Title: Benthic community metrics track hydrologically stressed mangrove systems

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Supplemental Material

Supplemental table 1. Statistical comparisons between transects T1 and T2 based on habitat zone (Reference, Full canopy, Transitional, Dead) and time periods (winter, summer).

Variable	Test	Season	Factor	Value	p-value
Infauna Density	Two-way ANOVA	Winter	Zone	$F_{2,12}$=40.8323	**4.42E-06**
			Site	$F_{1,12}$=0.0933	0.7653
		Summer	Zone	$F_{2,12}$=0.0544	0.9473
			Site	$F_{1,12}$=0.2326	0.6383
Infauna Shannon diversity (H'log$_e$)	Two-way ANOVA	Winter	Zone	$F_{2,12}$=36.7929	**7.60E-06**
			Site	$F_{1,12}$=4.1346	0.06474
		Summer	Zone	$F_{2,12}$=1.0791	0.3707
			Site	$F_{1,12}$=0.0748	0.7891
Infauna Evenness (J')	Two-way ANOVA	Winter	Zone	$F_{2,12}$=36.1241	**8.35E-06**
			Site	$F_{1,12}$=1.1254	0.3097
		Summer	Zone	$F_{2,12}$=0.7914	0.4755
			Site	$F_{1,12}$=0.0011	0.9746
Infauna Composition	Two-way ANOSIM	Winter	Zone	R=0.872	**0.0002**
			Site	R=0.037	0.415
		Summer	Zone	R=0.634	**0.0001**
			Site	R=0.16	0.201
Epifauna Density	Two-way ANOVA	Winter	Zone	$F_{2,30}$=33.8724	**2.02E-08**
			Site	$F_{1,30}$=0.1889	0.667
		Summer	Zone	$F_{2,30}$=3.3828	**0.04734**
			Site	$F_{1,30}$=0.1439	0.7071
Epifauna Diversity (H'loge)	Two-way ANOVA	Winter	Zone	$F_{2,30}$=18.3833	**6.14E-06**
			Site	$F_{1,30}$=1.7192	0.1997
		Summer	Zone	$F_{2,30}$=2.7014	0.08341
			Site	$F_{1,30}$=4.3528	0.04555
Epifauna Composition	Two-way ANOSIM	Winter	Zone	R=0.583	**0.0001**
			Site	R=0.056	0.156
		Summer	Zone	R=0.685	**0.0001**
			Site	R=0.154	**0.022**
δ^{13}C - Fauna	Two-way ANOVA	Winter	Zone	$F_{2,135}$=64.3180	**<2e-16**
			Site	$F_{1,135}$=0.1973	0.6576
		Summer	Zone	$F_{2,166}$=77.2845	**<2e-16**
			Site	$F_{1,166}$=0.3592	0.5498
δ^{15}N - Fauna	Two-way ANOVA	Winter	Zone	$F_{2,135}$=0.6546	0.5213
			Site	$F_{1,135}$=0.3868	0.535
		Summer	Zone	$F_{2,166}$=0.0807	0.9225
			Site	$F_{1,166}$=1.4012	0.2382
δ^{13}C - Producer	Two-way ANOVA	Winter	Zone	$F_{2,68}$=1.7959	0.1738
			Site	$F_{1,68}$=1.1726	0.7226
		Summer	Zone	$F_{2,179}$=35.6806	**2.51E-07**
			Site	$F_{1,179}$=0.0664	0.8969
δ^{15}N - Producer	Two-way ANOVA	Winter	Zone	$F_{2,68}$=0.1584	0.8538
			Site	$F_{1,68}$=0.4940	0.4846
		Summer	Zone	$F_{2,179}$=5.8058	**0.0036**
			Site	$F_{1,179}$=0.4959	0.4836

Supplemental table 2. Statistical comparisons among habitat zones and between time points (Season) from 2015 collections at Fruit Farm Creek. For zones, DEA= Dead, TRA = Transitional, FULL = Full Canopy, REF = Reference. For isotopic analyses, the producers group included macroalgae, *Batis* sp., benthic microalgae, detritus and mangrove leaves.

