

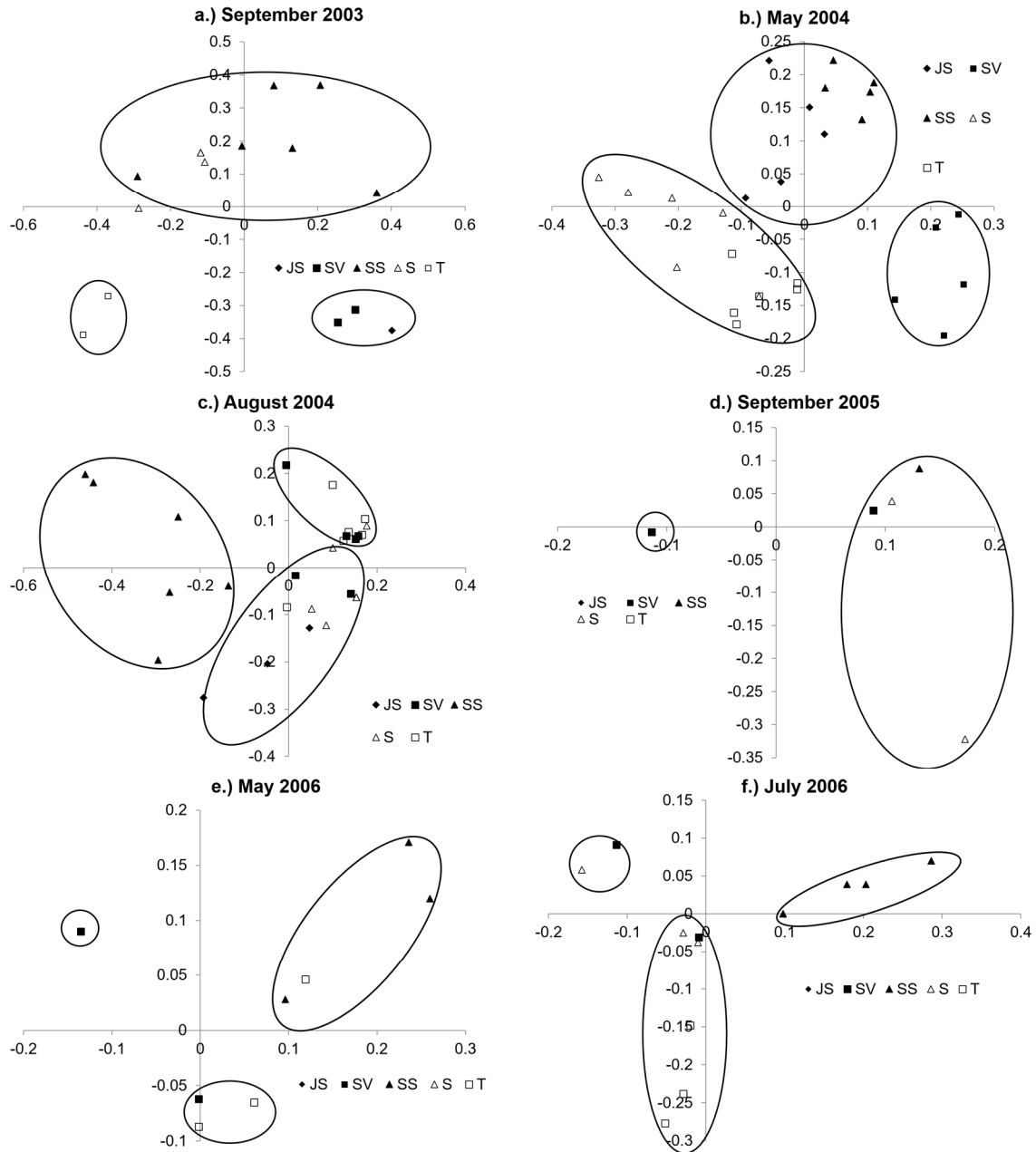


Figure S1: PCA results for dates a.) September 2003, b.) May 2004, c.) August 2004, d.) September 2005, e.) May 2006, and f.) July 2006. Circles denote significance ($p < 0.001$) for clustering. Variance per axis for each plot: a.) Axis 1 21.5%, Axis 2 42.2%; b.) Axis 1 23.5%, Axis 2 40.3%; c.) Axis 1 28.6%, Axis 2 42.7%; d.) Axis 1 54.2%, Axis 2 78.7%; e.) Axis 1 39.8%, Axis 2 63.1%; and f.) Axis 1 36.9%, Axis 2 60.1%.

