



IBER

Diversity of macrozoobenthos from *Zostera* spp. meadows in Sozopol Bay (south-western Black Sea, Bulgaria)

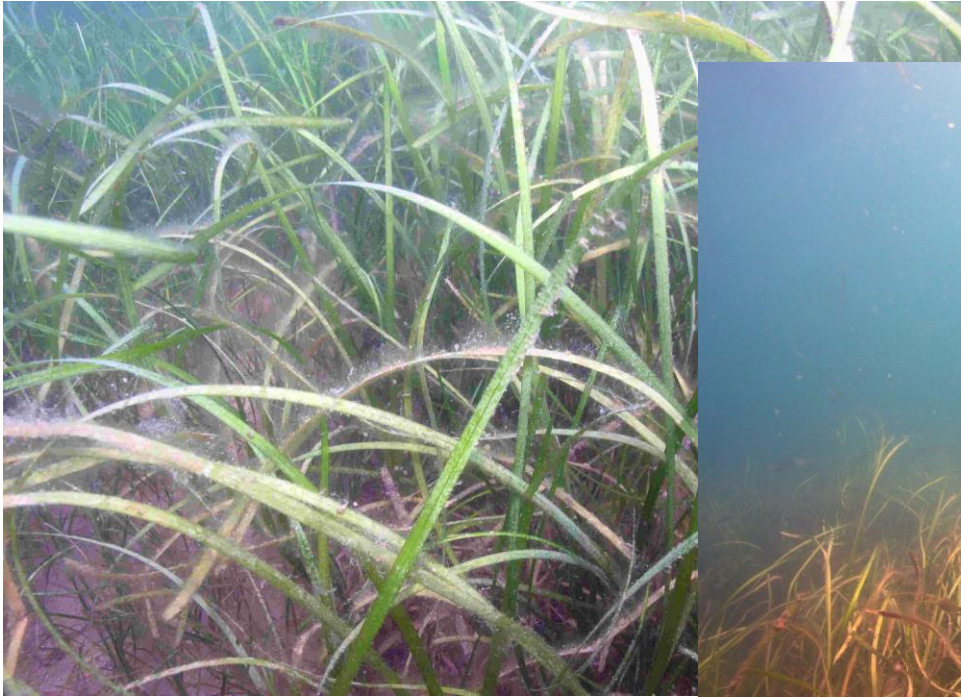
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Seagrasses

- common feature of coastal environments
- often very dense beds



Seagrasses

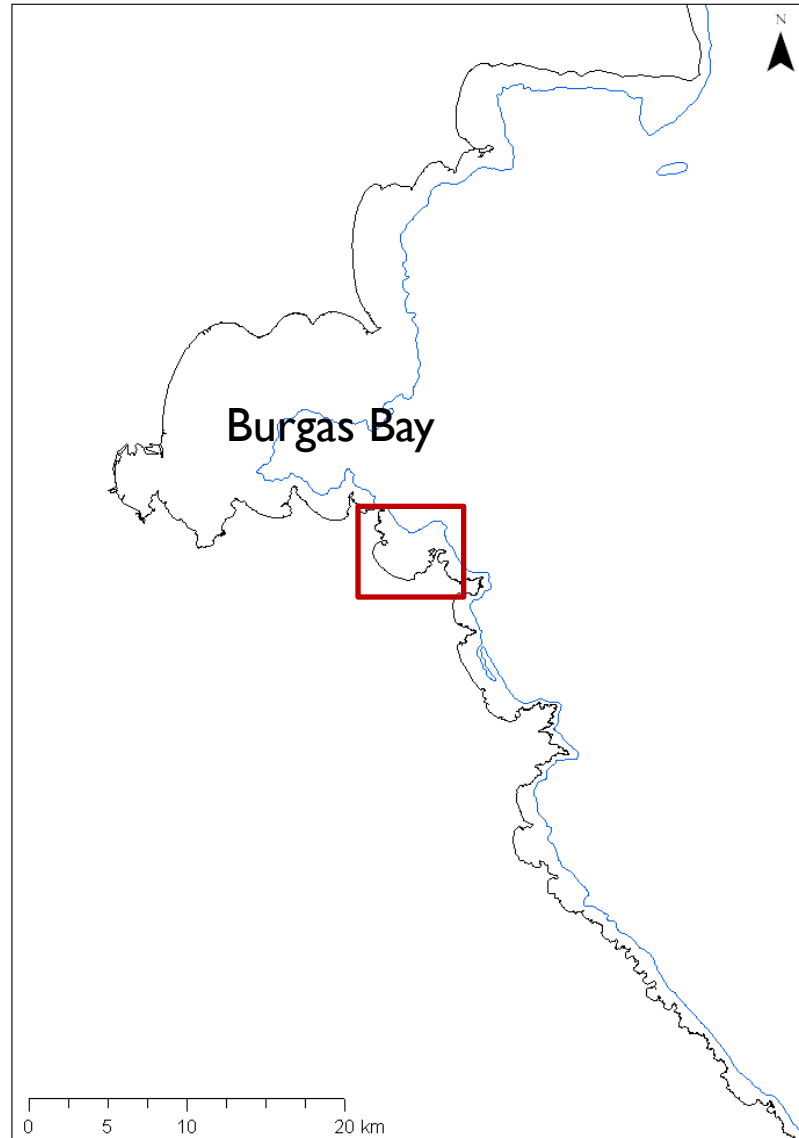
- ecological services:
 - protect against coastal erosion
 - regulate coastal water quality
 - increase coastal habitats diversity
 - maintain biodiversity



