (such as Liebowitz *et al.*, 2014). The dominant gastropod observed in this study was Hydrobiidae spp. which is classified as a deposit feeder by FDEP. Additionally, the relative abundance of species within this family have been shown to be positively correlated with algal biomass and may not exhibit the same grazing pressures on macroalgae as those species belonging to the Family Pleuroceridae (Liebowitz *et al.*, 2014). This suggests that naturally low dissolved oxygen levels may preclude the establishment of Pleuroceridae as an agent of macroalgal control in Weeki Wachee spring.

Positive correlations were found between canopy cover, dissolved oxygen, and species richness indices of the grazer community in the springs zones. Negative correlations between salinity and abundance of grazers (i.e combined browser-grazers plus gastropod community) in the springs zone were also found to be significant. Therefore, canopy cover, DO, and salinity are important abiotic factors that could be influencing the invertebrate community in these springs. Future monitoring studies targeting the collection of various invertebrate grazers in springs, and comparisons with algal biomass and abiotic factors, would help reinforce these complex interactions.

In addition to the head springs zones, other sub-zone categories include upper and lower riverine zones and tributary zones. As mentioned, even when data were pooled among the three rivers, tributary communities differed from the mainstem river zones and springs. This strongly suggests different restoration and protection strategies are likely to be needed for tributaries versus other zones.

When examined individually, each river exhibited well-defined zones differing in physicochemical characteristics and benthic communities. The Weeki Wachee River has a freshwater upper riverine zone that was unique to the study. The springs and mainstem of this river represent separate zones. For example, pH, DO, and canopy cover were all greater in the river zones versus the spring zone.

The Chassahowitzka and Homosassa River systems each have spring zones, upper river, lower river, and tributary zones. This does not mean these zone descriptions should be viewed as interchangeable between the rivers. However, some commonalities suggest an overall restoration strategy by which certain zones can be identified where the benthic communities could be sustained or restored by selective activities tailored to each zone. Both natural and altered areas across zones can be identified, and the specific departures from nature can be placed in context and addressed in a restoration plan for the altered zones. Many human alterations tend to simplify and homogenize habitat complexity, thus reducing biodiversity.

The habitats investigated within the three river systems were macroalgae, SAV, rock, snag, and sediment. In most zones, one or more of the habitat types were absent. Habitat diversity (i.e. number of habitats available) may be a controlling factor in species richness. Therefore, the physicochemical factors that are driving habitat diversity should be further evaluated and restoration alternatives should be pursued to establish more beneficial habitat availability to enhance community stability.

The various invertebrates have different functional roles within the food chain, as well as in nutrient cycles. The results of this study show that there is a difference in the invertebrate community within different habitats. The differences in the invertebrate community between habitats is more pronounced in the freshwater Weeki Wachee system. This may be due to higher variability in salinity and turbidity concentrations across the sampling zones in Homosassa and Chassahowitzka when compared to Weeki Wachee. Therefore, habitat type was a stronger driver influencing the invertebrate community in Weeki Wachee River. Samples from snag habitats produced the largest number of unique taxa compared to the other habitats in Chassahowitzka and Homosassa Rivers. SAV samples, followed by snag, produced the largest number of unique taxa in Weeki Wachee. Macroalgae does provide habitat for a large number of taxa, however, to a lesser extent than snag and SAV habitats. The District has already initiated habitat restoration in several coastal spring systems through revegetation of SAV. In addition to this effort, direct enhancement of snag/woody debris habitat within these systems, reestablishment of a woody riparian zone, and precluding removal of these habitats would benefit the macroinvertebrate community.

Habitat diversity was correlated with several water quality (temperature, salinity, conductivity, turbidity) and physical factors (sediment type and canopy cover). Furthermore, species richness and Margalef's richness were positively correlated with habitat diversity. The expectations for the invertebrate (and other biotic) communities for the individual systems should take the physicochemical environment into consideration including tidal influence and habitat availability. For example, the lower portion of each of these river systems had limited, if any, SAV. The

Homosassa River system had limited SAV throughout the study area. Therefore, it is expected that these portions of the river with fewer habitats would have lower species richness and diversity.

In the Homosassa River system, the invertebrate community in the Halls River was different than those in the springs or river samples. For Chassahowitzka and Weeki Wachee, the spring invertebrate community was different than those in the river and tributary samples. In Weeki Wachee, annelid worms, crustaceans, midges, molluscs, a few organisms from miscellaneous phyla and trichopterans were the only major taxa groups present in the spring samples. All other insect groups such as mayflies (Ephemeroptera), beetles (Coleoptera), and damselflies and dragonflies (Odonata) were absent from the spring samples, while they were present in the river samples.

During the current study, Amec Foster Wheeler scientists observed substantial changes in the SAV and macroalgae community between the site reconnaissance (July 2015) and the sampling event (August/September 2015). Specifically, during the sampling event, the epiphytic algae on the SAV was much more abundant in Chassahowitzka than was observed during the site reconnaissance site visit. In addition, certain organisms emerge at certain times of the year and are more prevalent prior to emergence. Previous and current drivers that affect these systems include drought and ground water pumping, which can affect freshwater flow from the springs. Sea level rise may further complicate the hydrology and ecology of these systems by changing the extent and magnitude of the tidal influence and subsequent salinity regimes.

Due to short and long-term factors affecting variability, seasonally spaced sampling events for macroinvertebrates may provide a more comprehensive evaluation of the factors affecting the macroinvertebrate communities in these systems. Furthermore, a single sampling event and single sample from each zone/habitat provides only a snap shot of the current condition. Additional sampling events and replication can provide increased assurance that all taxa in the systems are being captured. Finally, synoptic monitoring of SAV and macroalgal biomass coupled with macroinvertebrate biomass, specifically grazers, would provide the ability to assess more direct causal relationships regarding feeding habits that reduce algal communities, which is an important issue for springs restoration.

Based on the results of the study, the following management, protection and restoration alternatives are provided as recommendations for the three river systems:

- Enhance the diversity of available habitats to increase the biodiversity of the macroinvertebrate community. Enhancement of habitat diversity can be accomplished with 1) removal of organic sediments, 2) planting native SAV, 3) add snag/woody debris to certain areas, 4) prevent or reduce de-snagging activities, 5) manage boat traffic and the types of recreation allowed in certain areas to reduce damage to sensitive habitats if warranted (especially SAV habitat).

- Address potentially adverse effects of canals on mainstem and tributary zone benthic communities, especially those related to turbidity, sedimentation, and nutrient enrichment. Reduce pollutant loads from canals as warranted.

- Sustain or increase spring flow and other clean freshwater discharge volumes to mitigate salt-water intrusion into the upper river and spring zones.

- Canopy cover routinely was associated with benthic diversity. Consider this association when assessing potential buffer restoration activities along denuded shorelines.

- Continue biological monitoring to evaluate seasonal and inter-annual variability, and to examine long-term trends and transitional zone changes in relation to species richness and biodiversity over time.

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Appendices

Appendix A
Physicochemical Data & Selected Analysis Results

Table A-1. Physicochemical Data

Zone ID	Habitat	Photolog #	Latitude	Longitude	Distance from Headspring (km)	Distance from Headspring (mi)	Distance from Headspring (m)	Notes	Sample Date	Sample Time	Tidal Stage	Depth of Sample (ft)	Water Depth at Point of WQ Measurement (ft)	Water Temperature °C	Dissolved Oxygen mg/L	Dissolved Oxygen %	Salinity ppt	Conductivity µS/cm	pH	Turbidity NTU	Sediment type	Canopy Cover % (average)	Sample Equipment	Comments
WEE-S	MA	90-94	-82.573470	28.517140	0.025	0.016	25.05		8/28/15	8:52	NA	4.90	1.00	23.76	1.86	21.81	0.16	340.00	7.38	0.43	Sand	0.00	Dipnet	Vaucheria & Lyngbya
WEE-S	SAV	90-94	-82.573470	28.517140	0.025	0.016	25.05		8/28/15	8:55	NA	4.00	1.00	23.76	1.86	21.81	0.16	340.00	7.38	0.43	Sand	0.00	Dipnet	Vallisneria americana
WEE-S	SED	90-94	-82.573470	28.517140	0.025	0.016	25.05		8/28/15	9:05	NA	4.30	1.00	23.76	1.86	21.81	0.16	340.00	7.38	0.43	Sand	0.00	Dipnet	Duplicate Sample
WEE-S	SED-2	90-94	-82.573470	28.517140	0.025	0.016	25.05		8/28/15	9:05	NA	4.30	1.00	23.76	1.86	21.81	0.16	340.00	7.38	0.43	Sand	0.00	Petite Ponar	
WEE-S	ROCK	90-94	-82.573470	28.517140	0.025	0.016	25.05	Measured from "WEEKI WACHEE SPRING" aerial boil location.	8/28/15	9:30	NA	5.20	1.00	23.76	1.86	21.81	0.16	340.00	7.38	0.43	Sand	0.00	Dipnet	Sand and algae on rock
WEE-R-1	SAV	95-99	-82.57475	28.519470	0.312	0.194	311.93		8/28/15	12:25	NA	3.60	1.00	23.90	2.86	33.70	0.16	339.00	7.54	0.33	Sand	25.50	Dipnet	Vallisneria americana
WEE-R-1	SNAG	95-99	-82.57475	28.519470	0.312	0.194	311.93	Measured from "WEEKI WACHEE SPRING" aerial boil location.	8/28/15	12:30	NA	5.00	1.00	23.90	2.86	33.70	0.16	339.00	7.54	0.33	Sand	25.50	Dipnet	
WEE-R-1	MA	95-99	-82.57475	28.519470	0.312	0.194	311.93		8/28/15	12:35	NA	5.20	1.00	23.90	2.86	33.70	0.16	339.00	7.54	0.33	Sand	25.50	Dipnet	
WEE-R-1	SED	95-99	-82.57475	28.519470	0.312	0.194	311.93		8/28/15	12:40	NA	5.20	1.00	23.90	2.86	33.70	0.16	339.00	7.54	0.33	Sand	25.50	Petite Ponar	
WEE-R-2	MA	100-103	-82.579310	28.518640	0.893	0.555	893.03		8/28/15	13:00	NA	2.60	1.00	24.38	5.49	65.10	0.16	337.00	7.50	0.15	Sand	18.00	Dipnet	
WEE-R-2	SNAG	100-103	-82.579310	28.518640	0.893	0.555	893.03		8/28/15	13:05	NA	4.10	1.00	24.38	5.49	65.10	0.16	337.00	7.50	0.15	Sand	18.00	Dipnet	
WEE-R-2	SAV	100-103	-82.579310	28.518640	0.893	0.555	893.03	Measured from "WEEKI WACHEE SPRING" aerial boil location.	8/28/15	13:10	NA	3.00	1.00	24.38	5.49	65.10	0.16	337.00	7.50	0.15	Sand	18.00	Dipnet	Vaucheria
WEE-R-2	SED	100-103	-82.579310	28.518640	0.893	0.555	893.03		8/28/15	13:15	NA	3.60	1.00	24.38	5.49	65.10	0.16	337.00	7.50	0.15	Sand	18.00	Ponar	
WEE-R-2	ROCK	100-103	-82.579310	28.518640	0.893	0.555	893.03		8/28/15	13:15	NA	1.50	1.00	24.38	5.49	65.10	0.16	337.00	7.50	0.15	Sand	18.00	Dipnet	
WEE-R-3	MA	104-106	-82.583234	28.519443	1.457	0.905	1456.64		8/28/15	14:00	NA	2.10	1.00	24.06	4.38	52.10	0.16	338.00	7.61	0.21	Silt/Sand	35.00	Dipnet	
WEE-R-3	SNAG	104-106	-82.583234	28.519443	1.457	0.905	1456.64		8/28/15	14:20	NA	2.50	1.00	24.06	4.38	52.10	0.16	338.00	7.61	0.21	Silt/Sand	35.00	Dipnet	
WEE-R-3	ROCK	104-106	-82.583234	28.519443	1.457	0.905	1456.64	Measured from "WEEKI WACHEE SPRING" aerial boil location.	8/28/15	14:30	NA	2.00	1.00	24.06	4.38	52.10	0.16	338.00	7.61	0.21	Silt/Sand	35.00	Dipnet	
WEE-R-3	SED	104-106	-82.583234	28.519443	1.457	0.905	1456.64		8/28/15	14:50	NA	4.30	1.00	24.06	4.38	52.10	0.16	338.00	7.61	0.21	Silt/Sand	35.00	Petite Ponar	
WEE-R-3	SAV	104-106	-82.583234	28.519443	1.457	0.905	1456.64		8/28/15	14:50	NA	3.40	1.00	24.06	4.38	52.10	0.16	338.00	7.61	0.21	Silt/Sand	35.00	Dipnet	
WEE-R-4	SNAG	107-110	-82.583920	28.521430	1.740	1.081	1739.82		8/28/15	15:40	NA	3.50	1.00	24.05	4.22	50.10	0.16	337.00	7.58	0.45	Sand, Light silt	76.00	Dipnet	
WEE-R-4	SAV	107-110	-82.583920	28.521430	1.740	1.081	1739.82		8/28/15	15:40	NA	3.90	1.00	24.05	4.22	50.10	0.16	337.00	7.58	0.45	Sand, Light silt	76.00	Dipnet	
WEE-R-4	ROCK	107-110	-82.583920	28.521430	1.740	1.081	1739.82	Measured from "WEEKI WACHEE SPRING" aerial boil location.	8/28/15	15:40	NA	3.80	1.00	24.05	4.22	50.10	0.16	337.00	7.58	0.45	Sand, Light silt	76.00	Dipnet	
WEE-R-4	SED	107-110	-82.583920	28.521430	1.740	1.081	1739.82		8/28/15	15:40	NA	3.60	1.00	24.05	4.22	50.10	0.16	337.00	7.58	0.45	Sand, Light silt	76.00	Petite Ponar	
WEE-R-4	MA	107-110	-82.583920	28.521430	1.740	1.081	1739.82		8/28/15	15:45	NA	4.40	1.00	24.05	4.22	50.10	0.16	337.00	7.58	0.45	Sand, Light silt	76.00	Dipnet	
WEE-R-5	SNAG	No photos	-82.595523	28.525779	4.445	2.762	4444.72		9/10/15	11:30	NA	0.50	1.00	24.06	5.06	60.30	0.17	351.00	7.73	0.38	Sand	53.75	Dipnet	
WEE-R-5	SAV	No photos	-82.595523	28.525779	4.445	2.762	4444.72		9/10/15	11:30	NA	1.00	1.00	24.06	5.06	60.30	0.17	351.00	7.73	0.38	Sand	53.75	Dipnet	
WEE-R-5	MA	No photos	-82.595523	28.525779	4.445	2.762	4444.72	Measured from "WEEKI WACHEE SPRING" aerial boil location.	9/10/15	11:30	NA	4.00	1.00	24.06	5.06	60.30	0.17	351.00	7.73	0.38	Sand	53.75	Dipnet	
WEE-R-5	SED	No photos	-82.595523	28.525779	4.445	2.762	4444.72		9/10/15	11:30	NA	5.00	1.00	24.06	5.06	60.30	0.17	351.00	7.73	0.38	Sand	53.75	Petite Ponar	
WEE-R-6	SNAG	No Photos	-82.606223	28.531440	6.245	3.881	6245.12		9/10/15	12:42	NA	2.00	1.00	24.30	5.73	68.70	0.17	351.00	7.79	0.73	Sand	46.50	Dipnet	
WEE-R-6	SAV	No photos	-82.606223	28.531440	6.245	3.881	6245.12	Measured from "WEEKI WACHEE SPRING" aerial boil location.	9/10/15	12:42	NA	1.50	1.00	24.30	5.73	68.70	0.17	351.00	7.79	0.73	Sand	46.50	Dipnet	Vallisneria americana, Najas guadalupensis
WEE-R-6	MA	No photos	-82.606223	28.531440	6.245	3.881	6245.12		9/10/15	12:42	NA	3.00	1.00	24.30	5.73	68.70	0.17	351.00	7.79	0.73	Sand	46.50	Dipnet	
WEE-R-6	SED	No photos	-82.606223	28.531440	6.245	3.881	6245.12		9/10/15	12:49	NA	4.00	1.00	24.30	5.73	68.70	0.17	351.00	7.79	0.73	Sand	46.50	Petite Ponar	
CHA-POT-S	SAV	1-6	-82.596647	28.731613	0.010	0.006	10.28		9/10/15	15:13	Incoming	4.00	1.00	24.22	2.97	35.70	1.96	3716.00	7.44	0.77	Organic	12.50	Dipnet	Myriophyllum spicatum
CHA-POT-S	SNAG	1-6	-82.596647	28.731613	0.010	0.006	10.28	Measured from "POTTER CREEK SPRING"	9/10/15	15:15	Incoming	1.00	1.00	24.22	2.97	35.70	1.96	3716.00	7.44	0.77	Organic	12.50	Dipnet	
CHA-POT-S	SED	1-6	-82.596647	28.731613	0.010	0.006	10.28		9/10/15	15:17	Incoming	4.00	1.00	24.22	2.97	35.70	1.96	3716.00	7.44	0.77	Organic	12.50	Petite Ponar	
CHA-POT-1	SAV	7-10	-82.597887	28.729908	0.234	0.145	234.03		9/10/15	15:30	Incoming	3.00	1.00	25.54	4.51	55.50	4.40	4212.00	7.51	1.75	Organic	10.00	Dipnet	Vallisneria americana and Najas guadalupensis - cover w/ epiphytic algae
CHA-POT-1	SNAG	7-10	-82.597887	28.729908	0.234	0.145	234.03	Measured from "POTTER CREEK SPRING"	9/10/15	15:30	Incoming	1.00	1.00	25.54	4.51	55.50	4.40	4212.00	7.51	1.75	Organic	10.00	Dipnet	
CHA-POT-1	SED	7-10	-82.597887	28.729908	0.234	0.145	234.03		9/10/15	15:30	Incoming	3.00	1.00	25.54	4.51	55.50	4.40	4212.00	7.51	1.75	Organic	10.00	Petite Ponar	
CHA-POT-2	SAV	11-13	-82.596538	28.727344	0.549	0.341	548.58		9/10/15	16:15	Incoming	2.00	1.00	27.44	5.52	70.80	2.33	4405.00	7.62	2.39	Organic & San	12.00	Dipnet	Vallisneria americana and Najas guadalupensis - cover w/ epiphytic algae
CHA-POT-2	SNAG	11-13	-82.596538	28.727344	0.549	0.341	548.58	Measured from "POTTER CREEK SPRING"	9/10/15	16:15	Incoming	1.00	1.00	27.44	5.52	70.80	2.33	4405.00	7.62	2.39	Organic & San	12.00	Dipnet	
CHA-POT-2	SED	11-13	-82.596538	28.727344	0.549	0.341	548.58		9/10/15	16:20	Incoming	2.00	1.00	27.44	5.52	70.80	2.33	4405.00	7.62	2.39	Organic & San	12.00	Petite Ponar	
CHA-POT-3	SNAG	14-16	-82.597341	28.722999	1.075	0.668	1075.24	Measured from "POTTER	9/10/15	16:50	Incoming	1.00	1.00	27.90	5.37	68.70	2.34	4415.00	7.61	2.77	Sand	2.00	Dipnet	No SAV observed

Zone ID	Habitat	Photolog #	Latitude	Longitude	Distance from Headspring (km)	Distance from Headspring (mi)	Distance from Headspring (m)	Notes	Sample Date	Sample Time	Tidal Stage	Depth of Sample (ft)	Water Depth at Point of WQ Measurement (ft)	Water Temperature °C	Dissolved Oxygen mg/L	Dissolved Oxygen %	Salinity ppt	Conductivity µS/cm	pH	Turbidity NTU	Sediment type	Canopy Cover % (average)	Sample Equipment	Comments
CHA-POT-3	SED	14-16	-82.597341	28.722999	1.075	0.668	1075.24	CREEK SPRING"	9/10/15	16:50	Incoming	2.00	1.00	27.90	5.37	68.70	2.34	4415.00	7.61	2.77	Sand	2.00	Petite Ponar	
CHA-CRA-S	ROCK	17-27	-82.575789	28.717272	0.010	0.006	10.19		9/10/15	17:23	Outgoing	2.00	1.00	23.23	3.95	46.90	2.81	5210.00	7.43	0.68	Sand/Detritus	55.50	Dipnet	Orange iron bacteria observed
CHA-CRA-S	SAV	17-27	-82.575789	28.717272	0.010	0.006	10.19		9/10/15	17:23	Outgoing	2.00	1.00	23.23	3.95	46.90	2.81	5210.00	7.43	0.68	Sand/Detritus	55.50	Dipnet	Vallisneria americana and Myriophyllum spicatum
CHA-CRA-S	SNAG	17-27	-82.575789	28.717272	0.010	0.006	10.19		9/10/15	17:23	Outgoing	0.50	1.00	23.23	3.95	46.90	2.81	5210.00	7.43	0.68	Sand/Detritus	55.50	Dipnet	
CHA-CRA-S	SED	17-27	-82.575789	28.717272	0.010	0.006	10.19	Measured from "CRAB SPRING"	9/10/15	17:23	Outgoing	2.00	1.00	23.23	3.95	46.90	2.81	5210.00	7.43	0.68	Sand/Detritus	55.50	Petite Ponar	During Recon spring run completely covered with orange bacteria; during sampling much clearer
CHA-R-6	SNAG	28-30	-82.605600	28.714888	3.571	2.219	3571.02	Measured from "CHASSAHOWITZKA SPRING MAIN"	9/11/15	9:56	Outgoing	0.50	1.00	26.70	3.81	48.50	2.54	4767.00	7.52	3.88	Silty, organic	0.00	Dipnet	Cabbage palm only snags, sparse Myriophyllum spicatum observed (not sufficient to sample)
CHA-R-6	SED	28-30	-82.605600	28.714888	3.571	2.219	3571.02		9/11/15	9:56	Outgoing	1.50	1.00	26.70	3.81	48.50	2.54	4767.00	7.52	3.88	Silty, organic	0.00	Petite Ponar	
CHA-R-5	SNAG	31-33	-82.603803	28.717841	3.126	1.943	3126.42	Moved sampling site point. Updated Lat/Long. Measured from "CHASSAHOWITZKA SPRING MAIN"	9/11/15	10:17	Outgoing	0.25	1.00	26.96	3.81	47.90	2.45	4600.00	7.52	9.83	Silty, organic	1.00	Dipnet	Sparse Myriophyllum spicatum observed (not sufficient to sample)
CHA-R-5	SED	31-33	-82.603803	28.717841	3.126	1.943	3126.42		9/11/15	10:17	Outgoing	1.50	1.00	26.96	3.81	47.90	2.45	4600.00	7.52	9.83	Silty, organic	1.00	Petite Ponar	
CHA-R-4	SNAG	34	-82.599410	28.719528	2.619	1.627	2619.09	Measured from "CHASSAHOWITZKA SPRING MAIN"	9/11/15	10:48	Outgoing	0.25	1.00	27.82	12.03	155.10	2.25	4251.00	8.15	2.68	Silty, organic	0.00	Dipnet	Sparse Myriophyllum spicatum observed, WQ above algae bed (high DO)
CHA-R-4	MA	34	-82.599410	28.719528	2.619	1.627	2619.09		9/11/15	10:48	Outgoing	1.50	1.00	27.82	12.03	155.10	2.25	4251.00	8.15	2.68	Silty, organic	0.00	Dipnet	
CHA-R-4	SED	34	-82.599410	28.719528	2.619	1.627	2619.09		9/11/15	10:50	Outgoing	1.50	1.00	27.82	12.03	155.10	2.25	4251.00	8.15	2.68	Silty, organic	0.00	Petite Ponar	
CHA-R-3	SAV	35-37	-82.590397	28.717492	1.613	1.002	1612.87	Measured from "CHASSAHOWITZKA SPRING MAIN"	9/11/15	11:12	Outgoing	1.50	1.00	24.93	6.77	82.70	2.28	4298.00	7.66	1.30	Soft sand w/ d	0.50	Dipnet	Vallisneria americana and Najas guadalupensis w/ epiphytic algae
CHA-R-3	MA	35-37	-82.590397	28.717492	1.613	1.002	1612.87		9/11/15	11:15	Outgoing	1.50	1.00	24.93	6.77	82.70	2.28	4298.00	7.66	1.30	Soft sand w/ d	0.50	Dipnet	
CHA-R-3	SNAG	35-37	-82.590397	28.717492	1.613	1.002	1612.87		9/11/15	11:16	Outgoing	1.00	1.00	24.93	6.77	82.70	2.28	4298.00	7.66	1.30	Soft sand w/ d	0.50	Dipnet	
CHA-R-3	SED	35-37	-82.590397	28.717492	1.613	1.002	1612.87		9/11/15	11:19	Outgoing	1.50	1.00	24.93	6.77	82.70	2.28	4298.00	7.66	1.30	Soft sand w/ d	0.50	Petite Ponar	
CHA-R-2	ROCK	38-43	-82.582896	28.715829	0.755	0.469	755.01	Measured from "CHASSAHOWITZKA SPRING MAIN"	9/11/15	11:42	Outgoing	0.50	1.00	24.57	6.65	80.20	1.29	2501.00	7.67	1.31	Sand w/ organ	0.00	Dipnet	
CHA-R-2	SED	38-43	-82.582896	28.715829	0.755	0.469	755.01		9/11/15	11:46	Outgoing	2.50	1.00	24.57	6.65	80.20	1.29	2501.00	7.67	1.31	Sand w/ organ	0.00	Petite Ponar	
CHA-R-2	MA	38-43	-82.582896	28.715829	0.755	0.469	755.01		9/11/15	11:42	Outgoing	2.50	1.00	24.57	6.65	80.20	1.29	2501.00	7.67	1.31	Sand w/ organ	0.00	Dipnet	
CHA-R-2	SNAG	38-43	-82.582896	28.715829	0.755	0.469	755.01		9/11/15	11:44	Outgoing	0.50	1.00	24.57	6.65	80.20	1.29	2501.00	7.67	1.31	Sand w/ organ	0.00	Dipnet	
CHA-R-2	SAV	38-43	-82.582896	28.715829	0.755	0.469	755.01		9/11/15	11:44	Outgoing	2.50	1.00	24.57	6.65	80.20	1.29	2501.00	7.67	1.31	Sand w/ organ	0.00	Dipnet	

Zone ID	Habitat	Photolog #	Latitude	Longitude	Distance from Headspring (km)	Distance from Headspring (mi)	Distance from Headspring (m)	Notes	Sample Date	Sample Time	Tidal Stage	Depth of Sample (ft)	Water Depth at Point of WQ Measurement (ft)	Water Temperature °C	Dissolved Oxygen mg/L	Dissolved Oxygen %	Salinity ppt	Conductivity µS/cm	pH	Turbidity NTU	Sediment type	Canopy Cover % (average)	Sample Equipment	Comments
CHA-R-1	SAV	44-48	-82.579012	28.716685	0.340	0.212	340.47		9/11/15	12:56	Incoming	2.75	1.00	25.09	7.37	89.90	1.31	2550.00	7.74	1.09	Organic & detr	11.75	Dipnet	Vallisneria americana, Myriophyllum spicatum, Najas guadalupensis
CHA-R-1	SNAG	44-48	-82.579012	28.716685	0.340	0.212	340.47		9/11/15	12:54	Incoming	0.25	1.00	25.09	7.37	89.90	1.31	2550.00	7.74	1.09	Organic & detr	11.75	Dipnet	
CHA-R-1	MA	44-48	-82.579012	28.716685	0.340	0.212	340.47	Measured from "CHASSAHOWITZKA SPRING MAIN"	9/11/15	12:56	Incoming	2.75	1.00	25.09	7.37	89.90	1.31	2550.00	7.74	1.09	Organic & detr	11.75	Dipnet	Hard to separate from Najas guadalupensis
CHA-R-1	SED	44-48	-82.579012	28.716685	0.340	0.212	340.47		9/11/15	13:00	Incoming	2.75	1.00	25.09	7.37	89.90	1.31	2550.00	7.74	1.09	Organic & detr	11.75	Petite Ponar	
CHA-S-2	SED	49-51	-82.576203	28.715518	0.000	0.000	0.17		9/11/15	13:59	Incoming	1.80	1.00	24.09	5.05	60.20	0.59	1199.00	7.57	1.10	Organic, detrit	89.25	Petite Ponar	
CHA-S-2	SNAG	49-51	-82.576203	28.715518	0.000	0.000	0.17		9/11/15	13:35	Incoming	1.00	1.00	24.09	5.05	60.20	0.59	1199.00	7.57	1.10	Organic, detrit	89.25	Dipnet	
CHA-S-2	MA	49-51	-82.576203	28.715518	0.000	0.000	0.17		9/11/15	13:40	Incoming	4.50	1.00	24.09	5.05	60.20	0.59	1199.00	7.57	1.10	Organic, detrit	89.25	Dipnet	
CHA-S-2	SAV	49-51	-82.576203	28.715518	0.000	0.000	0.17	Measured from "CHASSAHOWITZKA SPRING MAIN"	9/11/15	13:55	Incoming	2.00	1.00	24.09	5.05	60.20	0.59	1199.00	7.57	1.10	Organic, detrit	89.25	Dipnet	Sampled Vallisneria americana and Hydrilla verticillata, small amount of Cabomba and Myriophylllum spicatum also observed
CHA-S-2	ROCK	49-51	-82.576203	28.715518	0.000	0.000	0.17		9/11/15	13:50	Incoming	2.60	1.00	24.09	5.05	60.20	0.59	1199.00	7.57	1.10	Organic, detrit	89.25	Dipnet	
CHA-S-1	SED	52-57	-82.575285	28.716108	0.021	0.013	20.99		9/11/15	14:37	Incoming	3.00	1.00	23.92	4.98	59.10	0.26	543.00	7.53	0.50	Detritus, sand	81.50	Petite Ponar	
CHA-S-1	SNAG	52-57	-82.575285	28.716108	0.021	0.013	20.99	Moved sampling site point. Updated Lat/Long. Measured from "CHASSAHOWITZKA #1; BUBBA SPRING"	9/11/15	14:38	Incoming	1.50	1.00	23.92	4.98	59.10	0.26	543.00	7.53	0.50	Detritus, sand	81.50	Dipnet	
CHA-S-1	ROCK	52-57	-82.575285	28.716108	0.021	0.013	20.99		9/11/15	14:38	Incoming	2.50	1.00	23.92	4.98	59.10	0.26	543.00	7.53	0.50	Detritus, sand	81.50	Dipnet	
CHA-S-1	SAV	52-57	-82.575285	28.716108	0.021	0.013	20.99		9/11/15	14:50	Incoming	2.00	1.00	23.92	4.98	59.10	0.26	543.00	7.53	0.50	Detritus, sand	81.50	Dipnet	Hydrilla verticillata
HOM-HAL-S	ROCK	58-60	-82.583215	28.826548	0.299	0.186	299.14		9/14/15	13:49	Outgoing	3.00	1.00	23.47	3.56	43.10	5.15	9211.00	7.55	0.39	Soft sand	32.00	Dipnet	
HOM-HAL-S	MA	58-60	-82.583215	28.826548	0.299	0.186	299.14		9/14/15	13:49	Outgoing	0.50	1.00	23.47	3.56	43.10	5.15	9211.00	7.55	0.39	Soft sand	32.00	Dipnet	
HOM-HAL-S	SNAG	58-60	-82.583215	28.826548	0.299	0.186	299.14	Measured from "HALLS RIVER HEAD SPRING"	9/14/15	13:49	Outgoing	2.00	1.00	23.47	3.56	43.10	5.15	9211.00	7.55	0.39	Soft sand	32.00	Dipnet	
HOM-HAL-S	SED	58-60	-82.583215	28.826548	0.299	0.186	299.14		9/14/15	13:49	Outgoing	2.00	1.00	23.47	3.56	43.10	5.15	9211.00	7.55	0.39	Soft sand	32.00	Petite Ponar	
HOM-HAL-1	MA	61-63	-82.591326	28.823372				Measured from "HALLS RIVER HEAD SPRING"	9/14/15	14:29	Outgoing	1.00	1.00	25.64	9.20	115.80	5.03	9005.00	8.01	1.12	Soft sand	0.00	Dipnet	
HOM-HAL-1	SED	61-63	-82.591326	28.823372	1.408	0.875	1407.52		9/14/15	14:29	Outgoing	2.00	1.00	25.64	9.20	115.80	5.03	9005.00	8.01	1.12	Soft sand	0.00	Petite Ponar	
HOM-HAL-2	SED	64-66	-82.603008	28.817142	2.882	1.791	2882.35	Measured from "HALLS RIVER HEAD SPRING"	9/14/15	15:03	Incoming	3.00	1.00	26.07	9.00	114.40	4.66	8422.00	7.94	1.13	Organic, soft s	0.00	Petite Ponar	Macroalgae present in small amounts but not sampled
HOM-HAL-3	SED	67-68	-82.607644	28.807200	4.318	2.683	4318.09	Measured from "HALLS RIVER HEAD SPRING"	9/14/15	15:27	Incoming	2.50	1.00	28.26	8.24	108.20	4.34	7888.00	7.62	0.92	Organic, soft s	0.00	Petite Ponar	Macroalgae present in small amounts but not sampled
HOM-S	ROCK	69-71	-82.588200	28.799251	0.010	0.006	10.01		9/14/15	16:30	Incoming	1.50	1.00	23.36	4.16	49.20	1.64	3135.00	7.63	1.76	Organic, sand	58.00	Dipnet	
HOM-S	SED	69-71	-82.588200	28.799251	0.010	0.006	10.01	Measured from "HOMOSASSA SPRING #1"	9/14/15	16:30	Incoming	1.50	1.00	23.36	4.16	49.20	1.64	3135.00	7.63	1.76	Organic, sand	58.00	Petite Ponar	
HOM-S	SNAG	69-71	-82.588200	28.799251	0.010	0.006	10.01		9/14/15	16:30	Incoming	1.00	1.00	23.36	4.16	49.20	1.64	3135.00	7.63	1.76	Organic, sand	58.00	Dipnet	
HOM-SOU-S	ROCK	72-74	-82.586703	28.796659	0.040	0.025	40.36		9/15/15	10:53	Outgoing	1.00	1.00	23.32	3.43	40.30	0.25	512.00	7.65	0.27	Soft sand	94.50	Dipnet	
HOM-SOU-S	MA	72-74	-82.586703	28.796659	0.040	0.025	40.36		9/15/15	10:53	Outgoing	1.50	1.00	23.32	3.43	40.30	0.25	512.00	7.65	0.27	Soft sand	94.50	Dipnet	
HOM-SOU-S	SNAG	72-74	-82.586703	28.796659	0.040	0.025	40.36	Measured from "TROTTER MAIN SPRING"	9/15/15	10:53	Outgoing	1.00	1.00	23.32	3.43	40.30	0.25	512.00	7.65	0.27	Soft sand	94.50	Dipnet	
HOM-SOU-S	SED	72-74	-82.586703	28.796659	0.040	0.025	40.36		9/15/15	10:53	Outgoing	3.00	1.00	23.32	3.43	40.30	0.25	512.00	7.65	0.27	Soft sand	94.50	Petite Ponar	
HOM-R-1	MA	75-77	-82.591477	28.799416	0.428	0.266	427.98	Measured from	9/15/15	11:25	Outgoing	1.00	1.00	24.40	4.61	55.20	0.88	1739.00	7.59	0.57	Organic	39.50	Dipnet	Sparse Najas guadalupensis observed (too sparse to sample)

