Cypress Creek

STREAM HABITAT ASSESSMENT, STREAM CONDITIONS INDEX, LINEAR VEGETATION SURVEY, RAPID PERIPHYTON SURVEY AND WATER QUALITY

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Methods

STUDY AREA ANALYISIS

The watershed containing the stream being assessed was analyzed using ESRI ArcGIS 10.2. Using this software with 2016 Hillsborough County aerial, 2011 Land Use/ Land Cover (LULC) and Watershed boundary (WBID) layers courtesy of the Florida Department of Environmental Protection. The Landscape Development Intensity Index (LDI) was calculated for the WBID containing the stream. From FDEP "The Landscape Development Intensity index (LDI) is an estimate of how much humans have altered an area of interest around a waterbody. Various land use types (low density residential, row crops, industrial and natural) are assigned coefficients of land use intensity based on estimates of the amount of human energy that is put into those land use types.

The LDI is calculated by multiplying each land use coefficient by the percentage of the area of interest occupied by that land use, and then summing the results. The Florida Department of Environmental Protection (DEP) uses the LDI as a tool to estimate potential land use impacts on streams, lakes, and wetlands. LDI values less than two (≤ 2) can be considered minimally disturbed." In the Florida framework, the maximum LDI index score is approximately 42.

HABITAT AND VEGETATION ASSESSMENT

For small streams that are not easily navigated by Jonboat for bathymetric mapping and vegetation analysis, Hillsborough County requested the implementation of the Florida Department of Environmental Protection methods for Stream and River Habitat Assessment (FT 3100) (http://www.dep.state.fl.us/water/sas/sop/sops.htm) using forms FD 9000-3, FD 9000-4 and FD 9000-5, Rapid Periphyton Survey (FS 7230) using form FD 9000-25 and Linear Stream Vegetation Survey (FS 7320) using form FD 9000-32. These methods were utilized on two sampling locations on each stream, typically near access points along roadways.

Stream and River Habitat Assessment per FT3100 receives a score calculated in Form FD 9000-5. This score results from the ranking of the primary habitat components (substrate diversity, substrate availability, water velocity and habitat smothering) and secondary habitat components (Artificial channelization, bank stability, riparian buffer zone width and riparian zone vegetation quality). The maximum score possible in this method is a 160.

Two metrics are utilized in the Linear Vegetation Survey. The Mean Coefficient of Conservatism (CoC) applies a score of 0-10 to each species based on its ecological tolerances and fidelity to pre-settlement conditions. Species with higher scores show a high fidelity to native, undisturbed habitats and are typically sensitive to alterations. Available CoC scores can be obtained from LT 7000 from the Florida Department of Environmental Protection at: http://www.dep.state.fl.us/water/sas/sop/sops.htm. The Percent Florida Exotic Pest Plant Council (% FLEPPC) metric calculates the percent invasive exotics as the number of occurrences of FLEPPC Category I or II in the 100 m reach divided by the total number of taxa occurrences in the 100 m reach. The FLEPPC list can be found at: http://www.fleppc.org/list/11list.html

STREAM CONDITION INDEX ASSESSMENT

The Stream Condition Index (SCI) was sampled per DEP SOP FS7420 and calculated per DEP SOP LT7200. The SCI consists of collecting macroinvertebrates via 20 D-frame dipnet sweeps (0.5 m in length) in the most productive habitats in a 100 m reach of stream. The organisms are sub-sampled, and identified to the lowest practical taxonomic level. The SCI is composed of ten metrics, eight of which decrease in response to human disturbance, with two metrics (% very tolerant and % dominant) increasing in response to human disturbance. According to DEP SOP LT 7000, the SCI score ranges and categories are: (68-100) Exceptional; (35-67) Healthy; and (0-34) Impaired. Proposed biological health assessment criteria state that a site is considered to meet designated uses if the average of the two most recent SCI scores is 40 or higher and neither of those scores is less than 35.

