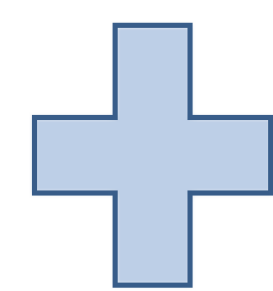


# Can we protect our coastline and the beach ecosystem at the same time?

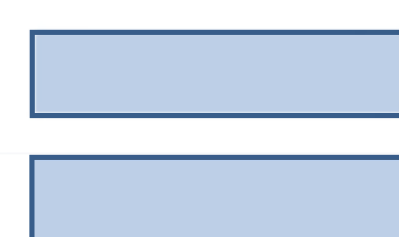
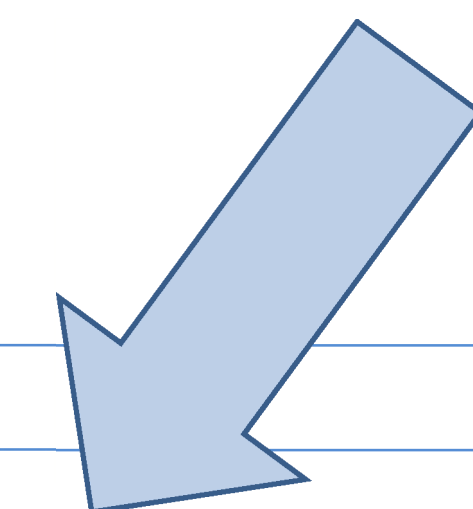
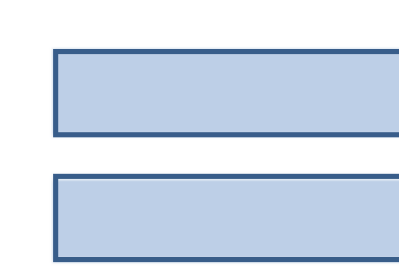
Vanden Eede Sarah\* & Vincx Magda



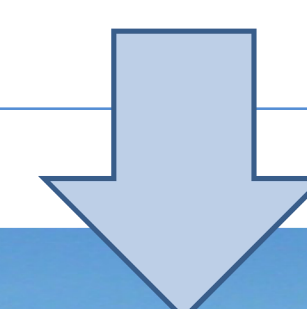
changing climate



low lying countries, like Belgium



soft coastal defense techniques, like beach nourishment



## What are the ecological in-situ impact effects of beach nourishment on macrobenthos?

### Focus on Lombardsijde beach:

- $\pm 650000\text{m}^3$  sand over 1200m
  - Median grain size: 200-250 $\mu\text{m}$
  - March-September 2009
- = 'ecological' beach nourishment

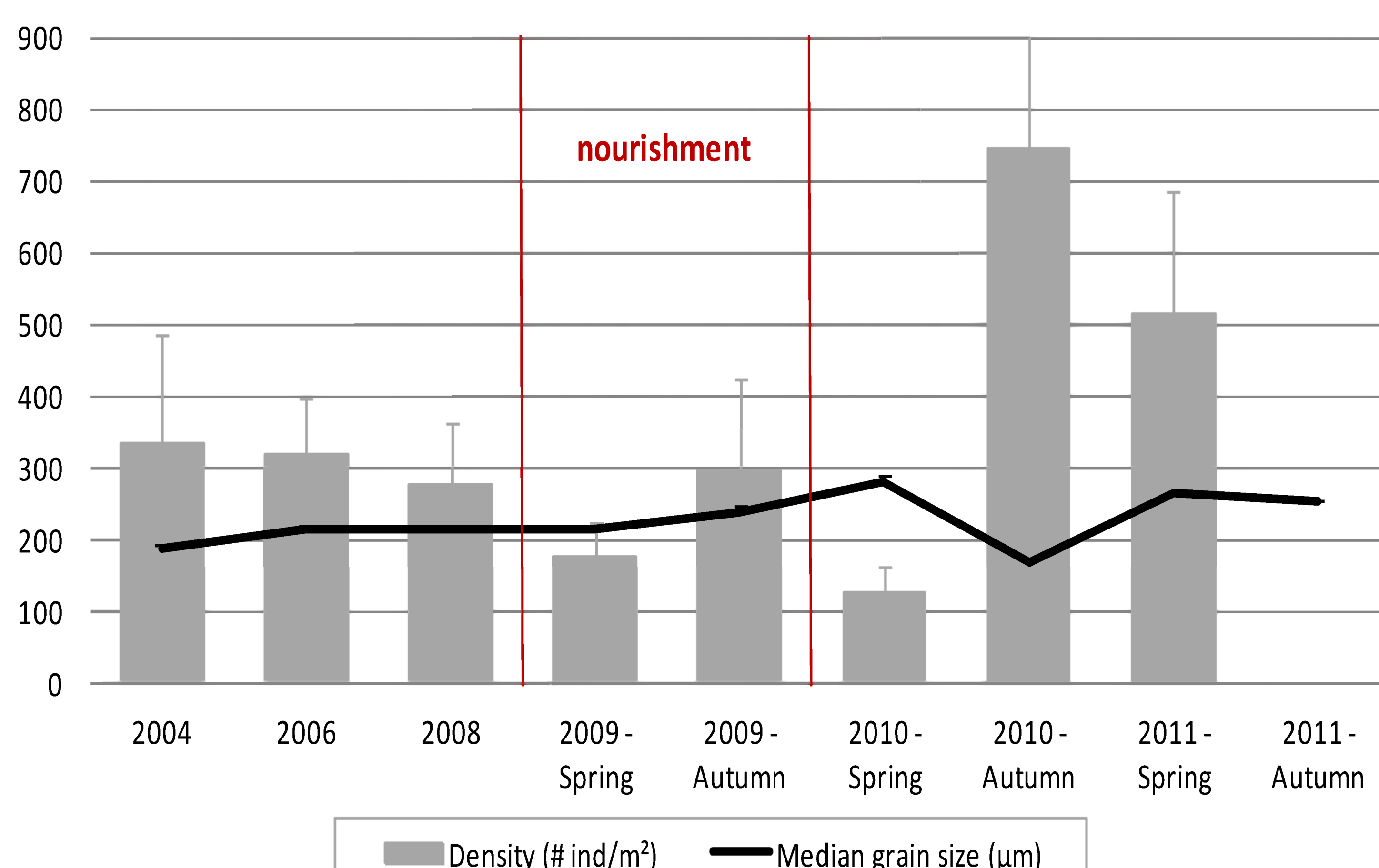


### Before After Control Impact design:

t0 situation  $\leftrightarrow$  t1 situation  
2004, 2006 & 2008 2010, 2011 & 2012

- different years
- different seasons (Spring/Autumn)

### Evolution of density and median grain size - Lombardsijde intertidal



### 2004 – 2011 (Spring):

- Lombardsijde beach has **changed**, mostly during and directly following the nourishment
- clearly visible peak value during **autumn 2010** for:

	Intertidal	Subtidal
Density (# ind/m²)	745 $\pm$ 247	13125 $\pm$ 3597
Abundance (# species/sample)	6 $\pm$ 1	16 $\pm$ 2
Biomass (g AFDW/m²)	0.7 $\pm$ 0.1	85.2 $\pm$ 17.0

- no distinct negative trends for macrobenthos

**First results suggest: 'ecological' beach nourishment = good solution BUT further research is needed!**