Table A-1. Physicochemical Data

Zone ID	Habitat	Photolog #	Latitude	Longitude	Distance from Headspring (km)	Distance from Headspring (mi)	Distance from Headspring (m)	Notes	Sample Date	Sample Time	Tidal Stage	Depth of Sample (ft)	Water Depth at Point of WQ Measurement (ft)	Water Temperature °C	Dissolved Oxygen mg/L	Dissolved Oxygen %	Salinity ppt	Conductivity µS/cm	pH	Turbidity NTU	Sediment type	Canopy Cover % (average)	Sample Equipment	Comments
HOM-R-1	SNAG	75-77	-82.591477	28.799416	0.428	0.266	427.98	"HOMOSASSA SPRING	9/15/15	11:25	Outgoing	1.00	1.00	24.40	4.61	55.20	0.88	1739.00	7.59	0.57	Organic	39.50	Dipnet	
HOM-R-1	SED	75-77	-82.591477	28.799416	0.428	0.266	427.98	#1"	9/15/15	11:25	Outgoing	2.90	1.00	24.40	4.61	55.20	0.88	1739.00	7.59	0.57	Organic	39.50	Petite Ponar	
HOM-R-2	SNAG	78-79	-82.594208	28.801282	0.784	0.487	784.43	Measured from "HOMOSASSA SPRING #1"	9/15/15	11:59	Outgoing	1.00	1.00	24.72	4.65	56.30	0.94	1870.00	7.62	1.23	Organic	46.00	Dipnet	Sparse Hydrilla verticillata and Najas guadalupensis observed (too sparse to sample); No Macroalgae observed
HOM-R-2	SED	78-79	-82.594208	28.801282	0.784	0.487	784.43		9/15/15	11:59	Outgoing	3.50	1.00	24.72	4.65	56.30	0.94	1870.00	7.62	1.23	Organic	46.00	Petite Ponar	
HOM-R-3	MA	80-82	-82.597621	28.799383	1.158	0.719	1157.88	Measured from "HOMOSASSA SPRING #1"	9/15/15	12:29	Outgoing	1.00	1.00	24.85	9.32	113.10	1.44	2788.00	8.40	0.86	Organic	44.00	Dipnet	
HOM-R-3	SNAG	80-82	-82.597621	28.799383	1.158	0.719	1157.88		9/15/15	12:29	Outgoing	1.00	1.00	24.85	9.32	113.10	1.44	2788.00	8.40	0.86	Organic	44.00	Dipnet	
HOM-R-3	SED	80-82	-82.597621	28.799383	1.158	0.719	1157.88		9/15/15	12:29	Outgoing	2.50	1.00	24.85	9.32	113.10	1.44	2788.00	8.40	0.86	Organic	44.00	Petite Ponar	
HOM-R-4	SED	83-84	-82.604647	28.794252	2.102	1.306	2101.94	"HOMOSASSA SPRING	9/15/15	12:54	Outgoing	1.50	1.00	26.48	6.23	78.80	2.35	4138.00	7.74	2.48	Organic	28.25	Petite Ponar	
HOM-R-4	SNAG	83-84	-82.604647	28.794252	2.102	1.306	2101.94	#1"	9/15/15	12:54	Outgoing	0.50	1.00	26.48	6.23	78.80	2.35	4138.00	7.74	2.48	Organic	28.25	Dipnet	
HOM-R-5	SED	85-86	-82.612886	28.787252	3.308	2.055	3307.73	"HOMOSASSA SPRING	9/15/15	13:22	Outgoing	2.00	1.00	26.72	7.55	95.60	2.41	4531.00	7.84	3.89	Organic	5.50	Petite Ponar	
HOM-R-5	SNAG	85-86	-82.612886	28.787252	3.308	2.055	3307.73	#1"	9/15/15	13:22	Outgoing	1.00	1.00	26.72	7.55	95.60	2.41	4531.00	7.84	3.89	Organic	5.50	Dipnet	
HOM-R-6	SED	87-89	-82.623929	28.782679	4.494	2.793	4494.34	"HOMOSASSA SPRING	9/15/15	13:49	Outgoing	2.00	1.00	26.45	7.09	89.40	2.45	4611.00	7.78	2.32	Organic	20.50	Petite Ponar	
HOM-R-6	SNAG	87-89	-82.623929	28.782679	4.494	2.793	4494.34	#1"	9/15/15	13:49	Outgoing	1.00	1.00	26.45	7.09	89.40	2.45	4611.00	7.78	2.32	Organic	20.50	Dipnet	

APPENDIX A
Physicochemical Data

Figure A-1 - Monthly Median Discharge Time Series Plot for Chassahowitzka River (USGS Station 2310663)

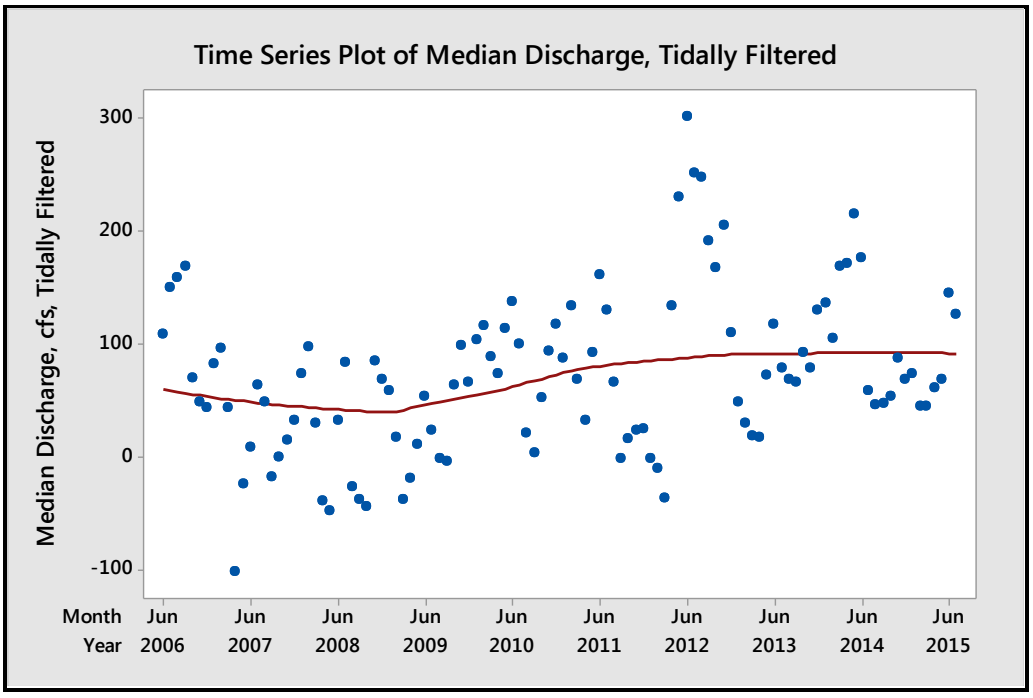


Figure A-2 - Monthly Median Discharge Time Series Plot for Homosassa River (USGS Station 2310700)

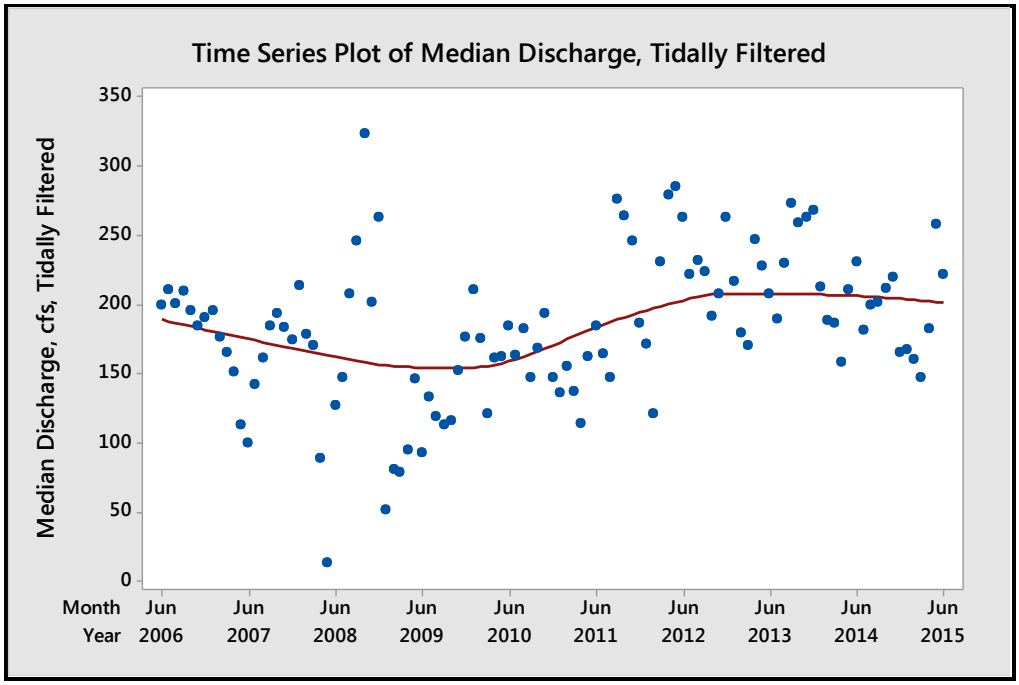


Figure A-3 - Monthly Median Discharge Time Series Plot for Weeki Wachee River (USGS Station 2310525)

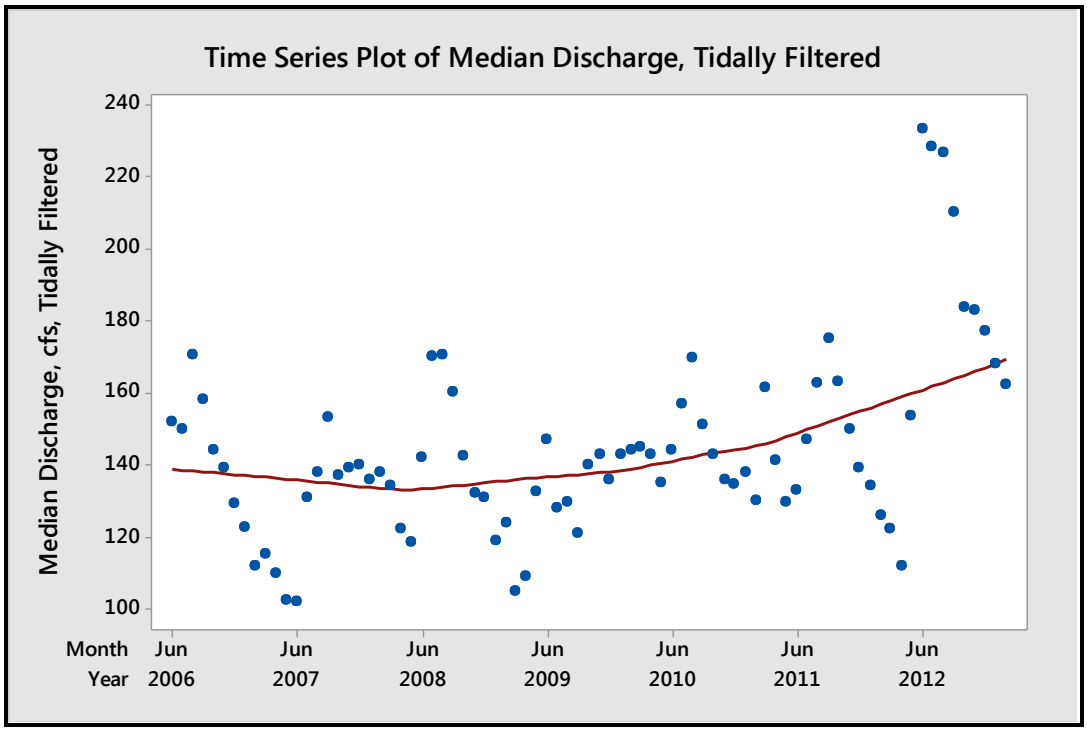


Figure A-4 - Monthly Median Specific Conductance (Maxima) Time Series Plot for Chassahowitzka River (USGS Station 2310663)

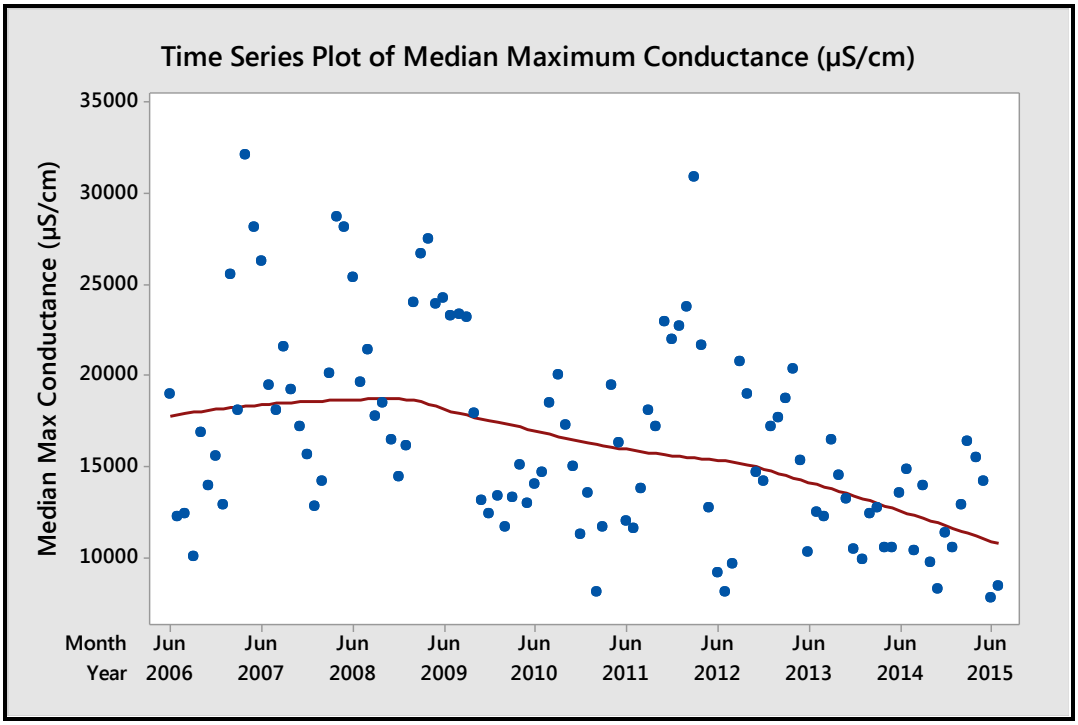


Figure A-5 - Monthly Median Specific Conductance (Maxima) Time Series Plot for Homosassa River (USGS Station 2310700)

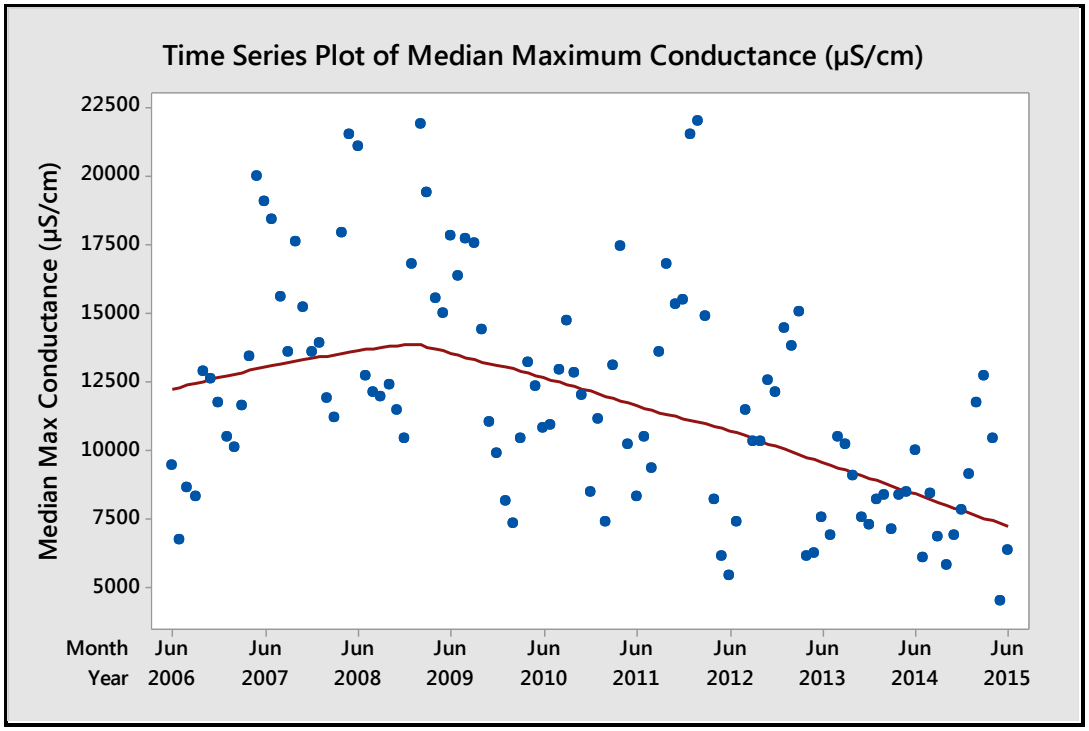


Figure A-6 - Monthly Median Specific Conductance (Maxima) Time Series Plot for Weeki Wachee River (USGS Station 2310545)

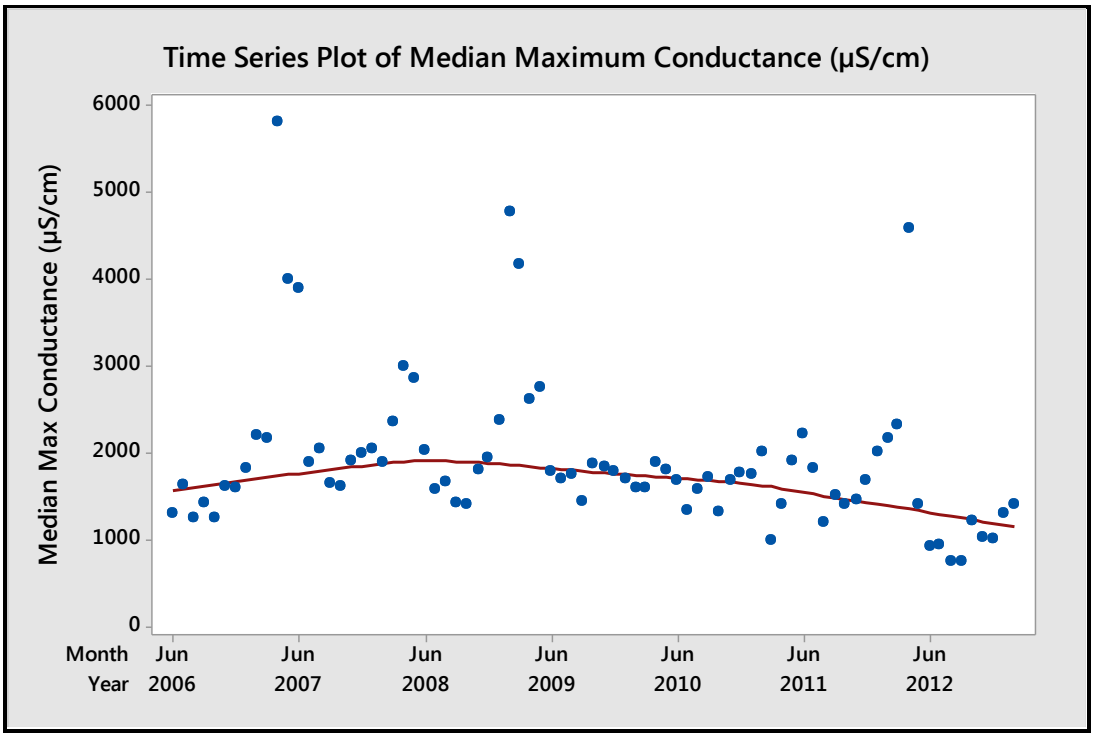


Figure A-7 - Correlations between Monthly Median Discharge and Monthly Median Specific Conductance (Maxima) for Chassahowitzka River (USGS Station 2310663)

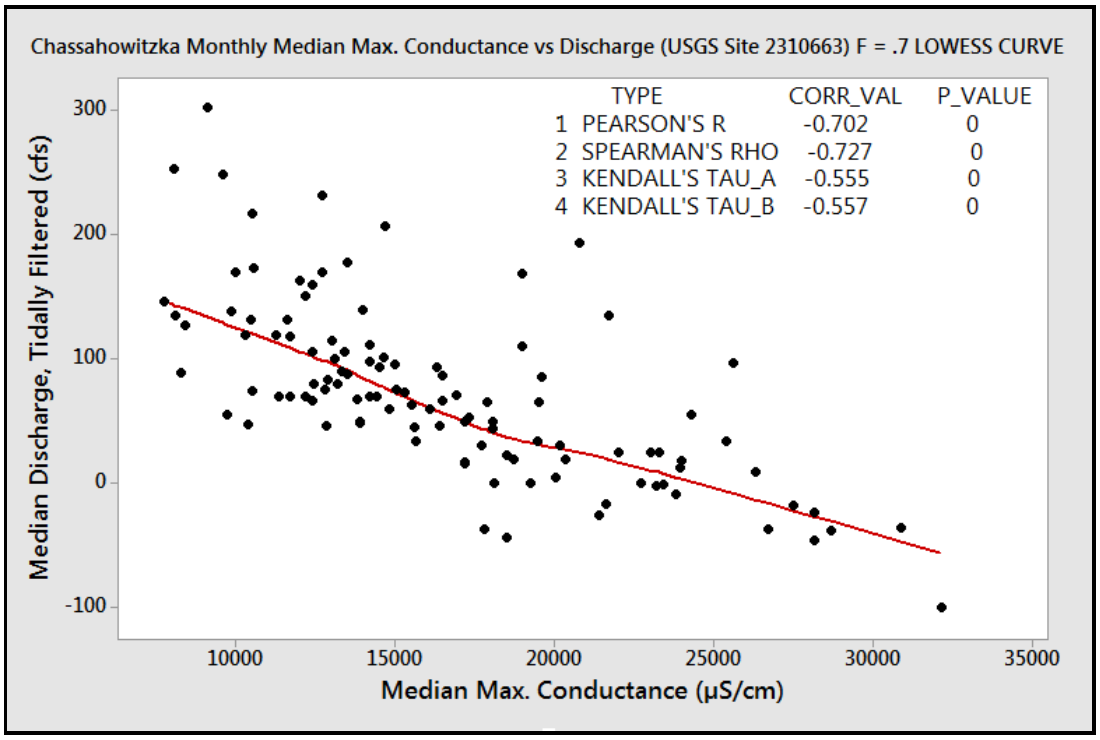


Figure A-8 - Correlations between Monthly Median Discharge and Monthly Median Specific Conductance (Maxima) for Homosassa River (USGS Station 2310700)

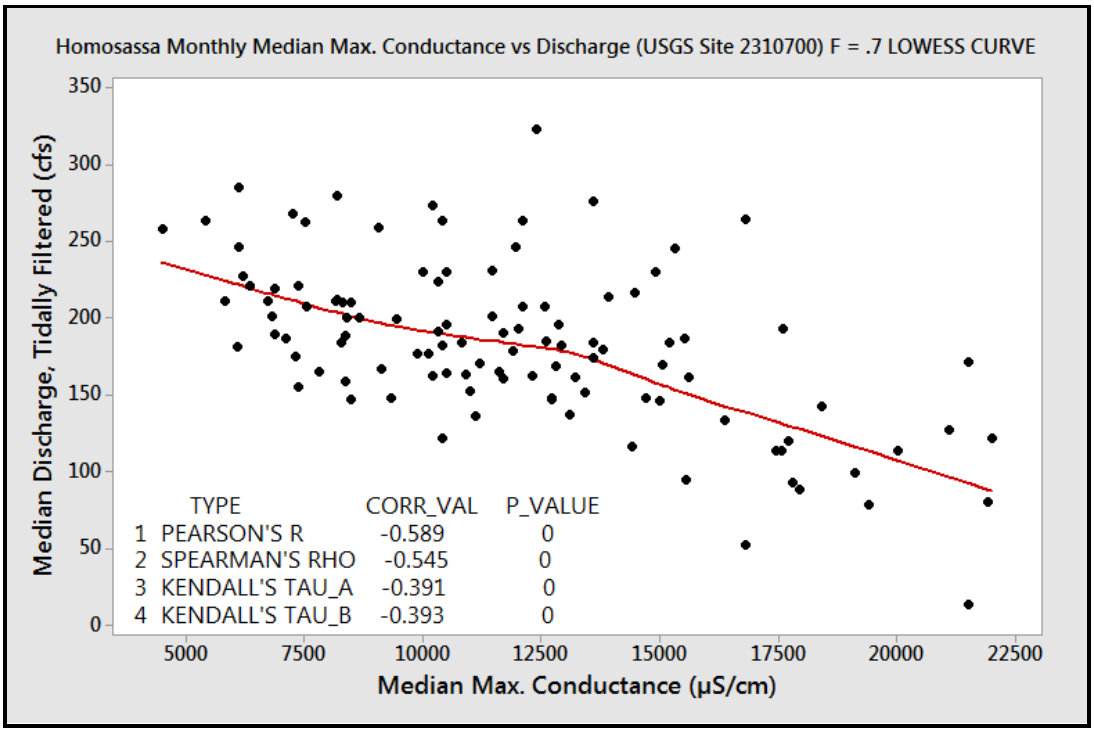
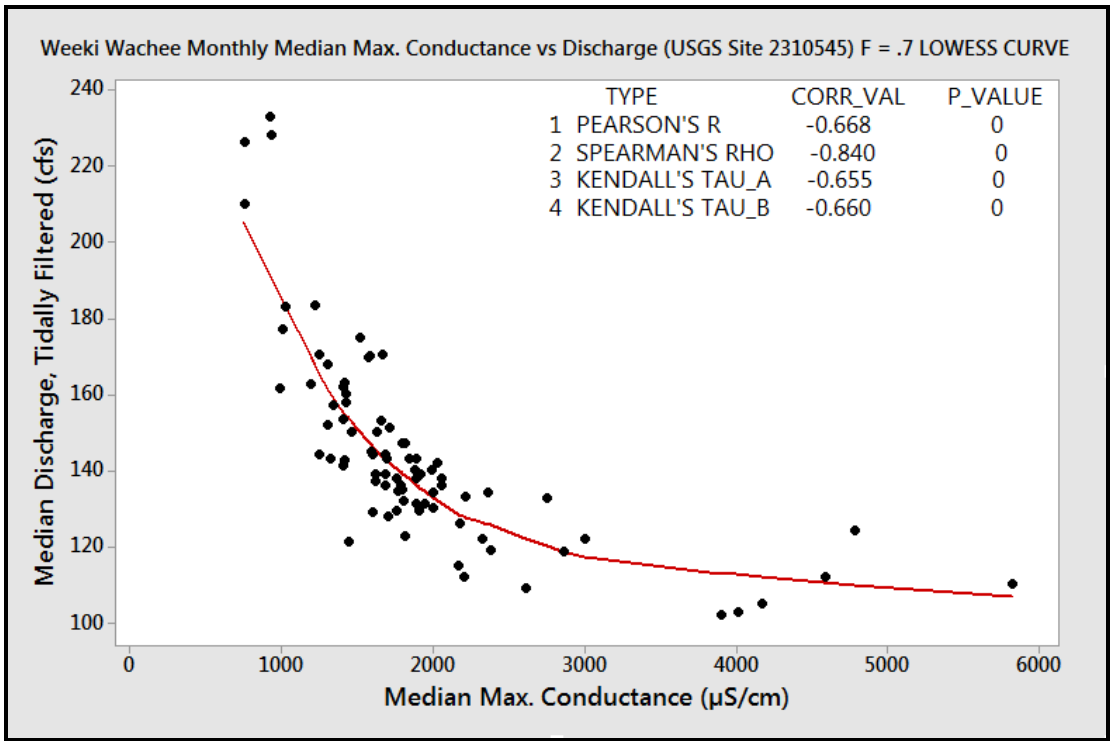


Figure A-9 - Correlations between Monthly Median Discharge and Monthly Median Specific Conductance (Maxima) for Weeki Wachee River (USGS Station 2310545)



Appendix B
Macroinvertebrate Data & Taxa Lists

Table B-1. Chassahowitzka River Macroinvertebrate Data

Sample ID	Date Collected	Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Count	Abundance (Count/m^2)	Notes
CHA-CRA-SAV	9/10/2015	Nemertea		Enopla		Hoplonemertea	Emplectonematidae	Kirsteueriella biocellata	4	8	
CHA-CRA-SAV	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	16	32	female
CHA-CRA-SAV	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Cassidinidea ovalis	56	112	
CHA-CRA-SAV	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	24	48	
CHA-CRA-SAV	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	40	80	
CHA-CRA-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera		Trichoptera spp.	16	32	juvenile
CHA-CRA-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptila spp.	8	16	
CHA-CRA-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	211	422	
CHA-CRA-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum illinoense group	403	806	
CHA-CRA-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Thienemanniella spp.	10	20	
CHA-CRA-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	422	844	
CHA-CRA-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Empididae	Empididae spp.	4	8	
CHA-CRA-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Lepidoptera	Crambidae	Parapoynx spp.	4	8	
CHA-CRA-Rock	9/10/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	9	18	
CHA-CRA-Rock	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	2	4	female
CHA-CRA-Rock	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Anthuridae	Cyathura polita	3	6	Voucher
CHA-CRA-Rock	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Cassidinidea ovalis	26	52	Voucher
CHA-CRA-Rock	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	23	46	Voucher
CHA-CRA-Rock	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda		Gammaridea spp.	2	4	damaged
CHA-CRA-Rock	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda		Gammarida spp.	1	2	damaged, maybe Gammarus sp.
CHA-CRA-Rock	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Melitidae	Melita nitida complex	31	62	Voucher
CHA-CRA-Rock	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	83	166	
CHA-CRA-Rock	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium spp.	4	8	juvenile
CHA-CRA-Rock	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	1	2	
CHA-CRA-Rock	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	2	4	pupa
CHA-CRA-Rock	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum illinoense group	7	14	
CHA-CRA-Rock	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	1	2	
CHA-CRA-Rock	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Lepidoptera	Crambidae	Parapoynx spp.	1	2	
CHA-CRA-Sed	9/10/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	36	1565	
CHA-CRA-Sed	9/10/2015	Annelida		Polychaeta	Palpata	Canalipalpata	Ampharetidae	Hobsonia florida	6	261	
CHA-CRA-Sed	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	71	3087	Immature and/or damaged
CHA-CRA-Sed	9/10/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	18	783	
CHA-CRA-Sed	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	5	217	female
CHA-CRA-Sed	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Anthuridae	Cyathura polita	12	522	
CHA-CRA-Sed	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Cassidinidea ovalis	1	43	
CHA-CRA-Sed	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	1	43	
CHA-CRA-Sed	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	21	913	
CHA-CRA-Sed	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Melitidae	Melita nitida complex	1	43	
CHA-CRA-Sed	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	90	3913	
CHA-CRA-Sed	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	12	522	
CHA-CRA-Sed	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum scalaenum group	6	261	
CHA-CRA-Sed	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia rhamphe group	2	87	
CHA-CRA-Sed	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	2	87	
CHA-CRA-Sed	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	3	130	
CHA-CRA-Snag	9/10/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	4	8	
CHA-CRA-Snag	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Pristina leidyi	384	768	
CHA-CRA-Snag	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Nais communis	4	8	
CHA-CRA-Snag	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Nais pardalis	4	8	
CHA-CRA-Snag	9/10/2015	Annelida		Clitellata	Oligochaeta	Enchytraeida	Enchytraeidae	Enchytraeidae spp.	20	40	
CHA-CRA-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	348	696	female
CHA-CRA-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Hargeria rapax	4	8	male
CHA-CRA-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Cassidinidea ovalis	4	8	
CHA-CRA-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	8	16	
CHA-CRA-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	68	136	
CHA-CRA-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Melitidae	Melita nitida complex	4	8	
CHA-CRA-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	16	32	
CHA-CRA-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Talitridae	Talitridae spp.	32	64	Voucher - maybe Uhlorchestia spartinophila
CHA-CRA-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	12	24	4 pupa, 8 larvae
CHA-CRA-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	164	328	
CHA-CRA-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum illinoense group	116	232	
CHA-CRA-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Rheotanytarsus spp.	4	8	
CHA-CRA-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia rhamphe group	4	8	
CHA-CRA-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	4	8	
CHA-CRA-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Stenochironomus spp.	4	8	
CHA-CRA-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	12	24	
CHA-CRA-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Ceratopogonidae	Ceratopogonidae spp.	4	8	
CHA-CRA-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Psychodidae	Psychodidae spp.	8	16	pupae
CHA-POT-1-SAV	9/10/2015	Platyhelminthes						Platyhelminthes spp.	4	8	
CHA-POT-1-SAV	9/10/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	8	16	
CHA-POT-1-SAV	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Pristina leidyi	36	72	
CHA-POT-1-SAV	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero spp.	4	8	no posterior end, missing most needles & hairs
CHA-POT-1-SAV	9/10/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	64	128	
CHA-POT-1-SAV	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	212	424	female
CHA-POT-1-SAV	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Hargeria rapax	4	8	male
CHA-POT-1-SAV	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Cassidinidea ovalis	112	224	
CHA-POT-1-SAV	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	124	248	
CHA-POT-1-SAV	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda		Gammaridea spp.	8	16	damaged/juvenile
CHA-POT-1-SAV	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	88	176	
CHA-POT-1-SAV	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	72	144	

Sample ID	Date Collected	Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Count	Abundance (Count/m^2)	Notes
CHA-POT-1-SAV	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Corophiidae spp.	4	8	juvenile
CHA-POT-1-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Callibaetis floridanus	4	8	
CHA-POT-1-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Orthotrichia spp.	4	8	
CHA-POT-1-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	20	40	pupae
CHA-POT-1-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	52	104	
CHA-POT-1-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum illinoense group	64	128	
CHA-POT-1-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	20	40	
CHA-POT-1-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Nanocladius spp.	4	8	
CHA-POT-1-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	124	248	
CHA-POT-1-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Empididae	Empididae spp.	4	8	
CHA-POT-1-Sed	9/10/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	46	2000	
CHA-POT-1-Sed	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	25	1087	Immature and/or damaged
CHA-POT-1-Sed	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodrilus hoffmeisteri	1	43	
CHA-POT-1-Sed	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	4	174	
CHA-POT-1-Sed	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Americorophium ellisi	1	43	
CHA-POT-1-Sed	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Ceratopogonidae	Ceratopogonidae spp.	1	43	
CHA-POT-1-Snag	9/10/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	22	44	
CHA-POT-1-Snag	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Pristina leidyi	10	20	
CHA-POT-1-Snag	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero pectinata	3	6	
CHA-POT-1-Snag	9/10/2015	Annelida		Clitellata	Hirudinida	Arhynchobdellida	Erpobdellidae	Erpobdella punctata	3	6	
CHA-POT-1-Snag	9/10/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	13	26	
CHA-POT-1-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	518	1036	female
CHA-POT-1-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Hargeria rapax	13	26	male
CHA-POT-1-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Tanaidae	Sinelobus stanfordi	3	6	Voucher
CHA-POT-1-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda		Asellota spp.	6	12	Voucher
CHA-POT-1-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Cassidinidea ovalis	13	26	
CHA-POT-1-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	10	20	
CHA-POT-1-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	6	12	
CHA-POT-1-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Melitidae	Melita nitida complex	3	6	
CHA-POT-1-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	83	166	
CHA-POT-1-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Amphilochidae	Hourstonius laguna	3	6	Voucher
CHA-POT-1-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium spp.	16	32	juveniles and/or damaged
CHA-POT-1-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	45	90	
CHA-POT-1-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Americorophium sp. A	6	12	
CHA-POT-1-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Palaemonidae	Palaemonetes spp.	3	6	
CHA-POT-1-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	6	12	
CHA-POT-1-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum illinoense group	10	20	
CHA-POT-1-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	13	26	
CHA-POT-1-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	6	12	
CHA-POT-1-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Paratanytarsus spp.	3	6	
CHA-POT-1-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	6	12	
CHA-POT-2-SAV	9/10/2015	Platyhelminthes						Platyhelminthes spp.	8	16	
CHA-POT-2-SAV	9/10/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	164	328	
CHA-POT-2-SAV	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	8	16	Immature and/or damaged
CHA-POT-2-SAV	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Pristina leidyi	4	8	
CHA-POT-2-SAV	9/10/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	428	856	
CHA-POT-2-SAV	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Tanaidae	Sinelobus stanfordi	4	8	
CHA-POT-2-SAV	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Idoteidae	Edotia triloba	4	8	
CHA-POT-2-SAV	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	16	32	
CHA-POT-2-SAV	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	196	392	
CHA-POT-2-SAV	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Corophiidae spp.	16	32	juveniles and/or damaged
CHA-POT-2-SAV	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	24	48	
CHA-POT-2-SAV	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Americorophium ellisi	52	104	2 vials
CHA-POT-2-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	8	16	
CHA-POT-2-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum illinoense group	12	24	
CHA-POT-2-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	28	56	
CHA-POT-2-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Thienemanniella spp.	4	8	
CHA-POT-2-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	16	32	
CHA-POT-2-Sed	9/10/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	22	957	
CHA-POT-2-Sed	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodriloidinae spp.	1	43	
CHA-POT-2-Sed	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	7	304	Immature and/or damaged
CHA-POT-2-Sed	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodrilus hoffmeisteri	1	43	
CHA-POT-2-Sed	9/10/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	2	87	
CHA-POT-2-Sed	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	2	87	
CHA-POT-2-Sed	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Americorophium ellisi	7	304	Voucher
CHA-POT-2-Sed	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Ceratopogonidae	Ceratopogonidae spp.	1	43	
CHA-POT-2-Snag	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	5	10	Immature and/or damaged
CHA-POT-2-Snag	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Pristina leidyi	2	4	
CHA-POT-2-Snag	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero spp.	2	4	missing most needles & hairs
CHA-POT-2-Snag	9/10/2015	Annelida		Clitellata	Oligochaeta	Enchytraeida	Enchytraeidae	Enchytraeidae spp.	2	4	
CHA-POT-2-Snag	9/10/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	14	28	
CHA-POT-2-Snag	9/10/2015	Mollusca		Bivalvia	Heterodonta	Veneroida	Sphaeriidae	Musculium spp.	2	4	
CHA-POT-2-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	14	28	female
CHA-POT-2-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Cassidinidea ovalis	5	10	
CHA-POT-2-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Sphaeroma spp.	2	4	Voucher
CHA-POT-2-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium spp.	13	26	juveniles and/or damaged
CHA-POT-2-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	247	494	
CHA-POT-2-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta		Collembola		Collembola spp.	4	8	maybe Podura aquatica
CHA-POT-2-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	5	10	