WATER QUALITY ASSESSMENT

Physical water quality samples were taken using a Eureka Manta Sub-2 multiprobe pre and post calibrated daily. Measurements taken with this device include: depth, conductivity, pH, Dissolved Oxygen (mg/l and % Saturation) and salinity. Chemical water parameters were collected and preserved on ice by USF Water Institute staff and analyzed at the Environmental Protection Commission of Hillsborough County Laboratory. Analysis include; Chlorophyll (a, b, c, t and corrected), Alkalinity, Color, E. Coli, Enterococci, Ammonia, Nitrates/Nitrites, Total Phosphorous, Kjeldahl Nitrogen and Total Nitrogen.

Study Area

Cypress Creek is located in north eastern Hillsborough County. Its headwaters are located north of Countyline Rd and the outfall of Cypress Creek is in the Hillsborough River. The assessment of Cypress Creek was conducted on March 15, 2018. At the time of the assessment, the water levels were near seasonal low. The Cypress Creek WBID covers 31.2 square miles and is dominated natural (49.7%, residential (27.1%), transportation (3.8%) and agricultural (3.3%). The resulting calculated landscape development intensity index score was 3.87.

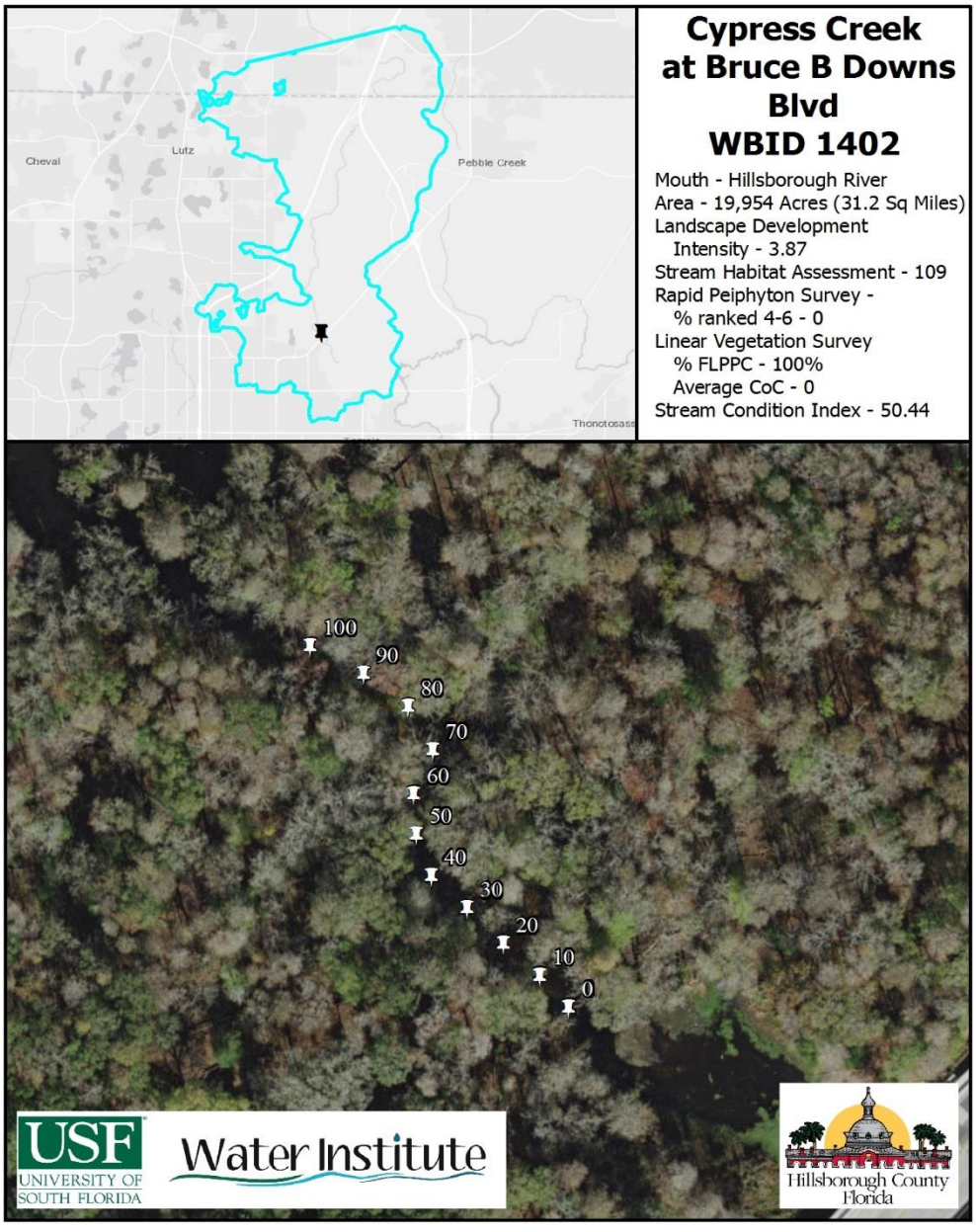

Figure 1 2018 Cypress Creek Study Area Map

Habitat and Vegetation Assessment

Figure 2 Overview photograph of Cypress Creek at Bruce B. Downs Blvd Sample Site

The region of Cypress Creek where the assessment was conducted is in a dominant natural area. The region was heavily shaded with a mean canopy cover measurement of 84.9%. Cypress Creek averaged 0.20 meters in depth, approximately 7.4 meters wide with a flow of 0.4 m/s.

The primary habitat components of the FDEP Habitat Assessment focus on in-water habitat. The primary habitat components score in the optimal category for Water Velocity. Habitat Smothering scored in the marginal category due to insufficient pools and sand smothering. Substrate Diversity and Substrate Availability scored in the Poor category due to a single major productive habitat (Sand) comprising 5% of the stream area. Minor habitats included aquatic macrophytes, leaf packs and sand. The total score for the primary habitat components was a 37 out of 80.

