

Supplementary Materials

Table S1. Results from permutational multivariate analysis of variance.

Source	df	SS	MS	F	p	R²
Assemblage	1	36,365	36,365	10.31	0.001	0.18
Habitat	2	45,341	22,671	2.89	0.006	0.13
Site(Habitat)	9	70,711	7,857	12.56	0.001	0.25
Assemblage * Habitat	2	13,750	6,875	1.95	0.019	0.06
Assemblage * Site(Habitat)	9	31,746	3,527	5.64	0.001	0.19
Residual	72	45,051	626			0.19

Table S2. Results of pairwise comparisons among combinations of assemblages and habitats.

Groups	t	p
Death seagrass versus Life seagrass	3.2142	0.001
Death seagrass versus Death sand	4.4484	0.001
Death seagrass versus Life sand	4.6868	0.001
Death seagrass versus Death transition	2.1456	0.004
Death seagrass versus Life transition	3.2345	0.001
Death transition versus Life transition	3.1618	0.001
Death sand versus Life sand	4.0189	0.001
Death sand versus Death transition	3.1778	0.001
Death sand versus Life transition	3.4183	0.001
Life seagrass versus Death sand	5.2886	0.001
Life seagrass versus Life sand	4.3056	0.001
Life seagrass versus Death transition	3.5576	0.001
Life seagrass versus Life transition	2.7315	0.001
Life sand versus Death transition	4.3733	0.001
Life sand versus Life transition	2.1988	0.001

Table S3. Results of comparisons of LA and DA of samples for seagrass, open sand, and transition habitats using raw-score sample values, and random sample-standardized abundances to control for small-sample bias (10,000 iterations). Parameters analyzed were Spearman’s non-parametric rank-order correlation of species abundances (Spearman’s rho) and live-dead community similarity using Jaccard-Chao’s similarity index with an adjustment to control for the effects of unseen species (Chao et al. 2005). Significance codes: — not significant; * significant at $p < 0.05$; ** significant at $p < 0.01$, *** significant at $p < 0.001$.

Habitat (mean)	Habitat (mean)	Parameter	Standardization	Test	Result
Seagrass (0.692)	Sand (0.203)	Jaccard-Chao	Raw-score	Wilcoxon Test	Seagrass > Sand***
Seagrass (0.692)	Transition	Jaccard-Chao	Raw-score	Wilcoxon Test	Seagrass > Transition*
Sand (0.203)	Transition	Jaccard-Chao	Raw-score	Wilcoxon Test	Transition > Sand**
Seagrass (0.469)	Sand (0.209)	Spearman’s	Raw-score	Wilcoxon Test	Seagrass > Sand***
Seagrass (0.469)	Transition	Spearman’s	Raw-score	Wilcoxon Test	Seagrass > Transition*
Sand (0.209)	Transition	Spearman’s	Raw-score	Wilcoxon Test	Transition > Sand*
Seagrass (0.426)	Sand (0.174)	Jaccard-Chao	Sample-	Two - Way	Seagrass > Sand***
Seagrass (0.426)	Transition	Jaccard-Chao	Sample-	Two - Way	Seagrass >
Sand (0.174)	Transition	Jaccard-Chao	Sample-	Two - Way	Transition > Sand**
Seagrass (0.319)	Sand (0.164)	Spearman’s	Sample-	Two - Way	Seagrass > Sand***
Seagrass (0.319)	Transition	Spearman’s	Sample-	Two - Way	Seagrass >
Sand (0.164)	Transition	Spearman’s	Sample-	Two - Way	Transition > Sand--

Table S4. Results of comparisons of DA size fraction proportions for samples associated with seagrass and open sand habitats. Mean relative contributions of size fractions for seagrass and open sand habitats are reported, as well as the results Welch two-sample t-tests of means for seagrass and open sand habitats for each size fraction. Finally, r^2 correlations between NMDS1 axis and each size fraction are also presented. Significance codes: — not significant; * significant at $p < 0.05$; ** significant at $p < 0.01$, *** significant at $p < 0.001$.