Sample ID	Date Collected	Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Count	Abundance (Count/m^2)	Notes
CHA-POT-2-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum illinoense group	22	44	
CHA-POT-2-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	16	32	
CHA-POT-2-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	2	4	
CHA-POT-2-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Paratanytarsus spp.	2	4	
CHA-POT-2-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	2	4	
CHA-POT-2-Snag	9/10/2015	Arthropoda	Chelicerata	Arachnida				Acariformes spp.	5	10	terrestrial?
CHA-POT-3-Sed	9/10/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	9	391	
CHA-POT-3-Sed	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	8	348	Immature and/or damaged
CHA-POT-3-Sed	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodrilus hoffmeisteri	3	130	
CHA-POT-3-Sed	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	12	522	
CHA-POT-3-Sed	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Corophiidae spp.	7	304	Juveniles and/or damaged
CHA-POT-3-Sed	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	7	304	
CHA-POT-3-Sed	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Americorophium ellisi	14	609	
CHA-POT-3-Snag	9/10/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	48	96	
CHA-POT-3-Snag	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Pristina leidyi	40	80	
CHA-POT-3-Snag	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero furcata	8	16	
CHA-POT-3-Snag	9/10/2015	Mollusca		Bivalvia				Bivalvia spp.	8	16	small, damaged
CHA-POT-3-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	88	176	female
CHA-POT-3-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Tanaidae	Sinelobus stanfordi	8	16	
CHA-POT-3-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Anthuridae	Cyathura polita	8	16	
CHA-POT-3-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Cassidinidea ovalis	24	48	
CHA-POT-3-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Melitidae	Melita nitida complex	16	32	
CHA-POT-3-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	312	624	
CHA-POT-3-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium spp.	264	528	damaged and/or juveniles
CHA-POT-3-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	2328	4656	
CHA-POT-3-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	8	16	
CHA-POT-3-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomus spp.	8	16	
CHA-POT-3-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	16	32	
CHA-POT-3-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum illinoense group	80	160	
CHA-POT-3-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tribelos jucundum	8	16	
CHA-POT-3-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	56	112	
CHA-POT-3-Snag	9/10/2015	Nematoda						Nematoda spp.	8	16	
CHA-POT-S-SAV	9/10/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	1	2	
CHA-POT-S-SAV	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Pristina leidyi	8	16	
CHA-POT-S-SAV	9/10/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	151	302	
CHA-POT-S-SAV	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Cassidinidea ovalis	1	2	
CHA-POT-S-SAV	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	1	2	
CHA-POT-S-SAV	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	17	34	
CHA-POT-S-SAV	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	3	6	
CHA-POT-S-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Caenidae	Caenis diminuta	1	2	
CHA-POT-S-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Callibaetis floridanus	1	2	
CHA-POT-S-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Cheumatopsyche spp.	1	2	
CHA-POT-S-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Hydropsyche rossi	5	10	
CHA-POT-S-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Oxyethira spp.	1	2	
CHA-POT-S-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptila spp.	1	2	
CHA-POT-S-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Philopotamidae	Chimarra spp.	1	2	
CHA-POT-S-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	15	30	
CHA-POT-S-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum scalaenum group	4	8	
CHA-POT-S-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum illinoense group	126	252	
CHA-POT-S-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	7	14	
CHA-POT-S-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	90	180	
CHA-POT-S-Sed	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodrilus hoffmeisteri	2	87	
CHA-POT-S-Sed	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	2	87	
CHA-POT-S-Snag	9/10/2015	Nemertea		Enopla		Hoplonemertea	Tetrastemmatidae	Prostoma spp.	2	4	
CHA-POT-S-Snag	9/10/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	2	4	
CHA-POT-S-Snag	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Pristina leidyi	14	28	
CHA-POT-S-Snag	9/10/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	28	56	
CHA-POT-S-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	378	756	female
CHA-POT-S-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Hargeria rapax	12	24	male
CHA-POT-S-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Cassidinidea ovalis	4	8	
CHA-POT-S-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	12	24	
CHA-POT-S-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	16	32	
CHA-POT-S-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	48	96	
CHA-POT-S-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Odonata		Zygoptera spp.	2	4	missing prementum
CHA-POT-S-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	6	12	
CHA-POT-S-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	12	24	
CHA-POT-S-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Psychodidae	Psychodidae spp.	2	4	pupa
CHA-R-1-MA	9/11/2015	Platyhelminthes						Platyhelminthes spp.	16	32	
CHA-R-1-MA	9/11/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	224	448	
CHA-R-1-MA	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero nivea	16	32	
CHA-R-1-MA	9/11/2015	Annelida		Clitellata	Hirudinida	Arhynchobdellida	Erpobdellidae	Erpobdella punctata	16	32	
CHA-R-1-MA	9/11/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	720	1440	
CHA-R-1-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	640	1280	female
CHA-R-1-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Cassidinidea ovalis	32	64	
CHA-R-1-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	64	128	
CHA-R-1-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda		Gammaridea spp.	16	32	damaged
CHA-R-1-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	1968	3936	
CHA-R-1-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Melitidae	Melita nitida complex	80	160	
CHA-R-1-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	208	416	

Sample ID	Date Collected	Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Count	Abundance (Count/m^2)	Notes
CHA-R-1-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida	Mysidae	Taphromysis bowmani	48	96	
CHA-R-1-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Caenidae	Caenis diminuta	16	32	
CHA-R-1-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Baetidae spp.	16	32	damaged
CHA-R-1-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Odonata	Coenagrionidae	Nehalennia minuta	16	32	
CHA-R-1-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Oecetis avara	16	32	
CHA-R-1-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Nectopsyche spp.	16	32	juvenile
CHA-R-1-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	16	32	pupa
CHA-R-1-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomus spp.	16	32	
CHA-R-1-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	128	256	
CHA-R-1-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum illinoense group	64	128	
CHA-R-1-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Procladius spp.	48	96	
CHA-R-1-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia rhamphe group	48	96	
CHA-R-1-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes lobus	240	480	
CHA-R-1-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Paratanytarsus spp.	112	224	
CHA-R-1-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Labrundinia spp.	64	128	
CHA-R-1-MA	9/11/2015	Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Limnesiidae	Limnesia spp.	16	32	
CHA-R-1-SAV	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Pristina leidyi	80	160	
CHA-R-1-SAV	9/11/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	128	256	
CHA-R-1-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	128	256	female
CHA-R-1-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Tanaidae	Sinelobus stanfordi	16	32	
CHA-R-1-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Cassidinidea ovalis	16	32	
CHA-R-1-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	448	896	
CHA-R-1-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Palaemonidae	Palaemonetes spp.	16	32	
CHA-R-1-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Callibaetis floridanus	16	32	
CHA-R-1-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Oxyethira spp.	16	32	
CHA-R-1-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptila spp.	16	32	
CHA-R-1-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	32	64	pupae
CHA-R-1-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	2959	5918	
CHA-R-1-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum illinoense group	125	250	
CHA-R-1-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia rhamphe group	42	84	
CHA-R-1-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	291	582	
CHA-R-1-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	42	84	
CHA-R-1-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Nanocladius spp.	374	748	
CHA-R-1-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	874	1748	
CHA-R-1-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Beardius spp.	42	84	
CHA-R-1-Sed	9/11/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	5	217	
CHA-R-1-Sed	9/11/2015	Annelida		Polychaeta	Palpata	Canalipalpata	Ampharetidae	Hobsonia florida	2	87	
CHA-R-1-Sed	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	64	2783	Immature and/or damaged
CHA-R-1-Sed	9/11/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	5	217	
CHA-R-1-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	16	696	female
CHA-R-1-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Tanaidae	Sinelobus stanfordi	2	87	
CHA-R-1-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Anthuridae	Cyathura polita	16	696	
CHA-R-1-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Cassidinidea ovalis	2	87	
CHA-R-1-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	2	87	
CHA-R-1-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	70	3043	
CHA-R-1-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Melitidae	Melita nitida complex	5	217	
CHA-R-1-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	213	9261	
CHA-R-1-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	2	87	
CHA-R-1-Sed	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Caenidae	Caenis diminuta	5	217	
CHA-R-1-Sed	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	2	87	pupa
CHA-R-1-Sed	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	6	261	
CHA-R-1-Sed	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum halterale group	43	1870	
CHA-R-1-Sed	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia rhamphe group	3	130	
CHA-R-1-Sed	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	8	348	
CHA-R-1-Sed	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	2	87	
CHA-R-1-Sed	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Paratanytarsus spp.	2	87	
CHA-R-1-Sed	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	2	87	
CHA-R-1-Sed	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Ceratopogonidae	Ceratopogonidae spp.	2	87	
CHA-R-1-Snag	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Pristina leidyi	72	144	
CHA-R-1-Snag	9/11/2015	Annelida		Clitellata	Oligochaeta	Enchytraeida	Enchytraeidae	Enchytraeidae spp.	32	64	
CHA-R-1-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	800	1600	female
CHA-R-1-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Tanaidae	Sinelobus stanfordi	80	160	
CHA-R-1-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	8	16	
CHA-R-1-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda		Gammaridea spp.	8	16	damaged
CHA-R-1-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	160	320	
CHA-R-1-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Melitidae	Melita nitida complex	16	32	
CHA-R-1-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Amphilochidae	Hourstonius laguna	8	16	
CHA-R-1-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Ischyroceridae	Cerapus spp.	16	32	Voucher - juveniles
CHA-R-1-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Talitridae	Talitridae spp.	8	16	no posterior end
CHA-R-1-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Caenidae	Caenis diminuta	8	16	
CHA-R-1-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	797	1594	
CHA-R-1-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum illinoense group	125	250	
CHA-R-1-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	38	76	
CHA-R-1-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Nanocladius spp.	10	20	
CHA-R-1-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	58	116	
CHA-R-1-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Ceratopogonidae	Ceratopogonidae spp.	8	16	
CHA-R-1-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Ptychopteridae	Ptychopteridae spp.	8	16	pupa
CHA-R-2-MA	9/11/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	102	204	
CHA-R-2-MA	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	13	26	Immature and/or damaged

Sample ID	Date Collected	Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Count	Abundance (Count/m^2)	Notes
CHA-R-2-MA	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero nivea	166	332	
CHA-R-2-MA	9/11/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	243	486	
CHA-R-2-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	141	282	female
CHA-R-2-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Hargeria rapax	13	26	male
CHA-R-2-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Cassidinidea ovalis	26	52	
CHA-R-2-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	448	896	
CHA-R-2-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	781	1562	
CHA-R-2-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	51	102	
CHA-R-2-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Caenidae	Caenis diminuta	38	76	
CHA-R-2-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Callibaetis spp.	13	26	juvenile, damaged
CHA-R-2-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptilidae spp.	13	26	pupa
CHA-R-2-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptila spp.	64	128	
CHA-R-2-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	64	128	pupa
CHA-R-2-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	578	1156	
CHA-R-2-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia rhamphe group	14	28	
CHA-R-2-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	902	1804	
CHA-R-2-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	28	56	
CHA-R-2-MA	9/11/2015	Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Limnesiidae	Limnesia spp.	13	26	
CHA-R-2-Rock	9/11/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	4	8	
CHA-R-2-Rock	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	988	1976	females
CHA-R-2-Rock	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Hargeria rapax	16	32	males
CHA-R-2-Rock	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	24	48	
CHA-R-2-Rock	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	100	200	
CHA-R-2-Rock	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Melitidae	Melita nitida complex	32	64	
CHA-R-2-Rock	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	196	392	
CHA-R-2-Rock	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium spp.	12	24	juveniles and/or damaged
CHA-R-2-Rock	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	24	48	
CHA-R-2-Rock	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Caenidae	Caenis diminuta	4	8	
CHA-R-2-Rock	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	28	56	
CHA-R-2-Rock	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	12	24	
CHA-R-2-Rock	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	12	24	
CHA-R-2-Rock	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Heteroptera	Corixidae	Micronecta ludibunda	4	8	
CHA-R-2-SAV	9/11/2015	Annelida		Polychaeta	Palpata	Canalipalpata	Spionidae	Boccardiella ligerica	4	8	
CHA-R-2-SAV	9/11/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	80	160	
CHA-R-2-SAV	9/11/2015	Annelida		Polychaeta	Palpata	Canalipalpata	Ampharetidae	Hobsonia florida	4	8	
CHA-R-2-SAV	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	44	88	Immature and/or damaged
CHA-R-2-SAV	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Pristina leidyi	56	112	
CHA-R-2-SAV	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero nivea	60	120	
CHA-R-2-SAV	9/11/2015	Mollusca		Gastropoda	Heterobranchia	Hygrophila	Physidae	Physella cubensis	4	8	
CHA-R-2-SAV	9/11/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	24	48	
CHA-R-2-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	56	112	females
CHA-R-2-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Cassidinidea ovalis	4	8	
CHA-R-2-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Sphaeroma spp.	4	8	
CHA-R-2-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	60	120	
CHA-R-2-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	40	80	
CHA-R-2-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	20	40	
CHA-R-2-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Polycentropodidae	Polycentropodidae spp.	4	8	Damaged
CHA-R-2-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptila spp.	4	8	
CHA-R-2-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	56	112	pupae
CHA-R-2-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	476	952	
CHA-R-2-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum illinoense group	27	54	
CHA-R-2-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia rhamphe group	7	14	
CHA-R-2-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	163	326	
CHA-R-2-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	7	14	
CHA-R-2-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Thienemanniella spp.	14	28	
CHA-R-2-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Nanocladius spp.	7	14	
CHA-R-2-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	61	122	
CHA-R-2-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Beardius spp.	7	14	
CHA-R-2-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Ceratopogonidae	Ceratopogonidae spp.	4	8	
CHA-R-2-SAV	9/11/2015	Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Unionicolidae	Koenikea spp.	32	64	
CHA-R-2-SAV	9/11/2015	Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Lebertiidae	Lebertia spp.	52	104	
CHA-R-2-Sed	9/11/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	69	3000	
CHA-R-2-Sed	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	13	565	Immature and/or damaged
CHA-R-2-Sed	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodrilus hoffmeisteri	7	304	
CHA-R-2-Sed	9/11/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	4	174	
CHA-R-2-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	3	130	females
CHA-R-2-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	4	174	
CHA-R-2-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	9	391	
CHA-R-2-Sed	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomus spp.	2	87	
CHA-R-2-Sed	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cryptochironomus spp.	1	43	
CHA-R-2-Sed	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum halterale group	8	348	
CHA-R-2-Sed	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Procladius spp.	1	43	
CHA-R-2-Sed	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	1	43	
CHA-R-2-Sed	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Thienemanniella spp.	2	87	
CHA-R-2-Snag	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Pristina leidyi	16	32	
CHA-R-2-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	3120	6240	females
CHA-R-2-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Hargeria rapax	48	96	males
CHA-R-2-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Tanaidae	Sinelobus stanfordi	1152	2304	
CHA-R-2-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Sphaeroma spp.	16	32	

Sample ID	Date Collected	Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Count	Abundance (Count/m^2)	Notes
CHA-R-2-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	160	320	
CHA-R-2-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	16	32	
CHA-R-2-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	64	128	
CHA-R-2-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	112	224	
CHA-R-2-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptila spp.	32	64	
CHA-R-2-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera		Diptera spp.	16	32	no posterior end (pupa)
CHA-R-2-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	144	288	
CHA-R-2-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum illinoense group	16	32	
CHA-R-2-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	16	32	
CHA-R-3-MA	9/11/2015	Platyhelminthes						Platyhelminthes spp.	32	64	
CHA-R-3-MA	9/11/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	32	64	
CHA-R-3-MA	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Pristina leidyi	64	128	
CHA-R-3-MA	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero nivea	64	128	
CHA-R-3-MA	9/11/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	1568	3136	
CHA-R-3-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	1216	2432	females
CHA-R-3-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Tanaidae	Sinelobus stanfordi	64	128	
CHA-R-3-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Cassidinidea ovalis	32	64	
CHA-R-3-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	1152	2304	
CHA-R-3-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	1344	2688	
CHA-R-3-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	2272	4544	
CHA-R-3-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	1120	2240	
CHA-R-3-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Caenidae	Caenis diminuta	192	384	
CHA-R-3-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Odonata	Coenagrionidae	Coenagrionidae spp.	32	64	juvenile
CHA-R-3-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	32	64	
CHA-R-3-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia rhamphe group	64	128	
CHA-R-3-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	544	1088	
CHA-R-3-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	32	64	
CHA-R-3-SAV	9/11/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	21	42	
CHA-R-3-SAV	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodrilus hoffmeisteri	11	22	
CHA-R-3-SAV	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero nivea	53	106	
CHA-R-3-SAV	9/11/2015	Annelida		Clitellata	Hirudinida	Arhynchobdellida	Erpobdellidae	Erpobdella punctata	11	22	
CHA-R-3-SAV	9/11/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	138	276	
CHA-R-3-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	85	170	females
CHA-R-3-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Tanaidae	Sinelobus stanfordi	11	22	
CHA-R-3-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Cassidinidea ovalis	64	128	
CHA-R-3-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	435	870	
CHA-R-3-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	572	1144	
CHA-R-3-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	64	128	
CHA-R-3-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium spp.	53	106	damaged and/or juveniles
CHA-R-3-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	604	1208	
CHA-R-3-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Palaemonidae	Palaemonetes spp.	42	84	
CHA-R-3-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Caenidae	Caenis spp.	11	22	missing legs
CHA-R-3-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Caenidae	Caenis diminuta	21	42	
CHA-R-3-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Odonata	Coenagrionidae	Coenagrionidae spp.	74	148	juveniles
CHA-R-3-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Orthotrichia spp.	85	170	
CHA-R-3-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	32	64	pupae
CHA-R-3-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	64	128	
CHA-R-3-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	449	898	
CHA-R-3-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Nanocladius spp.	21	42	
CHA-R-3-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Paratanytarsus spp.	32	64	
CHA-R-3-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	54	108	
CHA-R-3-SAV	9/11/2015	Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Unionicolidae	Koenikea spp.	21	42	
CHA-R-3-SAV	9/11/2015	Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Unionicolidae	Unionicola spp.	11	22	
CHA-R-3-SAV	9/11/2015	Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Limnesiidae	Limnesia spp.	11	22	
CHA-R-3-Sed	9/11/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	144	6261	
CHA-R-3-Sed	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	90	3913	Immature and/or damaged
CHA-R-3-Sed	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodrilus hoffmeisteri	3	130	
CHA-R-3-Sed	9/11/2015	Annelida		Clitellata	Hirudinida	Arhynchobdellida	Erpobdellidae	Erpobdella punctata	9	391	
CHA-R-3-Sed	9/11/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	18	783	
CHA-R-3-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	54	2348	females
CHA-R-3-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Hargeria rapax	3	130	male
CHA-R-3-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Tanaidae	Sinelobus stanfordi	6	261	
CHA-R-3-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Anthuridae	Cyathura polita	12	522	
CHA-R-3-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	3	130	
CHA-R-3-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	9	391	
CHA-R-3-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Melitidae	Melita nitida complex	3	130	
CHA-R-3-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	276	12000	
CHA-R-3-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	60	2609	
CHA-R-3-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Americorophium ellisi	51	2217	
CHA-R-3-Sed	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cladotanytarsus spp.	3	130	
CHA-R-3-Sed	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum scalaenum group	39	1696	
CHA-R-3-Sed	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	6	261	
CHA-R-3-Snag	9/11/2015	Annelida		Polychaeta	Palpata	Canalipalpata	Spionidae	Boccardiella ligerica	4	8	
CHA-R-3-Snag	9/11/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	4	8	
CHA-R-3-Snag	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Pristina leidyi	4	8	
CHA-R-3-Snag	9/11/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	12	24	
CHA-R-3-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	340	680	females
CHA-R-3-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Hargeria rapax	16	32	males
CHA-R-3-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Tanaidae	Sinelobus stanfordi	132	264	

Sample ID	Date Collected	Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Count	Abundance (Count/m^2)	Notes
CHA-R-3-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Cassidinidea ovalis	4	8	
CHA-R-3-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	76	152	
CHA-R-3-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	56	112	
CHA-R-3-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	56	112	
CHA-R-3-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Amphilochidae	Hourstonius laguna	8	16	
CHA-R-3-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	404	808	
CHA-R-3-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Americorophium ellisi	4	8	
CHA-R-3-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Americorophium sp. A	4	8	
CHA-R-3-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	12	24	
CHA-R-3-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	8	16	
CHA-R-4-MA	9/11/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	3	6	
CHA-R-4-MA	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero nivea	14	28	
CHA-R-4-MA	9/11/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	942	1884	
CHA-R-4-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	7	14	females
CHA-R-4-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	7	14	
CHA-R-4-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	3	6	
CHA-R-4-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Corophiidae spp.	20	40	damaged and/or juveniles
CHA-R-4-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	51	102	
CHA-R-4-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	3	6	
CHA-R-4-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum halterale group	3	6	
CHA-R-4-MA	9/11/2015	Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Limnesiidae	Limnesia spp.	7	14	
CHA-R-4-Sed	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	1	43	Immature and/or damaged
CHA-R-4-Snag	9/11/2015	Annelida		Polychaeta	Palpata	Canalipalpata	Spionidae	Dipolydora socialis	2	4	
CHA-R-4-Snag	9/11/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	26	52	
CHA-R-4-Snag	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	14	28	Immature and/or damaged
CHA-R-4-Snag	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Pristina leidyi	2	4	
CHA-R-4-Snag	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Bratislavia unidentata	4	8	
CHA-R-4-Snag	9/11/2015	Annelida		Clitellata	Oligochaeta	Enchytraeida	Enchytraeidae	Enchytraeidae spp.	6	12	
CHA-R-4-Snag	9/11/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	130	260	
CHA-R-4-Snag	9/11/2015	Mollusca		Bivalvia	Heterodonta	Veneroida	Sphaeriidae	Sphaeriidae spp.	2	4	
CHA-R-4-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	30	60	females
CHA-R-4-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Tanaidae	Sinelobus stanfordi	8	16	
CHA-R-4-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Cassidinidea ovalis	2	4	
CHA-R-4-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	4	8	
CHA-R-4-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Corophiidae spp.	48	96	Damaged and/or juveniles
CHA-R-4-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	10	20	
CHA-R-4-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Americorophium sp. A	2	4	Voucher
CHA-R-4-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida	Mysidae	Americamysis spp.	2	4	Voucher
CHA-R-4-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	2	4	pupa
CHA-R-4-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	16	32	
CHA-R-4-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Paratanytarsus spp.	10	20	
CHA-R-4-Snag	9/11/2015	Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Unionicolidae	Unionicola spp.	2	4	
CHA-R-4-Snag	9/11/2015	Nematoda						Nematoda spp.	4	8	
CHA-R-5-Sed	9/11/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	5	217	
CHA-R-5-Sed	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	24	1043	Immature and/or damaged
CHA-R-5-Sed	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodrilus hoffmeisteri	1	43	
CHA-R-5-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Idoteidae	Edotia triloba	2	87	
CHA-R-5-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Americorophium ellisi	10	435	
CHA-R-5-Sed	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Ceratopogonidae	Ceratopogonidae spp.	5	217	
CHA-R-5-Snag	9/11/2015	Platyhelminthes						Platyhelminthes spp.	4	8	
CHA-R-5-Snag	9/11/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	44	88	
CHA-R-5-Snag	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Pristina leidyi	112	224	
CHA-R-5-Snag	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero nivea	88	176	
CHA-R-5-Snag	9/11/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	8	16	
CHA-R-5-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	364	728	females
CHA-R-5-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Tanaidae	Sinelobus stanfordi	292	584	
CHA-R-5-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Cassidinidea ovalis	4	8	
CHA-R-5-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	12	24	
CHA-R-5-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Amphilochidae	Hourstonius laguna	12	24	
CHA-R-5-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Corophiidae spp.	48	96	damaged and/or juveniles
CHA-R-5-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	508	1016	
CHA-R-5-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Americorophium ellisi	212	424	
CHA-R-5-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Americorophium sp. A	12	24	
CHA-R-5-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	12	24	
CHA-R-5-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum scalaenum group	4	8	
CHA-R-5-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	24	48	
CHA-R-5-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Ceratopogonidae	Ceratopogonidae spp.	4	8	
CHA-R-5-Snag	9/11/2015	Nematoda						Nematoda spp.	8	16	
CHA-R-6-Sed	9/11/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	7	304	
CHA-R-6-Sed	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	2	87	Immature and/or damaged
CHA-R-6-Sed	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodrilus hoffmeisteri	3	130	
CHA-R-6-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	1	43	
CHA-R-6-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	2	87	
CHA-R-6-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Americorophium ellisi	3	130	
CHA-R-6-Snag	9/11/2015	Annelida		Polychaeta	Palpata	Canalipalpata	Spionidae	Boccardiella ligerica	16	32	
CHA-R-6-Snag	9/11/2015	Annelida		Polychaeta	Palpata	Canalipalpata	Ampharetidae	Hobsonia florida	16	32	
CHA-R-6-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	2176	4352	females
CHA-R-6-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Tanaidae	Sinelobus stanfordi	1280	2560	
CHA-R-6-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda		Asellota spp.	16	32	Voucher

Sample ID	Date Collected	Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Count	Abundance (Count/m^2)	Notes
CHA-R-6-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Sphaeroma spp.	16	32	
CHA-R-6-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	96	192	
CHA-R-6-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Melitidae	Melita nitida complex	48	96	
CHA-R-6-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Amphilochidae	Hourstonius laguna	144	288	
CHA-R-6-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Corophiidae spp.	592	1184	Damaged and/or juveniles
CHA-R-6-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	2992	5984	
CHA-R-6-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Ischyroceridae	Cerapus spp.	96	192	Voucher - juveniles
CHA-R-6-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Americorophium sp. A	1328	2656	
CHA-R-6-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda		Decapoda spp.	48	96	crab megalops
CHA-R-6-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	32	64	
CHA-R-6-Snag	9/11/2015	Nematoda						Nematoda spp.	32	64	
CHA-S-1-Rock	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	1	2	Immature and/or damaged
CHA-S-1-Rock	9/11/2015	Mollusca		Gastropoda	Heterobranchia	Hygrophila	Planorbidae	Planorbella scalaris	1	2	
CHA-S-1-Rock	9/11/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	2	4	
CHA-S-1-Rock	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Tanaidae	Sinelobus stanfordi	2	4	
CHA-S-1-Rock	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Anthuridae	Cyathura polita	1	2	
CHA-S-1-Rock	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Cassidinidea ovalis	6	12	
CHA-S-1-Rock	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	1	2	
CHA-S-1-Rock	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	11	22	
CHA-S-1-Rock	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	6	12	
CHA-S-1-Rock	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Acerpenna pygmaea	1	2	
CHA-S-1-Rock	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Polycentropodidae	Cernotina spp.	2	4	
CHA-S-1-Rock	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Nectopsyche pavida	1	2	
CHA-S-1-Rock	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Coleoptera	Elmidae	Stenelmis spp.	5	10	
CHA-S-1-Rock	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	1	2	
CHA-S-1-Rock	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum scalaenum group	1	2	
CHA-S-1-Rock	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia rhamphe group	2	4	
CHA-S-1-Rock	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	6	12	
CHA-S-1-Rock	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	1	2	
CHA-S-1-SAV	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	1	2	Immature and/or damaged
CHA-S-1-SAV	9/11/2015	Annelida		Clitellata	Hirudinida	Rhynchobdellida	Glossiphoniidae	Helobdella elongata	1	2	
CHA-S-1-SAV	9/11/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	14	28	
CHA-S-1-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	2	4	females
CHA-S-1-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Cassidinidea ovalis	1	2	
CHA-S-1-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	2	4	
CHA-S-1-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	42	84	
CHA-S-1-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	5	10	
CHA-S-1-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida	Mysidae	Taphromysis bowmani	11	22	
CHA-S-1-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Polycentropodidae	Polycentropodidae spp.	1	2	no posterior end
CHA-S-1-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Triaenodes spp.	1	2	
CHA-S-1-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Oxyethira spp.	3	6	
CHA-S-1-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptila spp.	1	2	
CHA-S-1-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	2	4	1 pupa, 1 larvae
CHA-S-1-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanypodinae spp.	2	4	
CHA-S-1-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia mallochi	2	4	
CHA-S-1-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia rhamphe group	1	2	
CHA-S-1-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	4	8	
CHA-S-1-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Nanocladius spp.	1	2	
CHA-S-1-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Labrundinia spp.	1	2	
CHA-S-1-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Lepidoptera	Crambidae	Parapoynx spp.	1	2	
CHA-S-1-Sed	9/11/2015	Annelida		Clitellata	Oligochaeta	Lumbriculida	Lumbriculidae	Eclipidrilus palustris	1	43	
CHA-S-1-Sed	9/11/2015	Mollusca		Bivalvia	Heterodonta	Veneroida	Sphaeriidae	Musculium spp.	1	43	
CHA-S-1-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Asellidae	Caecidotea spp.	1	43	Voucher
CHA-S-1-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Melitidae	Melita nitida complex	1	43	
CHA-S-1-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	3	130	
CHA-S-1-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	2	87	
CHA-S-1-Sed	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Coleoptera	Elmidae	Microcylloepus spp.	1	43	
CHA-S-1-Sed	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia mallochi	1	43	
CHA-S-1-Sed	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pentaneura inconspicua	1	43	
CHA-S-1-Sed	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Xestochironomus spp.	1	43	
CHA-S-1-Snag	9/11/2015	Annelida		Polychaeta	Palpata	Canalipalpata	Spionidae	Boccardiella ligerica	1	2	
CHA-S-1-Snag	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Nais communis	1	2	
CHA-S-1-Snag	9/11/2015	Annelida		Clitellata	Hirudinida	Rhynchobdellida	Glossiphoniidae	Glossiphoniidae spp.	1	2	juvenile
CHA-S-1-Snag	9/11/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	1	2	
CHA-S-1-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	2	4	
CHA-S-1-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	38	76	
CHA-S-1-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Acerpenna pygmaea	6	12	
CHA-S-1-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Nectopsyche pavida	1	2	
CHA-S-1-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Cheumatopsyche spp.	2	4	
CHA-S-1-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptila spp.	1	2	
CHA-S-1-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Coleoptera	Elmidae	Stenelmis spp.	10	20	
CHA-S-1-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	1	2	pupa
CHA-S-1-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cladotanytarsus spp.	1	2	
CHA-S-1-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	2	4	
CHA-S-1-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum scalaenum group	4	8	
CHA-S-1-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum illinoense group	1	2	
CHA-S-1-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia rhamphe group	4	8	
CHA-S-1-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	5	10	
CHA-S-1-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Nanocladius spp.	3	6	

Sample ID	Date Collected	Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Count	Abundance (Count/m^2)	Notes
CHA-S-1-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Paratanytarsus spp.	1	2	
CHA-S-1-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	1	2	
CHA-S-2-MA	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	8	16	Immature and/or damaged
CHA-S-2-MA	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Aulodrilus pigueti	8	16	
CHA-S-2-MA	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero spp.	4	8	no posterior end, dorsal needles & hairs broken
CHA-S-2-MA	9/11/2015	Mollusca		Gastropoda	Heterobranchia	Hygrophila	Physidae	Physella cubensis	4	8	
CHA-S-2-MA	9/11/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	288	576	
CHA-S-2-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	48	96	females
CHA-S-2-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Cassidinidea ovalis	4	8	
CHA-S-2-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Asellidae	Caecidotea spp.	4	8	
CHA-S-2-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	16	32	
CHA-S-2-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	640	1280	
CHA-S-2-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	60	120	
CHA-S-2-MA	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	200	400	
CHA-S-2-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Leptoceridae spp.	4	8	damaged, no posterior end
CHA-S-2-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Oxyethira spp.	8	16	
CHA-S-2-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	4	8	pupa
CHA-S-2-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomus spp.	12	24	
CHA-S-2-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	4	8	
CHA-S-2-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum scalaenum group	8	16	
CHA-S-2-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia mallochi	4	8	
CHA-S-2-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	84	168	
CHA-S-2-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Labrundinia spp.	32	64	
CHA-S-2-MA	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	4	8	
CHA-S-2-Rock	9/11/2015	Annelida		Polychaeta	Palpata	Canalipalpata	Spionidae	Spionidae spp.	16	32	juvenile, either Boccardiella ligerica or Dipolydora socialis
CHA-S-2-Rock	9/11/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	32	64	
CHA-S-2-Rock	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	2256	4512	females
CHA-S-2-Rock	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Hargeria rapax	32	64	males
CHA-S-2-Rock	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Anthuridae	Cyathura polita	16	32	
CHA-S-2-Rock	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Cassidinidea ovalis	16	32	
CHA-S-2-Rock	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	224	448	
CHA-S-2-Rock	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	400	800	
CHA-S-2-Rock	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Melitidae	Melita nitida complex	16	32	
CHA-S-2-Rock	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	1216	2432	
CHA-S-2-Rock	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	16	32	
CHA-S-2-Rock	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	96	192	
CHA-S-2-Rock	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptila spp.	16	32	
CHA-S-2-Rock	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	16	32	pupa
CHA-S-2-Rock	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cladotanytarsus spp.	16	32	
CHA-S-2-Rock	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	32	64	
CHA-S-2-Rock	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum illinoense group	16	32	
CHA-S-2-Rock	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia rhamphe group	96	192	
CHA-S-2-Rock	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	416	832	
CHA-S-2-Rock	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Thienemanniella spp.	16	32	
CHA-S-2-Rock	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Nanocladius spp.	32	64	
CHA-S-2-Rock	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Paratanytarsus spp.	16	32	
CHA-S-2-Rock	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	16	32	
CHA-S-2-Rock	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Beardius spp.	16	32	
CHA-S-2-Rock	9/11/2015	Nematoda						Nematoda spp.	32	64	
CHA-S-2-SAV	9/11/2015	Mollusca		Gastropoda	Heterobranchia	Hygrophila	Physidae	Physella cubensis	8	16	
CHA-S-2-SAV	9/11/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	24	48	
CHA-S-2-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	83	166	females
CHA-S-2-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Tanaidae	Sinelobus stanfordi	3	6	
CHA-S-2-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Anthuridae	Cyathura polita	2	4	
CHA-S-2-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Cassidinidea ovalis	9	18	
CHA-S-2-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	3	6	
CHA-S-2-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	230	460	
CHA-S-2-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Melitidae	Melita nitida complex	6	12	
CHA-S-2-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	26	52	
CHA-S-2-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	6	12	
CHA-S-2-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Palaemonidae	Palaemonetes spp.	11	22	
CHA-S-2-SAV	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida	Mysidae	Taphromysis bowmani	2	4	
CHA-S-2-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Callibaetis floridanus	2	4	
CHA-S-2-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Oxyethira spp.	12	24	
CHA-S-2-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	6	12	
CHA-S-2-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum illinoense group	2	4	
CHA-S-2-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	15	30	
CHA-S-2-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Paralauterborniella spp.	2	4	
CHA-S-2-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pentaneura spp.	5	10	
CHA-S-2-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Larsia spp.	8	16	
CHA-S-2-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Thienemanniella spp.	6	12	
CHA-S-2-SAV	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	3	6	
CHA-S-2-SAV	9/11/2015	Nematoda						Nematoda spp.	2	4	
CHA-S-2-Sed	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodrilus hoffmeisteri	1	43	
CHA-S-2-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Sphaeroma spp.	1	43	
CHA-S-2-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	1	43	
CHA-S-2-Sed	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	1	43	
CHA-S-2-Sed	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomus spp.	6	261	
CHA-S-2-Sed	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	1	43	