The secondary habitat components of the FDEP Habitat Assessment focus on the surrounding features of the stream. Cypress Creek flows through a large area of preserve property. At the water level at the time of assessment, Cypress Creek flows as a defined channel through a forested flood plain. The secondary habitat components scored in the optimal category for Artificial Channelization, Bank Stability, Riparian Buffer Width and Riparian Zone Vegetation

Quality. The riparian buffer zone surrounding the stream was greater than 18 meters on both banks and consisted of native trees including *Taxodium, Nyssa* and *Fraxinus*. The vegetation in the stream itself was dominated by non-native invasive species likely from an upstream source. The secondary habitat components received a score of 72 out of 80. The resulting FDEP Habitat Assessment score was a 109.

Periphyton was not encountered during the 99 samples taken during the Rapid Periphyton Survey. The tree canopy in the assessment area averaged 84.9% limiting available sunlight.

The FDEP Linear Vegetation Survey encountered two herbaceous species in Cypress Creek. Both *Eichhornia* and *Hygrophila* are non-native invasive species. Neither species were abundant accounting for only 1.3 square meters combined. Both species are typically transmitted from upstream sources.

Table 1 Linear Vegetation Survey Results – Cypress Creek

Plant Species	CoC	Sample Site										Obsevations /Species
		0-10m	10-20m	20-30m	30-40m	40-50m	50-60m	60-70m	70-80m	80-90m	90-100m	
Hygrophola polysperma	0	1	1	1	1	1	1	1	1	1	1	10
Eichhornia crassipes	0										1	1
Observations/station		1	1	1	1	1	1	1	1	1	2	11
Total Observations	11											
Mean CoC	0											
% FLEPPC	100%											

Figure 3 Example of the major productive habitat in Cypress Creek

Stream Condition Index

The analysis of the SCI sample involves splitting the sample into 2 aliquots for analysis. The SCI metrics are then calculated on each separately. The final SCI score is an average of the two scores. The SCI score for Cypress Creek was 50.44 out of a possible 100 points, corresponding with a "Healthy" designation, with the expected community of a healthy stream.

