

Table S1. Phenotypic expressions (additivity being equal to both parental species (*Sd-Sf*); additivity being intermediate between parents (A); mid-parent heterosis (MPH); best-parent heterosis (BPH); worst-parent heterosis (WPH)) for the hybrid *Spartina densiflora* \times *foliosa* for 36 traits measured at different salinities (0.5, 10, 20 and 40 ppt) and inundation depths (shallow inundation (SI), 4.4 cm; Intermediate inundation (II), 35.5 cm; Deep inundation (DI), 55.0 cm deep). Parental taxa: *S. densiflora* (*Sd*); *S. foliosa* (*Sf*). Three-way ANOVA, salinity \times inundation \times taxa, $P < 0.05$, $n = 4$.

	0.5 ppt			10 ppt			20 ppt			40 ppt		
	SI	II	DI	SI	II	DI	SI	II	DI	SI	II	DI
AGB : BGB	BPH	BPH	BPH	BPH	BPH	BPH	BPH	BPH	BPH	BPH	BPH	BPH
Below-ground biomass (BGB)	MPH	MPH	A	BPH	MPH	MPH	MPH	A	A	MPH	A	MPH
Carotenoids content	<i>Sd-Sf</i>	MPH	BPH	<i>Sd-Sf</i>	MPH	MPH	<i>Sd-Sf</i>	MPH	BPH	<i>Sd-Sf</i>	<i>Sd-Sf</i>	MPH
Chl <i>a</i> : Carotenoids ratio	MPH	MPH	BPH	<i>Sd-Sf</i>	<i>Sd-Sf</i>	MPH	<i>Sd-Sf</i>	<i>Sd-Sf</i>	BPH	<i>Sd-Sf</i>	MPH	MPH
Chl <i>a</i> : Chl <i>b</i> ratio	<i>Sd-Sf</i>	MPH	MPH	<i>Sd-Sf</i>	MPH	MPH	<i>Sd-Sf</i>	MPH	MPH	<i>Sd-Sf</i>	MPH	MPH
Chl <i>a</i> content	<i>Sd-Sf</i>	MPH	BPH	<i>Sd-Sf</i>	A	BPH	<i>Sd-Sf</i>	MPH	BPH	MPH	<i>Sd-Sf</i>	BPH
Chl <i>b</i> content	<i>Sd-Sf</i>	MPH	BPH	<i>Sd-Sf</i>	MPH	MPH	<i>Sd-Sf</i>	<i>Sd-Sf</i>	BPH	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>
Chl. <i>a</i> + <i>b</i> content	<i>Sd-Sf</i>	MPH	BPH	<i>Sd-Sf</i>	MPH	BPH	<i>Sd-Sf</i>	MPH	BPH	MPH	<i>Sd-Sf</i>	BPH
Glycinebetaine content	BPH	MPH	MPH	MPH	MPH	MPH	MPH	<i>Sd-Sf</i>	MPH	MPH	MPH	<i>Sd-Sf</i>
Inflorescences biomass (% AGB)	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	WPH	MPH	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	MPH	<i>Sd-Sf</i>	A	A
Leaf biomass (% AGB)	MPH	MPH	MPH	MPH	<i>Sd-Sf</i>	MPH	<i>Sd-Sf</i>	<i>Sd-Sf</i>	WPH	MPH	MPH	<i>Sd-Sf</i>
Leaf C:N ratio	WPH	MPH	MPH	MPH	MPH	<i>Sd-Sf</i>	<i>Sd-Sf</i>	MPH	<i>Sd-Sf</i>	MPH	MPH	MPH
Leaf Carbon content	MPH	MPH	MPH	MPH	MPH	BPH	MPH	MPH	BPH	MPH	MPH	BPH
Leaf Na content	WPH	MPH	A	<i>Sd-Sf</i>	MPH	MPH	WPH	MPH	MPH	MPH	MPH	MPH
Leaf Nitrogen content	BPH	MPH	MPH	MPH	MPH	MPH	<i>Sd-Sf</i>	<i>Sd-Sf</i>	BPH	<i>Sd-Sf</i>	MPH	MPH
Leaf Rolling	MPH	MPH	MPH	MPH	MPH	<i>Sd-Sf</i>	MPH	MPH	MPH	BPH	<i>Sd-Sf</i>	MPH
Leaf Water content	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>
Na excretion	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	MPH	BPH	<i>Sd-Sf</i>	MPH	MPH	MPH	A	MPH
Net photosynthesis rate	MPH	MPH	<i>Sd-Sf</i>	MPH	<i>Sd-Sf</i>	<i>Sd-Sf</i>	MPH	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	MPH	<i>Sd-Sf</i>
Proline content	BPH	<i>Sd-Sf</i>	A	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	MPH	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>
Rhizome biomass (% BGB)	<i>Sd-Sf</i>	<i>Sd-Sf</i>	WPH	<i>Sd-Sf</i>	MPH	<i>Sd-Sf</i>	MPH	<i>Sd-Sf</i>	MPH	<i>Sd-Sf</i>	<i>Sd-Sf</i>	WPH
Rhizome C:N ratio	WPH	MPH	MPH	WPH	MPH	MPH	WPH	WPH	MPH	MPH	WPH	MPH
Rhizome Carbon content	<i>Sd-Sf</i>	MPH	MPH	MPH	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	MPH	MPH	<i>Sd-Sf</i>	MPH
Rhizome Nitrogen content	BPH	BPH	MPH	BPH	MPH	MPH	BPH	BPH	MPH	MPH	BPH	MPH
Rhizome porosity	MPH	<i>Sd-Sf</i>	<i>Sd-Sf</i>	MPH	<i>Sd-Sf</i>	MPH	<i>Sd-Sf</i>	A	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	MPH
Rhizome TNC	<i>Sd-Sf</i>	BPH	BPH	BPH	BPH	BPH	BPH	BPH	BPH	BPH	BPH	BPH
Root biomass (% BGB)	<i>Sd-Sf</i>	<i>Sd-Sf</i>	BPH	<i>Sd-Sf</i>	MPH	<i>Sd-Sf</i>	MPH	<i>Sd-Sf</i>	MPH	<i>Sd-Sf</i>	<i>Sd-Sf</i>	BPH
Root Mass Ratio	MPH	WPH	WPH	WPH	MPH	WPH	WPH	WPH	WPH	WPH	WPH	WPH
Root porosity	MPH	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	WPH	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	MPH	<i>Sd-Sf</i>
Specific Leaf Area	<i>Sd-Sf</i>	<i>Sd-Sf</i>	MPH	MPH	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	MPH
Stomatal conductance	MPH	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	MPH	<i>Sd-Sf</i>	MPH	<i>Sd-Sf</i>	<i>Sd-Sf</i>	MPH
Tiller biomass (% AGB)	MPH	MPH	BPH	MPH	<i>Sd-Sf</i>	BPH	<i>Sd-Sf</i>	<i>Sd-Sf</i>	BPH	<i>Sd-Sf</i>	<i>Sd-Sf</i>	A
Tiller length	BPH	BPH	BPH	BPH	BPH	BPH	BPH	BPH	BPH	BPH	BPH	BPH
Tillers growth rate (TGR)	BPH	BPH	BPH	BPH	MPH	MPH	MPH	MPH	BPH	<i>Sd-Sf</i>	BPH	<i>Sd-Sf</i>
Water Use Efficiency	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	MPH	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>	<i>Sd-Sf</i>
Δ rhizome TNC	BPH	BPH	BPH	BPH	BPH	BPH	BPH	BPH	BPH	BPH	BPH	BPH