Data tested	Comparison	Statistical test	Test Results	Results	p value
Infaunal density	**Season**	Two way ANOVA	$F_{1,46}$=35.41		**<0.0001**
	Zone	Two way ANOVA	$F_{3,46}$=42.41		**<0.0001**
	Season X Zone	Two way ANOVA	$F_{3,46}$=42.19		**<0.0001**
	DEA, Season	One way ANOVA	$F_{1,10}$=46.02	W>S	**<0.0001**
	TRA, Season	One way ANOVA	$F_{1,10}$=0.034		0.86
	FULL, Season	One way ANOVA	$F_{1,10}$=2.25		0.16
	REF, Season	One way ANOVA	$F_{1,16}$=1.34		0.26
Infauna Shannon diversity	**Season**	Two way ANOVA	$F_{1,46}$=0.34		0.56
	Zone	Two way ANOVA	$F_{3,46}$=13.45		**<0.0001**
	Season X Zone	Two way ANOVA	$F_{3,46}$=3.38		**0.03**
	DEA, Season	One way ANOVA	$F_{1,10}$= 5.41	S>W	**0.04**
	TRA, Season	One way ANOVA	$F_{1,10}$= 0.07		0.79
	FULL, Season	One way ANOVA	$F_{1,10}$= 0.68		0.43
	REF, Season	One way ANOVA	$F_{1,16}$= 4.08		0.06
Infauna Evenness, J'	**Season**	Two way ANOVA	$F_{1,46}$=0.80		0.38
	Zone	Two way ANOVA	$F_{3,46}$=7.42		**0.0004**
	Season X Zone	Two way ANOVA	$F_{3,46}$=3.69		**0.018**
	DEA, Season	One way ANOVA	$F_{1,10}$= 13.78	S>W	**<0.01**
	TRA, Season	One way ANOVA	$F_{1,10}$= 0.0119		0.915
	FULL, Season	One way ANOVA	$F_{1,10}$= 1.269		0.286
	REF, Season	One way ANOVA	$F_{1,16}$= 0.0179		0.895
Infauna Community	**Season**	Two way ANOSIM	R= 0.573		**<0.01**
	Zone	Two way ANOSIM	R= 0.805		**<0.01**
	DEA, Season	One way ANOSIM	R=1.0		**<0.01**
	TRA, Season	One way ANOSIM	R= 0.446		**<0.01**
	FULL, Season	One way ANOSIM	R= 0.443		**<0.01**
	REF, Season	One way ANOSIM	R= 7.04		**<0.01**
Epifauna, Density	**Season**	Two way ANOVA	$F_{1,100}$=8.99		**0.003**
	Zone	Two way ANOVA	$F_{3,100}$=32.92		**<0.0001**
	Season X Zone	Two way ANOVA	$F_{3,100}$=8.83		**<0.0001**
	DEA, Season	KW	$\chi 2$=18.63	S>W	**<0.0001**
	TRA, Season	One way ANOVA	$F_{1,22}$= 0.27		0.61
	FULL, Season	KW	$\chi 2$=0.020		0.86
	REF, Season	One way ANOVA	$F_{1,34}$= 0.96		0.34
Epifauna, Diversity (H'loge)	**Season**	Two way ANOVA	$F_{1,100}$=0.2139		0.645
	Zone	Two way ANOVA	$F_{3,100}$=30.1969		**<0.0001**
	Season X Zone	Two way ANOVA	$F_{3,100}$=3.78		**0.0129**
	DEA, Season	KW	$\chi 2$=5.311	S>W	**0.0211**
	TRA, Season	One way ANOVA	$F_{1,22}$= 1.892		0.183
	FULL, Season	One way ANOVA	$F_{1,22}$= 2.331		0.141
	REF, Season	One way ANOVA	$F_{1,34}$= 1.0		0.324
Epifauna Community	**Season**	Two way ANOSIM	R= 0.201		**0.0001**
	Zone	Two way ANOSIM	R= 0.459		**0.0001**
	DEA, Season	One way ANOSIM	R= 0.664		**<0.01**
	TRA, Season	One way ANOSIM	R= 0.035		0.23
	FULL, Season	One way ANOSIM	R= 0.153		**<0.01**
	REF, Season	One way ANOSIM	R= 0.068		0.37
δ^{13}C in producers	**Season**	KW	χ^2= 13.107, df= 1		**0.00029**
	Zone	KW	χ^2= 61.18, df= 3		**<0.0001**
	DEA, Season	KW	χ^2= 3.4306, df= 1		0.064
	TRA, Season	KW	χ^2= 6.6057, df= 1	W>S	**0.0102**
	FULL, Season	One way ANOVA	$F_{1,52}$= 6.0798	W>S	**0.017**
	REF, Season	One way ANOVA	$F_{1,69}$=0.9051		0.3447
δ^{15}N in producers	**Season**	KW	χ^2= 2.106, df= 1		0.1467

	Zone	KW	χ^2= 29.868, df= 3		**<0.0001**
	DEA, Season	One way ANOVA	$F_{1,60}$= 3.1899		0.0791
	TRA, Season	One way ANOVA	$F_{1,72}$= 0.1621		0.6884
	FULL, Season	One way ANOVA	$F_{1,52}$= 0.0014		0.97
	REF, Season	KW	χ^2=0.1135, df= 1		0.7362
δ^{13}C in surface sediments	**Season**	KW	χ^2=0.0064, df= 1		0.9362
	Zone	KW	χ^2=34.796, df= 1		**<0.0001**
	DEA, Season	One way ANOVA	$F_{1,9}$= 0.0212		0.8874
	TRA, Season	One way ANOVA	$F_{1,9}$= 4.1957		0.0708
	FULL, Season	One way ANOVA	$F_{1,10}$= 0.2178		0.6507
	REF, Season	One way ANOVA	$F_{1,13}$= 0.007		0.9346
δ^{15}N in surface sediments	**Season**	KW	χ^2=2.9584, df= 1		0.08543
	Zone	KW	χ^2=30.472, df= 1		**<0.0001**
	DEA, Season	One way ANOVA	$F_{1,9}$= 0.1078		0.7502
	TRA, Season	One way ANOVA	$F_{1,9}$=38.096	S>W	**0.00016**
	FULL, Season	One way ANOVA	$F_{1,10}$=0.0839		0.778
	REF, Season	One way ANOVA	$F_{1,13}$=0.1119		0.7433
δ^{13}C in POM	**δ^{13}C in POM**	One way ANOVA	$F_{1\text{-}8}$=0.685		0.4319
δ^{15}N in POM	**δ^{15}N in POM**	KW	χ^2=0.8836, df= 1		0.3472

Supplemental table 3. Statistical comparisons among habitat zones within time points (winter, summer) from 2015 collections at Fruit Farm Creek. For zones, DEA= Dead, TRA = Transitional, FULL = Full Canopy, REF = Reference. For isotopic analyses, the producers included macroalgae, *Batis* sp., benthic microalgae, detritus and mangrove leaves.

