

Supplement of Biogeosciences Discuss., 12, 16285–16312, 2015  
<http://www.biogeosciences-discuss.net/12/16285/2015/>  
doi:10.5194/bgd-12-16285-2015-supplement  
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*Supplement of*

## **Carbon storage in seagrass soils: long-term nutrient history exceeds the effects of near-term nutrient enrichment**

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Figure 2

Aboveground seagrass carbon (g/m<sup>2</sup>)

Site	Control	Control SE	Nitrogen	Nitrogen SE	Phosphorus	Phosphorus SE	N+P	N+P SE
Duck	4.4	1.1	8.0	1.6	14.7	1.2	22.8	4.4
S. Nest	11.3	1.6	10.5	1.8	32.2	3.2	31.2	3.3
Bob Allen	4.8	1.6	2.6	0.5	29.3	6.1	34.8	5.3
Rabbit	42.3	3.7	46.5	5.3	33.8	5.1	49.4	9.2
Nine Mile	31.7	6.2	48.3	3.0	32.0	4.0	38.5	6.6
Sprigger	15.2	2.1	28.5	8.8	21.9	4.5	29.0	2.9

Belowground seagrass carbon (g/m<sup>2</sup>)

Site	Control	Control SE	Nitrogen	Nitrogen SE	Phosphorus	Phosphorus SE	N+P	N+P SE
Duck	66.8	9.6	54.9	7.3	74.2	11.9	80.3	18.4
S. Nest	36.6	5.8	56.0	9.7	37.3	6.1	46.6	5.9
Bob Allen	50.4	6.1	26.4	3.7	93.5	26.6	130.9	20.6
Rabbit	268.7	32.8	239.0	14.1	198.7	17.9	217.2	27.0
Nine Mile	265.5	32.2	305.6	17.4	188.8	21.7	230.4	14.5
Sprigger	135.3	17.8	121.6	7.3	114.3	4.4	100.1	14.1

Figure 3

Site	Soil organic carbon (g/m <sup>2</sup> )		Nitrogen	Nitrogen SE	Phosphorus	Phosphorus SE	N+P	N+P SE
	Control	Control SE						
Duck	2155.5	192.9	2175.5	124.3	1588.4	127.4	2200.5	191.3
S. Nest	1401.8	201.7	1303.2	143.4	1767.9	243.0	1329.3	248.5
Bob Allen	2533.6	141.1	2616.1	84.5	2808.0	120.9	3066.3	175.6
Rabbit	3260.0	399.0	3869.7	239.4	3421.1	312.6	2749.7	162.3
Nine Mile	2731.7	114.8	2972.4	219.6	2478.7	245.5	2804.7	47.9
Sprigger	2515.8	240.7	1794.0	288.6	1620.4	251.8	2177.9	203.1

Site	Soil organic carbon (%)		Nitrogen	Nitrogen SE	Phosphorus	Phosphorus SE	N+P	N+P SE
	Control	Control SE						
Duck	1.4	0.1	1.6	0.1	1.0	0.1	1.3	0.1
S. Nest	0.9	0.1	1.0	0.1	1.2	0.1	0.9	0.1
Bob Allen	2.5	0.1	2.4	0.1	2.4	0.1	2.8	0.1
Rabbit	6.4	0.5	7.1	0.4	6.0	0.4	5.9	0.2
Nine Mile	4.9	0.2	5.2	0.2	4.5	0.2	4.9	0.2
Sprigger	2.1	0.1	1.6	0.1	1.5	0.1	1.8	0.2

Figure 4

average aboveground <i>Thalassia</i> leaf N:P	organic C content (g/m <sup>2</sup> )	Soil organic C (%)	Site
141.9	2561.5	2.3	BA
98.8	2573.5	2.6	BA
	2649.9	2.3	BA
97.6	2036.2	2.6	BA
	3067.9	2.5	BA
124.8	2312.5	2.6	BA
	1454.5	1.1	D
80.8	2425.7	1.5	D
82.5	1696.8	1.3	D
82.9	2669.0	1.9	D
93.5	2400.8	1.3	D
98.2	2286.4	1.3	D
65.2	3101.4	4.8	NM
53.3	3042.0	4.6	NM
62.6	2713.3	5.9	NM
65.5	2530.9	4.9	NM
74.3	2412.8	4.6	NM
72.2	2589.5	4.6	NM
55.7	3951.3	6.2	R
62.8	3625.5	5.1	R
53.1	1612.0	6.3	R
56.9	4321.5	7.1	R
58.2	2699.4	5.6	R
55.2	3350.6	8.3	R
88.2	1354.8	0.9	SN
94.3	650.0	0.6	SN
91.4	2032.3	1.2	SN
85.6	1066.0	0.8	SN
128.7	1742.9	1.0	SN
75.9	1565.0	0.9	SN

Figure 5

Total <i>Thalassia</i> Abv C (g/m <sup>2</sup> )	organic C content (g/m <sup>2</sup> )	Soil organic C (%)	Site
	2561.5	2.3	BA
6.1	2573.5	2.6	BA
0.5	2649.9	2.3	BA
3.1	2036.2	2.6	BA
4.5	3067.9	2.5	BA
9.9	2312.5	2.6	BA
	1454.5	1.1	D
6.9	2425.7	1.5	D
2.2	1696.8	1.3	D
6.8	2669.0	1.9	D
1.5	2400.8	1.3	D
4.8	2286.4	1.3	D
37.5	3101.4	4.8	NM
16.1	3042.0	4.6	NM
31.5	2713.3	5.9	NM
32.8	2530.9	4.9	NM
56.7	2412.8	4.6	NM
15.9	2589.5	4.6	NM
43.5	3951.3	6.2	R
34.8	3625.5	5.1	R
32.0	1612.0	6.3	R
44.9	4321.5	7.1	R
40.7	2699.4	5.6	R
57.8	3350.6	8.3	R
13.9	1354.8	0.9	SN
17.0	650.0	0.6	SN
9.2	2032.3	1.2	SN
10.8	1066.0	0.8	SN
5.2	1742.9	1.0	SN
11.6	1565.0	0.9	SN

Figure 6

Total <i>Thalassia</i> Blw C (g/m <sup>2</sup> )	organic C content (g/m <sup>2</sup> )	Soil organic C (%)	Site
37.0	2561.5	2.3	BA
59.2	2573.5	2.6	BA
32.1	2649.9	2.3	BA
53.2	2036.2	2.6	BA
48.0	3067.9	2.5	BA
72.7	2312.5	2.6	BA
	1454.5	1.1	D
100.9	2425.7	1.5	D
50.9	1696.8	1.3	D
68.8	2669.0	1.9	D
46.0	2400.8	1.3	D
67.3	2286.4	1.3	D
375.0	3101.4	4.8	NM
172.0	3042.0	4.6	NM
329.1	2713.3	5.9	NM
192.9	2530.9	4.9	NM
285.3	2412.8	4.6	NM
238.9	2589.5	4.6	NM
305.5	3951.3	6.2	R
185.2	3625.5	5.1	R
198.1	1612.0	6.3	R
405.2	4321.5	7.1	R
266.0	2699.4	5.6	R
252.3	3350.6	8.3	R
26.7	1354.8	0.9	SN
60.7	650.0	0.6	SN
47.2	2032.3	1.2	SN
25.9	1066.0	0.8	SN
30.0	1742.9	1.0	SN
28.9	1565.0	0.9	SN