## Supplementary Materials

**Table S1. Site Descriptions** 

Site		Number of	Zone		Stem	
Numbers,	Zone Parameters	Replicate	Size	Salinity	Counts (stems/m <sup>2</sup>	Land Use Activities
Zones, and Replicates	Parameters	Sample Points	(km <sup>2</sup> )	(ppt)	(stems/m <sup>2</sup>	Nearby
1 Terrestrial	Presence of dry	3 (A, B, C)	0.04	0.68	A: 39	Fresh water inflow
	land, grass,				B: 32	from streams;
	trees, and/or				C: 46	agricultural and
	rocks					recreational activities
						(frisbee golf). Most
						inland/sheltered zone
						within a sheltered site.
1 Intermittent	Presence of	3 (A, B, C)	0.04	0.68	A: 129	Fresh water inflow
	saturated soils,				B: 80	from streams;
	lack of aquatic				C: 65	recreational activities
	vegetation,					(frisbee golf).
	and/or presence					Sheltered site.
	of algal species					
	on top of rocks					
1 Littoral	Presence of	3 (A, B, C)	0.85	0.68	A: 38	Fresh water inflow
	standing water,				B: 15	from streams;
	aquatic				C: 27	recreational activities
	vegetation,					(swimming, boating,
	and/or open					frisbee golf). Most
	water					exposed zone within a
						sheltered site.

Site		Number of	Zone		Stem	
Numbers,	Zone Parameters	Replicate	Size	Salinity	Counts	Land Use
Zones, and	Zone rarameters	Sample	(km <sup>2</sup>	(ppt)	(stems/	Activities Nearby
Replicates		Points	)		$m^2$ )	
2 Terrestrial	Presence of dry land,	3 (A, B, C)	0.04	2.32	A: 27	Residential
	grass, trees, and/or				B: 32	properties,
	rocks				C: 29	farming, sheltered
						enclave
2 Intermittent	Presence of saturated	3 (A, B, C)	0.02	2.32	A: 57	Residential
	soils, lack of aquatic				B: 71	properties,
	vegetation, and/or				C: 53	farming, sheltered
	presence of algal					enclave
	species on top of					
	rocks					
2 Littoral	Presence of standing	3 (A, B, C)	0.20	2.32	A: 11	Residential
	water, aquatic				B: 27	properties,
	vegetation, and/or				C: 20	sheltered enclave
	open water					

Site		Number of	Zone		Stem	
Numbers,	Zone Parameters	Replicate	Size	Salinity	Counts	Land Use
Zones, and		Sample	(km <sup>2</sup>	(ppt)	(stems/	Activities Nearby
Replicates		Points	)		m <sup>2</sup> )	
3 Terrestrial	Presence of dry land,	3 (A, B, C)	0.08	2.64	A: 20	Semi-sheltered
	grass, trees, and/or				B: 32	reeds around active
	rocks				C: 28	boating pier and
						dog park of the
						town of
						Tammissaari
3 Intermittent	Presence of saturated	3 (A, B, C)	0.10	2.64	A: 45	Semi-sheltered
	soils, lack of aquatic				B: 46	reeds around active
	vegetation, and/or				C: 42	boating pier and
	presence of algal					dog park of the
	species on top of					town of
	rocks					Tammissaari
3 Littoral	Presence of standing	3 (A, B, C)	0.45	2.64	A: 108	Semi-sheltered
	water, aquatic				B: 75	reeds around active
	vegetation, and/or				C: 57	boating pier and
	open water					dog park of the
						town of
						Tammissaari

Site		Number of	Zone		Stem	
Numbers,	Zone Parameters	Replicate	Size	Salinity	Counts	Land Use
Zones, and	Zone rarameters	Sample	(km <sup>2</sup>	(ppt)	(stems/	Activities Nearby
Replicates		Points	)		$m^2$ )	
4 Terrestrial	Presence of dry land,	3 (A, B, C)	0.04	5.14	A: 29	Long and exposed
	grass, trees, and/or				B: 53	reed bed along
	rocks				C: 40	western shore of
						Pojo Bay.
4 Intermittent	Presence of saturated	3 (A, B, C)	0.03	5.14	A: 25	Long and exposed
	soils, lack of aquatic				B: 55	reed bed along
	vegetation, and/or				C: 49	western shore of
	presence of algal					Pojo Bay. Nearby
	species on top of					residential
	rocks					properties.
4 Littoral	Presence of standing	3 (A, B, C)	0.10	5.14	A: 93	Long and exposed
	water, aquatic				B: 82	reed bed along
	vegetation, and/or				C: 73	western shore of
	open water					Pojo Bay.