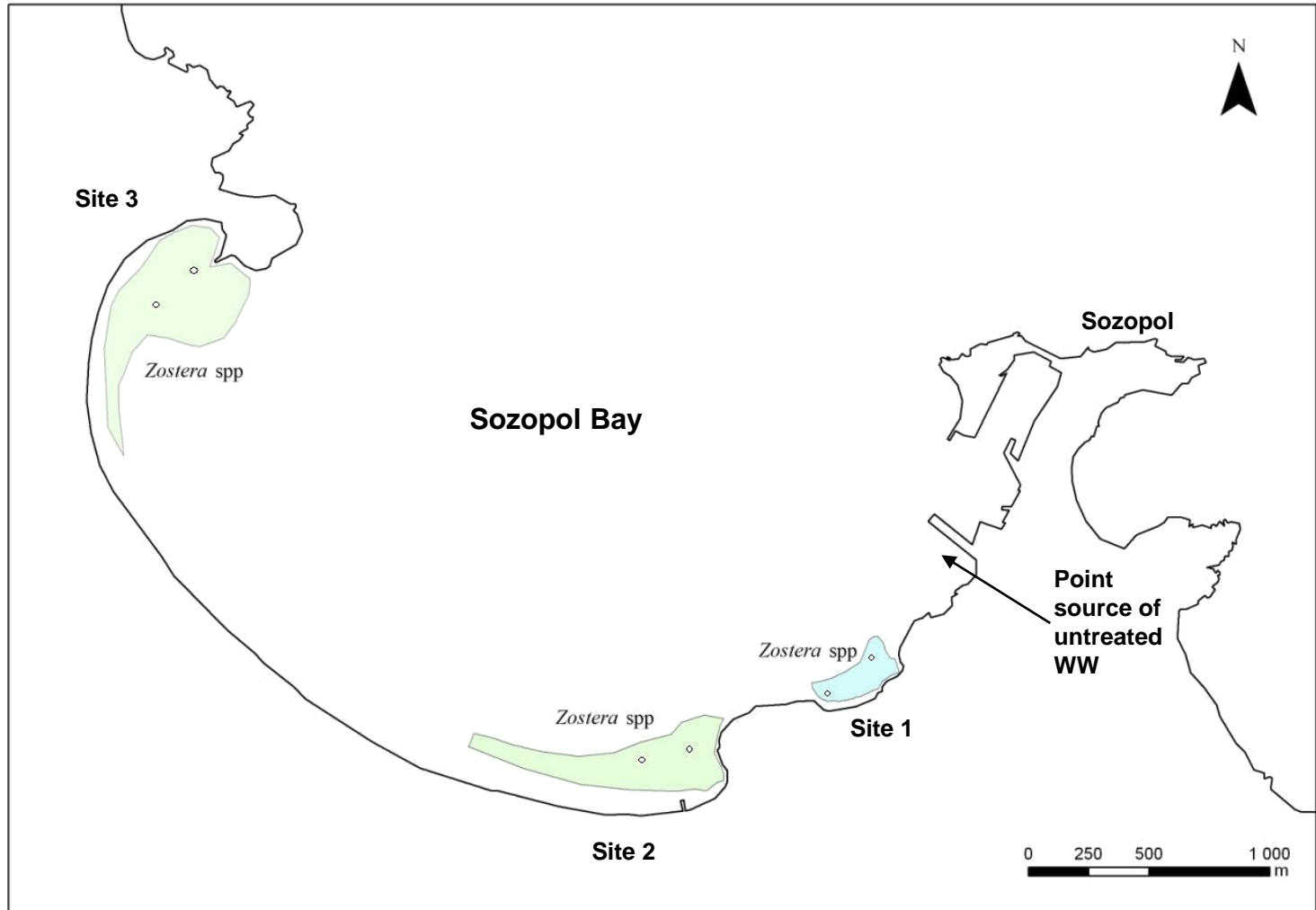
Seagrass habitats as indicators of ecosystem health