Sample ID	Date Collected	Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Count	Abundance (Count/m^2)	Notes
CHA-S-2-Sed	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum halterale group	1	43	
CHA-S-2-Sed	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	1	43	
CHA-S-2-Sed	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cladopelma spp.	1	43	
CHA-S-2-Snag	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	8	16	Immature and/or damaged
CHA-S-2-Snag	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Pristina leidyi	64	128	
CHA-S-2-Snag	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero pectinata	8	16	
CHA-S-2-Snag	9/11/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Bratislavia unidentata	72	144	
CHA-S-2-Snag	9/11/2015	Annelida		Clitellata	Oligochaeta	Lumbriculida	Lumbriculidae	Lumbriculus cf. variegatus	16	32	
CHA-S-2-Snag	9/11/2015	Annelida		Clitellata	Oligochaeta	Enchytraeida	Enchytraeidae	Enchytraeidae spp.	8	16	
CHA-S-2-Snag	9/11/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	48	96	
CHA-S-2-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	1256	2512	females
CHA-S-2-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Tanaidae	Sinelobus stanfordi	8	16	
CHA-S-2-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	16	32	
CHA-S-2-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	72	144	
CHA-S-2-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	48	96	
CHA-S-2-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	16	32	
CHA-S-2-Snag	9/11/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	8	16	
CHA-S-2-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Oxyethira spp.	8	16	
CHA-S-2-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	80	160	
CHA-S-2-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum illinoense group	16	32	
CHA-S-2-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia rhamphe group	8	16	
CHA-S-2-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	192	384	
CHA-S-2-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	32	64	
CHA-S-2-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Beardius spp.	8	16	
CHA-S-2-Snag	9/11/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Ceratopogonidae	Ceratopogonidae spp.	8	16	
CHA-S-2-Snag	9/11/2015	Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Unionicolidae	Neumania spp.	8	16	

Sample ID	Date Collected	Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Count	Abundance(Count/m^2)	Notes
HOM-HAL-1-MA	9/14/2015	Platyhelminthes						Platyhelminthes spp.	48	960	
HOM-HAL-1-MA	9/14/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	192	3840	
HOM-HAL-1-MA	9/14/2015	Annelida		Clitellata	Hirudinida	Arhynchobdellida	Erpobdellidae	Erpobdella punctata	24	480	
HOM-HAL-1-MA	9/14/2015	Mollusca		Gastropoda	Caenogastropoda		Pleuroceridae	Pleurocera floridensis	24	480	
HOM-HAL-1-MA	9/14/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	2808	56160	
HOM-HAL-1-MA	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	2160	43200	females
HOM-HAL-1-MA	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Hargeria rapax	72	1440	males
HOM-HAL-1-MA	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Nannastacidae	Almyracuma bacescui	48	960	Voucher
HOM-HAL-1-MA	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	72	1440	
HOM-HAL-1-MA	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Idoteidae	Edotia triloba	24	480	
HOM-HAL-1-MA	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda		Gammaridea spp.	48	960	Damaged and/or juveniles
HOM-HAL-1-MA	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	696	13920	
HOM-HAL-1-MA	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	168	3360	
HOM-HAL-1-MA	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Corophiidae spp.	240	4800	Damaged and/or juveniles
HOM-HAL-1-MA	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium spp.	120	2400	Damaged and/or juveniles
HOM-HAL-1-MA	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	1200	24000	
HOM-HAL-1-MA	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Ischyroceridae	Cerapus spp.	456	9120	
HOM-HAL-1-MA	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Callibaetis floridanus	24	480	
HOM-HAL-1-MA	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	408	8160	
HOM-HAL-1-MA	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Apedilum spp.	192	3840	
HOM-HAL-1-MA	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Paratanytarsus longistylus	48	960	
HOM-HAL-1-MA	9/14/2015	Nematoda						Nematoda spp.	24	480	
HOM-HAL-1-Sed	9/14/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	153	6652	
HOM-HAL-1-Sed	9/14/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Naididae spp.	2	87	Immature and/or damaged
HOM-HAL-1-Sed	9/14/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodriloidinae spp.	3	130	
HOM-HAL-1-Sed	9/14/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	8	348	
HOM-HAL-1-Sed	9/14/2015	Mollusca		Bivalvia	Heterodonta	Veneroida	Sphaeriidae	Sphaeriidae spp.	2	87	
HOM-HAL-1-Sed	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	38	1652	females
HOM-HAL-1-Sed	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Hargeria rapax	2	87	male
HOM-HAL-1-Sed	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Anthuridae	Cyathura polita	32	1391	
HOM-HAL-1-Sed	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	3	130	
HOM-HAL-1-Sed	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	38	1652	
HOM-HAL-1-Sed	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	51	2217	
HOM-HAL-1-Sed	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Corophiidae spp.	8	348	juvenile or damaged
HOM-HAL-1-Sed	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	131	5696	
HOM-HAL-1-Sed	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Ischyroceridae	Cerapus spp.	96	4174	ovigerous females present
HOM-HAL-1-Sed	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Panopeidae	Rhithropanopeus harrisii	2	87	
HOM-HAL-1-Sed	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	8	348	
HOM-HAL-1-Sed	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum scalaenum group	14	609	
HOM-HAL-1-Sed	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	5	217	
HOM-HAL-1-Sed	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	2	87	
HOM-HAL-1-Sed	9/14/2015	Nematoda						Nematoda spp.	3	130	
HOM-HAL-2-Sed	9/14/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	1	43	
HOM-HAL-2-Sed	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Americorophium ellisi	5	217	
HOM-HAL-3-Sed	9/14/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	1	43	
HOM-HAL-3-Sed	9/14/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	50	2174	
HOM-HAL-3-Sed	9/14/2015	Mollusca		Bivalvia				Bivalvia spp.	20	870	
HOM-HAL-3-Sed	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Corophiidae spp.	1	43	juvenile
HOM-HAL-3-Sed	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Procladius spp.	1	43	
HOM-HAL-3-Sed	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanypus neopunctipennis	14	609	
HOM-HAL-S-MA	9/14/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	1	2	
HOM-HAL-S-MA	9/14/2015	Annelida		Clitellata	Hirudinida	Arhynchobdellida	Erpobdellidae	Erpobdella punctata	5	10	
HOM-HAL-S-MA	9/14/2015	Mollusca		Gastropoda	Caenogastropoda		Pleuroceridae	Pleurocera floridensis	1	2	
HOM-HAL-S-MA	9/14/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	1	2	
HOM-HAL-S-MA	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	5	10	females
HOM-HAL-S-MA	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	1	2	
HOM-HAL-S-MA	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	15	30	
HOM-HAL-S-MA	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	1	2	
HOM-HAL-S-MA	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Callibaetis floridanus	1	2	
HOM-HAL-S-MA	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Hydropsyche rossi	1	2	
HOM-HAL-S-MA	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Oxyethira spp.	1	2	
HOM-HAL-S-MA	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	1	2	
HOM-HAL-S-MA	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	66	132	
HOM-HAL-S-MA	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Larsia spp.	2	4	
HOM-HAL-S-Rock	9/14/2015	Cnidaria		Anthozoa				Anthozoa spp.	8	16	
HOM-HAL-S-Rock	9/14/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	156	312	
HOM-HAL-S-Rock	9/14/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Naididae spp.	4	8	Immature and/or damaged
HOM-HAL-S-Rock	9/14/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodriloidinae spp.	12	24	
HOM-HAL-S-Rock	9/14/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	308	616	
HOM-HAL-S-Rock	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	160	320	females
HOM-HAL-S-Rock	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Hargeria rapax	4	8	male
HOM-HAL-S-Rock	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Anthuridae	Cyathura polita	8	16	
HOM-HAL-S-Rock	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Cassidinidea ovalis	4	8	
HOM-HAL-S-Rock	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	8	16	
HOM-HAL-S-Rock	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Idoteidae	Edotia triloba	4	8	
HOM-HAL-S-Rock	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda		Gammaridea spp.	4	8	damaged/juvenile
HOM-HAL-S-Rock	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	40	80	
HOM-HAL-S-Rock	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Melitidae	Melita nitida complex	20	40	

Sample ID	Date Collected	Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Count	Abundance(Count/m^2)	Notes
HOM-HAL-S-Rock	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	604	1208	
HOM-HAL-S-Rock	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium spp.	8	16	Damaged and/or juveniles
HOM-HAL-S-Rock	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	4	8	pupa
HOM-HAL-S-Rock	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomus spp.	4	8	
HOM-HAL-S-Rock	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	60	120	
HOM-HAL-S-Rock	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Paratanytarsus spp.	20	40	
HOM-HAL-S-Sed	9/14/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	23	1000	
HOM-HAL-S-Sed	9/14/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Stenoninereis martini	6	261	
HOM-HAL-S-Sed	9/14/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodriloidinae spp.	31	1348	
HOM-HAL-S-Sed	9/14/2015	Annelida		Clitellata	Hirudinida	Arhynchobdellida	Erpobdellidae	Erpobdella punctata	1	43	
HOM-HAL-S-Sed	9/14/2015	Mollusca		Gastropoda	Caenogastropoda		Pleuroceridae	Pleurocera floridensis	7	304	
HOM-HAL-S-Sed	9/14/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	17	739	
HOM-HAL-S-Sed	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Anthuridae	Cyathura polita	1	43	
HOM-HAL-S-Sed	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Idoteidae	Edotia triloba	1	43	
HOM-HAL-S-Sed	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	2	87	
HOM-HAL-S-Sed	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomus spp.	6	261	
HOM-HAL-S-Sed	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	1	43	
HOM-HAL-S-Snag	9/14/2015	Cnidaria		Anthozoa				Anthozoa spp.	8	16	
HOM-HAL-S-Snag	9/14/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	8	16	
HOM-HAL-S-Snag	9/14/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Pristina leidyi	8	16	
HOM-HAL-S-Snag	9/14/2015	Mollusca		Gastropoda	Caenogastropoda		Pleuroceridae	Pleurocera floridensis	16	32	
HOM-HAL-S-Snag	9/14/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	1000	2000	
HOM-HAL-S-Snag	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	848	1696	females
HOM-HAL-S-Snag	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Hargeria rapax	48	96	males
HOM-HAL-S-Snag	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	128	256	
HOM-HAL-S-Snag	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	136	272	
HOM-HAL-S-Snag	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Corophiidae spp.	8	16	juvenile
HOM-HAL-S-Snag	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	64	128	
HOM-HAL-S-Snag	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida	Mysidae	Taphromysis bowmani	8	16	
HOM-HAL-S-Snag	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Baetidae spp.	8	16	no posterior end
HOM-HAL-S-Snag	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	40	80	pupae
HOM-HAL-S-Snag	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	336	672	
HOM-HAL-S-Snag	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	8	16	
HOM-HAL-S-Snag	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Larsia spp.	8	16	
HOM-HAL-S-Snag	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Paratanytarsus spp.	16	32	
HOM-HAL-S-Snag	9/14/2015	Nematoda						Nematoda spp.	8	16	
HOM-R-1-MA	9/15/2015	Platyhelminthes						Platyhelminthes spp.	5	10	
HOM-R-1-MA	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Naidinae spp.	5	10	damaged
HOM-R-1-MA	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero spp.	16	32	no posterior end, missing most needles & hairs
HOM-R-1-MA	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Bratislavia unidentata	11	22	
HOM-R-1-MA	9/15/2015	Annelida		Clitellata	Hirudinida	Arhynchobdellida	Erpobdellidae	Erpobdella tetragon	5	10	
HOM-R-1-MA	9/15/2015	Annelida		Clitellata	Branchiobdellida		Branchiobdellidae	Branchiobdellidae spp.	11	22	
HOM-R-1-MA	9/15/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	323	646	
HOM-R-1-MA	9/15/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Pyrgophorus platyrachis	5	10	
HOM-R-1-MA	9/15/2015	Mollusca		Bivalvia				Bivalvia spp.	5	10	maybe Unionidae spp.
HOM-R-1-MA	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	143	286	females
HOM-R-1-MA	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Cassidinidea ovalis	5	10	
HOM-R-1-MA	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	313	626	
HOM-R-1-MA	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	27	54	
HOM-R-1-MA	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Melitidae	Melita nitida complex	5	10	
HOM-R-1-MA	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	959	1918	
HOM-R-1-MA	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Corophiidae spp.	42	84	Damaged and/or juveniles
HOM-R-1-MA	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium spp.	42	84	Damaged and/or juveniles
HOM-R-1-MA	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	95	190	
HOM-R-1-MA	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Palaemonidae	Palaemonetes spp.	5	10	
HOM-R-1-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera		Ephemeroptera spp.	32	64	damaged and/or juveniles
HOM-R-1-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Caenidae	Caenis spp.	64	128	damaged and/or juveniles
HOM-R-1-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Caenidae	Caenis diminuta	106	212	
HOM-R-1-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Odonata	Coenagrionidae	Coenagrionidae spp.	5	10	juvenile
HOM-R-1-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Odonata	Libellulidae	Libellulidae spp.	5	10	juvenile
HOM-R-1-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Oecetis spp.	5	10	juvenile
HOM-R-1-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Oecetis sp. E	5	10	
HOM-R-1-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	11	22	
HOM-R-1-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum halterale group	5	10	
HOM-R-1-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Procladius spp.	16	32	
HOM-R-1-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Glyptotendipes spp.	5	10	
HOM-R-1-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia rhamphe group	5	10	
HOM-R-1-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	106	212	
HOM-R-1-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	27	54	
HOM-R-1-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Thienemanniella spp.	5	10	
HOM-R-1-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Paratanytarsus spp.	16	32	
HOM-R-1-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Labrundinia spp.	32	64	
HOM-R-1-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Paramerina spp.	27	54	
HOM-R-1-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Ceratopogonidae	Ceratopogonidae spp.	32	64	
HOM-R-1-MA	9/15/2015	Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Pionidae	Piona spp.	5	10	
HOM-R-1-MA	9/15/2015	Nematoda						Nematoda spp.	11	22	
HOM-R-1-Sed	9/15/2015	Annelida		Polychaeta	Palpata	Canalipalpata	Spionidae	Boccardiella ligerica	2	87	
HOM-R-1-Sed	9/15/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	39	1696	

Sample ID	Date Collected	Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Count	Abundance(Count/m^2)	Notes
HOM-R-1-Sed	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	6	261	Immature and/or damaged
HOM-R-1-Sed	9/15/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	2	87	
HOM-R-1-Sed	9/15/2015	Mollusca		Bivalvia				Bivalvia spp.	11	478	damaged
HOM-R-1-Sed	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	28	1217	females
HOM-R-1-Sed	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Hargeria rapax	2	87	males
HOM-R-1-Sed	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	2	87	
HOM-R-1-Sed	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	76	3304	
HOM-R-1-Sed	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	24	1043	
HOM-R-1-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Oecetis sp. E	1	43	
HOM-R-1-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	7	304	
HOM-R-1-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum halterale group	1	43	
HOM-R-1-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Procladius spp.	3	130	
HOM-R-1-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia rhamphe group	2	87	
HOM-R-1-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	18	783	
HOM-R-1-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Labrundinia spp.	3	130	
HOM-R-1-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Ceratopogonidae	Ceratopogonidae spp.	2	87	
HOM-R-2-Sed	9/15/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	2	87	
HOM-R-2-Sed	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	1	43	Immature and/or damaged
HOM-R-2-Sed	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero spp.	3	130	No posterior end, missing most needles & hairs
HOM-R-2-Sed	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero pectinata	3	130	
HOM-R-2-Sed	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero nivea	2	87	
HOM-R-2-Sed	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Bratislavia unidentata	1	43	
HOM-R-2-Sed	9/15/2015	Annelida		Clitellata	Hirudinida	Arhynchobdellida	Erpobdellidae	Erpobdella punctata	1	43	
HOM-R-2-Sed	9/15/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	6	261	
HOM-R-2-Sed	9/15/2015	Mollusca		Bivalvia				Bivalvia spp.	1	43	damaged
HOM-R-2-Sed	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	8	348	females
HOM-R-2-Sed	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	1	43	
HOM-R-2-Sed	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	1	43	
HOM-R-2-Sed	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Melitidae	Melita nitida complex	1	43	
HOM-R-2-Sed	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	48	2087	
HOM-R-2-Sed	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	3	130	
HOM-R-2-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomus spp.	1	43	
HOM-R-2-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	1	43	
HOM-R-2-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum halterale group	1	43	
HOM-R-2-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum illinoense group	2	87	
HOM-R-2-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	3	130	
HOM-R-2-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Ceratopogonidae	Ceratopogonidae spp.	3	130	
HOM-R-2-Snag	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	1	2	Immature and/or damaged
HOM-R-2-Snag	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero nivea	1	2	
HOM-R-2-Snag	9/15/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	1	2	
HOM-R-2-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	33	66	females
HOM-R-2-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Hargeria rapax	3	6	males
HOM-R-2-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Tanaidae	Sinelobus stanfordi	23	46	
HOM-R-2-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda		Flabellifera spp.	1	2	
HOM-R-2-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Sphaeroma spp.	3	6	
HOM-R-2-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	1	2	
HOM-R-2-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	1	2	
HOM-R-2-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	6	12	
HOM-R-2-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	23	46	
HOM-R-2-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Callibaetis floridanus	3	6	
HOM-R-2-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Odonata	Coenagrionidae	Argia spp.	1	2	
HOM-R-2-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	1	2	pupa
HOM-R-2-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia mallochi	1	2	
HOM-R-2-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Stenochironomus spp.	1	2	
HOM-R-2-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	5	10	
HOM-R-2-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Labrundinia spp.	2	4	
HOM-R-2-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	1	2	
HOM-R-2-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Neuroptera	Sisyridae	Sisyra apicalis	1	2	
HOM-R-3-MA	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero pectinata	3	6	
HOM-R-3-MA	9/15/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	170	340	
HOM-R-3-MA	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	27	54	females
HOM-R-3-MA	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Tanaidae	Sinelobus stanfordi	3	6	
HOM-R-3-MA	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	3	6	
HOM-R-3-MA	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	41	82	
HOM-R-3-MA	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	108	216	
HOM-R-3-MA	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	68	136	
HOM-R-3-MA	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Palaemonidae	Palaemonetes spp.	3	6	
HOM-R-3-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Caenidae	Caenis diminuta	14	28	
HOM-R-3-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	5	10	
HOM-R-3-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	280	560	
HOM-R-3-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Labrundinia spp.	3	6	
HOM-R-3-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	5	10	
HOM-R-3-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Ceratopogonidae	Ceratopogonidae spp.	11	22	
HOM-R-3-Sed	9/15/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	47	2043	
HOM-R-3-Sed	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Naididae spp.	2	87	Immature and/or damaged
HOM-R-3-Sed	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	45	1957	Immature and/or damaged
HOM-R-3-Sed	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodrilus hoffmeisteri	9	391	
HOM-R-3-Sed	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero spp.	2	87	can't see needles, either D. pectinata or D. nivea

Sample ID	Date Collected	Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Count	Abundance(Count/m^2)	Notes
HOM-R-3-Sed	9/15/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	42	1826	
HOM-R-3-Sed	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	2	87	female
HOM-R-3-Sed	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	65	2826	
HOM-R-3-Sed	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	3	130	
HOM-R-3-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Odonata	Libellulidae	Libellulidae spp.	2	87	early instar
HOM-R-3-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomus spp.	2	87	
HOM-R-3-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	2	87	
HOM-R-3-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum halterale group	3	130	
HOM-R-3-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	54	2348	
HOM-R-3-Snag	9/15/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	16	32	
HOM-R-3-Snag	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	8	16	Immature and/or damaged
HOM-R-3-Snag	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero pectinata	72	144	
HOM-R-3-Snag	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Slavina appendiculata	16	32	
HOM-R-3-Snag	9/15/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	72	144	
HOM-R-3-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	144	288	females
HOM-R-3-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Hargeria rapax	8	16	male
HOM-R-3-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Sphaeroma spp.	16	32	
HOM-R-3-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	48	96	
HOM-R-3-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Melitidae	Melita nitida complex	8	16	
HOM-R-3-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	696	1392	
HOM-R-3-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	728	1456	
HOM-R-3-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida	Mysidae	Taphromysis bowmani	24	48	
HOM-R-3-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Caenidae	Caenis diminuta	24	48	
HOM-R-3-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomus spp.	16	32	
HOM-R-3-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum spp.	8	16	maybe sp. A (of Epler, 2001)
HOM-R-3-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum halterale group	8	16	
HOM-R-3-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Procladius spp.	16	32	
HOM-R-3-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Rheotanytarsus spp.	8	16	
HOM-R-3-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	128	256	
HOM-R-3-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Stenochironomus spp.	8	16	
HOM-R-4-Sed	9/15/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	11	478	
HOM-R-4-Sed	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	23	1000	Immature and/or damaged
HOM-R-4-Sed	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodrilus hoffmeisteri	3	130	
HOM-R-4-Sed	9/15/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	1	43	
HOM-R-4-Sed	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Anthuridae	Cyathura polita	1	43	
HOM-R-4-Sed	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	3	130	
HOM-R-4-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	2	87	
HOM-R-4-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum scalaenum group	2	87	
HOM-R-4-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	2	87	
HOM-R-4-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Nanocladius spp.	1	43	
HOM-R-4-Snag	9/15/2015	Annelida		Polychaeta	Palpata	Canalipalpata	Spionidae	Boccardiella ligerica	1	2	
HOM-R-4-Snag	9/15/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	1	2	
HOM-R-4-Snag	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	3	6	Immature and/or damaged
HOM-R-4-Snag	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodrilus hoffmeisteri	1	2	
HOM-R-4-Snag	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero spp.	1	2	No posterior end, missing most needles & hairs
HOM-R-4-Snag	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero pectinata	1	2	
HOM-R-4-Snag	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Bratislavia unidentata	1	2	
HOM-R-4-Snag	9/15/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	1	2	
HOM-R-4-Snag	9/15/2015	Mollusca		Bivalvia	Heterodonta	Veneroida	Dreissenidae	Mytilopsis leucophaeata	4	8	
HOM-R-4-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	15	30	females
HOM-R-4-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Tanaidae	Sinelobus stanfordi	9	18	
HOM-R-4-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Idoteidae	Edotia triloba	2	4	
HOM-R-4-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda		Gammaridea spp.	2	4	damaged and/or juveniles
HOM-R-4-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Corophiidae spp.	4	8	damaged and/or juveniles
HOM-R-4-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium spp.	32	64	Voucher - damaged and/or juveniles
HOM-R-4-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	81	162	Voucher
HOM-R-4-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta		Collembola		Collembola spp.	1	2	
HOM-R-4-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	2	4	pupae
HOM-R-4-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	1	2	
HOM-R-4-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum illinoense group	2	4	
HOM-R-4-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	8	16	
HOM-R-4-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	1	2	
HOM-R-4-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Paratanytarsus spp.	2	4	
HOM-R-4-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	1	2	
HOM-R-4-Snag	9/15/2015	Nematoda						Nematoda spp.	1	2	
HOM-R-5-Sed	9/15/2015	Annelida		Polychaeta	Palpata	Canalipalpata	Spionidae	Boccardiella ligerica	45	1957	
HOM-R-5-Sed	9/15/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	4	174	
HOM-R-5-Sed	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	1	43	Immature and/or damaged
HOM-R-5-Sed	9/15/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	5	217	
HOM-R-5-Sed	9/15/2015	Mollusca		Bivalvia	Heterodonta	Veneroida	Dreissenidae	Mytilopsis leucophaeata	1	43	
HOM-R-5-Sed	9/15/2015	Mollusca		Bivalvia	Heterodonta	Veneroida	Corbiculidae	Polymesoda caroliniana	2	87	
HOM-R-5-Sed	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Anthuridae	Cyathura polita	1	43	
HOM-R-5-Sed	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	58	2522	
HOM-R-5-Sed	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Ischyroceridae	Cerapus spp.	1	43	
HOM-R-5-Sed	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Panopeidae	Rhithropanopeus harrisii	7	304	Voucher
HOM-R-5-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum scalaenum group	3	130	
HOM-R-5-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	2	87	
HOM-R-5-Snag	9/15/2015	Annelida		Polychaeta	Palpata	Canalipalpata	Spionidae	Boccardiella ligerica	1	2	

Sample ID	Date Collected	Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Count	Abundance(Count/m^2)	Notes
HOM-R-5-Snag	9/15/2015	Mollusca		Bivalvia	Heterodonta	Veneroida	Dreissenidae	Mytilopsis leucophaeata	1	2	
HOM-R-5-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	2	4	females
HOM-R-5-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Tanaidae	Sinelobus stanfordi	15	30	
HOM-R-5-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Anthuridae	Cyathura polita	1	2	
HOM-R-5-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Sphaeroma spp.	4	8	
HOM-R-5-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Amphilochidae	Hourstonius laguna	2	4	
HOM-R-5-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	111	222	
HOM-R-5-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Ischyroceridae	Cerapus spp.	1	2	
HOM-R-5-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Panopeidae	Rhithropanopeus harrisii	2	4	juveniles
HOM-R-5-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida	Mysidae	Americamysis spp.	2	4	
HOM-R-5-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	1	2	
HOM-R-5-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Procladius spp.	1	2	
HOM-R-5-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	6	12	
HOM-R-6-Sed	9/15/2015	Annelida		Polychaeta	Palpata	Canalipalpata	Spionidae	Boccardiella ligerica	2	87	
HOM-R-6-Sed	9/15/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	2	87	
HOM-R-6-Sed	9/15/2015	Annelida		Polychaeta	Palpata	Canalipalpata	Serpulidae	Ficopomatus miamiensis	1	43	
HOM-R-6-Sed	9/15/2015	Annelida		Polychaeta	Palpata	Canalipalpata	Serpulidae	Ficopomatus uschakovi	4	174	
HOM-R-6-Sed	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	1	43	Immature and/or damaged
HOM-R-6-Sed	9/15/2015	Mollusca		Bivalvia	Pteriomorphia	Mytiloida	Mytilidae	Brachidontes exustus	1	43	
HOM-R-6-Sed	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Parapseudidae	Halmyrapseudes cf. bahamensis	5	217	Voucher
HOM-R-6-Sed	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	2	87	
HOM-R-6-Sed	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Panopeidae	Rhithropanopeus harrisii	2	87	
HOM-R-6-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum scalaenum group	2	87	
HOM-R-6-Snag	9/15/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	1	2	
HOM-R-6-Snag	9/15/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	10	20	
HOM-R-6-Snag	9/15/2015	Mollusca		Bivalvia	Heterodonta	Veneroida	Dreissenidae	Mytilopsis leucophaeata	7	14	
HOM-R-6-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	1	2	female
HOM-R-6-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Tanaidae	Sinelobus stanfordi	16	32	
HOM-R-6-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Sphaeroma spp.	1	2	
HOM-R-6-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	1	2	
HOM-R-6-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Amphilochidae	Hourstonius laguna	6	12	
HOM-R-6-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	11	22	
HOM-R-6-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda		Xanthoidea spp.	1	2	juvenile
HOM-R-6-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Panopeidae	Rhithropanopeus harrisii	2	4	
HOM-R-6-Snag	9/15/2015	Arthropoda	Crustacea	Maxillopoda	Thecostraca	Sessilia	Balanidae	Amphibalanus spp.	8	16	
HOM-Sou-MA	9/15/2015	Mollusca		Gastropoda	Heterobranchia	Hygrophila	Planorbidae	Planorbella scalaris	7	14	
HOM-Sou-MA	9/15/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	76	152	
HOM-Sou-MA	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	7	14	females
HOM-Sou-MA	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Idoteidae	Edotia triloba	35	70	
HOM-Sou-MA	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	276	552	
HOM-Sou-MA	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	27	54	
HOM-Sou-MA	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	16	32	
HOM-Sou-MA	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Palaemonidae	Palaemonetes spp.	14	28	
HOM-Sou-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Callibaetis floridanus	90	180	
HOM-Sou-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptilidae spp.	7	14	juvenile
HOM-Sou-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Oxyethira spp.	21	42	
HOM-Sou-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptila spp.	7	14	
HOM-Sou-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cladotanytarsus spp.	7	14	
HOM-Sou-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	7	14	
HOM-Sou-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum illinoense group	27	54	
HOM-Sou-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia mallochi	89	178	
HOM-Sou-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia (Karelia) peleensis	7	14	
HOM-Sou-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	336	672	
HOM-Sou-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	41	82	
HOM-Sou-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Larsia spp.	14	28	
HOM-Sou-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Nanocladius spp.	7	14	
HOM-Sou-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Labrundinia spp.	7	14	
HOM-Sou-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	41	82	
HOM-Sou-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Beardius spp.	7	14	
HOM-Sou-MA	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Ceratopogonidae	Ceratopogonidae spp.	14	28	
HOM-Sou-Rock	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	3	6	Immature and/or damaged
HOM-Sou-Rock	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Psammoryctides convolutus	1	2	
HOM-Sou-Rock	9/15/2015	Annelida		Clitellata	Hirudinida	Arhynchobdellida	Erpobdellidae	Erpobdella punctata	1	2	
HOM-Sou-Rock	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Idoteidae	Edotia triloba	1	2	
HOM-Sou-Rock	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	1	2	
HOM-Sou-Rock	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	38	76	
HOM-Sou-Rock	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	49	98	
HOM-Sou-Rock	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Palaemonidae	Palaemonetes spp.	1	2	
HOM-Sou-Rock	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida	Mysidae	Taphromysis bowmani	7	14	
HOM-Sou-Rock	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Callibaetis floridanus	8	16	
HOM-Sou-Rock	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Leptohyphidae	Tricorythodes albilineatus	1	2	
HOM-Sou-Rock	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptila spp.	4	8	
HOM-Sou-Rock	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera		Diptera spp.	1	2	larvae- very small
HOM-Sou-Rock	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomus spp.	1	2	
HOM-Sou-Rock	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cladotanytarsus spp.	67	134	
HOM-Sou-Rock	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	4	8	
HOM-Sou-Rock	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum scalaenum group	3	6	
HOM-Sou-Rock	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia mallochi	12	24	

Sample ID	Date Collected	Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Count	Abundance(Count/m^2)	Notes
HOM-Sou-Rock	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	36	72	
HOM-Sou-Rock	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Paralauterborniella spp.	3	6	
HOM-Sou-Rock	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	7	14	
HOM-Sou-Rock	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	15	30	
HOM-Sou-Rock	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Psychodidae	Psychodidae spp.	8	16	
HOM-Sou-Sed	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Naididae spp.	20	870	Immature and/or damaged
HOM-Sou-Sed	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Anthuridae	Cyathura polita	1	43	
HOM-Sou-Sed	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	10	435	
HOM-Sou-Sed	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	6	261	
HOM-Sou-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Callibaetis floridanus	1	43	
HOM-Sou-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomus spp.	3	130	
HOM-Sou-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cladotanytarsus spp.	20	870	
HOM-Sou-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	8	348	
HOM-Sou-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Paralauterborniella nigrohalteralis	1	43	
HOM-Sou-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	1	43	
HOM-Sou-Sed	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Psychodidae	Psychodidae spp.	1	43	
HOM-Sou-Snag	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Naididae spp.	1	2	Immature and/or damaged
HOM-Sou-Snag	9/15/2015	Mollusca		Gastropoda	Heterobranchia	Hygrophila	Physidae	Physella cubensis	1	2	
HOM-Sou-Snag	9/15/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	3	6	
HOM-Sou-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Cassidinidea ovalis	2	4	
HOM-Sou-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	2	4	
HOM-Sou-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	11	22	
HOM-Sou-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Callibaetis floridanus	1	2	
HOM-Sou-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Coleoptera	Elmidae	Stenelmis spp.	6	12	
HOM-Sou-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cladotanytarsus spp.	1	2	
HOM-Sou-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Procladius spp.	2	4	
HOM-Sou-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia mallochi	4	8	
HOM-Sou-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tribelos fuscicorne	17	34	
HOM-Sou-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	16	32	
HOM-Sou-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Stenochironomus spp.	1	2	
HOM-Sou-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	6	12	
HOM-Sou-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	2	4	
HOM-S-Rock	9/14/2015	Platyhelminthes		Rhabditophora		Polycladida		Acotylea spp.	4	8	
HOM-S-Rock	9/14/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	4	8	
HOM-S-Rock	9/14/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	4	8	
HOM-S-Rock	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	1100	2200	females
HOM-S-Rock	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Anthuridae	Cyathura polita	12	24	
HOM-S-Rock	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	40	80	
HOM-S-Rock	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Melitidae	Melita nitida complex	4	8	
HOM-S-Rock	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	160	320	
HOM-S-Rock	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cryptochironomus spp.	4	8	
HOM-S-Rock	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia rhamphe group	4	8	
HOM-S-Sed	9/14/2015	Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	31	1348	
HOM-S-Sed	9/14/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	9	391	Immature and/or damaged
HOM-S-Sed	9/14/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodrilus hoffmeisteri	6	261	
HOM-S-Sed	9/14/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	1	43	
HOM-S-Sed	9/14/2015	Mollusca		Bivalvia	Heterodonta	Veneroida	Sphaeriidae	Musculium spp.	2	87	
HOM-S-Sed	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	21	913	females
HOM-S-Sed	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Anthuridae	Cyathura polita	3	130	
HOM-S-Sed	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	2	87	
HOM-S-Sed	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	1	43	
HOM-S-Sed	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	51	2217	
HOM-S-Sed	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	1	43	
HOM-S-Sed	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomus spp.	3	130	
HOM-S-Sed	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum halterale group	5	217	
HOM-S-Sed	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Procladius spp.	1	43	
HOM-S-Snag	9/14/2015	Platyhelminthes		Rhabditophora		Polycladida		Acotylea spp.	1	2	
HOM-S-Snag	9/14/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Pristina leidyi	1	2	
HOM-S-Snag	9/14/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	5	10	
HOM-S-Snag	9/14/2015	Mollusca		Bivalvia				Bivalvia spp.	1	2	Damaged
HOM-S-Snag	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	73	146	females
HOM-S-Snag	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Hargeria rapax	5	10	males
HOM-S-Snag	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	2	4	
HOM-S-Snag	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	5	10	
HOM-S-Snag	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	19	38	
HOM-S-Snag	9/14/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida	Mysidae	Taphromysis bowmani	1	2	Voucher
HOM-S-Snag	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum scalaenum group	1	2	
HOM-S-Snag	9/14/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia rhamphe group	2	4	
HOM-R-1-Snag	9/15/2015	Platyhelminthes						Platyhelminthes spp.	4	8	
HOM-R-1-Snag	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	4	8	Immature and/or damaged
HOM-R-1-Snag	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodrilus hoffmeisteri	4	8	
HOM-R-1-Snag	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero pectinata	64	128	
HOM-R-1-Snag	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero nivea	20	40	
HOM-R-1-Snag	9/15/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Haemonais waldvogeli	8	16	
HOM-R-1-Snag	9/15/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	8	16	
HOM-R-1-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	112	224	females
HOM-R-1-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Hargeria rapax	8	16	males
HOM-R-1-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Sphaeromatidae spp.	4	8	female