High scores were achieved for the % Filter Feeders and % Tanytarsini metrics in both subsamples. Both subsamples also contained a single sensitive taxa. Subsample B contained a Long Lived Taxa. The full results of the SCI sampling are shown in Table 3 (Sample A) and Table 4 (Sample B) for Cypress Creek

Table 2 SCI metric summaries for Cypress Creek

SCI Metric	Raw Totals	SCI scores	Adjusted SCI scores
Total Taxa	30.00	6.25	6.25
Total Ephemeroptera	1.00	2.00	2.00
Total Trichoptera	3.00	4.29	4.29
% Filter Feeders	37.07	8.46	8.46
Total Clingers	2.00	2.86	2.86
Total Long-lived Taxa	0.00	0.00	0.00
% Dominance	30.61	6.68	6.68
% Tanytarsini	36.73	10.68	10.00
Total Sensitive Taxa	1.00	1.43	1.43
% Very Tolerant Individuals	25.17	3.59	3.59
SCI Sum	45.55		
Final SCI score	50.61		

SCI Metric	Raw Totals	SCI scores	Adjusted SCI scores
Total Taxa	25.00	4.17	4.17
Total Ephemeroptera	2.00	4.00	4.00
Total Trichoptera	1.00	1.43	1.43
% Filter Feeders	37.50	8.56	8.56
Total Clingers	2.00	2.86	2.86
Total Long-lived Taxa	1.00	3.33	3.33
% Dominance	31.94	6.41	6.41
% Tanytarsini	36.11	10.63	10.00
Total Sensitive Taxa	1.00	1.43	1.43
% Very Tolerant Individuals	31.25	3.07	3.07
SCI Sum	45.25		
Final SCI score	50.28		

Cypress Creek SCIA
Stream Condition Index (SCI)
Samples Collected 03/15/2018
Project #: 6063170278