Data tested	Comparison	Winter			Summer		
		Statistical test	Results	p value	Test	Results	p value
Infaunal density	**Zone, pairwise**	KW	$\chi2=15.3$	**0.0016**	One way ANOVA	$F_{3-23}=0.34$	0.79
	DEA vs TRA	Wilcox	DEA>TRA	**0.011**	Tukey HSD		0.995
	DEA vs FULL	Wilcox	DEA>FULL	**0.011**	Tukey HSD		0.989
	DEA vs REF	Wilcox	DEA>REF	**0.011**	Tukey HSD		0.946
	TRA vs FULL	Wilcox		0.481	Tukey HSD		0.999
	TRA vs REF	Wilcox		1	Tukey HSD		0.857
	FULL vs REF	Wilcox		0.334	Tukey HSD		0.811
Infauna Shannon diversity	**Zone, pairwise**	One way Anova	$F_{3-23}=20.317$	**<0.0001**	One way Anova	$F_{3-23}=4.702$	**0.0106**
	DEA vs TRA	Tukey HSD	TRA>DEA	**<0.0001**	Tukey HSD		0.551
	DEA vs FULL	Tukey HSD	FULL>DEA	**<0.0001**	Tukey HSD		0.488
	DEA vs REF	Tukey HSD	REF>DEA	**0.0136**	Tukey HSD		0.389
	TRA vs FULL	Tukey HSD		0.235	Tukey HSD		0.999
	TRA vs REF	Tukey HSD		0.0754	Tukey HSD	TRA>REF	**0.025**
	FULL vs REF	Tukey HSD	FULL>REF	**0.0005**	Tukey HSD	FULL>REF	**0.0196**
Infauna Evenness, J'	**Zone, pairwise**	One way Anova	$F_{3-23}=16.814$	**<0.0001**	One way Anova	$F_{3-23}=0.8316$	0.4901
	DEA vs TRA	Tukey HSD	TRA>DEA	**<0.0001**	Tukey HSD		0.706
	DEA vs FULL	Tukey HSD	FULL>DEA	**<0.0001**	Tukey HSD		0.976
	DEA vs REF	Tukey HSD	REF>DEA	**0.0014**	Tukey HSD		0.986
	TRA vs FULL	Tukey HSD		0.988	Tukey HSD		0.907
	TRA vs REF	Tukey HSD		0.143	Tukey HSD		0.439
	FULL vs REF	Tukey HSD		0.0724	Tukey HSD		0.857
Infauna Community	**Zone, pairwise**	One way ANOSIM	R=0.938	**0.0001**	One way ANOSIM	R=0.671	**0.0001**
	DEA vs TRA	Pairwise	R=0.931	**0.002**	Pairwise	R=0.759	**0.002**
	DEA vs FULL	Pairwise	R=1.0	**0.002**	Pairwise	R=0.528	**0.002**
	DEA vs REF	Pairwise	R=1.0	**0.0002**	Pairwise	R=0.888	**0.0002**
	TRA vs FULL	Pairwise	R=0.517	**0.002**	Pairwise	R=0.183	0.063
	TRA vs REF	Pairwise	R=0.882	**0.0002**	Pairwise	R=0.853	**0.0002**
	FULL vs REF	Pairwise	R=0.998	**0.0002**	Pairwise	R=0.681	**0.0002**
Epifauna, Density	**Zone, pairwise**	KW	$\chi2=36.779$	**<0.0001**	KW	$\chi2=37.279$	**<0.0001**
	DEA vs TRA	Wilcox	TRA>DEA	**0.00427**	Wilcox		**0.036**
	DEA vs FULL	Wilcox	FULL>DEA	**<0.0001**	Wilcox		0.931
	DEA vs REF	Wilcox		0.0779	Wilcox	DEA>REF	**<0.0001**
	TRA vs FULL	Wilcox	FULL>TRA	**0.00427**	Wilcox		0.069

	TRA vs REF	Wilcox	TRA>REF	**0.0007 8**	Wilcox	TRA>REF	**<0.000 1**
	FULL vs REF	Wilcox	FULL>RE F	**<0.000 1**	Wilcox	FULL>RE F	**<0.000 1**
Epifauna, Diversity (H'loge)	**Zone, pairwise**	KW	χ2=36.934	**<0.000 1**	KW	χ2=18.558	**0.0003 4**
	DEA vs TRA	Wilcox	TRA>DEA	**0.0089**	Wilcox		0.927
	DEA vs FULL	Wilcox	FULL>DE A	**0.0002 8**	Wilcox		0.0985
	DEA vs REF	Wilcox		0.331	Wilcox	DEA>REF	**0.0166**
	TRA vs FULL	Wilcox		0.331	Wilcox		0.187
	TRA vs REF	Wilcox	TRA>REF	**0.0001 3**	Wilcox	TRA>REF	**0.029**
	FULL vs REF	Wilcox	FULL>RE F	**<0.000 1**	Wilcox	FULL>RE F	**0.0003 2**
Epifauna Community	**Zone, pairwise**	One way ANOSIM	R=0.427	**0.0001**	One way ANOSIM	R=0.491	**0.0001**
	DEA vs TRA	Pairwise	R=0.583	**0.0001**	Pairwise	R=0.759	**0.0001**
	DEA vs FULL	Pairwise	R=0.78	**0.0001**	Pairwise	R=0.932	**0.0001**
	DEA vs REF	Pairwise	R=0.354	**0.0001**	Pairwise	R=0.491	**0.0001**
	TRA vs FULL	Pairwise	R=0.314	**0.0002**	Pairwise	R=0.153	**0.007**
	TRA vs REF	Pairwise	R=0.187	**0.012**	Pairwise	R=0.259	**0.001**
	FULL vs REF	Pairwise	R=0.36	**0.0007**	Pairwise	R=0.365	**0.0003**
δ^{13}C in producers	**Zone, pairwise**	KW	χ^2= 12.781, df= 3	**0.0051 4**	KW	χ^2= 52.32, df= 3	**<0.000 1**
	DEA vs TRA	Wilcox		0.6751	Wilcox	DEA>TRA	**0.0001 1**
	DEA vs FULL	Wilcox		0.1306	Wilcox	DEA>FUL L	**<0.000 1**
	DEA vs REF	Wilcox	DEA>REF	**0.0023**	Wilcox	DEA>REF	**<0.000 1**
	TRA vs FULL	Wilcox		0.587	Wilcox	TRA>FUL L	**0.0033 9**
	TRA vs REF	Wilcox		0.0514	Wilcox	TRA>REF	**0.0033 9**
	FULL vs REF	Wilcox		0.6521	Wilcox		0.3018
δ^{15}N in producers	**Zone, pairwise**	Kruskal Wallis	χ^2= 7.4408, df= 3	0.0591	Kruskal Wallis	χ^2= 23.324, df= 3	**<0.000 1**
	DEA vs TRA	Wilcox		1	Wilcox		0.439
	DEA vs FULL	Wilcox		1	Wilcox		0.4662
	DEA vs REF	Wilcox		0.302	Wilcox		0.4393
	TRA vs FULL	Wilcox		0.587	Wilcox		0.903
	TRA vs REF	Wilcox		0.068	Wilcox	TRA>REF	**<0.000 1**
	FULL vs REF	Wilcox		0.302	Wilcox	FULL>RE F	**0.0014**
δ^{13}C in surface sediments	**Zone, pairwise**	One way ANOVA	F_{3-21}=38.516	**<0.000 1**	One way ANOVA	F_{3-20}=50.002	**<0.000 1**
	DEA vs TRA	Tukey HSD	DEA>TRA	**<0.000 1**	Tukey HSD	DEA>TRA	**<0.000 1**
	DEA vs FULL	Tukey HSD	DEA>FUL L	**<0.000 1**	Tukey HSD	DEA>FUL L	**<0.000 1**
	DEA vs REF	Tukey HSD	DEA>REF	**<0.000 1**	Tukey HSD	DEA>REF	**<0.000 1**
	TRA vs FULL	Tukey HSD		0.0589	Tukey HSD		0.1709
	TRA vs REF	Tukey HSD	TRA>REF	**0.0165 1**	Tukey HSD		0.2012
	FULL vs REF	Tukey HSD		0.9802	Tukey HSD		0.9997
δ^{15}N in surface sediments	**Zone, pairwise**	Kruskal Wallis	χ^2= 15.044, df= 3	**<0.000 1**	Kruskal Wallis	χ^2= 18.424, df= 3	**0.0003 6**