Sample ID	Date Collected	Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Count	Abundance(Count/m^2)	Notes
HOM-R-1-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Cassidinidea ovalis	4	8	
HOM-R-1-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Sphaeroma spp.	4	8	
HOM-R-1-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	8	16	
HOM-R-1-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	4	8	
HOM-R-1-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Melitidae	Melita nitida complex	12	24	
HOM-R-1-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	508	1016	
HOM-R-1-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	172	344	
HOM-R-1-Snag	9/15/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida		Mysida spp.	4	8	no posterior end
HOM-R-1-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Caenidae	Caenis diminuta	8	16	
HOM-R-1-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	4	8	pupa
HOM-R-1-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	4	8	
HOM-R-1-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum illinoense group	4	8	
HOM-R-1-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia rhamphe group	4	8	
HOM-R-1-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tribelos fuscicorne	4	8	
HOM-R-1-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	88	176	
HOM-R-1-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Stenochironomus spp.	4	8	
HOM-R-1-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	12	24	
HOM-R-1-Snag	9/15/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Larsia spp.	4	8	

Table B-3. Weeki Wachee River Macroinvertebrate Data

Sample ID	Date Collected	Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Count	Abundance (Count/m^2)	Notes
WEE-R-1-MA	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	32	64	Immature and/or damaged
WEE-R-1-MA	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodrilus hoffmeisteri	16	32	
WEE-R-1-MA	8/28/2015	Annelida		Clitellata	Hirudinida	Rhynchobdellida	Glossiphoniidae	Helobdella elongata	16	32	
WEE-R-1-MA	8/28/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	64	128	
WEE-R-1-MA	8/28/2015	Mollusca		Gastropoda	Caenogastropoda		Thiaridae	Melanoides spp.	96	192	
WEE-R-1-MA	8/28/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	12896	25792	vial tag says Hyalella sp.
WEE-R-1-MA	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Oxyethira spp.	16	32	
WEE-R-1-SAV	8/28/2015	Platyhelminthes						Platyhelminthes spp.	2	4	
WEE-R-1-SAV	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	6	12	Immature and/or damaged
WEE-R-1-SAV	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Aulodrilus pigueti	8	16	
WEE-R-1-SAV	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Pristina leidyi	6	12	
WEE-R-1-SAV	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Nais pardalis	16	32	
WEE-R-1-SAV	8/28/2015	Mollusca		Gastropoda				Gastropoda spp.	12	24	Damaged
WEE-R-1-SAV	8/28/2015	Mollusca		Gastropoda	Caenogastropoda		Pleuroceridae	Pleurocera floridensis	4	8	
WEE-R-1-SAV	8/28/2015	Mollusca		Gastropoda	Heterobranchia	Hygrophila	Physidae	Physella cubensis	2	4	
WEE-R-1-SAV	8/28/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	132	264	
WEE-R-1-SAV	8/28/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Asellidae	Caecidotea spp.	2	4	
WEE-R-1-SAV	8/28/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	86	172	vial tag says Hyalella sp.
WEE-R-1-SAV	8/28/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Palaemonidae	Palaemonetes spp.	14	28	
WEE-R-1-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Odonata	Libellulidae	Libellula incesta	2	4	Voucher
WEE-R-1-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptilidae spp.	2	4	pupa
WEE-R-1-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Oxyethira spp.	10	20	
WEE-R-1-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	24	48	pupae
WEE-R-1-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	80	160	
WEE-R-1-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	195	390	
WEE-R-1-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	85	170	
WEE-R-1-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Paratanytarsus spp.	5	10	
WEE-R-1-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	155	310	
WEE-R-1-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Lepidoptera	Crambidae	Petrophila santafealis	4	8	
WEE-R-1-SAV	8/28/2015	Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Krendowskiidae	Geayia spp.	2	4	Voucher
WEE-R-1-SAV	8/28/2015	Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Lebertiidae	Lebertia spp.	2	4	
WEE-R-1-Sed	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	15	652	Immature and/or damaged
WEE-R-1-Sed	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodrilus hoffmeisteri	31	1348	
WEE-R-1-Sed	8/28/2015	Annelida		Clitellata	Hirudinida	Rhynchobdellida	Glossiphoniidae	Helobdella elongata	4	174	
WEE-R-1-Sed	8/28/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	42	1826	vial tag says Hyalella sp.
WEE-R-1-Sed	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	1	43	pupa
WEE-R-1-Sed	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cladotanytarsus spp.	3	130	
WEE-R-1-Sed	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	1	43	
WEE-R-1-Sed	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cryptochironomus spp.	1	43	
WEE-R-1-Sed	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum scalaenum group	5	217	
WEE-R-1-Sed	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Paracladopelma spp.	15	652	
WEE-R-1-Sed	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	2	87	
WEE-R-1-Snag	8/28/2015	Platyhelminthes						Platyhelminthes spp.	10	20	
WEE-R-1-Snag	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	10	20	Immature and/or damaged
WEE-R-1-Snag	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Naidinae spp.	3	6	can't see needles
WEE-R-1-Snag	8/28/2015	Mollusca		Gastropoda				Gastropoda spp.	16	32	Damaged
WEE-R-1-Snag	8/28/2015	Mollusca		Gastropoda	Heterobranchia	Hygrophila	Physidae	Physella cubensis	6	12	
WEE-R-1-Snag	8/28/2015	Mollusca		Gastropoda	Heterobranchia	Hygrophila	Planorbidae	Planorbella scalaris	6	12	
WEE-R-1-Snag	8/28/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	426	852	
WEE-R-1-Snag	8/28/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Notogillia wetherbyi	3	6	
WEE-R-1-Snag	8/28/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	390	780	vial tag says Hyalella sp.
WEE-R-1-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Leptohyphidae	Tricorythodes albilineatus	10	20	
WEE-R-1-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Cheumatopsyche spp.	16	32	
WEE-R-1-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Oxyethira spp.	3	6	
WEE-R-1-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Coleoptera	Elmidae	Stenelmis spp.	3	6	
WEE-R-1-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	29	58	pupae
WEE-R-1-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cladotanytarsus spp.	3	6	
WEE-R-1-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	10	20	
WEE-R-1-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum convictum	3	6	
WEE-R-1-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	22	44	
WEE-R-1-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	19	38	
WEE-R-1-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	35	70	
WEE-R-2-MA	8/28/2015	Platyhelminthes						Platyhelminthes spp.	168	336	
WEE-R-2-MA	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	12	24	Immature and/or damaged
WEE-R-2-MA	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Naidinae spp.	12	24	Dried up
WEE-R-2-MA	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Pristina leidyi	12	24	
WEE-R-2-MA	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Nais pardalis	12	24	
WEE-R-2-MA	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero digitata	12	24	
WEE-R-2-MA	8/28/2015	Annelida		Clitellata	Hirudinida	Rhynchobdellida	Glossiphoniidae	Glossiphoniidae spp.	12	24	juvenile
WEE-R-2-MA	8/28/2015	Annelida		Clitellata	Hirudinida	Rhynchobdellida	Glossiphoniidae	Helobdella spp.	12	24	
WEE-R-2-MA	8/28/2015	Mollusca		Gastropoda	Caenogastropoda		Pleuroceridae	Pleurocera floridensis	12	24	juvenile
WEE-R-2-MA	8/28/2015	Mollusca		Gastropoda	Caenogastropoda		Ampullariidae	Pomacea paludosa	12	24	
WEE-R-2-MA	8/28/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	2520	5040	vial tag says Hyalella sp.
WEE-R-2-MA	8/28/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida		Mysida spp.	12	24	No posterior end present
WEE-R-2-MA	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera		Ephemeroptera spp.	12	24	Damaged, probably Baetidae sp.
WEE-R-2-MA	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Leptohyphidae	Tricorythodes albilineatus	96	192	
WEE-R-2-MA	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Odonata	Gomphidae	Aphylla williamsoni	12	24	Voucher
WEE-R-2-MA	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Odonata	Libellulidae	Libellula incesta	12	24	
WEE-R-2-MA	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Oecetis sp. E	36	72	Voucher
WEE-R-2-MA	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Oxyethira spp.	12	24	
WEE-R-2-MA	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	12	24	pupa
WEE-R-2-MA	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	180	360	
WEE-R-2-MA	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	48	96	

Sample ID	Date Collected	Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Count	Abundance (Count/m^2)	Notes
WEE-R-2-MA	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	12	24	
WEE-R-2-MA	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	12	24	
WEE-R-2-Rock	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	6	12	Immature and/or damaged
WEE-R-2-Rock	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Pristina leidyi	416	832	
WEE-R-2-Rock	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Nais pardalis	96	192	
WEE-R-2-Rock	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Nais pseudobtusa	32	64	
WEE-R-2-Rock	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Nais magnaseta	102	204	Voucher
WEE-R-2-Rock	8/28/2015	Mollusca		Gastropoda	Heterobranchia	Hygrophila	Planorbidae	Planorbella scalaris	4	8	
WEE-R-2-Rock	8/28/2015	Mollusca		Gastropoda	Caenogastropoda		Thiaridae	Melanoides spp.	4	8	
WEE-R-2-Rock	8/28/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	12	24	vial tag says Hyalella sp.
WEE-R-2-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Oxyethira spp.	16	32	
WEE-R-2-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	28	56	pupae & larvae slide-mounted that were too small
WEE-R-2-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cladotanytarsus spp.	4	8	
WEE-R-2-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	292	584	
WEE-R-2-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	56	112	
WEE-R-2-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	8	16	
WEE-R-2-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	20	40	
WEE-R-2-Rock	8/28/2015	Nematoda						Nematoda spp.	12	24	
WEE-R-2-SAV	8/28/2015	Platyhelminthes						Platyhelminthes spp.	44	88	
WEE-R-2-SAV	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	48	96	Immature and/or damaged
WEE-R-2-SAV	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Aulodrilus pigueti	24	48	
WEE-R-2-SAV	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Naidinae spp.	4	8	Immature and/or damaged
WEE-R-2-SAV	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Pristina leidyi	16	32	
WEE-R-2-SAV	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Nais pardalis	20	40	
WEE-R-2-SAV	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Nais pseudobtusa	4	8	
WEE-R-2-SAV	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero digitata	16	32	
WEE-R-2-SAV	8/28/2015	Annelida		Clitellata	Oligochaeta	Lumbriculida	Lumbriculidae	Eclipidrilus palustris	4	8	
WEE-R-2-SAV	8/28/2015	Mollusca		Gastropoda	Caenogastropoda		Pleuroceridae	Pleurocera floridensis	8	16	juveniles
WEE-R-2-SAV	8/28/2015	Mollusca		Gastropoda	Heterobranchia	Hygrophila	Physidae	Physella cubensis	8	16	
WEE-R-2-SAV	8/28/2015	Mollusca		Gastropoda	Heterobranchia	Hygrophila	Planorbidae	Planorbella scalaris	4	8	
WEE-R-2-SAV	8/28/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	48	96	
WEE-R-2-SAV	8/28/2015	Mollusca		Gastropoda	Caenogastropoda		Thiaridae	Melanoides spp.	4	8	
WEE-R-2-SAV	8/28/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	352	704	vial tag says Hyalella sp.
WEE-R-2-SAV	8/28/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Palaemonidae	Palaemonetes spp.	8	16	
WEE-R-2-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Leptohyphidae	Tricorythodes albilineatus	44	88	
WEE-R-2-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Oecetis avara	4	8	Voucher
WEE-R-2-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Nectopsyche tavara	4	8	Voucher
WEE-R-2-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Cheumatopsyche spp.	24	48	
WEE-R-2-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Hydropsyche rossi	4	8	Voucher
WEE-R-2-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptilidae spp.	12	24	pupae
WEE-R-2-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Oxyethira spp.	44	88	
WEE-R-2-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptila spp.	8	16	
WEE-R-2-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Ochrotrichia spp.	4	8	
WEE-R-2-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	76	152	pupae
WEE-R-2-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	367	734	
WEE-R-2-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia mallochi	7	14	
WEE-R-2-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	245	490	
WEE-R-2-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	86	172	
WEE-R-2-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Thienemanniella similis	7	14	
WEE-R-2-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	144	288	
WEE-R-2-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Ceratopogonidae	Ceratopogonidae spp.	16	32	
WEE-R-2-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Empididae	Hemerodromia spp.	4	8	
WEE-R-2-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Lepidoptera	Crambidae	Elophila spp.	8	16	
WEE-R-2-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Lepidoptera	Crambidae	Petrophila santafealis	4	8	
WEE-R-2-SAV	8/28/2015	Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Lebertiidae	Lebertia spp.	12	24	
WEE-R-2-SAV	8/28/2015	Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Hygrobatidae	Hygrobates spp.	4	8	Voucher
WEE-R-2-SAV	8/28/2015	Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Hygrobatidae	Atractides spp.	4	8	Voucher
WEE-R-2-SAV	8/28/2015	Nematoda						Nematoda spp.	8	16	
WEE-R-2-Sed	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	5	217	Immature and/or damaged
WEE-R-2-Sed	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodrilus hoffmeisteri	3	130	
WEE-R-2-Sed	8/28/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	1	43	Vial tag says Hyalella sp.
WEE-R-2-Sed	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	4	174	pupae & damaged slide-mounted larvae
WEE-R-2-Sed	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cladotanytarsus spp.	1	43	
WEE-R-2-Sed	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum scalaenum group	20	870	
WEE-R-2-Sed	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Paracladopelma spp.	5	217	
WEE-R-2-Snag	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Allonais inaequalis	2	4	
WEE-R-2-Snag	8/28/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	8	16	vial tag says Hyalella sp.
WEE-R-2-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Baetis intercalaris	7	14	
WEE-R-2-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Leptohyphidae	Tricorythodes albilineatus	7	14	
WEE-R-2-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera		Trichoptera spp.	1	2	juvenile
WEE-R-2-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Leptoceridae spp.	1	2	pupa
WEE-R-2-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Hydropsychidae spp.	5	10	juveniles
WEE-R-2-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Cheumatopsyche spp.	50	100	
WEE-R-2-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Hydropsyche rossi	29	58	
WEE-R-2-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptila spp.	1	2	
WEE-R-2-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	24	48	pupae
WEE-R-2-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cladotanytarsus spp.	8	16	
WEE-R-2-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	25	50	
WEE-R-2-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum convictum	21	42	
WEE-R-2-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Rheotanytarsus spp.	1	2	
WEE-R-2-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	3	6	
WEE-R-2-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	17	34	
WEE-R-2-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	33	66	

Sample ID	Date Collected	Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Count	Abundance (Count/m^2)	Notes
WEE-R-2-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Ceratopogonidae	Ceratopogonidae spp.	1	2	
WEE-R-2-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Empididae	Hemerodromia spp.	1	2	
WEE-R-2-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Psychodidae	Psychoda spp.	10	20	Voucher
WEE-R-2-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Lepidoptera	Crambidae	Petrophila santafealis	1	2	
WEE-R-3-MA	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodrilus hoffmeisteri	16	32	
WEE-R-3-MA	8/28/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Notogillia wetherbyi	16	32	Voucher
WEE-R-3-MA	8/28/2015	Mollusca		Gastropoda	Caenogastropoda		Thiaridae	Melanoides spp.	624	1248	
WEE-R-3-MA	8/28/2015	Mollusca		Bivalvia	Heterodonta	Veneroida	Sphaeriidae	Sphaeriidae spp.	16	32	maybe Sphaerium sp.
WEE-R-3-MA	8/28/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	4144	8288	vial tag says Hyalella sp.
WEE-R-3-MA	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Baetis intercalaris	48	96	
WEE-R-3-MA	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Leptohyphidae	Tricorythodes albilineatus	32	64	
WEE-R-3-MA	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Odonata	Coenagrionidae	Coenagrionidae spp.	16	32	Damaged and juvenile
WEE-R-3-MA	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Leptoceridae spp.	16	32	juvenile
WEE-R-3-MA	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Cheumatopsyche spp.	640	1280	
WEE-R-3-MA	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Hydropsyche rossi	128	256	
WEE-R-3-MA	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Oxyethira spp.	32	64	
WEE-R-3-MA	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	32	64	
WEE-R-3-Rock	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	3	6	Immature and/or damaged
WEE-R-3-Rock	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodrilus hoffmeisteri	4	8	
WEE-R-3-Rock	8/28/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	1	2	
WEE-R-3-Rock	8/28/2015	Mollusca		Gastropoda	Caenogastropoda		Thiaridae	Melanoides spp.	60	120	
WEE-R-3-Rock	8/28/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	113	226	vial tag says Hyalella sp.
WEE-R-3-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Baetis intercalaris	69	138	
WEE-R-3-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Leptohyphidae	Tricorythodes albilineatus	40	80	
WEE-R-3-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Oecetis sp. E	3	6	
WEE-R-3-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Oecetis avara	5	10	
WEE-R-3-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Hydropsychidae spp.	1	2	pupa
WEE-R-3-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Cheumatopsyche spp.	6	12	
WEE-R-3-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Hydropsyche rossi	30	60	
WEE-R-3-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Oxyethira spp.	3	6	
WEE-R-3-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptila spp.	1	2	
WEE-R-3-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Ochrotrichia spp.	1	2	
WEE-R-3-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Coleoptera	Elmidae	Stenelmis spp.	5	10	
WEE-R-3-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	16	32	pupae & slide-mounted larvae
WEE-R-3-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cladotanytarsus spp.	4	8	
WEE-R-3-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	5	10	
WEE-R-3-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum convictum	5	10	
WEE-R-3-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	10	20	
WEE-R-3-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	14	28	
WEE-R-3-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Ceratopogonidae	Ceratopogonidae spp.	16	32	
WEE-R-3-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Empididae	Hemerodromia spp.	3	6	
WEE-R-3-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Psychodidae	Psychoda spp.	3	6	
WEE-R-3-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Lepidoptera	Crambidae	Petrophila santafealis	3	6	
WEE-R-3-SAV	8/28/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	6	12	vial tag says Hyalella sp.
WEE-R-3-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Baetis intercalaris	44	88	
WEE-R-3-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Leptohyphidae	Tricorythodes albilineatus	2	4	
WEE-R-3-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Hydropsyche rossi	24	48	
WEE-R-3-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptilidae spp.	12	24	pupae
WEE-R-3-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Oxyethira spp.	6	12	
WEE-R-3-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptila spp.	6	12	
WEE-R-3-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Ochrotrichia spp.	24	48	
WEE-R-3-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	54	108	pupae
WEE-R-3-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	4	8	
WEE-R-3-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum convictum	12	24	
WEE-R-3-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Thienemanniella similis	28	56	
WEE-R-3-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	396	792	
WEE-R-3-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Lepidoptera	Crambidae	Petrophila santafealis	32	64	
WEE-R-3-Sed	8/28/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	2	87	vial tag says Hyalella sp.
WEE-R-3-Sed	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cladotanytarsus spp.	1	43	
WEE-R-3-Sed	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	1	43	
WEE-R-3-Snag	8/28/2015	Platyhelminthes						Platyhelminthes spp.	4	8	
WEE-R-3-Snag	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	2	4	Immature and/or damaged
WEE-R-3-Snag	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Naidinae spp.	2	4	Immature and/or damaged
WEE-R-3-Snag	8/28/2015	Annelida		Clitellata	Oligochaeta	Lumbriculida	Lumbriculidae	Eclipidrilus palustris	2	4	
WEE-R-3-Snag	8/28/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	2	4	
WEE-R-3-Snag	8/28/2015	Mollusca		Gastropoda	Caenogastropoda		Thiaridae	Melanoides spp.	6	12	
WEE-R-3-Snag	8/28/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	176	352	vial tag says Hyalella sp.
WEE-R-3-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Baetis intercalaris	136	272	
WEE-R-3-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Heptageniidae	Maccaffertium exiguum	8	16	Voucher
WEE-R-3-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Leptohyphidae	Tricorythodes albilineatus	32	64	
WEE-R-3-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Odonata	Coenagrionidae	Argia spp.	2	4	no posterior end
WEE-R-3-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Odonata	Coenagrionidae	Argia sedula	2	4	Voucher
WEE-R-3-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Oecetis avara	6	12	
WEE-R-3-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Hydropsychidae spp.	14	28	Damaged and/or immature
WEE-R-3-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Cheumatopsyche spp.	196	392	
WEE-R-3-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Hydropsyche rossi	74	148	
WEE-R-3-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Oxyethira spp.	8	16	
WEE-R-3-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Coleoptera	Elmidae	Dubiraphia spp.	4	8	
WEE-R-3-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Coleoptera	Elmidae	Stenelmis spp.	12	24	
WEE-R-3-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Coleoptera	Gyrinidae	Gyrinus spp.	2	4	
WEE-R-3-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	10	20	pupae
WEE-R-3-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cladotanytarsus spp.	18	36	
WEE-R-3-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	18	36	

Sample ID	Date Collected	Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Count	Abundance (Count/m^2)	Notes
WEE-R-3-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum convictum	28	56	
WEE-R-3-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	6	12	
WEE-R-3-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pentaneura spp.	4	8	
WEE-R-3-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Corynoneura spp.	2	4	
WEE-R-3-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	6	12	
WEE-R-3-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Thienemanniella xena	4	8	
WEE-R-3-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	2	4	
WEE-R-3-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Ceratopogonidae	Ceratopogonidae spp.	4	8	
WEE-R-3-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Heteroptera	Gerridae	Trepobates spp.	2	4	
WEE-R-3-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Lepidoptera	Crambidae	Petrophila santafealis	8	16	
WEE-R-3-Snag	8/28/2015	Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Krendowskiidae	Krendowskia spp.	2	4	
WEE-R-4-MA	8/28/2015	Platyhelminthes						Platyhelminthes spp.	16	32	
WEE-R-4-MA	8/28/2015	Nemertea		Enopla		Hoplonemertea	Tetrastemmatidae	Prostoma spp.	16	32	
WEE-R-4-MA	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	96	192	Immature and/or damaged
WEE-R-4-MA	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodrilus hoffmeisteri	64	128	
WEE-R-4-MA	8/28/2015	Mollusca		Gastropoda	Caenogastropoda		Pleuroceridae	Pleurocera floridensis	64	128	
WEE-R-4-MA	8/28/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	32	64	
WEE-R-4-MA	8/28/2015	Mollusca		Gastropoda	Caenogastropoda		Thiaridae	Melanoides spp.	256	512	
WEE-R-4-MA	8/28/2015	Mollusca		Bivalvia	Heterodonta	Veneroida	Sphaeriidae	Sphaerium spp.	352	704	
WEE-R-4-MA	8/28/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	3440	6880	
WEE-R-4-MA	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Cheumatopsyche spp.	64	128	
WEE-R-4-MA	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Oxyethira spp.	16	32	
WEE-R-4-MA	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Ceratopogonidae	Ceratopogonidae spp.	128	256	
WEE-R-4-MA	8/28/2015	Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Hygrobatidae	Atractides spp.	32	64	
WEE-R-4-Rock	8/28/2015	Mollusca		Gastropoda	Caenogastropoda		Thiaridae	Melanoides spp.	2	4	
WEE-R-4-Rock	8/28/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	10	20	vial tag says Hyalella sp.
WEE-R-4-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Baetis intercalaris	87	174	
WEE-R-4-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Leptohyphidae	Tricorythodes albilineatus	5	10	
WEE-R-4-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Odonata	Coenagrionidae	Argia spp.	1	2	
WEE-R-4-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Oecetis avara	3	6	
WEE-R-4-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Cheumatopsyche spp.	4	8	
WEE-R-4-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Hydropsyche rossi	18	36	
WEE-R-4-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Ochrotrichia spp.	1	2	
WEE-R-4-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Helicopsychidae	Helicopsyche borealis	1	2	
WEE-R-4-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	6	12	pupae
WEE-R-4-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cladotanytarsus spp.	8	16	
WEE-R-4-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum convictum	7	14	
WEE-R-4-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	2	4	
WEE-R-4-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Thienemanniella xena	1	2	
WEE-R-4-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	9	18	
WEE-R-4-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Empididae	Empididae spp.	1	2	pupa
WEE-R-4-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Empididae	Hemerodromia spp.	1	2	
WEE-R-4-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Lepidoptera	Crambidae	Petrophila santafealis	1	2	
WEE-R-4-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Megaloptera	Corydalidae	Corydalus cornutus	1	2	
WEE-R-4-SAV	8/28/2015	Mollusca		Gastropoda				Gastropoda spp.	16	32	very small juveniles
WEE-R-4-SAV	8/28/2015	Mollusca		Gastropoda	Caenogastropoda		Pleuroceridae	Pleurocera floridensis	4	8	
WEE-R-4-SAV	8/28/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	2	4	
WEE-R-4-SAV	8/28/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Notogillia wetherbyi	1	2	
WEE-R-4-SAV	8/28/2015	Mollusca		Gastropoda	Caenogastropoda		Thiaridae	Melanoides spp.	41	82	
WEE-R-4-SAV	8/28/2015	Mollusca		Bivalvia	Heterodonta	Veneroida	Sphaeriidae	Sphaeriidae spp.	1	2	juvenile
WEE-R-4-SAV	8/28/2015	Mollusca		Bivalvia	Heterodonta	Veneroida	Sphaeriidae	Sphaerium spp.	1	2	
WEE-R-4-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera		Ephemeroptera spp.	1	2	Damaged
WEE-R-4-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptilidae spp.	2	4	pupae
WEE-R-4-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Coleoptera	Elmidae	Stenelmis spp.	1	2	
WEE-R-4-Snag	8/28/2015	Platyhelminthes						Platyhelminthes spp.	2	4	
WEE-R-4-Snag	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Pristina leidyi	2	4	
WEE-R-4-Snag	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Nais pardalis	2	4	
WEE-R-4-Snag	8/28/2015	Mollusca		Gastropoda				Gastropoda spp.	12	24	Damaged, shell dissolved
WEE-R-4-Snag	8/28/2015	Mollusca		Bivalvia	Heterodonta	Veneroida	Sphaeriidae	Sphaeriidae spp.	2	4	Damaged, shell dissolved
WEE-R-4-Snag	8/28/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	44	88	vial tag says Hyalella sp.
WEE-R-4-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Baetidae spp.	2	4	juvenile
WEE-R-4-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Baetis intercalaris	266	532	
WEE-R-4-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Heptageniidae	Maccaffertium exiguum	4	8	
WEE-R-4-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Leptohyphidae	Tricorythodes albilineatus	36	72	
WEE-R-4-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera		Trichoptera spp.	2	4	juvenile
WEE-R-4-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Oecetis avara	8	16	
WEE-R-4-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Hydropsychidae spp.	6	12	Damaged and/or juveniles
WEE-R-4-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Cheumatopsyche spp.	16	32	
WEE-R-4-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Hydropsyche rossi	64	128	
WEE-R-4-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Oxyethira spp.	4	8	
WEE-R-4-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptila spp.	4	8	
WEE-R-4-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Ochrotrichia spp.	16	32	
WEE-R-4-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Helicopsychidae	Helicopsyche borealis	2	4	
WEE-R-4-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Coleoptera	Elmidae	Stenelmis spp.	4	8	
WEE-R-4-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	48	96	pupae & slide-mounted larvae
WEE-R-4-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cladotanytarsus spp.	50	100	
WEE-R-4-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	54	108	
WEE-R-4-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum convictum	22	44	
WEE-R-4-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	14	28	
WEE-R-4-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Thienemanniella spp.	2	4	
WEE-R-4-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	42	84	
WEE-R-4-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Ceratopogonidae	Ceratopogonidae spp.	10	20	
WEE-R-4-Snag	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Lepidoptera	Crambidae	Petrophila santafealis	46	92	

Sample ID	Date Collected	Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Count	Abundance (Count/m^2)	Notes
WEE-R-4-Snag	8/28/2015	Nematoda						Nematoda spp.	2	4	
WEE-R-5-MA	9/10/2015	Platyhelminthes						Platyhelminthes spp.	96	192	
WEE-R-5-MA	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	704	1408	Immature and/or damaged
WEE-R-5-MA	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodrilus hoffmeisteri	128	256	
WEE-R-5-MA	9/10/2015	Annelida		Clitellata	Hirudinida	Rhynchobdellida	Glossiphoniidae	Helobdella stagnalis	32	64	
WEE-R-5-MA	9/10/2015	Mollusca		Gastropoda	Heterobranchia	Hygrophila	Physidae	Physella cubensis	32	64	
WEE-R-5-MA	9/10/2015	Mollusca		Gastropoda	Caenogastropoda		Thiaridae	Melanoides spp.	256	512	
WEE-R-5-MA	9/10/2015	Mollusca		Bivalvia	Heterodonta	Veneroida	Sphaeriidae	Sphaeriidae spp.	32	64	
WEE-R-5-MA	9/10/2015	Mollusca		Bivalvia	Heterodonta	Veneroida	Sphaeriidae	Sphaerium spp.	128	256	
WEE-R-5-MA	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	6976	13952	vial tag says Hyalella sp.
WEE-R-5-MA	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Odonata	Coenagrionidae	Argia spp.	32	64	
WEE-R-5-MA	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera		Trichoptera spp.	32	64	juvenile
WEE-R-5-MA	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptila spp.	32	64	
WEE-R-5-MA	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Coleoptera	Elmidae	Dubiraphia spp.	32	64	
WEE-R-5-MA	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum scalaenum group	192	384	
WEE-R-5-MA	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia mallochi	96	192	
WEE-R-5-MA	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pentaneura spp.	32	64	
WEE-R-5-MA	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Heteroptera		Heteroptera spp.	32	64	in egg case
WEE-R-5-SAV	9/10/2015	Platyhelminthes						Platyhelminthes spp.	16	32	
WEE-R-5-SAV	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Naididae spp.	8	16	Immature and/or damaged
WEE-R-5-SAV	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	88	176	Immature and/or damaged
WEE-R-5-SAV	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Aulodrilus pigueti	8	16	
WEE-R-5-SAV	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero furcata	8	16	
WEE-R-5-SAV	9/10/2015	Annelida		Clitellata	Oligochaeta	Lumbriculida	Lumbriculidae	Eclipidrilus palustris	24	48	
WEE-R-5-SAV	9/10/2015	Mollusca		Bivalvia	Heterodonta	Veneroida	Sphaeriidae	Sphaeriidae spp.	8	16	
WEE-R-5-SAV	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	968	1936	
WEE-R-5-SAV	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Palaemonidae	Palaemonetes spp.	8	16	
WEE-R-5-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Baetidae spp.	48	96	maybe Acerpenna pygmaea or Pseudocloeon ephippiatum
WEE-R-5-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Baetis intercalaris	176	352	
WEE-R-5-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Odonata	Coenagrionidae	Argia sedula	8	16	
WEE-R-5-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Cheumatopsyche spp.	96	192	
WEE-R-5-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Hydropsyche rossi	24	48	
WEE-R-5-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Oxyethira spp.	16	32	
WEE-R-5-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptila spp.	16	32	
WEE-R-5-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Coleoptera	Elmidae	Dubiraphia spp.	16	32	
WEE-R-5-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	24	48	pupae
WEE-R-5-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	16	32	
WEE-R-5-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum scalaenum group	8	16	
WEE-R-5-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum convictum	32	64	
WEE-R-5-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pentaneura spp.	40	80	
WEE-R-5-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Stenochironomus spp.	8	16	
WEE-R-5-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Thienemanniella spp.	144	288	
WEE-R-5-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Thienemanniella xena	32	64	
WEE-R-5-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	16	32	
WEE-R-5-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Ceratopogonidae	Ceratopogonidae spp.	16	32	
WEE-R-5-SAV	9/10/2015	Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Lebertiidae	Lebertia spp.	40	80	
WEE-R-5-Sed	9/10/2015	Mollusca		Gastropoda	Caenogastropoda		Pleuroceridae	Pleurocera floridensis	2	87	
WEE-R-5-Sed	9/10/2015	Mollusca		Gastropoda	Caenogastropoda		Thiaridae	Melanoides spp.	4	174	
WEE-R-5-Sed	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	1	43	vial tag says Hyalella sp.
WEE-R-5-Sed	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Cheumatopsyche spp.	3	130	
WEE-R-5-Sed	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	2	87	pupae
WEE-R-5-Sed	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cladotanytarsus spp.	25	1087	
WEE-R-5-Sed	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum scalaenum group	1	43	
WEE-R-5-Snag	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Allonais inaequalis	1	2	
WEE-R-5-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	147	294	
WEE-R-5-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Palaemonidae	Palaemonetes spp.	5	10	some are zoea
WEE-R-5-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Baetidae spp.	2	4	maybe Acerpenna pygmaea or Pseudocloeon ephippiatum
WEE-R-5-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera		Trichoptera spp.	1	2	juvenile
WEE-R-5-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Cheumatopsyche spp.	9	18	
WEE-R-5-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Hydropsyche rossi	5	10	
WEE-R-5-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptila spp.	1	2	
WEE-R-5-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Coleoptera	Elmidae	Stenelmis spp.	1	2	
WEE-R-5-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Coleoptera	Elmidae	Microcylloepus spp.	4	8	
WEE-R-5-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum convictum	1	2	
WEE-R-5-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pentaneura spp.	1	2	
WEE-R-5-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Stenochironomus spp.	1	2	
WEE-R-5-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	1	2	
WEE-R-6-MA	9/10/2015	Platyhelminthes						Platyhelminthes spp.	36	72	
WEE-R-6-MA	9/10/2015	Annelida		Clitellata	Hirudinida	Rhynchobdellida	Glossiphoniidae	Helobdella elongata	36	72	dried up
WEE-R-6-MA	9/10/2015	Annelida		Clitellata	Hirudinida	Rhynchobdellida	Glossiphoniidae	Helobdella stagnalis	24	48	
WEE-R-6-MA	9/10/2015	Mollusca		Gastropoda	Caenogastropoda		Pleuroceridae	Pleurocera floridensis	12	24	
WEE-R-6-MA	9/10/2015	Mollusca		Gastropoda	Heterobranchia	Hygrophila	Physidae	Physella cubensis	12	24	
WEE-R-6-MA	9/10/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	12	24	
WEE-R-6-MA	9/10/2015	Mollusca		Gastropoda	Caenogastropoda		Thiaridae	Melanoides spp.	12	24	
WEE-R-6-MA	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	3876	7752	
WEE-R-6-MA	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Palaemonidae	Palaemonetes spp.	12	24	
WEE-R-6-MA	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Odonata	Gomphidae	Aphylla williamsoni	12	24	
WEE-R-6-MA	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Odonata	Coenagrionidae	Argia spp.	12	24	missing posterior end
WEE-R-6-MA	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Oecetis sp. E	12	24	
WEE-R-6-MA	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Nectopsyche pavida	12	24	Voucher
WEE-R-6-MA	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Hydropsychidae spp.	12	24	pupa
WEE-R-6-MA	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Cheumatopsyche spp.	12	24	
WEE-R-6-MA	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Neotrichia spp.	12	24	Voucher