Stream Condition Index Results for Cypress Creek SCIA

Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Abundance	Collapsed Abundance	Taxa Presence	Ephemeroptera Taxa	Trichoptera Taxa	50% Filterer	100% Filterer	Clinger Taxa	Long-lived Taxa	Dominant Taxa	Tanytarsini	Sensitive Taxa	Very Tolerant Individuals	Specimen Notes
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	*Limnodrilus hoffmeisteri*	1	1	1	0	0	0	0	0	0		0	0	1	
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	*Aulodrilus pigueti*	1	1	1	0	0	0	0	0	0		0	0	0	
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	*Slavina appendiculata*	1	1	1	0	0	0	0	0	0		0	0	0	
Annelida		Clitellata	Hirudinida	Rhynchobdellida	Glossiphoniidae	*Helobdella papillata*	1	1	1	0	0	0	0	0	0		0	0	1	
Mollusca		Gastropoda	Heterobranchia	Hygrophila	Ancylidae	Ancylidae spp.	5	5	1	0	0	0	0	0	0		0	0	0	Damaged
Mollusca		Gastropoda	Heterobranchia	Hygrophila	Planorbidae	*Menetus dilatatus*	1	1	1	0	0	0	0	0	0		0	0	1	Reference collection
Mollusca		Bivalvia	Heterodonta	Veneroida	Sphaeriidae	Sphaeriidae spp.	1		0	0	0	0	0	0	0		0	0	0	Damaged
Mollusca		Bivalvia	Heterodonta	Veneroida	Sphaeriidae	*Musculium* spp.	1	2	1	0	0	0	2	0	0		0	0	0	
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Asellidae	*Caecidotea* spp.	5	5	1	0	0	0	0	0	0		0	1	0	
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	*Hyalella azteca* sp. complex	8	8	1	0	0	0	0	0	0		0	0	0	
Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Caenidae	*Caenis* spp.	1		0		0	0	0	0	0		0	0	0	Damaged
Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Caenidae	*Caenis diminuta*	11	12	1	1	0	0	0	0	0		0	0	0	
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Leptoceridae	*Oecetis avara*	1	1	1	0	1	0	0	0	0		0	0	0	
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	*Cheumatopsyche* spp.	1	1	1	0	1	0	1	1	0		0	0	0	
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydroptilidae	*Oxyethira* spp.	2	2	1	0	1	0	0	0	0		0	0	0	
Arthropoda	Hexapoda	Insecta	Pterygota	Coleoptera	Gyrinidae	*Dineutus* spp.	2	2	1	0	0	0	0	0	0		0	0	0	larvae
Arthropoda	Hexapoda	Insecta	Pterygota	Coleoptera	Dryopidae	Dryopidae spp.	1	1	1	0	0	0	0	0	0		0	0	0	larva
Arthropoda	Hexapoda	Insecta	Pterygota	Coleoptera	Scirtidae	*Scirtes* spp.	1	1	1	0	0	0	0	0	0		0	0	0	larva
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera		Diptera spp.	2		0	0	0	0	0	0	0		0	0	0	pupae, damaged
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	1		0	0	0	0	0	0	0		0	0	0	pupa
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	*Tanytarsus* spp.	4	4	1	0	0	2	0	0	0		4	0	0	Not T. sp. F
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	*Tanytarsus* sp. F	1	1	1	0	0	0.5	0	0	0		1	0	1	
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	*Cryptochironomus* spp.	1	1	1	0	0	0	0	0	0		0	0	1	
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	*Polypedilum halterale* group	1	1	1	0	0	0	0	0	0		0	0	0	
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	*Polypedilum flavum*	2	2	1	0	0	0	0	0	0		0	0	0	
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	*Polypedilum illinoense* group	29	30	1	0	0	0	0	0	0		0	0	30	
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	*Rheotanytarsus exiguus* group	43	45	1	0	0	0	45	1	0		45	0	0	
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	*Dicrotendipes* spp.	4	4	1	0	0	2	0	0	0		0	0	0	
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	*Polypedilum beckae*	2	2	1	0	0	0	0	0	0		0	0	2	
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	*Thienemanniella* spp.	2	2	1	0	0	0	0	0	0		0	0	0	
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	*Paratanytarsus* spp.	4	4	1	0	0	2	0	0	0		4	0	0	
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	*Cricotopus* or *Orthocladius*	4	4	1	0	0	0	0	0	0		0	0	0	
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Ceratopogonidae	Ceratopogonidae spp.	1	1	1	0	0	0	0	0	0		0	0	0	larva
Arthropoda	Hexapoda	Insecta	Pterygota	Neuroptera	Sisyridae	*Sisyra vicaria*	1	1	1	0	0	0	0	0	0		0	0	0	Reference collection

Table 3 SCI full results for Sample A

Cypress Creek SCIB
Stream Condition Index (SCI)
Samples Collected 03/15/2018
Project #: 6063170278