	DEA vs TRA	Wilcox	DEA>TRA	**0.032**	Wilcox	DEA>TRA	**0.013**
	DEA vs FULL	Wilcox	DEA>FULL	**0.022**	Wilcox	DEA>FULL	**0.013**
	DEA vs REF	Wilcox	DEA>REF	**0.012**	Wilcox	DEA>REF	**0.013**
	TRA vs FULL	Wilcox		0.165	Wilcox		0.18
	TRA vs REF	Wilcox		0.699	Wilcox	TRA>REF	**0.013**
	FULL vs REF	Wilcox		0.053	Wilcox		0.13

Supplemental table 4. Epifauna and flora community metrics from quadrats examined during January (Winter) and August (Summer) in 2015. Density (ind. m^{-2}), Richness (# of taxa), and individual taxa are presented as mean ± SE values. Value in parentheses indicate mean percent community composition.

Season	**Winter**												**Summer**											
Zone	**Reference**			**Full Canopy**			**Transitional**			**Dead**			**Reference**			**Full Canopy**			**Transitional**			**Dead**		
Sample Size	18			12			12			12			18			12			12			12		
Epifauna																								
Total Density	3.1	±1.1	-	110.3	±10.6	-	38.3	±11.8	-	4.3	±0.8	-	1.8	±0.7	-	109.3	±22.6	-	48.7	±15.9	-	104.0	±16.3	-
Richness (# of taxa)	0.4	±0.1	-	2.6	±0.2	-	1.9	±0.3	-	1.0	±0.1	-	0.4	±0.1	-	2.5	±0.3	-	1.6	±0.2	-	2.0	±0.3	-
Minuca sp.	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)	0.3	±0.3	(0.9)	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)	5.0	±1.6	(4.6)	0.7	±0.4	(1.4)	1.3	±0.6	(1.3)
Burrow 1cm	0.0	±0.0	(0.0)	22.3	±2.3	(20.2)	13.0	±3.3	(33.9)	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)	8.0	±3.0	(7.3)	7.3	±3.3	(15.1)	7.0	±2.7	(6.7)
Burrow 2cm	0.0	±0.0	(0.0)	0.3	±0.3	(0.3)	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)
Mytilidae	0.0	±0.0	(0.0)	7.7	±2.6	(6.9)	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)	5.7	±2.1	(5.2)	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)
Cerithiidae	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)	4.0	±2.0	(10.4)	0.7	±0.7	(15.4)	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)	1.7	±1.3	(3.4)	95.0	±15.6	(91.3)
M. coffea	3.1	±1.1	(100.0)	79.7	±11.6	(72.2)	21.0	±12.0	(54.8)	0.0	±0.0	(0.0)	0.9	±0.5	(50.0)	90.7	±21.9	(82.9)	39.0	±16.5	(80.1)	0.0	±0.0	(0.0)
Fish	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)	0.7	±0.4	(15.4)	0.9	±0.4	(50.0)	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)
Insect Tube	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)	3.0	±0.5	(69.2)	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)	0.3	±0.3	(0.3)
Insecta	0.0	±0.0	(0.0)	0.3	±0.3	(0.3)	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)	0.3	±0.3	(0.3)
Flora Density (ind. m^{-2})																								
Total Density	403.8	±15.9	-	550.3	±51.8	-	541.0	±31.6	-	2.3	±2.3	-	418.4	±51.8	-	425.3	±67.5	-	478.0	±80.1	-	47.3	±45.2	-
A. germinans																								
Pneumatophores	393.8	±16.1	(97.5)	516.0	±53.3	(93.8)	468.7	±24.4	(86.6)	2.0	±2.0	(85.7)	408.7	±52.8	(97.7)	413.3	±66.5	(97.2)	409.3	±77.8	(85.6)	47.0	±45.2	(99.3)
Seedlings	5.8	±1.6	(1.4)	18.3	±4.2	(3.3)	66.3	±11.9	(12.3)	0.0	±0.0	(0.0)	5.3	±1.6	(1.3)	6.0	±2.4	(1.4)	63.7	±10.4	(13.3)	0.0	±0.0	(0.0)
Adult trees	4.0	±1.4	(1.0)	1.7	±0.9	(0.3)	4.3	±2.0	(0.8)	0.3	±0.3	(14.3)	4.2	±1.7	(1.0)	2.7	±1.5	(0.6)	4.3	±1.7	(0.9)	0.3	±0.3	(0.7)
R. mangle																								
Prop roots	0.0	±0.0	(0.0)	11.7	±3.2	(2.1)	1.3	±0.8	(0.2)	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)	0.7	±0.4	(0.2)	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)
Seedlings	0.0	±0.0	(0.0)	2.0	±2.0	(0.4)	0.3	±0.3	(0.1)	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)	2.3	±2.3	(0.5)	0.7	±0.4	(0.1)	0.0	±0.0	(0.0)
Adult trees	0.0	±0.0	(0.0)	0.7	±0.4	(0.1)	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)	0.3	±0.3	(0.1)	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)
Unknown dead tree	0.2	±0.2	(0.1)	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)	0.2	±0.2	(0.1)	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)	0.0	±0.0	(0.0)