Site Numbers, Zones, and Replicates	Zone Parameters	Number of Replicate Sample Points	Zone Size (km²)	Salinity (ppt)	Stem Counts (stems/m²)	Land Use Activities Nearby
5 Terrestrial	Presence of dry land,	3 (A, B, C)	0.02	6.00	A: 13	Long and
	grass, trees, and/or				B: 9	exposed reed bed
	rocks				C: 10	along western
						shore of Pojo
						Bay. Next to
						shipping port.
5 Intermittent	Presence of saturated	3 (A, B, C)	0.02	6.00	A: 59	Long and
	soils, lack of aquatic				B: 27	exposed reed bed
	vegetation, and/or				C: 41	along western
	presence of algal					shore of Pojo
	species on top of					Bay. Next to
	rocks					shipping port.
5 Littoral	Presence of standing	3 (A, B, C)	0.08	6.00	A: 217	Long and
	water, aquatic				B: 98	exposed reed bed
	vegetation, and/or				C: 81	along western
	open water					shore of Pojo
						Bay. Next to
						shipping port.

Site		Number of	Zone		Stem	
Numbers,	Zone	Replicate	Size	Salinity	Counts	Land Use Activities
Zones, and	Parameters	Sample	(km <sup>2</sup> )	(ppt)	(stems/	Nearby
Replicates		Points	(KIII )		m <sup>2</sup> )	
6 Terrestrial	Presence of dry	3 (A, B, C)	0.01	6.15	A: 35	Sheltered reed bed where
	land, grass,				B: 69	Pojo Bay opens into the
	trees, and/or				C: 66	Baltic Sea. Nearby
	rocks					residential properties,
						boating pier, and marine
						biology research station.
6 Intermittent	Presence of	3 (A, B, C)	0.003	6.15	A: 136	Sheltered reed bed where
	saturated soils,				B: 125	Pojo Bay opens into the
	lack of aquatic				C: 174	Baltic Sea. Nearby
	vegetation,					residential properties,
	and/or					boating pier, and marine
	presence of					biology research station.
	algal species					Occasional goat grazing
	on top of rocks					nearby.
6 Littoral	Presence of	3 (A, B, C)	0.01	6.15	A: 52	Sheltered reed bed where
	standing water,				B: 25	Pojo Bay opens into the
	aquatic				C: 40	Baltic Sea. Nearby
	vegetation,					residential properties,
	and/or open					boating pier, and marine
	water					biology research station.

Table S2. Soil Dry Bulk Density results per site and zone

Location	DBD Average	SE
Site 1 Avg	0.64	0.04
Site 2 Avg	0.86	0.05
Site 3 Avg	0.79	0.08
Site 4 Avg	1.04	0.08
Site 5 Avg	1.60	0.12
Site 6 Avg	0.88	0.08
Terrestrial Avg	1.11	0.06
Intermittent Avg	0.64	0.05
Littoral Avg	1.07	0.04

 $Table \ S3. \ Loss \ On \ Ignition \ results \ per \ site \ and \ zone$ 

Location	%OM average	SE	Upper 10cm %OM Average	SE
Site 1 Avg	15.1	2.4	41.8	9.8
Site 2 Avg	7.8	1.6	17.1	5.5
Site 3 Avg	11.8	2.5	21.3	7.5
Site 4 Avg	13.4	3.3	50.4	8.2
Site 5 Avg	7.4	2.6	18.9	9.0
Site 6 Avg	14.8	3.0	33.6	9.2
Terrestrial Avg	9.2	1.5	32.1	5.8
Intermittent Avg	21.0	2.3	50.0	5.3
Littoral Avg	3.8	0.9	9.5	3.8
1Ter	9.7	3.3	55.8	7.3
1Int	26.1	4.5	65.5	0.7
1Lit	4.0	0.3	4.0	0.6
2Ter	3.9	2.3	13.1	8.9
2Int	12.5	2.8	35.1	2.9
2Lit	2.7	0.3	3.0	0.7
3Ter	14.1	4.5	24.8	14.9
3Int	13.6	4.1	23.3	15.9
3Lit	5.8	4.0	15.9	13.0
4Ter	8.8	3.8	45.4	12.2
4Int	23.8	8.0	74.2	0.5
4Lit	8.0	4.1	31.6	13.8
5Ter	1.2	0.2	1.5	0.4
5Int	23.4	7.4	54.4	5.3
5Lit	0.5	0.1	0.7	0.2
6Ter	14.7	3.7	51.7	2.7
6Int	40.7	8.9	47.4	15.4
6Lit	1.2	0.1	1.6	0.2

