

Table S1 - Relative importance of each variable in the final models calculated using the *relaimpo* package in R (Grömping 2006). The lmg metric is calculated based on sequential R^2 but takes care of the dependence on orderings by averaging over orderings.

	Species	Habitat	Model terms	lmg
1.	<i>Z. marina</i>	seagrass	1. CR : F=12.74 ; RSE= 1.19; adj. R^2 =0.74	
			Water temperature*	0.53
			Salinity*	0.19
			Leaf biomass	0.08
			Root biomass	0.04
			% organic matter*	0.06
			Infauna density *	0.10
2.	<i>Z. marina</i>	bare	2. CR : F=13.93 ; RSE=1.62 ; adj. R^2 =0.73	
			Water temperature*	0.46
			Algae biomass*	0.51
			% organic matter	0.03
3.	<i>Z. marina</i>	seagrass	3. GCP : F=7.81 ; RSE=3.42 ; adj. R^2 =0.52	
			Water temperature*	0.48
			Salinity	0.11
			Shoot density	0.14
			Leaf biomass*	0.26
4.	<i>Z. marina</i>	bare	4. GCP : F=4.941 ; RSE=4.785 ; adj. R^2 =0.36	
			Water temperature	0.42
			Salinity*	0.58
5.	<i>N. noltei</i>	seagrass	5. CR : F=19.15 ; RSE= 1.091; adj. R^2 =0.83	
			Water temperature*	0.56
			Leaf area index*	0.27
			Algae biomass*	0.08
			% organic matter	0.02
			Infauna density	0.04
			Infauna AFDM	0.03
6.	<i>N. noltei</i>	bare	6. CR : F=4.81 ; RSE=0.83 ; adj. R^2 =0.47	
			Water temperature*	0.48
			Infauna density	0.29
			Infauna AFDM	0.23
7.	<i>N. noltei</i>	seagrass	7. GCP : F=12.9 ; RSE=2.92 ; adj. R^2 =0.67	
			Water temperature*	0.40
			Leaf area index*	0.23
			Algae biomass*	0.05
			Leaf biomass*	0.31

*significant at level $p < 0.05$ in the global model (Table 2)

Initial models and N:

1. CR.O2~temp+LAI+salinity+Balgae+Dshoot+Bleaf+Broot+OM.sed+endoF.dens+endoF.AFDM ; N=26
2. CR.O2~temp+salinity+Balgae+OM.sed+endoF.dens+endoF.AFDM ; N=15
3. GCP.O2~temp+LAI+salinity+Balgae+Dshoot+Bleaf+Broot+OM.sed ; N=26
4. GCP.O2~temp+salinity+Balgae+OM.sed ; N=15

5. CR.O2~temp+LAI+salinity+Balgae+Dshoot+Bleaf+Broot+OM.sed+endoF.dens+endoF.AFDM+cov;
N=24
6. CR.O2~temp+salinity+Balgae+OM.sed+endoF.dens+endoF.AFDM ; N=14
7. CP.O2~temp+LAI+salinity+Balgae+Dshoot+Bleaf+Broot+OM.sed+Cov ; N=24

With:

Temp=water temperature

OM.sed=%organic matter in sediment

Balgae= algae biomass

LAI=leaf area index

Dshoot=shoot density (seagrass)

Bleaf=total leaf biomass

Broot=root biomass

endoF.dens=infauna density

endoF.AFDM=infauna ash free dry mass

Grömping, U. (2006). Relative Importance for Linear Regression in R: The Package relaimpo. *Journal of Statistical Software*, 17(1), 1–27. <https://doi.org/10.18637/jss.v017.i01>