Supplemental table 5. Infauna community metrics from 2 cm sediment cores collected during January (Winter) and August (Summer) in 2015. Density (ind. m^{-2}), number of taxa (N), Shannon diversity ($H'log_e$), Evenness (J'), Richness (Sp), and individual taxa are presented as mean ± SE values. Value in parentheses indicate mean percent community composition.

Season	**Winter**								**Summer**							
Zone	**Reference**		**Full Canopy**		**Transitional**		**Dead**		**Reference**		**Full Canopy**		**Transitional**		**Dead**	
Sample size	9		6		6		6		9		6		6		6	
Density	20713	±3196	12164	±2498	18589	±4201	155187	±19658	14955	±3804	20326	±4838	19747	±4667	18273	±4574
N	12		15		14		13		9		22		12		10	
J'	0.62	±0	0.76	±0	0.74	±0	0.39	±0	0.61	±0	0.68	±0	0.74	±0	0.64	±0
H'loge	1.08	±0	1.55	±0	1.33	±0	0.74	±0	0.81	±0	1.38	±0	1.36	±0	1.10	±0
MVDISP	0.686		1.265		1.294		0.578		0.995		1.695		0.668		1.266	
Polychaeta	1334	±209 (6.5)	5003	±1483 (41.3)	4055	±1117 (22.4)	17378	±9942 (11.2)	702	±195 (4.7)	4845	±2446 (24.0)	1264	±571 (6.5)	737	±279 (4.0)
Capitellidae	878	±173 (4.2)	3107	±1442 (25.5)	3528	±1324 (19.0)	17220	±9866 (11.1)	667	±200 (4.5)	1264	±547 (6.2)	1106	±546 (5.6)	579	±171 (3.2)
Fabriciidae	0	±0 (0.0)	0	±0 (0.0)	0	±0 (0.0)	0	±0 (0.0)	0	±0 (0.0)	105	±105 (0.5)	0	±0 (0.0)	0	±0 (0.0)
Nereididae	316	±118 (1.5)	0	±0 (0.0)	105	±105 (0.6)	158	±108 (0.1)	0	±0 (0.0)	263	±151 (1.3)	53	±53 (0.3)	158	±158 (0.9)
Orbiniidae	0	±0 (0.0)	948	±326 (7.8)	0	±0 (0.0)	0	±0 (0.0)	0	±0 (0.0)	790	±790 (3.9)	0	±0 (0.0)	0	±0 (0.0)
Spionidae	35	±35 (0.2)	0	±0 (0.0)	0	±0 (0.0)	0	±0 (0.0)	35	±35 (0.2)	53	±53 (0.3)	53	±53 (0.3)	0	±0 (0.0)
Syllidae	105	±74 (0.5)	948	±294 (7.8)	421	±362 (2.3)	0	±0 (0.0)	0	±0 (0.0)	2370	±1226 (11.7)	53	±53 (0.3)	0	±0 (0.0)
Oligochaeta	2914	±674 (14.1)	5161	±1495 (42.6)	9373	±2310 (51.7)	2264	±1555 (1.5)	10813	±3375 (72.5)	8741	±3076 (43.2)	8373	±2235 (43.1)	9373	±4819 (51.4)
Tubificinae	2914	±674 (14.1)	4739	±1506 (39.0)	9373	±2310 (50.4)	2264	±1555 (1.5)	10813	±3375 (72.3)	8741	±3076 (43.0)	8373	±2235 (42.4)	9373	±4819 (51.3)
Enchytraeidae	0	±0 (0.0)	421	±421 (3.5)	0	±0 (0.0)	0	±0 (0.0)	0	±0 (0.0)	0	±0 (0.0)	0	±0 (0.0)	0	±0 (0.0)
Crustacea	35	±35 (0.2)	0	±0 (0.0)	0	±0 (0.0)	0	±0 (0.0)	39	±37 (0.2)	0	±0 (0.0)	0	±0 (0.0)	0	±0 (0.0)
Decapoda	35	±35 (0.2)	0	±0 (0.0)	0	±0 (0.0)	0	±0 (0.0)	39	±37 (0.2)	0	±0 (0.0)	0	±0 (0.0)	0	±0 (0.0)
Mollusca	3721	±1253 (18.1)	948	±216 (7.8)	1159	±473 (6.4)	105	±67 (0.1)	667	±255 (4.5)	2528	±919 (12.5)	3633	±1396 (18.7)	474	±178 (2.6)
Assimineidae	0	±0 (0.0)	263	±127 (2.2)	263	±263 (1.4)	0	±0 (0.0)	0	±0 (0.0)	158	±108 (0.8)	0	±0 (0.0)	0	±0 (0.0)
Cochliopidae	3721	±1253 (18.0)	158	±108 (1.3)	790	±452 (4.2)	105	±67 (0.1)	667	±255 (4.5)	1685	±794 (8.3)	3476	±1382 (17.6)	474	±178 (2.6)
Ellobiidae	0	±0 (0.0)	105	±67 (0.9)	0	±0 (0.0)	0	±0 (0.0)	0	±0 (0.0)	158	±158 (0.8)	105	±67 (0.5)	0	±0 (0.0)
Gastropoda A	0	±0 (0.0)	53	±53 (0.4)	0	±0 (0.0)	0	±0 (0.0)	0	±0 (0.0)	211	±211 (1.0)	0	±0 (0.0)	0	±0 (0.0)
Cyrenoididae	0	±0 (0.0)	369	±97 (3.0)	0	±0 (0.0)	0	±0 (0.0)	0	±0 (0.0)	158	±71 (0.8)	0	±0 (0.0)	0	±0 (0.0)
Mytilidae	0	±0 (0.0)	0	±0 (0.0)	0	±0 (0.0)	0	±0 (0.0)	0	±0 (0.0)	158	±108 (0.8)	0	±0 (0.0)	0	±0 (0.0)
Bivalvia A	0	±0 (0.0)	0	±0 (0.0)	105	±105 (0.6)	0	±0 (0.0)	0	±0 (0.0)	0	±0 (0.0)	53	±53 (0.3)	0	±0 (0.0)
Insecta	12498	±3124 (60.6)	895	±287 (7.4)	3318	±1002 (18.3)	134860	±17848 (86.9)	2703	±619 (18.1)	3002	±1297 (14.8)	4792	±857 (24.7)	6003	±897 (32.9)
Ceratopogonidae larvae	105	±53 (0.5)	158	±108 (1.3)	2686	±908 (14.4)	117167	±14811 (75.5)	0	±0 (0.0)	2633	±1330 (13.0)	4739	±820 (24.0)	790	±495 (4.3)