Stream Condition Index Results for Cypress Creek SCIB

Phylum	Subphylum	Class	Subclass	Order	Family	Taxa	Abundance	Collapsed Abundance	Taxa Presence	Ephemeroptera Taxa	Trichoptera Taxa	50% Filterer	100% Filterer	Clinger Taxa	Long-lived Taxa	Dominant Taxa	Tanytarsini	Sensitive Taxa	Very Tolerant Individuals	Specimen Notes
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	*Aulodrilus pigueti*	1	1	1	0	0	0	0	0	0		0	0	0	
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	*Pristina aequiseta*	1	1	1	0	0	0	0	0	0		0	0	0	
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	*Dero digitata*	1	1	1	0	0	0	0	0	0		0	0	1	
Annelida		Clitellata	Oligochaeta	Tubificida	Naididae	*Slavina appendiculata*	1	1	1	0	0	0	0	0	0		0	0	0	
Annelida		Clitellata	Hirudinida	Rhynchobdellida	Glossiphoniidae	*Helobdella stagnalis*	1	1	1	0	0	0	0	0	0		0	0	1	
Annelida		Clitellata	Hirudinida	Rhynchobdellida	Glossiphoniidae	*Helobdella papillata*	1	1	1	0	0	0	0	0	0		0	0	1	
Mollusca		Gastropoda	Heterobranchia	Hygrophila	Ancylidae	Ancylidae spp.	11	11	1	0	0	0	0	0	0		0	0	0	Damaged
Mollusca		Gastropoda	Heterobranchia	Hygrophila	Planorbidae	*Menetus dilatatus*	6	6	1	0	0	0	0	0	0		0	0	6	
Mollusca		Bivalvia	Heterodonta	Veneroida	Sphaeriidae	Sphaeriidae spp.	1	1	1	0	0	0	1	0	0		0	0	0	Damaged
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Isopoda	Asellidae	*Caecidotea* spp.	2	2	1	0	0	0	0	0	0		0	1	0	
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Amphipoda	Dogielinotidae	*Hyalella azteca* sp. complex	9	9	1	0	0	0	0	0	0		0	0	0	
Arthropoda	Crustacea	Malacostraca	Eumalacostraca	Decapoda	Cambaridae	Cambaridae spp.	1	1	1	0	0	0	0	0	1		0	0	0	Immature
Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Caenidae	*Caenis diminuta*	6	6	1	1	0	0	0	0	0		0	0	0	
Arthropoda	Hexapoda	Insecta	Pterygota	Ephemeroptera	Baetidae	*Labiobaetis frondalis*	1	1	1	1	0	0	0	0	0		0	0	0	
Arthropoda	Hexapoda	Insecta	Pterygota	Trichoptera	Hydropsychidae	*Cheumatopsyche* spp.	3	3	1	0	1	0	3	1	0		0	0	0	
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera		Diptera spp.	1		0	0	0	0	0	0	0		0	0	0	pupa, damaged
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	Chironomidae spp.	3		0	0	0	0	0	0	0		0	0	0	pupae
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	*Tanytarsus* spp.	4	4	1	0	0	2	0	0	0		4	0	0	
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	*Polypedilum illinoense* group	33	34	1	0	0	0	0	0	0		0	0	34	
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	*Rheotanytarsus exiguus* group	43	46	1	0	0	0	46	1	0		46	0	0	
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	*Dicrotendipes* spp.	2	2	1	0	0	1	0	0	0		0	0	0	
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	*Pentaneura inconspicua*	2	2	1	0	0	0	0	0	0		0	0	0	
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	*Polypedilum beckae*	2	2	1	0	0	0	0	0	0		0	0	2	
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	*Thienemanniella* spp.	2	2	1	0	0	0	0	0	0		0	0	0	
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	*Paratanytarsus* spp.	2	2	1	0	0	1	0	0	0		2	0	0	
Arthropoda	Hexapoda	Insecta	Pterygota	Diptera	Chironomidae	*Cricotopus* or *Orthocladius*	3	3	1	0	0	0	0	0	0		0	0	0	
Arthropoda	Hexapoda	Insecta	Pterygota	Neuroptera	Sisyridae	*Sisyra vicaria*	1	1	1	0	0	0	0	0	0		0	0	0	

Table 4 SCI full results for Sample B

Water Quality Assessment

Limited long-term water quality data is available for Cypress Creek. The data that is available was collected by the Hillsborough County Environmental Protection Commission, Florida LAKEWATCH and the Florida Department of Environmental Protection. Values for the physical water parameters begin in 1976 and continue through present. Values for the laboratory water parameters begin in 2005 through present including the sample taken along with this assessment. The 2018 USF Water Institute Assessment fall within the range of the previous data collections. Table 5 provides a summary of the Physical/Chemical conditions recorded at the site.