	<2mm	<4mm	<8mm
Mean Sand	42.875	60.375	90.125
Mean Seagrass	53.75	64.167	91.417
T statistic	-1.943	-0.659	-0.544
p-value	0.063	0.516	0.591
NMDS1 correlation (r^2)	0.13	0.01	0.03

Figure S1. Non-metric multidimensional scaling (NMDS) ordination of 48 samples representing 12 sites; three seagrass, four open sand, and five transition sites, respectively. The NMDS ordination ($k = 3$ dimensions) was derived using Bray-Curtis dissimilarities applied to log-transformed (base 2) counts. Filled symbols represent LA and open symbols represent DA. Site numbers, i.e. unique spatial identifiers, are indicated for each sample.

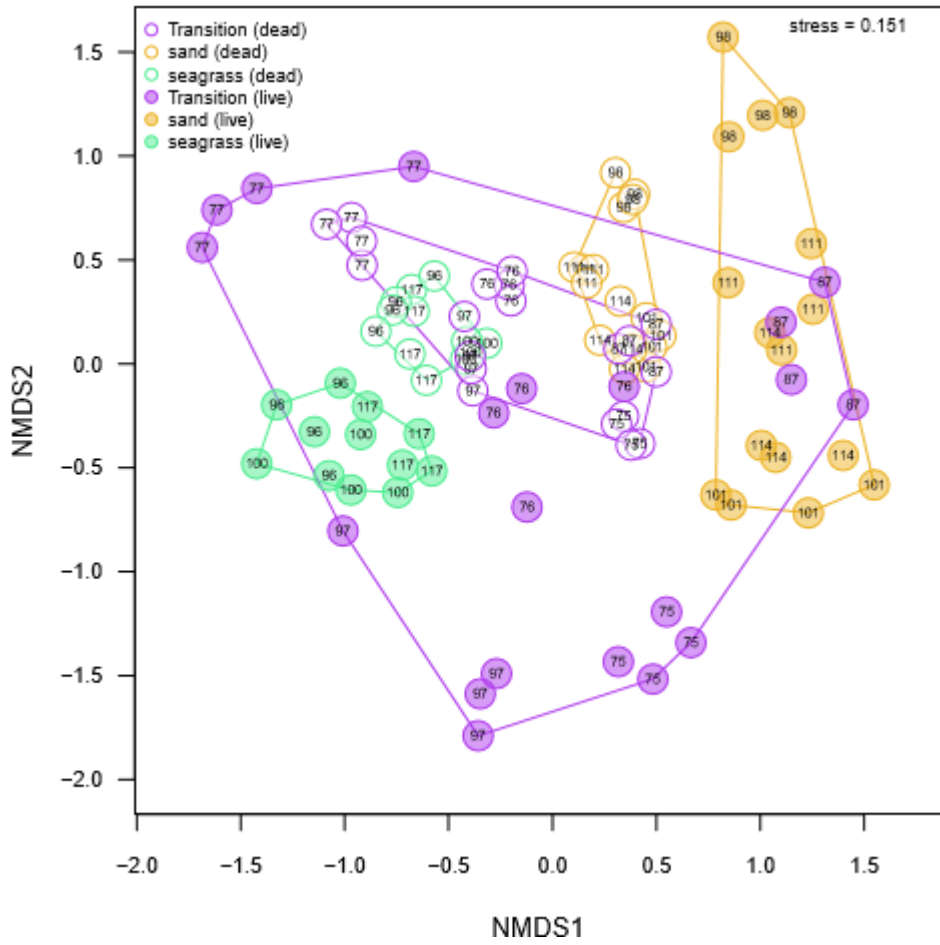


Figure S2. Comparison of LA and DA of samples for seagrass, open sand, and transition habitats using (a) raw-score sample values, and (b) using random sample-standardized abundances to control for small-sample bias (10,000 iterations). Indices are 1) Spearman’s non-parametric rank-order correlation of species abundances (Spearman’s rho) and 2) live-dead community similarity using Jaccard-Chao’s similarity index with an adjustment to control for the effects of unseen species (Chao et al. 2005). Samples plotting in the top-right quadrat have the highest fidelity, while samples plotting lower have reduced fidelity. Triangles represent respective group centroids. Respective p-values are superimposed in the lower left corner.