Ceratopogonidae pupae	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)	6266	±2966	(4.0)	0	±0	(0.0)	0	±0	(0.0)	53	±53	(0.3)	105	±67	(0.6)
Chironomidae larvae	12357	±3128	(59.7)	0	±0	(0.0)	0	±0	(0.0)	53	±53	(0.0)	2563	±563	(17.1)	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)
Chironomidae pupae	35	±35	(0.2)	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)
Dolichopodidae larvae	0	±0	(0.0)	737	±279	(6.1)	579	±151	(3.1)	11006	±1706	(7.1)	0	±0	(0.0)	263	±97	(1.3)	0	±0	(0.0)	5055	±923	(27.7)
Dolichopodidae pupae	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)	158	±158	(0.1)	35	±35	(0.2)	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)
Collembola	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)	53	±53	(0.3)	0	±0	(0.0)	0	±0	(0.0)
Coleoptera sp1	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)	105	±105	(0.7)	53	±53	(0.3)	0	±0	(0.0)	0	±0	(0.0)
Coleoptera sp2	0	±0	(0.0)	0	±0	(0.0)	53	±53	(0.3)	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)
Hemiptera larvae	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)	211	±105	(0.1)	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)
Stratiomyidae larvae	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)	53	±53	(0.3)
Arachnida	105	±74	(0.0)	105	±105	(0.4)	474	±414	(0.0)	53	±53	(0.0)	35	±35	(0.0)	105	±67	(0.0)	316	±82	(0.0)	53	±53	(0.0)
Araneae	0	±0	(0.0)	53	±53	(0.4)	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)
Acari	105	±74	(0.5)	53	±53	(0.4)	474	±414	(2.5)	53	±53	(0.0)	35	±35	(0.2)	105	±67	(0.5)	316	±82	(1.6)	53	±53	(0.3)
Cnidaria	0	±0	(0.0)	0	±0	(0.0)	105	±67	(0.6)	0	±0	(0.0)	0	±0	(0.0)	105	±105	(0.5)	0	±0	(0.0)	0	±0	(0.0)
Anthozoa	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)	105	±105	(0.5)	0	±0	(0.0)	0	±0	(0.0)
Hydrozoa	0	±0	(0.0)	0	±0	(0.0)	105	±67	(0.6)	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)	0	±0	(0.0)
Bryozoa		A			A			A			A			A			P			A			A	
Nemertea	0	±0	(0.0)	53	±53	(0.4)	53	±53	(0.3)	53	±53	(0.0)	0	±0	(0.0)	53	±53	(0.3)	0	±0	(0.0)	0	±0	(0.0)
Turbellaria	105	±53	(0.5)	0	±0	(0.0)	53	±53	(0.3)	474	±303	(0.3)	0	±0	(0.0)	948	±702	(4.7)	1369	±380	(7.0)	1632	±472	(9.0)

Supplemental table 6. Summarized $\delta^{13}C$, $\delta^{15}N$ (‰) and C:N data for fauna, flora, and POM collected in 2015 from Fruit Farm Creek. For zones, REF = Reference, FULL = Full Canopy, TRA = Transitional, DEA = Dead. Bivalve gills (Gill) and adductor muscle (Mus) were analyzed separately. The * indicates that samples were not collected at a specific zone.