Sample ID	Date Collected	Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Count	Abundance (Count/m^2)	Notes
WEE-R-6-MA	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Coleoptera	Elmidae	Stenelmis spp.	24	48	missing posterior ends
WEE-R-6-MA	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	12	24	
WEE-R-6-MA	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum scalaenum group	36	72	
WEE-R-6-MA	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia mallochi	24	48	
WEE-R-6-MA	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	24	48	
WEE-R-6-MA	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Thienemanniella spp.	12	24	
WEE-R-6-MA	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	12	24	
WEE-R-6-SAV	9/10/2015	Platyhelminthes						Platyhelminthes spp.	35	70	
WEE-R-6-SAV	9/10/2015	Nemertea		Enopla		Hoplonemertea	Tetrastemmatidae	Prostoma spp.	11	22	
WEE-R-6-SAV	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	76	152	Immature and/or damaged
WEE-R-6-SAV	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodrilus hoffmeisteri	3	6	
WEE-R-6-SAV	9/10/2015	Annelida		Clitellata	Oligochaeta	Lumbriculida	Lumbriculidae	Lumbriculidae spp.	3	6	Immature and/or damaged
WEE-R-6-SAV	9/10/2015	Annelida		Clitellata	Oligochaeta	Lumbriculida	Lumbriculidae	Lumbriculus cf. variegatus	5	10	
WEE-R-6-SAV	9/10/2015	Annelida		Clitellata	Hirudinida	Rhynchobdellida	Glossiphoniidae	Helobdella elongata	5	10	
WEE-R-6-SAV	9/10/2015	Annelida		Clitellata	Hirudinida	Rhynchobdellida	Glossiphoniidae	Helobdella stagnalis	8	16	
WEE-R-6-SAV	9/10/2015	Mollusca		Gastropoda	Heterobranchia	Hygrophila	Ancylidae	Laevapex fuscus	3	6	
WEE-R-6-SAV	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	297	594	
WEE-R-6-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Baetidae spp.	3	6	
WEE-R-6-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Baetis intercalaris	5	10	
WEE-R-6-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Odonata	Macromiidae	Macromia illinoiensis georgina	3	6	Voucher
WEE-R-6-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera		Trichoptera spp.	3	6	juvenile
WEE-R-6-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Cheumatopsyche spp.	5	10	
WEE-R-6-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Hydropsyche rossi	3	6	
WEE-R-6-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptila spp.	3	6	
WEE-R-6-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Coleoptera	Elmidae	Microcylloepus spp.	3	6	
WEE-R-6-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	11	22	pupae & slide-mounted larvae
WEE-R-6-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanypodinae spp.	3	6	
WEE-R-6-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cladotanytarsus spp.	5	10	
WEE-R-6-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	3	6	
WEE-R-6-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum scalaenum group	232	464	
WEE-R-6-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Thienemanniella similis	14	28	
WEE-R-6-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	3	6	
WEE-R-6-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Ceratopogonidae	Ceratopogonidae spp.	3	6	
WEE-R-6-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Phoridae	Phoridae spp.	3	6	Voucher
WEE-R-6-SAV	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Lepidoptera	Crambidae	Parapoynx spp.	3	6	
WEE-R-6-SAV	9/10/2015	Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Lebertiidae	Lebertia spp.	14	28	
WEE-R-6-Sed	9/10/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	2	87	Immature and/or damaged
WEE-R-6-Sed	9/10/2015	Mollusca		Bivalvia	Heterodonta	Veneroida	Corbiculidae	Corbicula spp.	1	43	
WEE-R-6-Sed	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cladotanytarsus spp.	1	43	
WEE-R-6-Sed	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cryptochironomus spp.	2	87	
WEE-R-6-Sed	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum scalaenum group	6	261	
WEE-R-6-Sed	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Corynoneura spp.	38	1652	
WEE-R-6-Sed	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Ceratopogonidae	Ceratopogonidae spp.	1	43	
WEE-R-6-Sed	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Psychodidae	Psychodidae spp.	2	87	Voucher, pupae
WEE-R-6-Snag	9/10/2015	Mollusca		Gastropoda	Caenogastropoda		Pleuroceridae	Pleurocera floridensis	12	24	
WEE-R-6-Snag	9/10/2015	Mollusca		Gastropoda	Caenogastropoda		Thiaridae	Melanoides spp.	4	8	
WEE-R-6-Snag	9/10/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	144	288	
WEE-R-6-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Baetis intercalaris	144	288	
WEE-R-6-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Heptageniidae	Heptageniidae spp.	12	24	juveniles
WEE-R-6-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Heptageniidae	Maccaffertium exiguum	16	32	
WEE-R-6-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Leptohyphidae	Tricorythodes albilineatus	4	8	
WEE-R-6-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera		Trichoptera spp.	8	16	juveniles
WEE-R-6-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Oecetis avara	8	16	
WEE-R-6-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Hydropsychidae spp.	52	104	juveniles
WEE-R-6-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Cheumatopsyche spp.	220	440	
WEE-R-6-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Hydropsyche rossi	240	480	
WEE-R-6-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptila spp.	8	16	
WEE-R-6-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Philopotamidae	Chimarra spp.	12	24	Voucher
WEE-R-6-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Coleoptera	Elmidae	Stenelmis spp.	24	48	
WEE-R-6-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Coleoptera	Elmidae	Microcylloepus spp.	4	8	
WEE-R-6-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cladotanytarsus spp.	24	48	
WEE-R-6-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	4	8	
WEE-R-6-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum scalaenum group	8	16	
WEE-R-6-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum convictum	76	152	
WEE-R-6-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	16	32	
WEE-R-6-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Ceratopogonidae	Ceratopogonidae spp.	4	8	
WEE-R-6-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Heteroptera	Veliidae	Rhagovelia choreutes	4	8	
WEE-R-6-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Lepidoptera	Crambidae	Petrophila santafealis	8	16	
WEE-R-6-Snag	9/10/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Megaloptera	Corydalidae	Corydalus cornutus	4	8	
WEE-S-MA	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	32	64	Immature and/or damaged
WEE-S-MA	8/28/2015	Annelida		Clitellata	Hirudinida	Rhynchobdellida	Glossiphoniidae	Placobdella spp.	32	64	
WEE-S-MA	8/28/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	1248	2496	
WEE-S-MA	8/28/2015	Mollusca		Gastropoda	Caenogastropoda		Thiaridae	Melanoides tuberculata	448	896	
WEE-S-MA	8/28/2015	Mollusca		Bivalvia	Heterodonta	Veneroida	Corbiculidae	Corbicula spp.	32	64	
WEE-S-MA	8/28/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	6528	13056	
WEE-S-MA	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Oxyethira spp.	32	64	
WEE-S-MA	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum scalaenum group	64	128	
WEE-S-MA	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	32	64	
WEE-S-MA	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pentaneura spp.	32	64	
WEE-S-MA	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	32	64	
WEE-S-MA	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Sciomyzidae	Antichaeta spp.	32	64	
WEE-S-Rock	8/28/2015	Annelida		Clitellata	Hirudinida	Rhynchobdellida	Glossiphoniidae	Helobdella stagnalis	5	10	
WEE-S-Rock	8/28/2015	Mollusca		Gastropoda	Heterobranchia	Hygrophila	Physidae	Physella cubensis	7	14	

Sample ID	Date Collected	Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Count	Abundance (Count/m^2)	Notes
WEE-S-Rock	8/28/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	265	530	
WEE-S-Rock	8/28/2015	Mollusca		Gastropoda	Caenogastropoda		Thiaridae	Melanoides spp.	23	46	
WEE-S-Rock	8/28/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Asellidae	Caecidotea spp.	5	10	
WEE-S-Rock	8/28/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	281	562	vial tag says Hyalella sp.
WEE-S-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cladotanytarsus spp.	2	4	
WEE-S-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	16	32	
WEE-S-Rock	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	14	28	
WEE-S-SAV	8/28/2015	Nemertea		Enopla		Hoplonemertea	Tetrastemmatidae	Prostoma spp.	2	4	
WEE-S-SAV	8/28/2015	Mollusca		Gastropoda				Gastropoda spp.	2	4	no shell
WEE-S-SAV	8/28/2015	Mollusca		Gastropoda	Heterobranchia	Hygrophila	Physidae	Physella cubensis	6	12	
WEE-S-SAV	8/28/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	22	44	
WEE-S-SAV	8/28/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	13	26	
WEE-S-SAV	8/28/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Palaemonidae	Palaemonetes spp.	72	144	
WEE-S-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Orthotrichia spp.	1	2	
WEE-S-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	1	2	
WEE-S-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	6	12	
WEE-S-SAV	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	2	4	
WEE-S-Sed-Dipnet	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	16	32	Immature and/or damaged
WEE-S-Sed-Dipnet	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodrilus hoffmeisteri	4	8	
WEE-S-Sed-Dipnet	8/28/2015	Annelida		Clitellata	Hirudinida	Rhynchobdellida	Glossiphoniidae	Helobdella elongata	4	8	
WEE-S-Sed-Dipnet	8/28/2015	Annelida		Clitellata	Hirudinida	Rhynchobdellida	Glossiphoniidae	Helobdella stagnalis	1	2	
WEE-S-Sed-Dipnet	8/28/2015	Mollusca		Gastropoda	Heterobranchia	Hygrophila	Physidae	Physella cubensis	3	6	
WEE-S-Sed-Dipnet	8/28/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	352	704	
WEE-S-Sed-Dipnet	8/28/2015	Mollusca		Gastropoda	Caenogastropoda		Thiaridae	Melanoides spp.	71	142	
WEE-S-Sed-Dipnet	8/28/2015	Mollusca		Bivalvia	Heterodonta	Veneroida	Sphaeriidae	Sphaeriidae spp.	1	2	juvenile and damaged
WEE-S-Sed-Dipnet	8/28/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	10	20	
WEE-S-Sed-Dipnet	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Oecetis sp. E	1	2	
WEE-S-Sed-Dipnet	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera		Diptera spp.	1	2	pupa, no posterior end
WEE-S-Sed-Dipnet	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	33	66	
WEE-S-Sed-Dipnet	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Paracladopelma spp.	2	4	
WEE-S-Sed-Ponar	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	286	12435	Immature and/or damaged
WEE-S-Sed-Ponar	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodrilus hoffmeisteri	44	1913	
WEE-S-Sed-Ponar	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Naidinae spp.	3	130	No posterior end, either Nais or Dero species
WEE-S-Sed-Ponar	8/28/2015	Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero digitata	3	130	
WEE-S-Sed-Ponar	8/28/2015	Annelida		Clitellata	Hirudinida	Rhynchobdellida	Glossiphoniidae	Helobdella elongata	2	87	
WEE-S-Sed-Ponar	8/28/2015	Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	67	2913	
WEE-S-Sed-Ponar	8/28/2015	Mollusca		Gastropoda	Caenogastropoda		Thiaridae	Melanoides spp.	8	348	
WEE-S-Sed-Ponar	8/28/2015	Mollusca		Bivalvia	Heterodonta	Veneroida	Sphaeriidae	Sphaeriidae spp.	2	87	
WEE-S-Sed-Ponar	8/28/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	3	130	vial tag says Hyallela sp.
WEE-S-Sed-Ponar	8/28/2015	Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Palaemonidae	Palaemonetes spp.	3	130	
WEE-S-Sed-Ponar	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	2	87	pupa
WEE-S-Sed-Ponar	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cladotanytarsus spp.	2	87	
WEE-S-Sed-Ponar	8/28/2015	Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	10	435	

Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Common Name (if available)	Notes	Reference	Long-lived	Sensitive	Tolerant	Tanytarsini	Clinger	50% Filterer	100% Filterer	Ephemeroptera	Trichoptera	Primary FFG	Secondary FFG	Life Habit
Platyhelminthes						Platyhelminthes spp.	flatworm			0	0	0	0	0	0	0	0	0			
Nemertea		Enopla		Hoplonemertea	Tetrastemmatidae	Prostoma spp.	ribbon worm			0	0	1	0	0	0	0	0	0	Predator		
Nemertea		Enopla		Hoplonemertea	Emplectonematidae	Kirsteueriella biocellata	ribbon worm	=Paranemertes cf. biocellatus		0	0	0	0	0	0	0	0	0			
Annelida		Polychaeta	Palpata	Canalipalpata	Spionidae	Spionidae spp.	polychaete worm			0	0	0	0	0	1	0	0	0	Collector-Gatherer/Deposit Feeder	Collector-Filterer/Suspension Feeder	
Annelida		Polychaeta	Palpata	Canalipalpata	Spionidae	Dipolydora socialis	polychaete worm	=Polydora socialis	Blake, 1996	0	0	0	0	0	1	0	0	0	Collector-Gatherer/Deposit Feeder	Collector-Filterer/Suspension Feeder	
Annelida		Polychaeta	Palpata	Canalipalpata	Spionidae	Boccardiella ligerica	polychaete worm			0	0	0	0	0	1	0	0	0	Collector-Gatherer/Deposit Feeder	Collector-Filterer/Suspension Feeder	
Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	ragworm			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Predator	
Annelida		Polychaeta	Palpata	Canalipalpata	Ampharetidae	Hobsonia florida	polychaete worm			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodriloidinae spp.	oligochaete worm	Subfamily		0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	oligochaete worm	Subfamily		0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodrilus hoffmeisteri	oligochaete worm			0	0	1	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Aulodrilus pigueti	oligochaete worm			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Pristina leidyi	oligochaete worm			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Nais communis	oligochaete worm			0	0	1	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Nais pardalis	oligochaete worm			0	0	1	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero spp.	oligochaete worm			0	0	1	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero furcata	oligochaete worm			0	0	1	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero pectinata	oligochaete worm			0	0	1	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero nivea	oligochaete worm			0	0	1	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Bratislavia unidentata	oligochaete worm			0	0	1	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Lumbriculida	Lumbriculidae	Eclipidrilus palustris	oligochaete worm			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Lumbriculida	Lumbriculidae	Lumbriculus cf. variegatus	oligochaete worm			0	0	1	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Enchytraeida	Enchytraeidae	Enchytraeidae spp.	oligochaete worm			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Hirudinida	Arhynchobdellida	Erpobdellidae	Erpobdella punctata	leech			0	0	0	0	0	0	0	0	0	Predator		
Annelida		Clitellata	Hirudinida	Rhynchobdellida	Glossiphoniidae	Glossiphoniidae spp.	leech			0	0	1	0	0	0	0	0	0	Predator		
Annelida		Clitellata	Hirudinida	Rhynchobdellida	Glossiphoniidae	Helobdella elongata	leech	=Gloiobdella elongata	Siddall & Borda, 2002	0	0	1	0	0	0	0	0	0	Predator		
Mollusca		Gastropoda	Heterobranchia	Hygrophila	Physidae	Physella cubensis	Carib physa	=Physa/Haitia cubensis		0	0	1	0	0	0	0	0	0	Scraper		
Mollusca		Gastropoda	Heterobranchia	Hygrophila	Planorbidae	Planorbella scalaris	mesa rams-horn			0	0	1	0	0	0	0	0	0	Scraper		
Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	mud snail			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Mollusca		Bivalvia				Bivalvia spp.	bivalve			0	0	0	0	0	0	1	0	0	Collector-Filterer/Suspension Feeder		
Mollusca		Bivalvia	Heterodonta	Veneroida	Sphaeriidae	Sphaeriidae spp.	peaclam			0	0	0	0	0	0	1	0	0	Collector-Filterer/Suspension Feeder		
Mollusca		Bivalvia	Heterodonta	Veneroida	Sphaeriidae	Musculium spp.	peaclam			0	0	0	0	0	0	1	0	0	Collector-Filterer/Suspension Feeder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Leptocheliidae spp.	tanaid			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptocheliidae	Hargeria rapax	tanaid	males		0	0	0	0	0	0	1	0	0	Collector-Filterer/Suspension Feeder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Tanaidae	Sinelobus stanfordi	tanaid			0	0	0	0	0	0	0	0	0	Browser-Grazer		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda		Asellota spp.	isopod	Suborder		0	0	0	0	0	0	0	0	0	Browser-Grazer		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Anthuridae	Cyathura polita	isopod			0	0	0	0	0	0	0	0	0	Browser-Grazer		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Cassidinidea ovalis	isopod			0	0	0	0	0	0	0	0	0	Shredder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Sphaeroma spp.	isopod			0	0	0	0	0	0	0	0	0	Browser-Grazer		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Asellidae	Caecidotea spp.	isopod			0	1	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	isopod			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Idoteidae	Edotia triloba	isopod	=Edotea		0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda		Gammaridea spp.	amphipod	Suborder		0	0	0	0	0	0	0	0	0	Browser-Grazer		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda		Gammarida spp.	amphipod	Marine Group	Barnard & Barnard, 1983; Lecroy, 2000	0	0	0	0	0	0	0	0	0			
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	amphipod			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Melitidae	Melita nitida complex	amphipod			0	0	0	0	0	0	0	0	0	Browser-Grazer		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	amphipod			0	0	0	0	0	0	0	0	0	Browser-Grazer		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Amphilochidae	Hourstonius laguna	amphipod	=Gitanopsis laguna		0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Corophiidae spp.	amphipod			0	0	0	0	0	0	1	0	0	Collector-Filterer/Suspension Feeder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium spp.	amphipod	=Corophium spp.		0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	amphipod	=Corophium louisianum		0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Ischyroceridae	Cerapus spp.	amphipod			0	0	0	0	0	0	1	0	0	Collector-Filterer/Suspension Feeder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Americorophium ellisi	amphipod	=Corophium ellisi		0	0	0	0	0	0	1	0	0	Collector-Gatherer/Deposit Feeder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Americorophium sp. A	amphipod		of LeCroy, 2004	0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Talitridae	Talitridae spp.	sandhopper			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Shredder	
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	amphipod			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Shredder	
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda		Decapoda spp.	decapod			1	0	0	0	0	0	0	0	0			
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Palaemonidae	Palaemonetes spp.	decapod			1	0	0	0	0	0	0	0	0	Browser-Grazer		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida	Mysidae	Americamysis spp.	mysid shrimp	=Mysidopsis spp.		0	0	0	0	0	0	0	0	0			
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida	Mysidae	Taphromysis bowmani	mysid shrimp			0	0	0	0	0	0	1	0	0	Collector-Filterer/Suspension Feeder		
Arthropoda	Hexapoda	Insecta		Collembola		Collembola spp.	springtail			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Caenidae	Caenis spp.	mayfly			0	0	0	0	0	0	0	1	0	Collector-Gatherer/Deposit Feeder	Scraper	Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Caenidae	Caenis diminuta	mayfly			0	0	0	0	0	0	0	1	0	Collector-Gatherer/Deposit Feeder	Scraper	Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Baetidae spp.	small minnow mayfly			0	0	0	0	0	0	0	1	0	Collector-Gatherer/Deposit Feeder	Scraper	Swimmer
Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Callibaetis spp.	mayfly			0	0	0	0	0	0	0	1	0	Collector-Gatherer/Deposit Feeder		Swimmer
Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Callibaetis floridanus	mayfly			0	0	0	0	0	0	0	1	0	Collector-Gatherer/Deposit Feeder		Swimmer
Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Acerpenna pygmaea	tiny blue-winged olive			0	1	0	0	0	0	0	1	0	Collector-Gatherer/Deposit Feeder		Swimmer
Arthropoda	Hexapoda	Insecta	Pterygota	Odonata		Zygoptera spp.	damselfly	Suborder		0	0	0	0	0	0	0	0	0	Predator		Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Odonata	Coenagrionidae	Coenagrionidae spp.	narrow-winged damselfly			0	0	0	0	0	0	0	0	0	Predator		Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Odonata	Coenagrionidae	Nehalennia minuta	tropical sprite			0	0	0	0	0	0	0	0	0	Predator		Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera		Trichoptera spp.	caddisfly			0	0	0	0	0	0	0	0	1			
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Polycentropodidae	Polycentropodidae spp.	tube-making caddisfly			0	0	0	0	1	1	0	0	1	Predator	Collector-Filterer/Suspension Feeder	Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Polycentropodidae	Cernotina spp.	caddisfly			0	0	0	0	1	0	0	0	1	Predator		Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Leptoceridae spp.	long-horn caddisfly			0	0	0	0	0	0	0	0	1	Collector-Gatherer/Deposit Feeder	Shredder	Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Oecetis avara	caddisfly			0	0	0	0	0	0	0	0	1	Predator	Shredder	Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Nectopsyche spp.	caddisfly			0	0	0	0	0	0	0	0	1	Collector-Gatherer/Deposit Feeder	Shredder	Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Nectopsyche pavida	caddisfly			0	0	0	0	0	0	0	0	1	Collector-Gatherer/Deposit Feeder	Shredder	Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Triaenodes spp.	caddisfly			0	1	0	0	0	0	0	0	1	Shredder		Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Cheumatopsyche spp.	caddisfly			0	0	0	0	1	0	1	0	1	Collector-Filterer/Suspension Feeder		Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Hydropsyche rossi	caddisfly			0	1	0	0	1	0	0	0	1			Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptilidae spp.	micro caddisfly			0	0	0	0	0	0	0	0	1	Piercer		Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Orthotrichia spp.	caddisfly			0	0	0	0	0	0	0	0	1	Piercer		Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Oxyethira spp.	caddisfly			0	0	0	0	0	0	0	0	1	Collector-Gatherer/Deposit Feeder	Piercer	Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptila spp.	caddisfly			0	0	0	0	1	0	0	0	1	Piercer		Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Philopotamidae	Chimarra spp.	little black caddis			0	1	0	0	1	0	1	0	1	Collector-Filterer/Suspension Feeder		Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Coleoptera	Elmidae	Stenelmis spp.	beetle			0	0	0	0	1	0	0	0	0	Collector-Gatherer/Deposit Feeder	Scraper	Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Coleoptera	Elmidae	Microcylloepus spp.	beetle			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Scraper	Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera		Diptera spp.	two-winged fly			0	0	0	0	0	0	0	0	0			
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	non-biting midge			0	0	0	0	0	0	0	0	0			Burrower
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanypodinae spp.	two-winged fly	Subfamily		0	0	0	0	0	0	0	0	0			Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomus spp.	two-winged fly			0	0	1	0	0	1	0	0	0	Collector-Gatherer/Deposit Feeder	Shredder	Burrower
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cladotanytarsus spp.	two-winged fly			0	0	0	1	0	1	0	0	0	Collector-Gatherer/Deposit Feeder	Collector-Filterer/Suspension Feeder	
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	two-winged fly			0	0	0	1	0	1	0	0	0	Collector-Gatherer/Deposit Feeder	Collector-Filterer/Suspension Feeder	Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cryptochironomus spp.	two-winged fly			0	0	1	0	0	0	0	0	0	Predator		Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum halterale group	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Shredder	Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum scalaenum group	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Shredder	Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum illinoense group	two-winged fly			0	0	1	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Shredder	Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Procladius spp.	two-winged fly			0	0	0	0	0	0	0	0	0	Predator		Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Rheotanytarsus spp.	two-winged fly			0	0	0	1	1	0	1	0	0	Collector-Filterer/Suspension Feeder		Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia mallochi	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Predator	Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia rhamphe group	two-winged fly	=Ablabesmyia rhamphe		0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Predator	Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tribelos jucundum	two-winged fly		Epler, 2001	0	1	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		Burrower
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	two-winged fly			0	0	0	0	0	1	0	0	0	Collector-Gatherer/Deposit Feeder	Collector-Filterer/Suspension Feeder	Burrower
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes lobus	two-winged fly			0	0	0	0	0	1	0	0	0	Collector-Gatherer/Deposit Feeder	Collector-Filterer/Suspension Feeder	Burrower
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Paralauterborniella spp.	two-winged fly			0	0	0	0	1	0	0	0	0	Collector-Gatherer/Deposit Feeder		Clinger

Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Common Name (if available)	Notes	Reference	Long-lived	Sensitive	Tolerant	Tanytarsini	Clinger	50% Filterer	100% Filterer	Ephemeroptera	Trichoptera	Primary FFG	Secondary FFG	Life Habit
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pentaneura spp.	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Predator	Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pentaneura inconspicua	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Predator	Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Stenochironomus spp.	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Shredder	Burrower
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		Burrower
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Larsia spp.	two-winged fly			0	0	1	0	0	0	0	0	0	Predator		Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cladopelma spp.	two-winged fly			0	0	1	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		Burrower
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Thienemanniella spp.	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Xestochironomus spp.	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Shredder	
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Nanocladius spp.	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Paratanytarsus spp.	two-winged fly			0	0	0	1	0	1	0	0	0	Collector-Gatherer/Deposit Feeder	Predator	Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Labrundinia spp.	two-winged fly			0	0	0	0	0	0	0	0	0	Predator		Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	two-winged fly		of FDEP	0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Shredder	Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Beardius spp.	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Scraper	
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Ceratopogonidae	Ceratopogonidae spp.	biting midge			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Predator	Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Empididae	Empididae spp.	dance-fly			0	0	0	0	0	0	0	0	0	Predator		Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Psychodidae	Psychodidae spp.	moth-fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		Burrower
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Ptychopteridae	Ptychopteridae spp.	phantom crane fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		Burrower
Arthropoda	Hexapoda	Insecta	Pterygota	Heteroptera	Corixidae	Micronecta ludibunda	true bug			0	0	0	0	0	0	0	0	0	Predator	Piercer	Swimmer
Arthropoda	Hexapoda	Insecta	Pterygota	Lepidoptera	Crambidae	Parapoynx spp.	moth			0	0	1	0	0	0	0	0	0	Shredder		Climber
Arthropoda	Chelicerata	Arachnida				Acariformes spp.	mite	Superorder		0	0	0	0	0	0	0	0	0	Predator		
Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Unionicolidae	Neumania spp.	mite			0	0	0	0	0	0	0	0	0	Predator		
Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Unionicolidae	Koenikea spp.	mite			0	0	0	0	0	0	0	0	0	Predator		
Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Unionicolidae	Unionicola spp.	mite			0	0	0	0	0	0	0	0	0	Predator		
Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Lebertiidae	Lebertia spp.	mite			0	1	0	0	0	0	0	0	0	Predator		
Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Limnesiidae	Limnesia spp.	mite			0	0	0	0	0	0	0	0	0	Predator		
Nematoda						Nematoda spp.	roundworm			0	0	0	0	0	0	0	0	0			

Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Common Name (if available)	Notes	Reference	Long-lived	Sensitive	Tolerant	Tanytarsini	Clinger	50% Filterer	100% Filterer	Ephemeroptera	Trichoptera	Primary FFG	Secondary FFG	Life Habit
Cnidaria		Anthozoa				Anthozoa spp.	sea anemone			0	0	0	0	0	0	0	0	0	Predator		
Platyhelminthes						Platyhelminthes spp.	flatworm			0	0	0	0	0	0	0	0	0			
Platyhelminthes		Rhabditophora		Polycladida		Acotylea spp.	flatworm	Suborder	Prudhoe, 1985	0	0	0	0	0	0	0	0	0			
Annelida		Polychaeta	Palpata	Canalipalpata	Spionidae	Boccardiella ligerica	polychaete worm			0	0	0	0	0	1	0	0	0	Collector-Gatherer/Deposit Feeder	Collector-Filterer/Suspension Feeder	
Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Laeonereis culveri	ragworm			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Predator	
Annelida		Polychaeta	Palpata	Aciculata	Nereididae	Stenoninereis martini	ragworm		Wesenberg-Lund, 1958	0	0	0	0	0	0	0	0	0	Piercer		
Annelida		Polychaeta	Palpata	Canalipalpata	Serpulidae	Ficopomatus miamiensis	tubeworm		ten Hove & Weerdenburg, 1978	0	0	0	0	0	0	1	0	0	Collector-Filterer/Suspension Feeder		
Annelida		Polychaeta	Palpata	Canalipalpata	Serpulidae	Ficopomatus uschakovi	tubeworm		ten Hove & Weerdenburg, 1978	0	0	0	0	0	0	0	0	0			
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Naididae spp.	oligochaete worm	=Tubificidae spp.	Erseus et al., 2008	0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodriloidinae spp.	oligochaete worm	Subfamily		0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	oligochaete worm	Subfamily		0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodrilus hoffmeisteri	oligochaete worm			0	0	1	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Psammoryctides convolutus	oligochaete worm			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Naidinae spp.	oligochaete worm	Subfamily		0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Pristina leidyi	oligochaete worm			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero spp.	oligochaete worm			0	0	1	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero pectinata	oligochaete worm			0	0	1	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero nivea	oligochaete worm			0	0	1	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Bratislavia unidentata	oligochaete worm			0	0	1	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Slavina appendiculata	oligochaete worm			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Haemonais waldvogeli	oligochaete worm			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Hirudinida	Arhynchobdellida	Erpobdellidae	Erpobdella punctata	leech			0	0	0	0	0	0	0	0	0	Predator		
Annelida		Clitellata	Hirudinida	Arhynchobdellida	Erpobdellidae	Erpobdella tetragon	leech			0	0	0	0	0	0	0	0	0	Predator		
Annelida		Clitellata	Branchiobdellida		Branchiobdellidae	Branchiobdellidae spp.	crayfish worm			0	0	0	0	0	0	0	0	0	Predator		
Mollusca		Gastropoda	Caenogastropoda		Pleuroceridae	Pleurocera floridensis	freshwater snail	=Elimia floridensis	Dillon, 2011	0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Scraper	
Mollusca		Gastropoda	Heterobranchia	Hygrophila	Physidae	Physella cubensis	Carib physa	=Physa/Haitia cubensis		0	0	1	0	0	0	0	0	0	Scraper		
Mollusca		Gastropoda	Heterobranchia	Hygrophila	Planorbidae	Planorbella scalaris	mesa rams-horn			0	0	1	0	0	0	0	0	0	Scraper		
Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	mud snail			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Pyrgophorus platyrachis	serrate crownsnail			0	0	1	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Scraper	
Mollusca		Bivalvia				Bivalvia spp.	bivalve			0	0	0	0	0	0	1	0	0	Collector-Filterer/Suspension Feeder		
Mollusca		Bivalvia	Pteriomorphia	Mytiloida	Mytilidae	Brachidontes exustus	scorched mussel	=Branchidontes exustus		0	0	0	0	0	0	1	0	0	Collector-Filterer/Suspension Feeder		
Mollusca		Bivalvia	Heterodonta	Veneroida	Dreissenidae	Mytilopsis leucophaeata	dark falsemussel			0	0	0	0	0	0	1	0	0	Collector-Filterer/Suspension Feeder		
Mollusca		Bivalvia	Heterodonta	Veneroida	Corbiculidae	Polymesoda caroliniana	Carolina marshclam			0	0	0	0	0	0	1	0	0	Collector-Filterer/Suspension Feeder		
Mollusca		Bivalvia	Heterodonta	Veneroida	Sphaeriidae	Sphaeriidae spp.	peaclam			0	0	0	0	0	0	1	0	0	Collector-Filterer/Suspension Feeder		
Mollusca		Bivalvia	Heterodonta	Veneroida	Sphaeriidae	Musculium spp.	peaclam			0	0	0	0	0	0	1	0	0	Collector-Filterer/Suspension Feeder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptochelliidae	Leptochelliidae spp.	tanaid			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Leptochelliidae	Hargeria rapax	tanaid	males		0	0	0	0	0	0	1	0	0	Collector-Filterer/Suspension Feeder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Parapseudidae	Halmyrapseudes cf. bahamensis	tanaid		Heard et al., 2003	0	0	0	0	0	0	1	0	0	Collector-Filterer/Suspension Feeder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Tanaidacea	Tanaidae	Sinelobus stanfordi	tanaid			0	0	0	0	0	0	0	0	0	Browser-Grazer		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Cumacea	Nannastacidae	Almyracuma bacescui	cumacean	=Almyracuma proximoculi		0	0	0	0	0	0	1	0	0	Collector-Filterer/Suspension Feeder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda		Flabelliffera spp.	isopod	Suborder		0	0	0	0	0	0	0	0	0	Browser-Grazer		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Anthuridae	Cyathura polita	isopod			0	0	0	0	0	0	0	0	0	Browser-Grazer		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Sphaeromatidae spp.	isopod			0	0	0	0	0	0	0	0	0	Browser-Grazer		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Cassidinidea ovalis	isopod			0	0	0	0	0	0	0	0	0	Shredder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Sphaeromatidae	Sphaeroma spp.	isopod			0	0	0	0	0	0	0	0	0	Browser-Grazer		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Munnidae	Uromunna reynoldsi	isopod			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Idoteidae	Edotia triloba	isopod	=Edotea		0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda		Gammaridea spp.	amphipod	Suborder		0	0	0	0	0	0	0	0	0	Browser-Grazer		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Gammaridae	Gammarus spp.	amphipod			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Melitidae	Melita nitida complex	amphipod			0	0	0	0	0	0	0	0	0	Browser-Grazer		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Aoridae	Grandidierella bonnieroides	amphipod			0	0	0	0	0	0	0	0	0	Browser-Grazer		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Amphilochidae	Hourstonius laguna	amphipod	=Gitanopsis laguna		0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Corophiidae spp.	amphipod			0	0	0	0	0	0	1	0	0	Collector-Filterer/Suspension Feeder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium spp.	amphipod	=Corophium spp.		0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Apocorophium louisianum	amphipod	=Corophium louisianum		0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Ischyroceridae	Cerapus spp.	amphipod			0	0	0	0	0	0	1	0	0	Collector-Filterer/Suspension Feeder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Corophiidae	Americorophium ellisi	amphipod	=Corophium ellisi		0	0	0	0	0	0	1	0	0	Collector-Gatherer/Deposit Feeder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	amphipod			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Shredder	
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda		Xanthoidea spp.	mud crab	Superfamily		1	0	0	0	0	0	0	0	0			
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Palaemonidae	Palaemonetes spp.	decapod			1	0	0	0	0	0	0	0	0	Browser-Grazer		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Panopeidae	Rhithropanopeus harrisii	Zuiderzee crab			1	0	0	0	0	0	0	0	0	Predator		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida		Mysida spp.	mysid shrimp			0	0	0	0	0	0	1	0	0	Collector-Filterer/Suspension Feeder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida	Mysidae	Americamysis spp.	mysid shrimp	=Mysidopsis spp.		0	0	0	0	0	0	0	0	0			
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida	Mysidae	Taphromysis bowmani	mysid shrimp			0	0	0	0	0	0	1	0	0	Collector-Filterer/Suspension Feeder		
Arthropoda	Crustacea	Maxillopoda	Thecostraca	Sessilia	Balanidae	Amphibalanus spp.	sessile barnacle	=Balanus spp.	Pitombo, 2004	0	0	0	0	0	0	1	0	0	Collector-Filterer/Suspension Feeder		
Arthropoda	Hexapoda	Insecta		Collembola		Collembola spp.	springtail			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera		Ephemeroptera spp.	mayfly			0	0	0	0	0	0	0	1	0			
Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Caenidae	Caenis spp.	mayfly			0	0	0	0	0	0	0	1	0	Collector-Gatherer/Deposit Feeder	Scraper	Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Caenidae	Caenis diminuta	mayfly			0	0	0	0	0	0	0	1	0	Collector-Gatherer/Deposit Feeder	Scraper	Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Baetidae spp.	small minnow mayfly			0	0	0	0	0	0	0	1	0	Collector-Gatherer/Deposit Feeder	Scraper	Swimmer
Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Callibaetis floridanus	mayfly			0	0	0	0	0	0	0	1	0	Collector-Gatherer/Deposit Feeder		Swimmer
Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Leptohyphidae	Tricorythodes albilineatus	mayfly			0	1	0	0	0	0	0	1	0	Collector-Gatherer/Deposit Feeder		Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Odonata	Coenagrionidae	Coenagrionidae spp.	narrow-winged damselfly			0	0	0	0	0	0	0	0	0	Predator		Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Odonata	Coenagrionidae	Argia spp.	dancer			0	0	0	0	0	0	0	0	0	Predator		Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Odonata	Libellulidae	Libellulidae spp.	common skimmer			0	0	0	0	0	0	0	0	0	Predator		Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Oecetis spp.	caddisfly			0	0	0	0	0	0	0	0	1	Predator	Shredder	Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Oecetis sp. E	caddisfly		of Floyd, 1994	0	0	0	0	0	0	0	0	1	Predator	Shredder	Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Hydropsyche rossi	caddisfly			0	1	0	0	1	0	0	0	1			Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptilidae spp.	micro caddisfly			0	0	0	0	0	0	0	0	1	Piercer		Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Oxyethira spp.	caddisfly			0	0	0	0	0	0	0	0	1	Collector-Gatherer/Deposit Feeder	Piercer	Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptila spp.	caddisfly			0	0	0	0	1	0	0	0	1	Piercer		Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Coleoptera	Elmidae	Stenelmis spp.	beetle			0	0	0	0	1	0	0	0	0	Collector-Gatherer/Deposit Feeder	Scraper	Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera		Diptera spp.	two-winged fly			0	0	0	0	0	0	0	0	0			
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	non-biting midge			0	0	0	0	0	0	0	0	0			Burrower
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomus spp.	two-winged fly			0	0	1	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Shredder	Burrower
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cladotanytarsus spp.	two-winged fly			0	0	0	1	0	1	0	0	0	Collector-Gatherer/Deposit Feeder	Collector-Filterer/Suspension Feeder	
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	two-winged fly			0	0	0	1	0	1	0	0	0	Collector-Gatherer/Deposit Feeder	Collector-Filterer/Suspension Feeder	Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cryptochironomus spp.	two-winged fly			0	0	1	0	0	0	0	0	0	Predator		Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum spp.	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Shredder	Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum halterale group	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Shredder	Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum scalaenum group	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Shredder	Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum illinoense group	two-winged fly			0	0	1	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Shredder	Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Procladius spp.	two-winged fly			0	0	0	0	0	0	0	0	0	Predator		Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Rheotanytarsus spp.	two-winged fly			0	0	0	1	1	0	1	0	0	Collector-Filterer/Suspension Feeder		Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Glyptotendipes spp.	two-winged fly			0	0	1	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Shredder	Burrower
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia mallochi	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Predator	Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia rhamphe group	two-winged fly	=Ablabesmyia rhamphe		0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Predator	Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia (Karelia) peleensis	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Predator	Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanypus neopunctipennis	two-winged fly			0	0	1	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Predator	Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tribelos fuscicorne	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		Burrower
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	two-winged fly			0	0	0	0	0	1	0	0	0	Collector-Gatherer/Deposit Feeder	Collector-Filterer/Suspension Feeder	Burrower
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Paralauterborniella spp.	two-winged fly			0	0	0	0	1	0	0	0	0	Collector-Gatherer/Deposit Feeder		Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Paralauterborniella nigrohalteralis	Paralauterborniellan chironomid			0	0	0	0	1	0	0	0	0	Collector-Gatherer/Deposit Feeder		Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Stenochironomus spp.	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Shredder	Burrower
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		Burrower

Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Common Name (if available)	Notes	Reference	Long-lived	Sensitive	Tolerant	Tanytarsini	Clinger	50% Filterer	100% Filterer	Ephemeroptera	Trichoptera	Primary FFG	Secondary FFG	Life Habit
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Larsia spp.	two-winged fly			0	0	1	0	0	0	0	0	0	Predator		Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Thienemanniella spp.	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Nanocladius spp.	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Apedilum spp.	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Paratanytarsus spp.	two-winged fly			0	0	0	1	0	1	0	0	0	Collector-Gatherer/Deposit Feeder	Predator	Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Paratanytarsus longistylus	two-winged fly			0	0	0	1	0	1	0	0	0	Collector-Gatherer/Deposit Feeder	Collector-Filterer/Suspension Feeder	Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Labrundinia spp.	two-winged fly			0	0	0	0	0	0	0	0	0	Predator		Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Paramerina spp.	two-winged fly			0	0	0	0	0	0	0	0	0	Predator		Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	two-winged fly		of FDEP	0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Shredder	Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Beardius spp.	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Scraper	
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Ceratopogonidae	Ceratopogonidae spp.	biting midge			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Predator	Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Psychodidae	Psychodidae spp.	moth-fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		Burrower
Arthropoda	Hexapoda	Insecta	Pterygota	Neuroptera	Sisyridae	Sisyra apicalis	lacewing			0	0	0	0	0	0	0	0	0	Predator		
Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Pionidae	Piona spp.	mite			0	0	0	0	0	0	0	0	0	Predator		
Nematoda						Nematoda spp.	roundworm			0	0	0	0	0	0	0	0	0			

Table B-6. Weeki Wachee River Macroinvertebrate Taxa List

Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Common Name (if available)	Notes	Reference	Long-lived	Sensitive	Tolerant	Tanytarsini	Clinger	50% Filterer	100% Filterer	Ephemeroptera	Trichoptera	Primary FFG	Secondary FFG	Life Habit
Platyhelminthes						Platyhelminthes spp.	flatworm			0	0	0	0	0	0	0	0	0			
Nemertea		Enopla		Hoplonemertea	Tetrastemmatidae	Prostoma spp.	ribbon worm			0	0	1	0	0	0	0	0	0	Predator		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Naididae spp.	oligochaete worm	=Tubificidae spp.	Erseus et al., 2008	0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Tubificinae spp.	oligochaete worm	Subfamily		0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Limnodrilus hoffmeisteri	oligochaete worm			0	0	1	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Aulodrilus pigueti	oligochaete worm			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Naidinae spp.	oligochaete worm	Subfamily		0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Pristina leidyi	oligochaete worm			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Nais pardalis	oligochaete worm			0	0	1	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Nais pseudobtusa	oligochaete worm			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Nais magnaseta	oligochaete worm			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero digitata	oligochaete worm			0	0	1	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Dero furcata	oligochaete worm			0	0	1	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	Allonais inaequalis	oligochaete worm			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Lumbriculida	Lumbriculidae	Lumbriculidae spp.	oligochaete worm			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Lumbriculida	Lumbriculidae	Eclipidrilus palustris	oligochaete worm			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Oligochaeta	Lumbriculida	Lumbriculidae	Lumbriculus cf. variegatus	oligochaete worm			0	0	1	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Annelida		Clitellata	Hirudinida	Rhynchobdellida	Glossiphoniidae	Glossiphoniidae spp.	leech			0	0	1	0	0	0	0	0	0	Predator		
Annelida		Clitellata	Hirudinida	Rhynchobdellida	Glossiphoniidae	Helobdella spp.	leech			0	0	1	0	0	0	0	0	0	Parasite		
Annelida		Clitellata	Hirudinida	Rhynchobdellida	Glossiphoniidae	Helobdella elongata	leech	=Gloiobdella elongata	Siddall & Borda, 2002	0	0	1	0	0	0	0	0	0	Predator		
Annelida		Clitellata	Hirudinida	Rhynchobdellida	Glossiphoniidae	Helobdella stagnalis	leech			0	0	1	0	0	0	0	0	0	Predator		
Annelida		Clitellata	Hirudinida	Rhynchobdellida	Glossiphoniidae	Placobdella spp.	leech			0	0	1	0	0	0	0	0	0	Parasite		
Mollusca		Gastropoda				Gastropoda spp.	gastropod			0	0	0	0	0	0	0	0	0	Scraper		
Mollusca		Gastropoda	Caenogastropoda		Pleuroceridae	Pleurocera floridensis	freshwater snail	=Elimia floridensis	Dillon, 2011	0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Scraper	
Mollusca		Gastropoda	Heterobranchia	Hygrophila	Ancylidae	Laevapex fuscus	dusky ancylid			0	0	1	0	0	0	0	0	0	Scraper		
Mollusca		Gastropoda	Heterobranchia	Hygrophila	Physidae	Physella cubensis	Carib physa	=Physa/Haitia cubensis		0	0	1	0	0	0	0	0	0	Scraper		
Mollusca		Gastropoda	Heterobranchia	Hygrophila	Planorbidae	Planorbella scalaris	mesa rams-horn			0	0	1	0	0	0	0	0	0	Scraper		
Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Hydrobiidae spp.	mud snail			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Mollusca		Gastropoda	Caenogastropoda	Littorinimorpha	Hydrobiidae	Notogillia wetherbyi	alligator siltsnail			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Scraper	
Mollusca		Gastropoda	Caenogastropoda		Thiaridae	Melanoides spp.	thiarid			0	0	1	0	0	0	0	0	0	Scraper		
Mollusca		Gastropoda	Caenogastropoda		Thiaridae	Melanoides tuberculata	red-rim melania	=Melanoides tuberculatus		0	0	1	0	0	0	0	0	0	Scraper		
Mollusca		Gastropoda	Caenogastropoda		Ampullariidae	Pomacea paludosa	Florida apple snail			1	0	0	0	0	0	0	0	0	Scraper		
Mollusca		Bivalvia	Heterodonta	Veneroida	Corbiculidae	Corbicula spp.	clam			1	0	0	0	0	0	1	0	0	Collector-Filterer/Suspension Feeder		
Mollusca		Bivalvia	Heterodonta	Veneroida	Sphaeriidae	Sphaeriidae spp.	peaclam			0	0	0	0	0	0	1	0	0	Collector-Filterer/Suspension Feeder		
Mollusca		Bivalvia	Heterodonta	Veneroida	Sphaeriidae	Sphaerium spp.	fingernail clam			0	0	0	0	0	0	1	0	0	Collector-Filterer/Suspension Feeder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Asellidae	Caecidotea spp.	isopod			0	1	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	Hyalella azteca sp. complex	amphipod			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Shredder	
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Palaemonidae	Palaemonetes spp.	decapod			1	0	0	0	0	0	0	0	0	Browser-Grazer		
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Mysida		Mysida spp.	mysid shrimp			0	0	0	0	0	0	1	0	0	Collector-Filterer/Suspension Feeder		
Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera		Ephemeroptera spp.	mayfly			0	0	0	0	0	0	0	1	0			
Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Baetidae spp.	small minnow mayfly			0	0	0	0	0	0	0	1	0	Collector-Gatherer/Deposit Feeder	Scraper	Swimmer
Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	Baetis intercalaris	mayfly			0	0	0	0	0	0	0	1	0	Collector-Gatherer/Deposit Feeder	Scraper	Swimmer
Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Heptageniidae	Heptageniidae spp.	stream mayfly			0	1	0	0	1	0	0	1	0	Collector-Gatherer/Deposit Feeder	Scraper	Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Heptageniidae	Maccaffertium exiguum	mayfly			0	1	0	0	1	0	0	1	0	Collector-Gatherer/Deposit Feeder	Scraper	Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Leptohyphidae	Tricorythodes albilineatus	mayfly			0	1	0	0	0	0	0	1	0	Collector-Gatherer/Deposit Feeder		Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Odonata	Gomphidae	Aphylla williamsoni	two-striped forceptail			0	0	0	0	0	0	0	0	0	Predator		Burrower
Arthropoda	Hexapoda	Insecta	Pterygota	Odonata	Macromiidae	Macromia illinoiensis georgina	Georgia river cruiser			1	1	0	0	0	0	0	0	0	Predator		Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Odonata	Coenagrionidae	Coenagrionidae spp.	narrow-winged damselfly			0	0	0	0	0	0	0	0	0	Predator		Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Odonata	Coenagrionidae	Argia spp.	dancer			0	0	0	0	0	0	0	0	0	Predator		Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Odonata	Coenagrionidae	Argia sedula	blue-ringed dancer			0	0	1	0	0	0	0	0	0	Predator		Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Odonata	Libellulidae	Libellula incesta	slaty skimmer			0	0	0	0	0	0	0	0	0	Predator		Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera		Trichoptera spp.	caddisfly			0	0	0	0	0	0	0	0	1			
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Leptoceridae spp.	long-horn caddisfly			0	0	0	0	0	0	0	0	1	Collector-Gatherer/Deposit Feeder	Shredder	Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Oecetis sp. E	caddisfly		of Floyd, 1994	0	0	0	0	0	0	0	0	1	Predator	Shredder	Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Oecetis avara	caddisfly			0	0	0	0	0	0	0	0	1	Predator	Shredder	Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Nectopsyche pavida	caddisfly			0	0	0	0	0	0	0	0	1	Collector-Gatherer/Deposit Feeder	Shredder	Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	Nectopsyche tavara	Tavares white miller caddisfly			0	0	0	0	0	0	0	0	1	Collector-Gatherer/Deposit Feeder	Shredder	Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Hydropsychidae spp.	netspinning caddisfly			0	0	0	0	1	0	1	0	1	Collector-Filterer/Suspension Feeder		Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Cheumatopsyche spp.	caddisfly			0	0	0	0	1	0	1	0	1	Collector-Filterer/Suspension Feeder		Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	Hydropsyche rossi	caddisfly			0	1	0	0	1	0	0	0	1			Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptilidae spp.	micro caddisfly			0	0	0	0	0	0	0	0	1	Piercer		Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Orthotrichia spp.	caddisfly			0	0	0	0	0	0	0	0	1	Piercer		Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Oxyethira spp.	caddisfly			0	0	0	0	0	0	0	0	1	Collector-Gatherer/Deposit Feeder	Piercer	Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Hydroptila spp.	caddisfly			0	0	0	0	1	0	0	0	1	Piercer		Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Neotrichia spp.	caddisfly			0	0	0	0	1	0	0	0	1	Scraper		Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	Ochrotrichia spp.	caddisfly			0	0	0	0	1	0	0	0	1	Collector-Gatherer/Deposit Feeder	Piercer	Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Philopotamidae	Chimarra spp.	little black caddis			0	1	0	0	1	0	1	0	1	Collector-Filterer/Suspension Feeder		Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Helicopsychidae	Helicopsyche borealis	speckled Peter			0	0	0	0	1	0	0	0	1	Scraper		Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Coleoptera	Elmidae	Dubiraphia spp.	beetle			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Scraper	Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Coleoptera	Elmidae	Stenelmis spp.	beetle			0	0	0	0	1	0	0	0	0	Collector-Gatherer/Deposit Feeder	Scraper	Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Coleoptera	Elmidae	Microcylloepus spp.	beetle			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Scraper	Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Coleoptera	Gyrinidae	Gyrinus spp.	beetle			0	0	0	0	0	0	0	0	0	Predator		Swimmer
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera		Diptera spp.	two-winged fly			0	0	0	0	0	0	0	0	0			
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	non-biting midge			0	0	0	0	0	0	0	0	0			Burrower
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanypodinae spp.	two-winged fly	Subfamily		0	0	0	0	0	0	0	0	0			Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cladotanytarsus spp.	two-winged fly			0	0	0	1	0	1	0	0	0	Collector-Gatherer/Deposit Feeder	Collector-Filterer/Suspension Feeder	
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Tanytarsus spp.	two-winged fly			0	0	0	1	0	1	0	0	0	Collector-Gatherer/Deposit Feeder	Collector-Filterer/Suspension Feeder	Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cryptochironomus spp.	two-winged fly			0	0	1	0	0	0	0	0	0	Predator		Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum scalaenum group	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Shredder	Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Polypedilum convictum	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Shredder	Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Rheotanytarsus spp.	two-winged fly			0	0	0	1	1	0	1	0	0	Collector-Filterer/Suspension Feeder		Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Ablabesmyia mallochi	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Predator	Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Dicrotendipes spp.	two-winged fly			0	0	0	0	0	1	0	0	0	Collector-Gatherer/Deposit Feeder	Collector-Filterer/Suspension Feeder	Burrower
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pentaneura spp.	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Predator	Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Stenochironomus spp.	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Shredder	Burrower
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Paracladopelma spp.	two-winged fly			0	0	0	0	0	0	0	0	0	Predator		Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Corynoneura spp.	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Pseudochironomus spp.	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		Burrower
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Thienemanniella spp.	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Thienemanniella similis	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Thienemanniella xena	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Paratanytarsus spp.	two-winged fly			0	0	0	1	0	1	0	0	0	Collector-Gatherer/Deposit Feeder	Predator	Sprawler

Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Common Name (if available)	Notes	Reference	Long-lived	Sensitive	Tolerant	Tanytarsini	Clinger	50% Filterer	100% Filterer	Ephemeroptera	Trichoptera	Primary FFG	Secondary FFG	Life Habit
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Cricotopus or Orthocladius	two-winged fly		of FDEP	0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Shredder	Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Ceratopogonidae	Ceratopogonidae spp.	biting midge			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Predator	Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Empididae	Empididae spp.	dance-fly			0	0	0	0	0	0	0	0	0	Predator		Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Empididae	Hemerodromia spp.	two-winged fly			0	1	0	0	0	0	0	0	0	Predator		Sprawler
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Psychodidae	Psychodidae spp.	moth-fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		Burrower
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Psychodidae	Psychoda spp.	two-winged fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder		Burrower
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Phoridae	Phoridae spp.	scuttle fly			0	0	0	0	0	0	0	0	0	Collector-Gatherer/Deposit Feeder	Predator	Burrower
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Sciomyzidae	Antichaeta spp.	two-winged fly			0	0	0	0	0	0	0	0	0	Parasite	Predator	Burrower
Arthropoda	Hexapoda	Insecta	Pterygota	Heteroptera		Heteroptera spp.	true bug			0	0	0	0	0	0	0	0	0			
Arthropoda	Hexapoda	Insecta	Pterygota	Heteroptera	Veliidae	Rhagovelia choreutes	true bug			0	0	0	0	0	0	0	0	0	Predator		Skater
Arthropoda	Hexapoda	Insecta	Pterygota	Heteroptera	Gerridae	Trepobates spp.	true bug			0	0	0	0	0	0	0	0	0	Predator		Skater
Arthropoda	Hexapoda	Insecta	Pterygota	Lepidoptera	Crambidae	Elophila spp.	moth			0	0	1	0	0	0	0	0	0	Shredder		Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Lepidoptera	Crambidae	Petrophila santafealis	moth			0	0	1	0	1	0	0	0	0			Clinger
Arthropoda	Hexapoda	Insecta	Pterygota	Lepidoptera	Crambidae	Parapoynx spp.	moth			0	0	1	0	0	0	0	0	0	Shredder		Climber
Arthropoda	Hexapoda	Insecta	Pterygota	Megaloptera	Corydalidae	Corydalus cornutus	dobsonfly			1	0	0	0	0	0	0	0	0	Predator		Clinger
Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Krendowskiidae	Geayia spp.	mite			0	0	0	0	0	0	0	0	0	Parasite	Predator	
Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Krendowskiidae	Krendowskia spp.	mite			0	0	0	0	0	0	0	0	0	Predator		
Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Lebertiidae	Lebertia spp.	mite			0	1	0	0	0	0	0	0	0	Predator		
Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Hygrobatidae	Hygrobates spp.	mite			0	0	0	0	0	0	0	0	0	Predator		
Arthropoda	Chelicerata	Arachnida	Acari	Trombidiformes	Hygrobatidae	Atractides spp.	mite			0	0	0	0	0	0	0	0	0	Predator		
Nematoda						Nematoda spp.	roundworm			0	0	0	0	0	0	0	0	0			

Table B-7. All Systems Macroinvertebrate Diversity Data

Sample ID	Richness (# of taxa) S	Abundance (total # of individuals/m^2) N	Margalef's Richness Index d	Pielous Evenness Index J'	Shannons Diversity Index H'(loge)	Simpsons Diversity Index 1-Lambda'
CHA-S-1-Rock (2015-09-11)	18	102	3.68	0.87	2.52	0.90
CHA-S-1-SAV (2015-09-11)	21	198	3.78	0.70	2.13	0.78
CHA-S-1-Sed (2015-09-11)	10	565	1.42	0.96	2.20	0.88
CHA-S-1-Snag (2015-09-11)	21	174	3.88	0.72	2.18	0.78
CHA-S-2-MA (2015-09-11)	22	2896	2.63	0.58	1.80	0.74
CHA-S-2-Rock (2015-09-11)	25	10144	2.60	0.56	1.79	0.73
CHA-S-2-SAV (2015-09-11)	24	952	3.35	0.62	1.97	0.73
CHA-S-2-Sed (2015-09-11)	9	609	1.25	0.85	1.87	0.78
CHA-S-2-Snag (2015-09-11)	23	4016	2.65	0.51	1.61	0.59
CHA-R-1-MA (2015-09-11)	28	9760	2.94	0.65	2.15	0.79
CHA-R-1-SAV (2015-09-11)	19	11322	1.93	0.58	1.71	0.69
CHA-R-1-Sed (2015-09-11)	23	20826	2.21	0.61	1.93	0.75
CHA-R-1-Snag (2015-09-11)	19	4520	2.14	0.60	1.77	0.74
CHA-R-2-MA (2015-09-11)	20	7422	2.13	0.73	2.19	0.85
CHA-R-2-Rock (2015-09-11)	14	2912	1.63	0.47	1.23	0.52
CHA-R-2-SAV (2015-09-11)	29	2762	3.53	0.74	2.51	0.85
CHA-R-2-Sed (2015-09-11)	13	5391	1.40	0.64	1.65	0.66
CHA-R-2-Snag (2015-09-11)	14	9856	1.41	0.45	1.18	0.54
CHA-R-3-MA (2015-09-11)	18	19712	1.72	0.74	2.14	0.86
CHA-R-3-SAV (2015-09-11)	27	6100	2.98	0.76	2.49	0.88
CHA-R-3-Sed (2015-09-11)	18	34304	1.63	0.71	2.06	0.81
CHA-R-3-Snag (2015-09-11)	17	2288	2.07	0.63	1.80	0.76
CHA-R-4-MA (2015-09-11)	11	2120	1.31	0.23	0.55	0.21
CHA-R-4-Sed (2015-09-11)	1	43	0.00		0.00	0.00
CHA-R-4-Snag (2015-09-11)	21	652	3.09	0.70	2.14	0.80
CHA-R-5-Sed (2015-09-11)	6	2043	0.66	0.76	1.37	0.67
CHA-R-5-Snag (2015-09-11)	19	3544	2.20	0.69	2.04	0.83
CHA-R-6-Sed (2015-09-11)	6	783	0.75	0.90	1.61	0.77
CHA-R-6-Snag (2015-09-11)	16	17856	1.53	0.63	1.76	0.78
CHA-CRA-Rock (2015-09-10)	15	392	2.34	0.67	1.83	0.76
CHA-CRA-SAV (2015-09-10)	13	2436	1.54	0.63	1.61	0.74
CHA-CRA-Sed (2015-09-10)	16	12478	1.59	0.72	2.01	0.81
CHA-CRA-Snag (2015-09-10)	23	2464	2.82	0.62	1.95	0.79
CHA-POT-S-SAV (2015-09-10)	19	870	2.66	0.57	1.69	0.75
CHA-POT-S-Sed (2015-09-10)	2	174	0.19	1.00	0.69	0.50
CHA-POT-S-Snag (2015-09-10)	14	1076	1.86	0.47	1.24	0.49

Sample ID	Richness (# of taxa) S	Abundance (total # of individuals/m^2) N	Margalef's Richness Index d	Pielous Evenness Index J'	Shannons Diversity Index H'(loge)	Simpsons Diversity Index 1-Lambda'
CHA-POT-1-SAV (2015-09-10)	22	2072	2.75	0.80	2.48	0.89
CHA-POT-1-Sed (2015-09-10)	6	3391	0.62	0.56	1.00	0.55
CHA-POT-1-Snag (2015-09-10)	25	1646	3.24	0.51	1.64	0.59
CHA-POT-2-SAV (2015-09-10)	17	1984	2.11	0.63	1.78	0.74
CHA-POT-2-Sed (2015-09-10)	8	1870	0.93	0.71	1.48	0.68
CHA-POT-2-Snag (2015-09-10)	19	732	2.73	0.49	1.45	0.53
CHA-POT-3-Sed (2015-09-10)	7	2609	0.76	0.96	1.87	0.84
CHA-POT-3-Snag (2015-09-10)	19	6672	2.04	0.42	1.24	0.50
HOM-S-Rock (2015-09-14)	10	2672	1.14	0.29	0.67	0.31
HOM-S-Sed (2015-09-14)	14	5957	1.50	0.71	1.86	0.78
HOM-S-Snag (2015-09-14)	12	232	2.02	0.54	1.34	0.57
HOM-R-1-MA (2015-09-15)	40	5094	4.57	0.64	2.37	0.82
HOM-R-1-Sed (2015-09-15)	18	9957	1.85	0.73	2.12	0.82
HOM-R-1-Snag (2015-09-15)	28	2176	3.51	0.57	1.91	0.74
HOM-R-2-Sed (2015-09-15)	21	4043	2.41	0.66	2.02	0.71
HOM-R-2-Snag (2015-09-15)	21	226	3.69	0.71	2.16	0.83
HOM-R-3-MA (2015-09-15)	15	1488	1.92	0.66	1.80	0.77
HOM-R-3-Sed (2015-09-15)	14	12174	1.38	0.74	1.95	0.83
HOM-R-3-Snag (2015-09-15)	21	4144	2.40	0.61	1.85	0.75
HOM-R-4-Sed (2015-09-15)	10	2130	1.17	0.72	1.66	0.72
HOM-R-4-Snag (2015-09-15)	25	356	4.09	0.62	2.01	0.75
HOM-R-5-Sed (2015-09-15)	12	5652	1.27	0.60	1.48	0.67
HOM-R-5-Snag (2015-09-15)	14	300	2.28	0.42	1.11	0.44
HOM-R-6-Sed (2015-09-15)	10	957	1.31	0.94	2.16	0.87
HOM-R-6-Snag (2015-09-15)	12	130	2.26	0.84	2.08	0.86
HOM-Sou-MA (2015-09-15)	25	2374	3.09	0.73	2.36	0.85
HOM-Sou-Rock (2015-09-15)	23	544	3.49	0.74	2.33	0.86
HOM-Sou-Sed (2015-09-15)	11	3130	1.24	0.78	1.87	0.80
HOM-Sou-Snag (2015-09-15)	16	152	2.99	0.83	2.29	0.87
HOM-HAL-S-MA (2015-09-14)	14	204	2.44	0.51	1.34	0.56
HOM-HAL-S-Rock (2015-09-14)	20	2880	2.39	0.60	1.80	0.75
HOM-HAL-S-Sed (2015-09-14)	11	4174	1.20	0.76	1.82	0.79
HOM-HAL-S-Snag (2015-09-14)	19	5408	2.09	0.59	1.72	0.74
HOM-HAL-1-MA (2015-09-14)	22	18192	2.14	0.68	2.11	0.82
HOM-HAL-1-Sed (2015-09-14)	20	26130	1.87	0.72	2.16	0.84
HOM-HAL-2-Sed (2015-09-14)	2	261	0.18	0.65	0.45	0.28

Sample ID	Richness (# of taxa) S	Abundance (total # of individuals/m^2) N	Margalef's Richness Index d	Pielous Evenness Index J'	Shannons Diversity Index H'(loge)	Simpsons Diversity Index 1-Lambda'
HOM-HAL-3-Sed (2015-09-14)	6	3783	0.61	0.62	1.10	0.59
WEE-S-MA (2015-08-28)	12	17088	1.13	0.34	0.85	0.39
WEE-S-Rock (2015-08-28)	9	1236	1.12	0.53	1.17	0.61
WEE-S-SAV (2015-08-28)	10	254	1.63	0.62	1.42	0.64
WEE-S-Sed-Dipnet (2015-08-28)	13	998	1.74	0.42	1.07	0.48
WEE-S-Sed-Ponar (2015-08-28)	13	18913	1.22	0.46	1.19	0.53
WEE-R-1-MA (2015-08-28)	7	26272	0.59	0.06	0.12	0.04
WEE-R-1-SAV (2015-08-28)	24	1712	3.09	0.71	2.26	0.86
WEE-R-1-Sed (2015-08-28)	11	5217	1.17	0.74	1.76	0.78
WEE-R-1-Snag (2015-08-28)	20	2046	2.49	0.53	1.58	0.68
WEE-R-2-MA (2015-08-28)	23	6504	2.51	0.34	1.08	0.39
WEE-R-2-Rock (2015-08-28)	16	2216	1.95	0.67	1.85	0.77
WEE-R-2-SAV (2015-08-28)	39	3504	4.66	0.72	2.62	0.88
WEE-R-2-Sed (2015-08-28)	7	1696	0.81	0.76	1.49	0.69
WEE-R-2-Snag (2015-08-28)	22	512	3.37	0.82	2.52	0.90
WEE-R-3-MA (2015-08-28)	13	11520	1.28	0.40	1.01	0.46
WEE-R-3-Rock (2015-08-28)	25	850	3.56	0.75	2.41	0.86
WEE-R-3-SAV (2015-08-28)	13	1300	1.67	0.59	1.52	0.61
WEE-R-3-Sed (2015-08-28)	3	174	0.39	0.95	1.04	0.63
WEE-R-3-Snag (2015-08-28)	34	1608	4.47	0.67	2.38	0.85
WEE-R-4-MA (2015-08-28)	13	9152	1.32	0.41	1.06	0.42
WEE-R-4-Rock (2015-08-28)	20	338	3.26	0.64	1.91	0.71
WEE-R-4-SAV (2015-08-28)	10	140	1.82	0.57	1.32	0.60
WEE-R-4-Snag (2015-08-28)	29	1576	3.80	0.74	2.49	0.85
WEE-R-5-MA (2015-09-10)	17	17728	1.64	0.35	0.98	0.37
WEE-R-5-SAV (2015-09-10)	28	3824	3.27	0.62	2.07	0.72
WEE-R-5-Sed (2015-09-10)	7	1652	0.81	0.62	1.21	0.54
WEE-R-5-Snag (2015-09-10)	14	360	2.21	0.33	0.88	0.33
WEE-R-6-MA (2015-09-10)	23	8520	2.43	0.18	0.57	0.17
WEE-R-6-SAV (2015-09-10)	29	1536	3.82	0.57	1.90	0.75
WEE-R-6-Sed (2015-09-10)	8	2304	0.90	0.52	1.08	0.47
WEE-R-6-Snag (2015-09-10)	25	2120	3.13	0.72	2.32	0.86

Appendix C
Raw Statistical Output

APPENDIX C - Raw Statistical Output

Table C-1. All Zones from all River Systems Pooled Raw Correlation Matrix Results

ALL ZONES FROM ALL SYSTEMS
Spearman Rho: habitats, Temp, DO, DO%, Sal, Cond, pH, Turb, ...

	habitats	Temp	DO	DO%	Sal	Cond	pH	Turb
Temp	-0.694							
	0.000							
DO	-0.318	0.626						
	0.076	0.000						
DO%	-0.353	0.666	0.996					
	0.048	0.000	0.000					
Sal	-0.691	0.520	0.290	0.321				
	0.000	0.002	0.108	0.073				
Cond	-0.699	0.529	0.308	0.338	0.973			
	0.000	0.002	0.087	0.059	0.000			
pH	-0.299	0.386	0.803	0.799	0.159	0.196		
	0.097	0.029	0.000	0.000	0.385	0.283		
Turb	-0.656	0.754	0.369	0.410	0.600	0.605	0.295	
	0.000	0.000	0.038	0.020	0.000	0.000	0.101	
Canopy	0.451	-0.667	-0.343	-0.386	-0.469	-0.501	-0.121	-0.476
	0.010	0.000	0.054	0.029	0.007	0.004	0.508	0.006
Rich	0.420	-0.260	0.077	0.052	-0.408	-0.487	0.123	-0.353
	0.017	0.151	0.674	0.779	0.020	0.005	0.504	0.048
Abund	0.207	-0.100	0.052	0.043	-0.170	-0.153	0.120	-0.202
	0.255	0.585	0.778	0.813	0.353	0.405	0.514	0.268
Piel	-0.316	0.148	-0.054	-0.038	0.299	0.303	-0.112	0.157

	0.078	0.418	0.767	0.834	0.097	0.092	0.540	0.392

	habitats	Temp	DO	DO%	Sal	Cond	pH	Turb
Shann	0.151	-0.125	0.052	0.034	-0.036	-0.064	0.001	-0.099
	0.409	0.495	0.779	0.854	0.846	0.726	0.995	0.590
Simps	-0.030	-0.029	0.012	-0.002	0.155	0.155	-0.042	-0.005
	0.869	0.877	0.949	0.991	0.398	0.397	0.818	0.978

	habitats	Temp	DO	DO%	Sal	Cond	pH	Turb
Marg	0.501	-0.404	-0.073	-0.109	-0.410	-0.494	-0.061	-0.422
	0.004	0.022	0.691	0.554	0.020	0.004	0.741	0.016
sed	-0.492	0.441	0.274	0.275	0.409	0.350	0.213	0.562
	0.004	0.012	0.128	0.127	0.020	0.049	0.242	0.001

	Canopy	Rich	Abund	Piel	Shann	Simps	Marg
Rich	0.296						
	0.100						
Abund	-0.219	0.481					
	0.228	0.005					
Piel	0.031	0.054	-0.210				
	0.865	0.769	0.249				
Shann	0.307	0.594	0.092	0.655			
	0.088	0.000	0.618	0.000			
Simps	0.187	0.379	0.093	0.790	0.937		
	0.306	0.033	0.612	0.000	0.000		
Marg	0.625	0.786	0.002	0.161	0.701	0.481	
	0.000	0.000	0.992	0.380	0.000	0.005	
sed	-0.127	0.005	-0.116	0.207	0.156	0.233	-0.003
	0.489	0.980	0.528	0.255	0.393	0.200	0.988

Cell Contents: Spearman rho
P-Value

Table C-2. Chassahowitzka River System Pooled Zones Raw Correlation Matrix Results

ALL ZONES FROM CHASSAHOWITZKA

Spearman Rho: habitats_1, Temp_1, DO_1, DO%_1, Sal_1, Cond_1, pH_1, Turb_1, ...

	habitats_1	Temp_1	DO_1	DO%_1	Sal_1	Cond_1
Temp_1	-0.732					
	0.004					
DO_1	0.393	0.278				
	0.184	0.358				
DO%_1	0.307	0.368	0.982			
	0.307	0.216	0.000			
Sal_1	-0.629	0.374	-0.382	-0.396		
	0.021	0.209	0.197	0.181		
Cond_1	-0.643	0.407	-0.300	-0.313	0.846	
	0.018	0.168	0.320	0.297	0.000	
pH_1	0.262	0.399	0.934	0.971	-0.487	-0.327
	0.387	0.177	0.000	0.000	0.091	0.275
Turb_1	-0.720	0.863	0.003	0.115	0.489	0.527
	0.005	0.000	0.993	0.707	0.090	0.064
Canopy_1	0.361	-0.597	-0.290	-0.381	-0.276	-0.331
	0.226	0.031	0.336	0.199	0.361	0.269
Rich_1	0.586	-0.360	0.282	0.316	-0.514	-0.680
	0.035	0.226	0.350	0.292	0.072	0.011
Abund_1	0.310	-0.137	0.223	0.302	-0.176	-0.203
	0.302	0.655	0.464	0.316	0.566	0.505
Piel_1	-0.344	-0.176	-0.613	-0.560	0.143	0.247
	0.249	0.566	0.026	0.046	0.642	0.415
Shann_1	0.649	-0.654	0.127	0.077	-0.308	-0.308

	0.016	0.015	0.680	0.803	0.306	0.306
	habitats_1	Temp_1	DO_1	DO%_1	Sal_1	Cond_1
Simps_1	0.285	-0.527	-0.173	-0.187	-0.016	0.066
	0.346	0.064	0.571	0.541	0.957	0.831
Marg_1	0.794	-0.670	0.248	0.176	-0.495	-0.698
	0.001	0.012	0.415	0.566	0.086	0.008
sed_1	-0.204	0.135	-0.180	-0.112	0.096	-0.152
	0.504	0.660	0.556	0.715	0.756	0.621

	pH_1	Turb_1	Canopy_1	Rich_1	Abund_1	Piel_1
Turb_1	0.179					
	0.559					
Canopy_1	-0.429	-0.696				
	0.144	0.008				
Rich_1	0.304	-0.303	0.044			
	0.312	0.315	0.886			
Abund_1	0.316	0.055	-0.409	0.762		
	0.292	0.859	0.165	0.002		
Piel_1	-0.531	0.011	0.155	-0.102	-0.033	
	0.062	0.972	0.614	0.741	0.915	
Shann_1	0.017	-0.566	0.337	0.578	0.407	0.286
	0.957	0.044	0.260	0.039	0.168	0.344
Simps_1	-0.223	-0.313	0.155	0.294	0.363	0.637
	0.464	0.297	0.614	0.329	0.223	0.019
Marg_1	0.066	-0.764	0.619	0.630	0.187	-0.121
	0.830	0.002	0.024	0.021	0.541	0.694
sed_1	-0.079	0.124	-0.141	0.264	0.354	-0.326
	0.798	0.687	0.645	0.383	0.235	0.277

	Shann_1	Simps_1	Marg_1
Simps_1	0.863		
	0.000		
Marg_1	0.742	0.379	
	0.004	0.201	
sed_1	-0.326	-0.388	-0.062
	0.277	0.191	0.841

Cell Contents: Spearman rho
P-Value

Table C-3. Homosassa River System Pooled Zones Raw Correlation Matrix Results

ALL ZONES FROM HOMOSASSA
Spearman Rho: habitats_1_1, Temp_1_1, DO_1_1, DO%_1_1, Sal_1_1, Cond_1_1, pH_1_1, ...