 $\label{eq:constraint} \textbf{Table S4. Sediment } \textbf{C} \textbf{ stock results per site and zone}$ 

Location	Average C_g_sq_m	SE
Site 1 Avg	12147.0	2633.2
Site 2 Avg	8436.0	1929.5
Site 3 Avg	7280.0	1056.0
Site 4 Avg	6299.0	957.3
Site 5 Avg	5565.0	1054.0
Site 6 Avg	7520.0	1932.2
Terrestrial Avg	10438.1	1142.4
Intermittent Avg	11256.9	1716.9
Littoral Avg	3952.6	444.5
1Ter	17480.7	642.9
1Int	24408.3	1607.4
1Lit	6697.0	738.7
2Ter	4352.3	1061.6
2Int	15948.3	892.1
2Lit	5006.0	558.9
3Ter	9235.0	1488.9
3Int	9040.3	647.3
3Lit	3564.3	618.2
4Ter	8759.0	1807.4
4Int	6475.3	631.3
4Lit	3663.3	903.5
5Ter	8064.7	423.2
5Int	7063.7	861.9
5Lit	1566.7	409.2
6Ter	14737.0	1360.2
6Int	4605.3	1761.9
6Lit	3218.0	548.4

 $\label{thm:constraints} \textbf{Table S5. Above ground biomass } \textbf{C stock results per site and zone}$ 

Location	Aboveground C_g_sq_m	SE
Site 1 Avg	80.4	26.4
Site 2 Avg	75.3	18.5
Site 3 Avg	90.5	16.7
Site 4 Avg	73.4	16.9
Site 5 Avg	83.0	33.2
Site 6 Avg	150.5	32.3
Terrestrial Avg	70.0	12.9
Intermittent Avg	122.3	19.7
Littoral Avg	77.1	15.1
1Ter	33.7	5.1
1Int	180.5	26.3
1Lit	27.1	9.9
2Ter	38.1	4.6
2Int	148.3	8.1
2Lit	39.5	6.1
3Ter	56.6	15.7
3Int	77.4	13.1
3Lit	137.5	33.9
4Ter	99.7	22.6
4Int	24.6	3.3
4Lit	96.0	33.6
5Ter	36.7	12.0
5Int	58.6	4.7
5Lit	153.7	95.8
6Ter	155.0	41.1
6Int	244.9	37.2
6Lit	51.7	9.9

Table S6. Belowground biomass C stock results per site and zone

Location	Belowground C_g_sq_m	SE
Site 1 Avg	3439.1	992.9
Site 2 Avg	3712.3	601.1
Site 3 Avg	1936.7	898.1
Site 4 Avg	1705.1	572.7
Site 5 Avg	1984.7	872.4
Site 6 Avg	1938.1	659.4
Terrestrial Avg	1879.0	410.0
Intermittent Avg	4499.5	484.6
Littoral Avg	188.5	31.1
1Ter	3154.7	521.0
1Int	6883.6	769.2
1Lit	279.0	8.5
2Ter	2289.4	NA
2Int	4186.6	522.4
2Lit	NA	NA
3Ter	162.4	44.6
3Int	5511.8	297.6
3Lit	135.8	35.9
4Ter	1717.3	655.3
4Int	3056.8	1287.9
4Lit	341.3	62.7
5Ter	421.5	104.6
5Int	5457.6	210.9
5Lit	75.0	37.6
6Ter	3802.5	878.4
6Int	1900.4	1018.7
6Lit	111.4	23.8