		WINTER				SUMMER			
PHYLUM			Carbon	Nitrogen	C:N		Carbon	Nitrogen	C:N
Species ID	Zone	n	Mean (SD)	Mean (SD)	Mean (SD)	n	Mean (SD)	Mean (SD)	Mean (SD)
ANNELIDA									
Capitella capitata	REF					1	-26.9	2.3	4.8
	FULL	1	-25.7	4	5.2	3	-25.5 (0.3)	2.9 (1.4)	3.8 (0.3)
	TRA	1	-25.6	5.9	5.2	1	-24.8	4.8	5.1
	DEA	7	-21.9 (0.4)	5.8 (1.0)	5.5 (0.2)				
Enchytraeidae	FULL					1	-28.3	-1.5	3.2
	FULL					4	-26.7 (0.8)	1.7 (0.5)	4.3 (0.4)
Naineris setosa	FULL	1	-27.1	3.5	5.6				
Polydora cornuta	REF					1	-26.4	4.5	5.2
Stenoninereis martini	REF	4	-27.0 (0.4)	2.9 (0.8)	6.0 (0.5)				
	TRA					1	-25.1	5.8	4.7
Syllidae	FULL					2	-26.8 (0.4)	1.5 (0.1)	3.9 (0.7)
Syllis cornuta	FULL	1	-26.6	2.5	4.1	3	-27.1 (0.6)	1.7 (5.2)	4.8 (1.1)
Tubificinae	REF	9	-28.6 (0.2)	1.8 (0.9)	5.5 (0.3)	6	-28.2 (0.6)	2.5 (1.2)	5.0 (0.5)
	FULL	2	-27.6 (0.6)	0.3 (1.3)	4.2 (0.1)				
	TRA	2	-27.1 (0.0)	1.1 (0.3)	4.8 (0.2)	6	-27.1 (0.3)	1.2 (0.9)	5.0 (0.5)
ARTHROPODA									
Aratus pisonii	REF	12	-24.5 (0.4)	3.3 (0.3)	4.2 (0.2)	13	-23.9 (0.7)	3.9 (0.8)	4.3 (0.2)
Ceratopogonidae larvae	REF					1	-27.2	-1.9	3.3
	TRA	1	-29.6	3.5	5.3	2	-27.1 (1.8)	1.2 (1.2)	4.0 (0.3)
	DEA					2	-16.2 (0.4)	1.9 (0.7)	5.8 (0.3)
Chironomidae larvae	REF	10	-28.4 (0.9)	1.6 (1.0)	4.7 (1.0)	13	-27.1 (0.8)	0.2 (0.8)	3.9 (0.6)
	DEA	10	-17.6 (0.3)	3.2 (0.5)	5.8 (0.5)	2	-18.5 (0.3)	2.4 (0.3)	4.9 (0.8)
Dolichopodidae larvae	TRA	1	-25.4	7.3	6.2	1	-24.8	5	4.9
	DEA	4	-17.3 (0.4)	4.6 (0.4)	5.9 (1.0)	10	-19.2 (1.0)	3.4 (1.7)	4.7 (0.8)
Eurytium limosum	REF					1	-23.9	4	4.1
	FULL					1	-23.4	6.1	4.3
Minuca rapax	REF					22	-26.2 (0.5)	3.5 (0.6)	4.2 (0.1)
	FULL	10	-24.4 (0.8)	4.6 (0.7)	4.6 (0.9)	11	-23.0 (1.4)	5.0 (0.5)	4.1 (0.1)
	TRA	10	-23.8 (1.0)	4.1 (1.1)	4.5 (0.6)	19	-22.1 (1.4)	5.6 (1.2)	4.1 (0.3)
	DEA	9	-23.2 (0.9)	4.6 (0.4)	4.5 (0.2)	18	-21.2 (1.6)	5.4 (0.7)	4.3 (0.1)
MOLLUSCA									
Cerithideopsis scalariformis	TRA	9	-22.9 (0.8)	4.7 (0.6)	5.2 (0.3)	6	-23.3 (0.9)	5.0 (1.2)	5.0 (0.2)
	DEA	9	-21.9 (1.8)	4.7 (0.8)	5.5 (0.4)	11	-19.2 (1.2)	4.9 (0.4)	4.8 (0.3)
Cerithiidae	DEA	1	-18.2	3	5.2				
Cochliopidae	REF	2	-27.8 (1.4)	2.3 (0.3)	6.8 (0.1)	3	-26.3 (1.6)	1.4 (0.2)	5.2 (0.5)
	FULL	5	-24.8 (0.6)	2.0 (0.7)	5.2 (0.1)	9	-24.0 (1.2)	2.5 (0.7)	5.1 (0.7)
	TRA	1	-23.8	2.1	5.1	8	-23.5 (1.4)	2.4 (0.7)	5.2 (1.0)
Cyrenoida floridana	FULL	3	-24.3 (1.4)	2.9 (0.8)	5.4 (0.9)	4	-24.2 (2.6)	3.3 (0.6)	5.2 (1.6)
	TRA					4	-23.1 (3.5)	3.5 (1.0)	5.8 (1.7)
Geukensia granosissima (Gill)	FULL	2	-23.3 (0.4)	5.9 (0.5)	4.2 (0.4)	10	-23.4 (0.7)	6.7 (0.6)	4.6 (0.3)
	TRA					3	-24.6 (0.3)	5.2 (0.5)	5.2 (0.4)
Geukensia granosissima (Mus)	FULL	10	-23.7 (0.8)	5.9 (0.6)	4.2 (0.2)	10	-23.3 (0.5)	6.3 (0.4)	4.1 (0.2)
	TRA					3	-24.1 (0.1)	4.9 (0.4)	4.5 (0.2)
Littoraria angulifera	REF	12	-24.7 (0.6)	0.1 (0.9)	5.0 (0.2)	16	-25.3 (0.8)	0.5 (0.4)	6.1 (0.4)
	FULL	9	-26.4 (1.4)	0.1 (0.9)	5.4 (0.8)	5	-27.1 (0.6)	0.5 (1.1)	6.3 (0.5)
	TRA	10	-25.2 (0.8)	0.0 (0.8)	5.4 (0.7)	6	-26.1 (0.9)	-0.3 (1.7)	6.7 (0.7)
	DEA	9	-22.7 (0.9)	-0.9 (1.3)	5.5 (0.4)	10	-21.8 (0.4)	-0.7 (1.2)	5.5 (0.5)
Melampus coffea	REF	13	-25.4 (0.8)	1.6 (0.2)	5.7 (0.7)	14	-25.2 (0.4)	2.4 (0.6)	6.5 (0.5)
	FULL	8	-26.8 (0.4)	2.4 (0.4)	6.1 (0.8)	4	-26.6 (0.6)	2.6 (0.3)	6.8 (0.8)
	TRA	6	-25.1 (0.2)	2.4 (0.7)	5.8 (0.4)	6	-26.6 (0.8)	3.2 (0.9)	7.0 (0.7)
	DEA	1	-25.9	2.1	6.1				
NEMATODA									
Nematoda	REF	1	-27.5	2.7	4.5				

