

**Supplementary Table: Characteristics of the studied seagrass meadows as based on literature and expert knowledge. \* refers to data based on measurements done as part of the study in summer 2014.**

Site number and names		Coordinates	Inundation period	Tidal range	Sediment properties*			Exposure	System	Salinity	Seagrass meadow properties					References used
			(hours per tidal cycle)	(m)	Type	D50 (um)	% fines			(psu)	Size (ha)	Leaf Area Index (at peak)*	Growing season	Evergreen (Y/N)	Status	
E1	Cadiz Bay, Spain	N 36 30' W 6 10'	9	0.98 to 3.2	sandy	160.3 ± 1.9	12.7 ± 0.3	exposed	Bay	34 to 37	500	2.3 ± 0.5	May-November	Y	decrease	Brun et al. 2003; Ferron et al. 2007; van Engeland et al. 2013
E2	Upstream - Mondego estuary, Portugal	N 40 8' W 8 50'	6	1 to 3	sandy-muddy	76.9 ± 7.8	13.3 ± 0.1	sheltered	Estuary	15 to 25	1 to 1.5	2.1 ± 0.5	April-October	Y	increase	Cardoso et al. 2002; Dolbeth et al. 2007
E3	Downstream - Mondego estuary, Portugal	N 40 8' W 8 50'	6	1 to 3	sandy-muddy	29 ± 0.3	14.8 ± 0.2	sheltered	Estuary	20 to 30	0.1	2.1 ± 0.6	April-October	Y	decrease	Cardoso et al. 2002; Dolbeth et al. 2007
E4	Santander, Spain	N 43 25' W 003 48'		4	sandy	167 ± 6.7	11.1 ± 0.6	sheltered	Estuary		0.108	0.3 ± 0.1	June-October	Y	increase	
E5	Bidasoa estuary, France	N 43 21' W 001 46'	7 to 8	4.5	sandy	170.5 ± 10.9	11.3 ± 0.6	sheltered	Estuary	20 to 35	1.57	1.2 ± 0.3	May-October	Y	decrease	Garmendia et al. 2013; Sanchez et al. 2013
E6	Germanan - Arcachon Bay, France	N 44 42' W 001 8'	3.83	0.8 to 4.6	muddy	35.4 ± 4.2	14.8 ± 0.7	sheltered	Bay	15 to 34	4570	1.8 ± 0.3	April-September	Y	decrease	Auby et al. 2011; Kombiadou et al. 2014
E7	Hautebelle - Arcachon Bay, France	N 44 43' W 001 09'	3.5	0.8 to 4.6	muddy	75.1 ± 2.6	24.9 ± 0.2	sheltered	Bay	15 to 34	4570	2.4 ± 0.8	April-September	Y	decrease	Auby et al. 2011; Kombiadou et al. 2014
E8	Noirmoutier, France	N 46 98' W 002 21'	5 to 7	6	sandy-muddy	80.6 ± 4.6	17.1 ± 0.5	sheltered	Bay	28 to 36	452	1.2 ± 0.6	March-November	N	increase	Bargain et al. 2012; Barillé-Boyer et al. 1997
E9	St-Jacut-de-la-mer, France	N 48 36' W 002 11'	5.5	12	muddy	57.2 ± 1.03	29.3 ± 0.4	sheltered	Estuary	18 to 32	40	0.8 ± 0.2	May-September	N	stable	Fournier et al. 2006; Vaucourt & Bonnot-Courtois 1992

E10	Oostdijk - Oosterschelde, Netherlands	N 51 26' E 004 05'	7	2.5 to 3	sandy-muddy	78.1 ± 0.6	43.5 ± 0.6	sheltered	Estuary	28 to 31		2.1 ± 0.3	May-September	N	increase	Giesen et al. 2010; Govers et al. 2014; Pranger et al. 2013
E11	Dortsman - Oosterschelde, Netherlands	N 51 34' E 003 59'	7	2.5 to 3	sandy	94.7 ± 13.8	22.9 ± 1.4	exposed	Estuary	28 to 31	39.36	0.9 ± 0.2	May-September	N	decrease	Giesen et al. 2010; Govers et al. 2014; Pranger et al. 2013
E12	Sylt, Germany	N 54 54' E 008 19'	6 to 8	2	sandy	158.1 ± 7.4	17.2 ± 0.5	sheltered	Bay	25 to 32	50	0.7 ± 0.1	May-September	N	increase	Asmus & Asmus 2000; de Beer et al, 2005; Polte & Asmus 2006; Polte et al. 2005; Dolch et al. 2013

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