Table 5 Cypress Creek Physical Water Quality (Field)

Cypress Creek								
Date	**Depth (m)**	**Temp (°C)**	**pH**	**DO (mg/L)**	**DO (% Sat)**	**Cond (UMHO/cm**	**Salinity (PPT)**	**Secchi Depth (m)**
3/15/18	0.02	23.53	7.57	5.43	62.5	276	0.13	0.5
Mean POR		20.48	7.07	2.05	24.85	321	0.16	1.05

The chemical water quality analysis for Cypress Creek is shown in Table 6 along with mean values for the period of record for available parameters. Period of record mean and the sample for this assessment for Total Phosphorous values were below the nutrient region threshold developed by FDEP of 0.49 mg/L with a mean value of 0.053 mg/L (2005-2018). The three year geometric mean of Total Phosphorous was 0.079 mg/L. Total Phosphorous values for the sample from this assessment were 0.081 mg/L. Total Nitrogen values were below the nutrient region threshold developed by FDEP of 1.65 mg/L with a mean value of 1.088 mg/L (2005-2018). The three year geometric mean of Total Nitrogen was 1.061 mg/L. The Total Nitrogen value from the assessment was well below the threshold with a concentration of 0.744 mg/L. Chlorophyll-a corrected values fall within the site specific evaluation range of 3.2 µg/l to 20 µg/l for the period of record (3.45 µg/l 2005-2018), but above that value is exceeded for the most recent sample (23.1 µg/l) . For sites with Chlorophyll-a values in this range, the assessment is inconclusive of conditions reflecting an imbalance in flora. Elevated biomass of the bacterial parameters was observed in the long term dataset.

Table 6 Cypress Creek Water Quality (Laboratory)

Parameter	Cypress Creek	POR Mean	Units
Alkalinity	106		mg/LCaCO3
Nitrates/Nitrites	0.017	0.020	mg/L
E. Coli	27	118	#/100 ml
Enterococci	127	256	#/100 ml
Chlorophyll a	30.1	3.07	ug/L
Chlorophyll b	5.1		ug/L
Chlorophyll c	2.2		ug/L
Chlorophyll t	33.9		ug/L
Chlorophylla Corr	23.1	3.45	ug/L
Chlorophyll-pheo	10.3		ug/L
Ammonia	0.036	0.049	mg/L
Kjeldahl Nitrogen	0.727	1.119	mg/L
Total Nitrogen	0.744	1.088	mg/L
Total Phosphorus	0.081	0.053	mg/L
Color(345)F.45	34.1	116	Pt/Co

Conclusion

Cypress Creek at Bruce B. Downs Blvd is located in a preserve area. The stream itself was primarily unaltered in the region assessed. At the time of the habitat assessment, the water levels were low, corresponding to the end of the dry season, however sufficient habitat for macroinvertebrates was observed. Due to these factors, the Habit Assessment resulted in a suboptimal score of 109. Disruption to the vegetation community was observed in the results of the Linear Vegetation Survey with Cypress Creek not meeting either metric for Average Coefficient of Conservatism or the Percent FLEPPC. Cypress Creek did meet standards for the rapid periphyton survey with 0% of samples being ranked between 4 and 6. The historical water quality record for Cypress Creek showed acceptable concentrations of Total Phosphorous and Total Nitrogen. The results of the SCI sampling indicate that the stream is "healthy" based on the macroinvertebrate community. Table 7 summarizes the results of the nutrient sampling, floristic sampling, habitat assessment and SCI.

Table 7 Summary of Water Quality, Floristic Surveys and Habitat Assessments

Measure		Cypress Creek	Mean POR	Threshold
Total Phosphorous (mg/l)		0.081	0.053	< 0.49
Total Nitrogen (mg/l)		0.744	1.088	< 1.65
RPS (% Rank 4-6)		0.00%		< 25%
LVS	**Avg C of C**	0		≥ 2.5
	FLEPPC %	100.00%		< 25%
Chlorophyll (µg/l)		23.1	3.45	< 20 µg/l
Habitat Assessment		109		> 34
SCI		50.44		> 34