MAGNOLIOPHYTA									
Avicennia germinans	REF	3	-30.7 (0.7)	1.1 (0.6)	22.5 (3.2)	15	-29.9 (0.6)	1.9 (0.8)	22.1 (2.0)
	FULL	2	-30.7 (1.0)	2.8 (0.4)	24.4 (2.3)	10	-31.4 (0.9)	3.3 (0.8)	23.3 (2.9)
	TRA	2	-30.3 (1.1)	2.9 (0.0)	28.7 (1.2)	10	-28.6 (0.8)	5.0 (0.3)	30.0 (2.0)
	DEA	2	-27.1 (0.2)	4.0 (1.6)	20.8 (1.7)	10	-25.8 (0.5)	2.6 (1.2)	20.1 (2.2)
Batis maritima	FULL	1	-30	2.8	11.1				
	DEA	2	-28.6 (0.4)	5.1 (0.2)	16.0 (1.2)	10	-26.4 (0.8)	3.6 (1.0)	17.2 (2.9)
	TRA					10	-28.6 (0.6)	2.2 (0.5)	24.0 (2.3)
Laguncularia racemosa	TRA					10	-25.9 (1.2)	3.2 (0.4)	39.2 (4.7)
	DEA					5	-25.1 (0.8)	-4.1 (1.7)	34.9 (2.5)
Rhizophora mangle	REF	3	-28.5 (0.2)	0.2 (0.1)	41.6 (5.2)	13	-28.8 (0.8)	0.7 (0.6)	38.7 (3.1)
	FULL	2	-29.0 (0.2)	2.2 (0.2)	34.9 (2.2)	10	-28.9 (0.7)	2.6 (0.5)	38.5 (4.7)
	TRA	2	-27.7 (0.3)	2.3 (0.6)	40.3 (2.1)	10	-28.2 (0.8)	1.9 (0.4)	36.2 (4.3)
	DEA	2	-26.5 (0.4)	3.7 (0.3)	41.7 (2.7)	5	-25.8 (0.5)	-2.0 (4.0)	30.1 (3.0)
OTHER									
Macroalgae	REF	1	-23.7	5.1	12.1	3	-25.2 (2.7)	1.6 (0.6)	33.3 (4.1)
	FULL	6	-22.4 (1.8)	4.0 (0.7)	30.0 (4.9)	2	-20.1 (2.7)	4.0 (0.1)	21.7 (15.6)
	TRA	6	-21.0 (0.6)	4.2 (0.9)	26.3 (3.7)	2	-21.8 (0.1)	3.8 (0.3)	31.4 (12.8)
	DEA	5	-23.0 (1.4)	2.8 (1.5)	10.9 (1.5)				
Benthic microalgae	REF	7	-26.8 (0.4)	-0.7 (4.7)	8.0 (2.4)	8	-27.1 (0.2)	-3.4 (1.0)	9.2 (1.0)
	FULL	7	-27.3 (0.4)	1.1 (1.6)	7.8 (2.3)	6	-27.2 (0.4)	-0.1 (2.0)	9.6 (1.5)
	TRA	6	-26.4 (0.4)	1.7 (2.2)	8.0 (1.1)	6	-26.6 (0.2)	0.5 (2.0)	8.6 (1.2)
	DEA	7	-23.8 (1.1)	0.6 (1.3)	8.0 (0.7)	4	-24.4 (0.8)	0.6 (2.9)	7.8 (1.4)
Detritus	REF	3	-28.8 (1.0)	2.7 (0.2)	31.2 (1.4)	15	-27.9 (0.9)	2.7 (0.4)	44.0 (9.5)
	FULL	2	-27.7 (0.0)	2.9 (0.2)	48.2 (11.8)	7	-27.7 (1.6)	2.8 (0.7)	59.4 (20.6)
	TRA	2	-27.5 (0.4)	3.8 (0.5)	55.3 (0.4)	8	-27.0 (1.6)	2.8 (0.5)	69.3 (12.0)
	DEA	2	-26.6 (0.4)	5.3 (0.1)	45.0 (7.4)	8	-27.6 (1.9)	2.5 (1.8)	62.9 (21.6)
POM*	N/A	5	-27.5 (4.5)	3.0 (0.7)	8.3 (1.7)	5	-25.3 (3.8)	2.8 (1.3)	9.2 (1.3)

Supplemental Figure 1. Producer stable isotope data ($\delta^{13}C$ and $\delta^{15}N$, ‰) and their corresponding standard ellipse area (SEA_c) for each habitat zone. Circles with dashed lines = summer and triangles with solid lines = winter. Colors represent different zones: purple = Reference, blue = Full Canopy, green = Transitional, red = Dead.