	habitats_1_1	Temp_1_1	DO_1_1	DO%_1_1	Sal_1_1
Temp_1_1	-0.829				
	0.001				
DO_1_1	-0.645	0.664			
	0.023	0.018			
DO%_1_1	-0.730	0.685	0.979		
	0.007	0.014	0.000		
Sal_1_1	-0.403	0.427	0.378	0.469	
	0.193	0.167	0.226	0.124	
Cond_1_1	-0.403	0.427	0.378	0.469	1.000
	0.193	0.167	0.226	0.124	*
pH_1_1	-0.314	0.347	0.757	0.736	0.140
	0.320	0.269	0.004	0.006	0.664

Turb_1_1	-0.554	0.587	0.266	0.301	0.140
	0.062	0.045	0.404	0.342	0.665
	habitats_1_1	Temp_1_1	DO_1_1	DO%_1_1	Sal_1_1
Canopy_1_1	0.772	-0.796	-0.669	-0.768	-0.775
	0.003	0.002	0.017	0.004	0.003
Rich_1_1	0.456	-0.434	-0.259	-0.277	-0.504
	0.137	0.158	0.416	0.384	0.094
Abund_1_1	0.249	-0.077	0.273	0.210	0.056
	0.434	0.812	0.391	0.513	0.863
Piel_1_1	-0.037	-0.077	0.077	0.091	-0.196
	0.910	0.812	0.812	0.779	0.542
Shann_1_1	0.462	-0.406	-0.224	-0.238	-0.441
	0.130	0.191	0.484	0.457	0.152
Simps_1_1	0.334	-0.217	-0.091	-0.126	-0.322
	0.289	0.499	0.779	0.697	0.308
Marg_1_1	0.539	-0.476	-0.497	-0.524	-0.545
	0.071	0.118	0.101	0.080	0.067
sed_1_1	-0.239	0.398	0.228	0.137	-0.410
	0.455	0.200	0.477	0.672	0.186

	Cond_1_1	pH_1_1	Turb_1_1	Canopy_1_1	Rich_1_1
pH_1_1	0.140				
	0.664				
Turb_1_1	0.140	0.326			
	0.665	0.301			
Canopy_1_1	-0.775	-0.332	-0.296		
	0.003	0.292	0.351		
Rich_1_1	-0.504	-0.174	-0.308	0.430	
	0.094	0.589	0.330	0.163	

Abund_1_1	0.056	-0.014	-0.406	-0.056	0.424
	0.863	0.966	0.191	0.862	0.170
	Cond_1_1	pH_1_1	Turb_1_1	Canopy_1_1	Rich_1_1
Piel_1_1	-0.196	0.298	-0.105	0.092	0.319
	0.542	0.347	0.746	0.777	0.313
Shann_1_1	-0.441	0.035	-0.343	0.373	0.781
	0.152	0.914	0.276	0.232	0.003
Simps_1_1	-0.322	0.081	-0.308	0.239	0.564
	0.308	0.803	0.331	0.454	0.056
Marg_1_1	-0.545	-0.396	-0.350	0.542	0.911
	0.067	0.203	0.265	0.069	0.000
sed_1_1	-0.410	0.120	0.546	0.069	0.085
	0.186	0.711	0.066	0.832	0.792

	Abund_1_1	Piel_1_1	Shann_1_1	Simps_1_1	Marg_1_1
Piel_1_1	-0.266				
	0.404				
Shann_1_1	0.217	0.706			
	0.499	0.010			
Simps_1_1	0.154	0.797	0.930		
	0.633	0.002	0.000		
Marg_1_1	0.168	0.378	0.762	0.608	
	0.602	0.226	0.004	0.036	
sed_1_1	-0.137	0.000	-0.023	0.057	0.148
	0.672	1.000	0.944	0.861	0.646

Cell Contents: Spearman rho
P-Value

Table C-4. Weeki Wachee River System Pooled Zones Raw Correlation Matrix Results

ALL ZONES FROM WEEKI WACHEE

Spearman Rho: habitats_1_1, Temp_1_1_1, DO_1_1_1, DO%_1_1_1, Sal_1_1_1, Cond_1_1_1, ...

	habitats_1_1_1	Temp_1_1_1	DO_1_1_1	DO%_1_1_1
Temp_1_1_1	0.364			
	0.422			
DO_1_1_1	0.144	0.955		
	0.758	0.001		
DO%_1_1_1	0.144	0.955	1.000	
	0.758	0.001	*	
Sal_1_1_1	-0.548	0.399	0.632	0.632
	0.203	0.375	0.127	0.127
Cond_1_1_1	-0.882	-0.083	0.164	0.164
	0.009	0.860	0.726	0.726
pH_1_1_1	-0.144	0.450	0.643	0.643
	0.758	0.310	0.119	0.119
Turb_1_1_1	-0.433	-0.252	0.000	0.000
	0.332	0.585	1.000	1.000
Canopy_1_1_1	0.144	0.180	0.321	0.321
	0.758	0.699	0.482	0.482
Rich_1_1_1	0.289	0.955	0.893	0.893
	0.530	0.001	0.007	0.007
Abund_1_1_1	-0.866	-0.541	-0.429	-0.429
	0.012	0.210	0.337	0.337
Piel_1_1_1	0.289	0.505	0.357	0.357
	0.530	0.248	0.432	0.432
Shann_1_1_1	0.577	0.757	0.607	0.607
	0.175	0.049	0.148	0.148

	Habitats_1_1_1	Temp_1_1_1	DO_1_1_1	DO%_1_1_1
Simps_1_1_1	0.433	0.414	0.214	0.214
	0.332	0.355	0.645	0.645
Marg_1_1_1	0.577	0.937	0.857	0.857
	0.175	0.002	0.014	0.014
sed_1_1_1	0.730	-0.080	-0.158	-0.158
	0.062	0.865	0.735	0.735

	Sal_1_1_1	Cond_1_1_1	pH_1_1_1	Turb_1_1_1
Cond_1_1_1	0.805			
	0.029			
pH_1_1_1	0.791	0.491		
	0.034	0.263		
Turb_1_1_1	0.474	0.473	0.393	
	0.282	0.284	0.383	
Canopy_1_1_1	0.474	0.073	0.750	0.464
	0.282	0.877	0.052	0.294
Rich_1_1_1	0.316	-0.055	0.393	-0.393
	0.490	0.908	0.383	0.383
Abund_1_1_1	0.158	0.655	-0.143	0.036
	0.735	0.111	0.760	0.939
Piel_1_1_1	-0.158	-0.182	0.071	-0.750
	0.735	0.696	0.879	0.052
Shann_1_1_1	-0.158	-0.455	0.143	-0.536
	0.735	0.305	0.760	0.215
Simps_1_1_1	-0.474	-0.473	-0.286	-0.679
	0.282	0.284	0.535	0.094
Marg_1_1_1	0.158	-0.327	0.357	-0.214
	0.735	0.474	0.432	0.645

	Sal_1_1_1	Cond_1_1_1	pH_1_1_1	Turb_1_1_1
sed_1_1_1	-0.400	-0.564	0.158	0.000
	0.374	0.188	0.735	1.000

	Canopy_1_1_1	Rich_1_1_1	Abund_1_1_1	Piel_1_1_1
Rich_1_1_1	0.000			
	1.000			
Abund_1_1_1	-0.429	-0.357		
	0.337	0.432		
Piel_1_1_1	-0.357	0.714	0.000	
	0.432	0.071	1.000	
Shann_1_1_1	-0.107	0.857	-0.464	0.821
	0.819	0.014	0.294	0.023
Simps_1_1_1	-0.571	0.607	-0.143	0.857
	0.180	0.148	0.760	0.014
Marg_1_1_1	0.179	0.893	-0.714	0.500
	0.702	0.007	0.071	0.253
sed_1_1_1	0.474	-0.158	-0.632	0.000
	0.282	0.735	0.127	1.000

	Shann_1_1_1	Simps_1_1_1	Marg_1_1_1
Simps_1_1_1	0.857		
	0.014		
Marg_1_1_1	0.857	0.536	
	0.014	0.215	
sed_1_1_1	0.158	0.000	0.158
	0.735	1.000	0.735

Cell Contents: Spearman rho
P-Value

Table C-5. Springs Only Zones from all Systems Pooled Raw Correlation Matrix Results

Spearman Rho: %grz-gpod, Temp, DO mg/L, DO %, Salinity ppt, Sp.Cond, pH, Turbidity NT, ...

	%grz-gpod	Temp	DO mg/L	DO %
Temp	-0.048			
	0.911			
DO mg/L	-0.095	0.048		
	0.823	0.911		
DO %	-0.095	0.048	1.000	
	0.823	0.911	*	
Salinity ppt	0.024	-0.119	0.167	0.167
	0.955	0.779	0.693	0.693
Sp.Cond	0.024	-0.119	0.167	0.167
	0.955	0.779	0.693	0.693
pH	-0.595	-0.190	0.405	0.405
	0.120	0.651	0.320	0.320
Turbidity NTU	-0.214	0.310	0.500	0.500
	0.610	0.456	0.207	0.207
Canopy Cover %	-0.571	-0.214	0.643	0.643
	0.139	0.610	0.086	0.086
Richness	-0.405	0.262	0.524	0.524
	0.320	0.531	0.183	0.183
Abundance	0.071	0.190	-0.262	-0.262
	0.867	0.651	0.531	0.531
Margalefs	-0.286	0.071	0.667	0.667
	0.493	0.867	0.071	0.071
Pielous	-0.500	0.095	0.214	0.214
	0.207	0.823	0.610	0.610

Shannons	-0.238	-0.310	0.571	0.571
	0.570	0.456	0.139	0.139
Simpsons	-0.405	-0.286	0.381	0.381
	0.320	0.493	0.352	0.352
Log Shannons	-0.238	-0.310	0.571	0.571
	0.570	0.456	0.139	0.139
Log Richness	-0.405	0.262	0.524	0.524
	0.320	0.531	0.183	0.183
Log abundance	0.071	0.190	-0.262	-0.262
	0.867	0.651	0.531	0.531
grz-gpod ab	0.238	0.143	-0.381	-0.381
	0.570	0.736	0.352	0.352

	Salinity ppt	Sp.Cond	pH	Turbidity NTU
Sp.Cond	1.000			
	*			
pH	-0.048	-0.048		
	0.911	0.911		
Turbidity NTU	0.238	0.238	0.024	
	0.570	0.570	0.955	
Canopy Cover %	-0.238	-0.238	0.786	0.000
	0.570	0.570	0.021	1.000
Richness	-0.262	-0.262	0.762	-0.095
	0.531	0.531	0.028	0.823
Abundance	-0.548	-0.548	0.190	-0.238
	0.160	0.160	0.651	0.570
Margalefs	-0.048	-0.048	0.333	-0.119
	0.911	0.911	0.420	0.779

Pielous	-0.048	-0.048	0.190	-0.214
	0.911	0.911	0.651	0.610
Shannons	-0.048	-0.048	0.381	-0.262
	0.911	0.911	0.352	0.531
Simpsons	-0.048	-0.048	0.381	-0.381
	0.911	0.911	0.352	0.352
Log Shannons	-0.048	-0.048	0.381	-0.262
	0.911	0.911	0.352	0.531
Log Richness	-0.262	-0.262	0.762	-0.095
	0.531	0.531	0.028	0.823
Log abundance	-0.548	-0.548	0.190	-0.238
	0.160	0.160	0.651	0.570
grz-gpod ab	-0.786	-0.786	-0.048	-0.357
	0.021	0.021	0.911	0.385

	Canopy Cover %	Richness	Abundance	Margalefs
Richness	0.786			
	0.021			
Abundance	0.000	0.357		
	1.000	0.385		
Margalefs	0.762	0.667	-0.262	
	0.028	0.071	0.531	
Pielous	0.524	0.357	-0.524	0.762
	0.183	0.385	0.183	0.028
Shannons	0.786	0.500	-0.405	0.905
	0.021	0.207	0.320	0.002
Simpsons	0.762	0.500	-0.333	0.881
	0.028	0.207	0.420	0.004
Log Shannons	0.786	0.500	-0.405	0.905

	0.021	0.207	0.320	0.002
Log Richness	0.786	1.000	0.357	0.667
	0.021	*	0.385	0.071
Log abundance	0.000	0.357	1.000	-0.262
	1.000	0.385	*	0.531
grz-gpod ab	-0.095	0.048	0.333	-0.214
	0.823	0.911	0.420	0.610

	Pielous	Shannons	Simpsons	Log Shannons
Shannons	0.762			
	0.028			
Simpsons	0.833	0.952		
	0.010	0.000		
Log Shannons	0.762	1.000	0.952	
	0.028	*	0.000	
Log Richness	0.357	0.500	0.500	0.500
	0.385	0.207	0.207	0.207
Log abundance	-0.524	-0.405	-0.333	-0.405
	0.183	0.320	0.420	0.320
grz-gpod ab	0.000	-0.119	-0.167	-0.119
	1.000	0.779	0.693	0.779

	Log Richness	Log abundance
Log abundance	0.357	
	0.385	
grz-gpod ab	0.048	0.333
	0.911	0.420

Cell Contents: Spearman rho
P-Value

Appendix D
Correlation Matrix Tables

Table D-1. Chassahowitzka River System Pooled Zones Correlation Matrix Data

Physical-Chemical Parameters	Distance from Headspring (km)	Richness (# of taxa)	Abundance (total # of individuals/m^2)	Margalef's Richness Index (d)	Pielou's Evenness Index (J')	Shannon's Diversity Index (H'(loge))	Simpson's Diversity Index (1-Lambda')
Distance from Headspring (km)	NA	**R = -0.861, p = 0.006** **Rho = -0.743, p = 0.035** Tau = -0.536, p = 0.081	R = 0.049, p = 0.908 Rho = 0.143, p = 0.736 Tau = 0.143, p = 0.711	**R = -0.917, p = 0.001** **Rho = -0.952, p = 0.000** **Tau = -0.857, p = 0.004**	R = -0.080, p = 0.851 Rho = 0.095, p = 0.823 Tau = 0.071, p = 0.902	R = -0.519, p = 0.187 Rho = -0.690, p = 0.058 Tau = -0.500, p = 0.108	R = -0.263, p = 0.530 Rho = 0.024, p = 0.955 Tau = 0.000, p = 1.000
Water Temperature (°C)	**R = 0.887, p = 0.003** **Rho = 0.812, p = 0.015** Tau = 0.571, p = 0.063	**R = -0.837, p = 0.010** Rho = -0.551, p = 0.157 Tau = -0.321, p = 0.319	R = -0.138, p = 0.745 Rho = 0.048, p = 0.911 Tau = 0.000, p = 1.000	**R = -0.868, p = 0.005** **Rho = -0.810, p = 0.015** Tau = -0.571, p = 0.063	R = -0.462, p = 0.250 Rho = -0.310, p =0.456 Tau = -0.214, p = 0.536	**R = -0.795, p = 0.018** **Rho = -0.786, p = 0.021** **Tau = -0.643, p = 0.035**	R = -0.616, p = 0.104 Rho = -0.357, p = 0.385 Tau = -0.286, p = 0.386
Dissolved Oxygen (mg/L)	R = -0.015, p = 0.971 Rho = -0.252., p = 0.548 Tau = -0.107, p = 0.803	R = -0.071, p = 0.867 Rho = 0.331, p = 0.423 Tau = 0.357, p = 0.258	R = -0.083, p = 0.845 Rho = 0.204, p = 0.629 Tau = 0.179, p = 0.618	R = -0.106, p = 0.803 Rho = 0.252, p = 0.548 Tau = 0.107, p = 0.803	**R = -0.909, p = 0.002** **Rho = -0.802, p = 0.017** **Tau = -0.607, p = 0.046**	R = -0.663, p = 0.073 Rho = 0.036, p = 0.932 Tau = 0.036, p = 1.000	**R = -0.836, p = 0.010** Rho = -0.515, p = 0.192 Tau = -0.393, p = 0.212
Dissolved Oxygen (%)	R = 0.045, p = 0.915 Rho = -0.238 , p = 0.570 Tau = -0.071, p = 0.902	R = -0.132, p = 0.756 Rho = 0.311, p = 0.453 Tau = 0.321, p = 0.319	R = -0.098, p = 0.817 Rho = 0.238, p = 0.570 Tau = 0.214, p = 0.536	R = -0.159, p = 0.706 Rho = 0.238, p = 0.570 Tau = 0.071, p = 0.902	**R = -0.917, p = 0.001** **Rho = -0.786, p = 0.021** Tau = -0.571, p = 0.063	R = -0.702, p = 0.052 Rho = 0.024, p = 0.955 Tau = 0.000, p = 1.000	**R = -0.859, p = 0.006** Rho = -0.500, p = 0.207 Tau = -0.357, p = 0.266
Salinity (ppt)	**R = 0.918, p = 0.001** **Rho = 0.929, p = 0.001** **Tau = 0.786, p = 0.009**	R = -0.624, p = 0.098 Rho = -0.491, p = 0.217 Tau = -0.321, p = 0.319	R = 0.357, p = 0.386 Rho = 0.405, p = 0.320 Tau = 0.357, p = 0.266	**R = -0.912, p = 0.002** **Rho = -0.881, p = 0.004** **Tau = -0.786, p = 0.009**	R = -0.174, p = 0.680 Rho = 0.119, p = 0.779 Tau = 0.143, p = 0.711	R = -0.471, p = 0.239 Rho = -0.571, p = 0.139 Tau = -0.429, p = 0.174	R = -0.248, p = 0.553 Rho = 0.095, p = 0.823 Tau = 0.071, p = 0.902
Conductivity (µS/cm)	**R = 0.914, p = 0.001** **Rho = 0.929, p = 0.001** **Tau = 0.786, p = 0.009**	R = -0.617, p = 0.103 Rho = -0.491, p = 0.217 Tau = -0.321, p = 0.319	R = 0.362, p = 0.378 Rho = 0.405, p = 0.320 Tau = 0.357, p = 0.266	**R = -0.913, p = 0.002** **Rho = -0.881, p = 0.004** **Tau = -0.786, p = 0.009**	R = -0.182, p = 0.667 Rho = 0.119, p = 0.779 Tau = 0.143, p = 0.711	R = -0.475, p = 0.234 Rho = -0.571, p = 0.139 Tau = -0.429, p = 0.174	R = -0.253, p = 0.546 Rho = 0.095, p = 0.823 Tau = 0.071, p = 0.092
pH	R = 0.121, p = 0.775 Rho = -0.275, p = 0.509 Tau = -0.182, p = 0.618	R = -0.211, p = 0.616 Rho = 0.307, p = 0.459 Tau = 0.286, p = 0.379	R = -0.139, p = 0.742 Rho = 0.132, p = 0.756 Tau = 0.107, p = 0.803	R = -0.243, p = 0.562 Rho = 0.228, p = 0.588 Tau = 0.036, p = 1.000	**R = -0.943, p = 0.000** **Rho = -0.874, p = 0.005** **Tau = -0.679, p = 0.025**	**R = -0.776, p = 0.023** Rho = -0.036, p = 0.933 Tau = -0.036, p = 1.000	**R = -0.904, p = 0.002** Rho = -0.635, p = 0.091 Tau = -0.464, p = 0.135
Turbidity (NTU)	**R = 0.723, p = 0.043** **Rho = 0.881, p = 0.004** **Tau = 0.714, p = 0.019**	R = -0.619, p = 0.102 Rho = -0.683, p = 0.062 Tau = -0.536, p = 0.081	R = -0.210, p = 0.618 Rho = 0.000, p = 1.000 Tau = 0.000, p = 1.000	R = -0.638, p = 0.089 **Rho = -0.952, p = 0.000** **Tau = -0.857, p = 0.004**	R = 0.128, p = 0.762 Rho = -0.071, p = 0.867 Tau = -0.071, p = 0.902	R = -0.268, p = 0.520 **Rho = -0.833, p = 0.010** **Tau = -0.643, p = 0.035**	R = -0.032, p = 0.939 Rho = -0.262, p = 0.531 Tau = -0.286, p = 0.386
Canopy Cover (%)	R = -0.684, p = 0.061 **Rho = -0.756, p = 0.030** **Tau = -0.607, p = 0.042**	R = 0.404, p = 0.321 Rho = 0.614, p = 0.106 Tau = 0.464, p = 0.124	R = -0.437, p = 0.278 Rho = -0.195, p = 0.643 Tau = -0.107, p = 0.799	**R = 0.779, p = 0.023** **Rho = 0.781, p = 0.022** **Tau = 0.643, p = 0.042**	R = 0.266, p = 0.524 Rho = 0.342, p = 0.408 Tau = 0.250, p = 0.445	R = 0.416, p = 0.306 Rho = 0.659, p = 0.076 Tau = 0.464, p = 0.126	R = 0.267, p = 0.523 Rho = 0.317, p = 0.444 Tau = 0.179, p = 0.610

Table D-2. Homosassa River System Pooled Zones Correlation Matrix Data

Physical-Chemical Parameters	Distance from Headspring (km)	Richness (# of taxa)	Abundance (total # of individuals/m^2)	Margalef's Richness Index (d)	Pielou's Evenness Index (J')	Shannon's Diversity Index (H'(loge))	Simpson's Diversity Index (1-Lambda')
Distance from Headspring (km)	NA	R = -0.541, p = 0.210 Rho = -0.429, p = 0.337 Tau = -0.429, p = 0.230	R = -0.579, p = 0.173 Rho = -0.429, p = 0.337 Tau = -0.333, p = 0.368	R = -0.381, p = 0.398 Rho = -0.179, p = 0.702 Tau = -0.238, p = 0.548	R = 0.503, p = 0.250 Rho = 0.357, p = 0.432 Tau = 0.333, p = 0.368	R = 0.062, p = 0.895 Rho = 0.107, p = 0.819 Tau = -0.048, p = 1.000	R = 0.212, p = 0.649 Rho = 0.321, p = 0.482 Tau = 0.143, p = 0.764
Water Temperature (°C)	**R = 0.887, p = 0.008** **Rho = 0.893, p = 0.007** **Tau = 0.810, p = 0.016**	R = -0.315, p = 0.492 Rho = -0.214, p = 0.645 Tau = -0.238, p = 0.548	R = -0.508, p = 0.245 Rho = -0.250, p = 0.589 Tau = -0.143, p = 0.764	R = -0.123, p = 0.793 Rho = -0.143, p = 0.760 Tau = -0.238, p = 0.548	R = 0.344, p = 0.450 Rho = 0.071, p = 0.879 Tau = 0.143, p = 0.764	R = 0.064, p = 0.892 Rho = -0.143, p = 0.760 Tau = -0.238, p = 0.548	R = 0.161, p = 0.730 Rho = 0.000, p = 1.000 Tau = -0.048, p = 1.000
Dissolved Oxygen (mg/L)	R = 0.530, p = 0.221 Rho = 0.750, p = 0.052 Tau = 0.619, p = 0.072	R = -0.376, p = 0.406 Rho = -0.250, p = 0.589 Tau = -0.238, p = 0.548	R = 0.167, p = 0.720 Rho = 0.179, p = 0.702 Tau = 0.048, p = 1.000	R = -0.458, p = 0.301 Rho = -0.143, p = 0.760 Tau = -0.238, p = 0.548	R = 0.215, p = 0.643 Rho = 0.107, p = 0.819 Tau = 0.143, p = 0.764	R = -0.029, p = 0.950 Rho = 0.000, p = 1.000 Tau = -0.048, p = 1.000	R = 0.189, p = 0.685 Rho = 0.250, p = 0.589 Tau = 0.143, p = 0.764
Dissolved Oxygen (%)	R = 0.588, p = 0.165 Rho = 0.750, p = 0.052 Tau = 0.619, p = 0.072	R = -0.400, p = 0.373 Rho = -0.250, p = 0.589 Tau = -0.238, p = 0.548	R = 0.104, p = 0.824 Rho = 0.179, p = 0.702 Tau = 0.048, p = 1.000	R = -0.461, p = 0.298 Rho = -0.143, p = 0.760 Tau = -0.238, p = 0.548	R = 0.228, p = 0.622 Rho = 0.107, p = 0.819 Tau = 0.143, p = 0.764	R = -0.037, p = 0.937 Rho = 0.000, p = 1.000 Tau = -0.048, p = 1.000	R = 0.181, p = 0.698 Rho = 0.250, p = 0.589 Tau = 0.143, p = 0.764
Salinity (ppt)	**R = 0.813, p = 0.026** **Rho = 0.786, p = 0.036** **Tau = 0.714, p = 0.035**	**R = -0.759, p = 0.048** **Rho = -0.821, p = 0.023** **Tau = -0.714, p = 0.035**	R = -0.629, p = 0.130 Rho = -0.571, p = 0.180 Tau = -0.429, p = 0.230	R = -0.622, p = 0.136 Rho = -0.679, p = 0.094 Tau = -0.524, p = 0.133	R = 0.126, p = 0.788 Rho = 0.107, p = 0.819 Tau = 0.048, p = 1.000	R = -0.383, p = 0.397 Rho = -0.357, p = 0.432 Tau = -0.333, p = 0.368	R = -0.214, p = 0.645 Rho = -0.107, p = 0.819 Tau = -0.143, p = 0.764
Conductivity (µS/cm)	**R = 0.831, p = 0.020** **Rho = 0.786, p = 0.036** **Tau = 0.714, p = 0.035**	**R = -0.790, p = 0.035** **Rho = -0.821, p = 0.023** **Tau = -0.714, p = 0.035**	R = -0.615, p = 0.142 Rho = -0.571, p = 0.180 Tau = -0.429, p = 0.230	R = -0.665, p = 0.103 Rho = -0.679, p = 0.094 Tau = -0.524, p = 0.133	R = 0.126, p = 0.787 Rho = 0.107, p = 0.819 Tau = 0.048, p = 1.000	R = -0.398, p = 0.377 Rho = -0.357, p = 0.432 Tau = -0.333, p = 0.368	R = -0.223, p = 0.631 Rho = -0.107, p = 0.819 Tau = -0.143, p = 0.764
pH	R = 0.137, p = 0.769 Rho = 0.643, p = 0.119 Tau = 0.429, p = 0.230	R = -0.249, p = 0.590 Rho = -0.571, p = 0.180 Tau = -0.429, p = 0.230	R = 0.430, p = 0.336 Rho = 0.143, p = 0.760 Tau = 0.048, p = 1.000	R = -0.416, p = 0.353 Rho = -0.536, p = 0.215 Tau = -0.429, p = 0.230	R = 0.083, p = 0.859 Rho = -0.072, p = 0.879 Tau = -0.048, p = 1.000	R = -0.037, p = 0.937 Rho = -0.357, p = 0.432 Tau = -0.238, p = 0.548	R = 0.163, p = 0.727 Rho = -0.036, p = 0.939 Tau = -0.048, p = 1.000
Turbidity (NTU)	R = 0.689, p = 0.087 Rho = 0.643, p = 0.119 Tau = 0.429, p = 0.230	R = -0.646, p = 0.117 Rho = -0.536, p = 0.215 Tau = -0.429, p = 0.230	R = -0.576, p = 0.175 Rho = -0.536, p = 0.215 Tau = -0.333, p = 0.368	R = -0.500, p = 0.253 Rho = -0.571, p = 0.180 Tau = -0.429, p = 0.230	R = -0.224, p = 0.629 Rho = -0.107, p = 0.819 Tau = -0.048, p = 1.000	R = -0.589, p = 0.164 Rho = -0.571, p = 0.180 Tau = -0.429, p = 0.230	R = -0.523, p = 0.229 Rho = -0.464, p = 0.294 Tau = -0.429, p = 0.230
Canopy Cover (%)	**R = -0.862, p = 0.013** **Rho = -0.857, p = 0.014** **Tau = -0.714, p = 0.035**	R = 0.275, p = 0.550 Rho = 0.214, p = 0.644 Tau = 0.143, p = 0.764	R = 0.347, p = 0.446 Rho = 0.214, p = 0.645 Tau = 0.238, p = 0.548	R = 0.170, p = 0.716 Rho = 0.071, p = 0.879 Tau = 0.143, p = 0.764	R = -0.147, p = 0.753 Rho = 0.000, p = 1.000 Tau = -0.048, p = 1.000	R = 0.092, p = 0.844 Rho = -0.143, p = 0.760 Tau = -0.048, p = 1.000	R = 0.021, p = 0.965 Rho = -0.250, p = 0.589 Tau = -0.238, p = 0.548

Table D-3. Weeki Wachee River System Pooled Zones Correlation Matrix Data

Physical-Chemical Parameters	Distance from Headspring (km)	Richness (# of taxa)	Abundance (total # of individuals/m^2)	Margalef's Richness Index (d)	Pielou's Evenness Index (J')	Shannon's Diversity Index (H'(loge))	Simpson's Diversity Index (1-Lambda')
Distance from Headspring (km)	NA	R = 0.519, p = 0.233 Rho = 0.429, p = 0.337 Tau = 0.333, p = 0.368	R = -0.312, p = 0.495 Rho = -0.393, p = 0.383 Tau = -0.238, p = 0.548	R = 0.471, p = 0.287 Rho = 0.500, p = 0.253 Tau = 0.333, p = 0.368	R = -0.268, p = 0.561 Rho = -0.107, p = 0.819 Tau = 0.048, p = 1.000	R = -0.085, p = 0.857 Rho = 0.143, p = 0.760 Tau = 0.048, p = 1.000	R = -0.340, p = 0.456 Rho = -0.357, p = 0.432 Tau = -0.238, p = 0.548
Water Temperature (°C)	R = 0.510, p = 0.242 Rho = 0.577, p = 0.175 Tau = 0.476, p = 0.172	**R = 0.946, p = 0.001** **Rho = 0.955, p = 0.001** **Tau = 0.857, p = 0.010**	R = -0.720, p = 0.068 Rho = -0.541, p = 0.210 Tau = -0.381, p = 0.288	**R = 0.970, p = 0.000** **Rho = 0.937, p = 0.002** **Tau = 0.857, p = 0.010**	R = 0.476, p = 0.281 Rho = 0.505, p = 0.248 Tau = 0.381, p = 0.288	**R = 0.754, p = 0.050** **Rho = 0.757, p = 0.049** Tau = 0.571, p = 0.095	R = 0.502, p = 0.252 Rho = 0.414, p = 0.355 Tau = 0.286, p = 0.448
Dissolved Oxygen (mg/L)	R = 0.707, p = 0.076 Rho = 0.750, p = 0.052 Tau = 0.619, p = 0.072	**R = 0.878, p = 0.009** **Rho = 0.893, p = 0.007** **Tau = 0.714, p = 0.035**	R = -0.722, p = 0.067 Rho = -0.429, p = 0.337 Tau = -0.238, p = 0.548	**R = 0.909, p = 0.005** **Rho = 0.857, p = 0.014** **Tau = 0.714, p = 0.035**	R = 0.343, p = 0.452 Rho = 0.357, p = 0.432 Tau = 0.238, p = 0.548	R = 0.583, p = 0.169 Rho = 0.607, p = 0.148 Tau = 0.429, p = 0.230	R = 0.281, p = 0.542 Rho = 0.214, p = 0.645 Tau = 0.143, p = 0.764
Dissolved Oxygen (%)	R = 0.715, p = 0.071 Rho = 0.750, p = 0.052 Tau = 0.619, p = 0.072	**R = 0.877, p = 0.010** **Rho = 0.893, p = 0.007** **Tau = 0.714, p = 0.035**	R = -0.720, p = 0.068 Rho = -0.429, p = 0.337 Tau = -0.238, p = 0.548	**R = 0.907, p = 0.005** **Rho = 0.857, p = 0.014** **Tau = 0.714, p = 0.035**	R = 0.337, p = 0.460 Rho = 0.357, p = 0.432 Tau = 0.238, p = 0.548	R = 0.576, p = 0.176 Rho = 0.607, p = 0.148 Tau = 0.429, p = 0.230	R = 0.274, p = 0.552 Rho = 0.214, p = 0.645 Tau = 0.143, p = 0.764
Salinity (ppt)	**R = 0.940, p = 0.002** **Rho = 0.791, p = 0.034** Tau = 0.476, p = 0.081	R = 0.380, p = 0.400 Rho = 0.316, p = 0.490 Tau = 0.190, p = 0.561	R = -0.036, p = 0.939 Rho = 0.158, p = 0.735 Tau = 0.095, p = 0.846	R = 0.265, p = 0.565 Rho = 0.158, p = 0.735 Tau = 0.095, p = 0.846	R = -0.378, p = 0.403 Rho = -0.158, p = 0.735 Tau = -0.095, p = 0.846	R = -0.238, p = 0.608 Rho = -0.158, p = 0.735 Tau = -0.095, p = 0.846	R = -0.457, p = 0.303 Rho = -0.474, p = 0.282 Tau = -0.286, p = 0.333
Conductivity (µS/cm)	**R = 0.891, p = 0.007** Rho = 0.346, p = 0.448 Tau = 0.143, p = 0.759	R = 0.276, p = 0.549 Rho = -0.055, p = 0.908 Tau = -0.048, p = 1.000	R = 0.108, p = 0.817 Rho = 0.655, p = 0.111 Tau = 0.429, p = 0.219	R = 0.134, p = 0.775 Rho = -0.327, p = 0.474 Tau = -0.238, p = 0.539	R = -0.443, p = 0.320 Rho = -0.182, p = 0.696 Tau = -0.143, p = 0.759	R = -0.343, p = 0.451 Rho = -0.455, p = 0.305 Tau = -0.333, p = 0.356	R = -0.513, p = 0.239 Rho = -0.473, p = 0.284 Tau = -0.429, p = 0.219
pH	**R = 0.927, p = 0.003** **Rho = 0.929, p = 0.003** **Tau = 0.810, p = 0.016**	R = 0.558, p = 0.193 Rho = 0.393, p = 0.383 Tau = 0.333, p = 0.368	R = -0.339, p = 0.456 Rho = -0.143, p = 0.760 Tau = -0.048, p = 1.000	R = 0.539, p = 0.212 Rho = 0.357, p = 0.432 Tau = 0.333, p = 0.368	R = -0.124, p = 0.791 Rho = 0.071, p = 0.879 Tau = 0.048, p = 1.000	R = 0.050, p = 0.914 Rho = 0.143, p = 0.760 Tau = 0.048, p = 1.000	R = -0.222, p = 0.632 Rho = -0.286, p = 0.535 Tau = -0.238, p = 0.548
Turbidity (NTU)	R = 0.685, p = 0.090 Rho = 0.464, p = 0.294 Tau = 0.333, p = 0.368	R = -0.002, p = 0.996 Rho = -0.393, p = 0.383 Tau = -0.333, p = 0.368	R = 0.028, p = 0.953 Rho = 0.036, p = 0.939 Tau = 0.048, p = 1.000	R = -0.040, p = 0.932 Rho = -0.214, p = 0.645 Tau = -0.143, p = 0.764	R = -0.713, p = 0.072 Rho = -0.750, p = 0.052 Tau = -0.619, p = 0.072	R = -0.547, p = 0.204 Rho = -0.536, p = 0.215 Tau = -0.429, p = 0.230	R = -0.652, p = 0.113 Rho = -0.679, p = 0.094 Tau = -0.524, p = 0.133
Canopy Cover (%)	R = 0.536, p = 0.215 **Rho = 0.821, p = 0.023** Tau = 0.619, p = 0.072	R = 0.129, p = 0.784 Rho = 0.000, p = 1.000 Tau = -0.048, p = 1.000	R = -0.530, p = 0.221 Rho = -0.429, p = 0.337 Tau = -0.238, p = 0.548	R = 0.291, p = 0.526 Rho = 0.179, p = 0.702 Tau = 0.143, p = 0.764	R = -0.287, p = 0.533 Rho = -0.357, p = 0.432 Tau = -0.333, p = 0.368	R = -0.096, p = 0.837 Rho = -0.107, p = 0.819 Tau = -0.143, p = 0.764	R = -0.395, p = 0.380 Rho = -0.571, p = 0.180 Tau = -0.429, p = 0.230

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