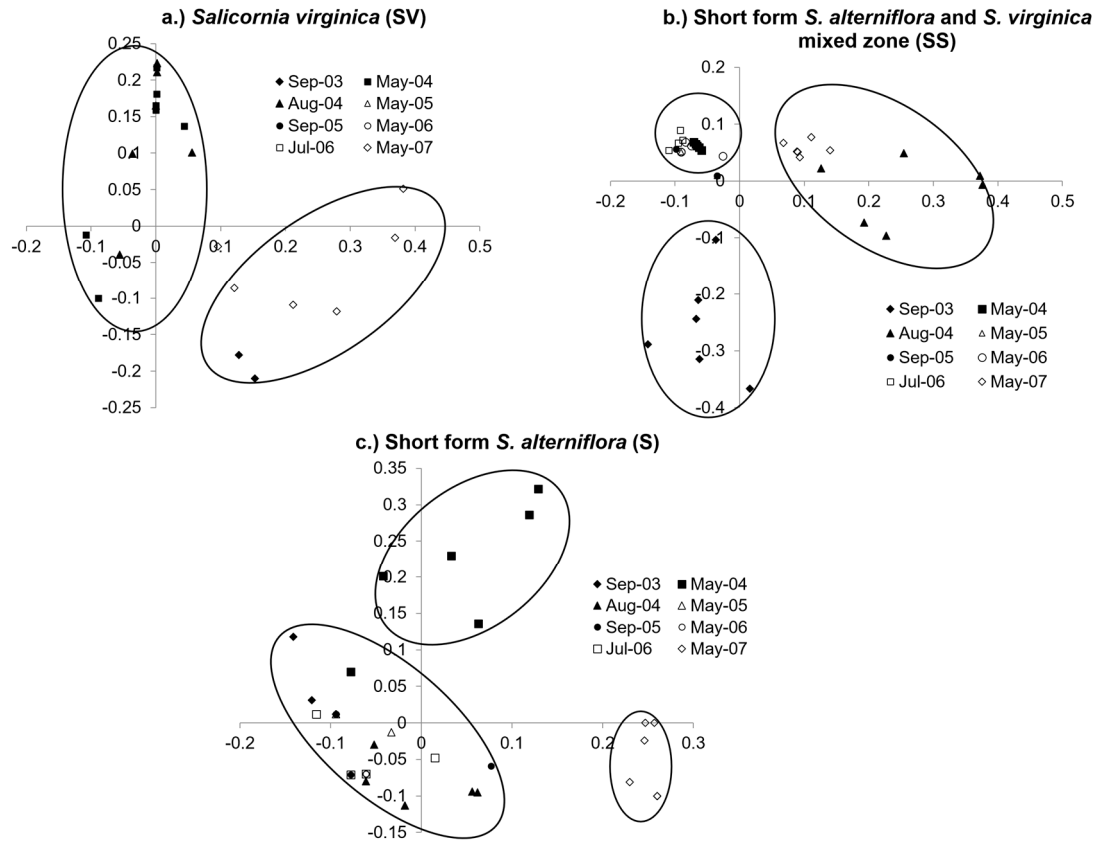


Figure S2: PCA results of a.) *Salicornia virginica*, b.) mid-marsh mixed zone of co-occurring short form *S. alterniflora* and *S. virginica*, and c.) low-marsh short form *S. alterniflora* for all dates. Circles denote significance ($p < 0.001$) for clustering. Variance per axis for each plot: a.) Axis 1 25.5%, Axis 2 46.5%; b.) Axis 1 20.6%, Axis 2 37.1%; c.) Axis 1 28.0%, Axis 2 48.6%

