

Supplementary material 1

Table S1. Habitat descriptors used in the different case studies to verify possible abiotic effects on community composition and confounding effects with trawling intensity. The same descriptors were not available, but a minimum of them enabled to take account for local variations in community composition (see Table 2). In general, very common abiotic variations are known to have similar effects on the marine benthos, independently on the area. Typical of the marine environment, variations in salinity act on organism physiology, and depth determines light availability and stratification that can limit pelagic resource supply. Independently or not, hydrology is a major driver of community change, either directly by acting on physiology or indirectly by selecting sediment granulometry and organic content. In each case study, these aspects are taken into account. In some cases, basic descriptors (e.g. salinity, depth) were not considered since they were not variable within the study area. BS case study: O₂, NH₄, NO₃ and PO₄ are average bottom water concentrations.

Descriptor	BS	DSNS – WA	DSNS – LD	DSNS – HD	NST	FF	CS	BBL	BBF	EMS – WA	EMS – PB	EMS – HBB	EMS – HBS
Depth	X	X	X	X	X		X	X		X			X
Temperature										X			
Current speed		X	X	X	X		X	X	X	X			
Wave energy		X	X	X									
Stratification		X	X	X									
Salinity	X												
Sediment type	X	X	X	X	X	X	X			X		X	X
Sediment porosity	X				X		X						
Sediment permeability					X		X						
Primary productivity		X	X	X									
Total C		X	X	X		X							
Organic C	X	X	X	X	X	X				X	X	X	X
O ₂	X												
NH ₄	X												
NO ₃	X												
Total N					X								
PO ₄	X												
Chl a	X				X				X	X	X	X	X
Phaeophytin										X	X	X	X