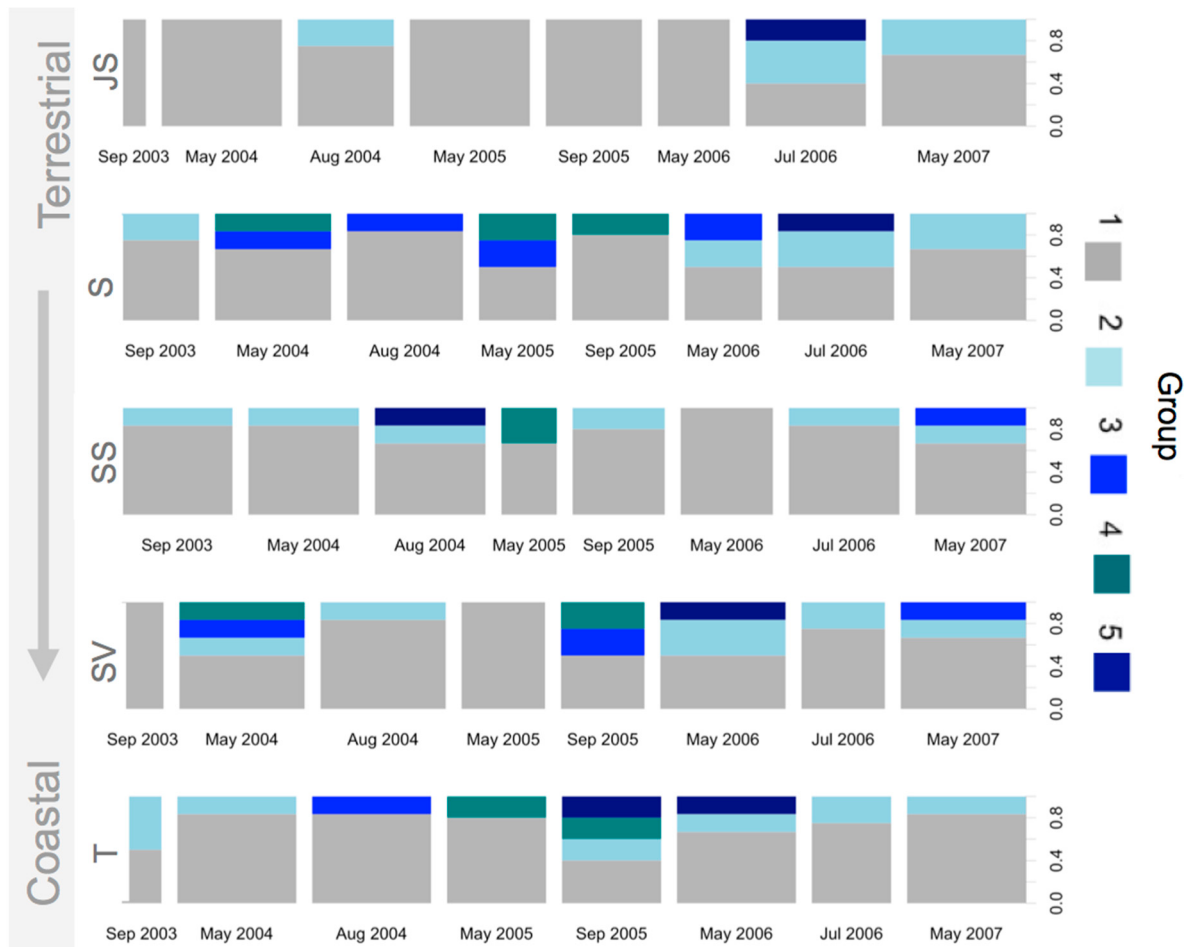


Figure S3. Variation in assemblage groups over time by vegetation zone (JS = high marsh *Juncus roemerianus*; S= low marsh short form *Spartina alterniflora*; SV = high marsh *Salicornia virginica*; SS= mid-marsh mixed zone of co-occurring *Salicornia virginica* and short form *Spartina alterniflora*; T = tall form *Spartina alterniflora*). The width of each block is proportional to the number of core samples with successful DNA isolation and subsequent DGGE gel analysis.

Table S1: Number of samples used per zone for each date in DGGE analysis.

Date Zone	September 2003	May 2004	August 2004	May 2005	September 2005	May 2006	July 2006	May 2007
JS	1	6	4	5	4	3	5	6
SV	2	6	6	4	4	6	3	6
SS	6	6	6	3	5	5	6	6
S	4	6	6	4	5	4	6	6
T	2	6	6	5	5	6	3	6
Total	15	30	28	21	23	24	25	30

Table S2: Ultimate Band Number (UBN) per diazotroph assemblage group identified through ordination. Bolded numbers in Group 1 relate to sequences obtained and displayed in the neighbor-joining phylogenetic tree in Figure 5.

Group	1		2	3	4		5	
UBN	5	26	5	5	4	24	4	29
	6	27	8	8	5	25	6	31
	8	28	10	9	6	26	8	34
	9	29	12	10	8	27	9	36
	10	30	13	13	9	28	11	38
	11	31	14	22	10	29	12	40
	12	32	20	30	11	30	13	41
	13	34	23	32	12	31	14	42
	15	35	25	33	13	32	15	
	16	36	30	36	14	33	16	
	17	37	31	38	15	34	17	
	18	39	34	40	16	35	18	
	19	41	37	41	17	36	20	
	20		39		18	37	22	
	21		41		19	43	23	
	22		43		20		24	
	23		44		21		26	
	24		45		22		27	
	25				23		28	

Table S3: Acetylene reduction assay results. Values are averages of maximum rates of acetylene reduced (nmol/h/mL) based on six replicates per zone for each sampling date. (Avg – Average, SD – standard deviation)

Zone/Date		JS	SV	SS	S	T
September 2003	Avg	0	0.16	0.65	0.19	0
	SD	0	0.16	0.09	0.15	0
May 2004	Avg	0	0	0.18	0.04	0.15
	SD	0	0	0.28	0.09	0.02
August 2004	Avg	0	0.81	0.11	0.18	0.13
	SD	0	0.31	0.09	0.11	0.02
May 2005	Avg	0	18.06	33.57	0.43	0.28
	SD	0	11.61	75.07	0.42	0.10
September 2005	Avg	0.06	2.17	0.39	1.42	0.07
	SD	0.05	2.29	0.58	1.40	0.04
May 2006	Avg	0.69	6.78	3.32	1.30	0.03
	SD	0.88	9.99	4.72	3.05	0.01
July 2006	Avg	0.09	0.09	0.08	0.09	0.10
	SD	0.06	0.04	0.50	0.02	0.04
May 2007	Avg	0.41	1.15	1.31	1.54	0.17
	SD	0.46	1.99	1.91	1.41	0.04