- global decline of seagrasses in recent years
- need for efficient monitoring and management
- associated invertebrate communities
 - important part of seagrass habitats
 - reflect the ecosystem health

Study area



Study area



Sampling

- July 2012
- diver-operated plastic corers – 10 cm diameter, 15 cm penetration depth
- 4 replicate samples per station
- *Zostera* spp. vegetated and bare sediments

Sample processing

- sieving – 0.5 mm mesh sieve
- fixation – 4% formaldehyde solution
- sorting and identification



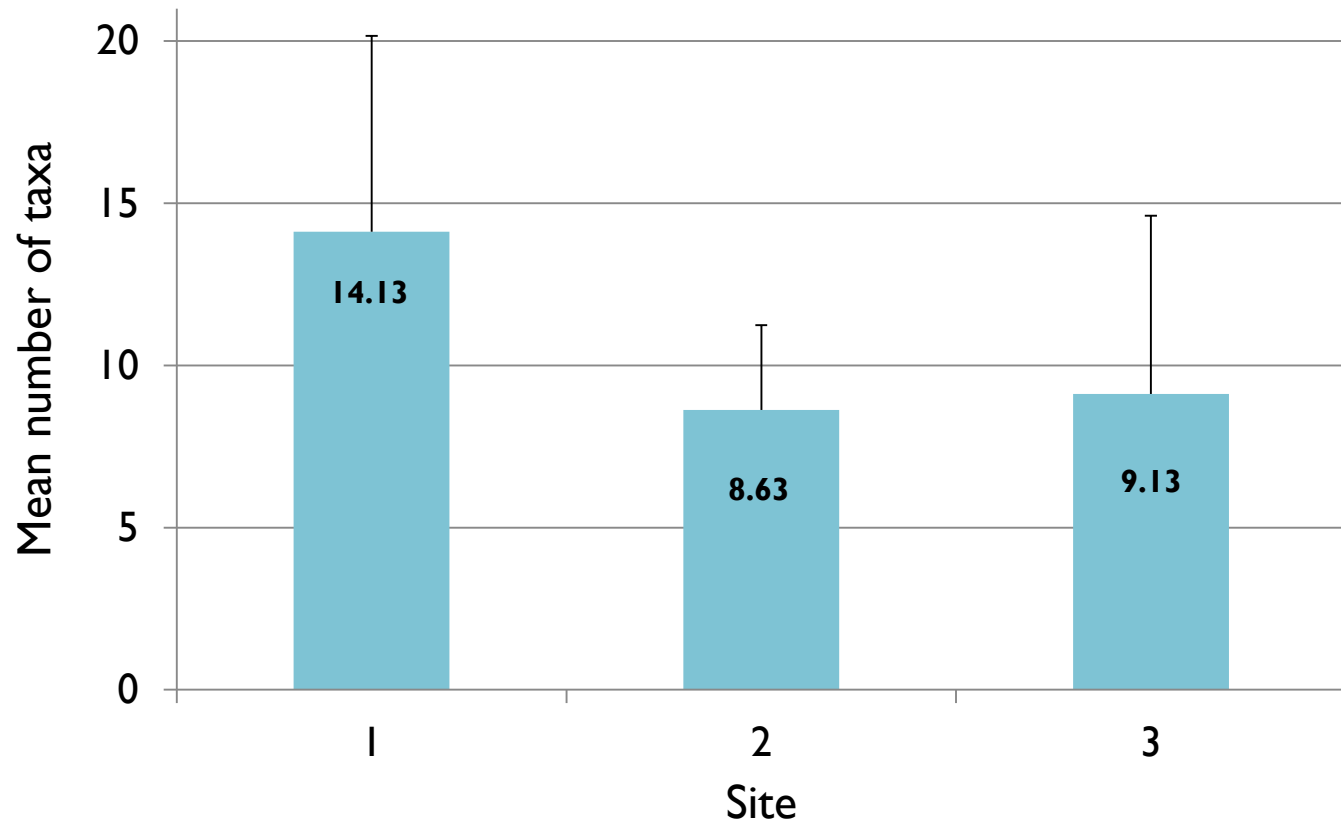
Results

Number of taxa

- 49 taxa found (all sites)
 - Polychaetes – 19
 - Molluscs – 17
 - Crustaceans – 11
 - Varia – 2 (oligochaetes and nemerteans)

Number of taxa

- mean number of taxa by site



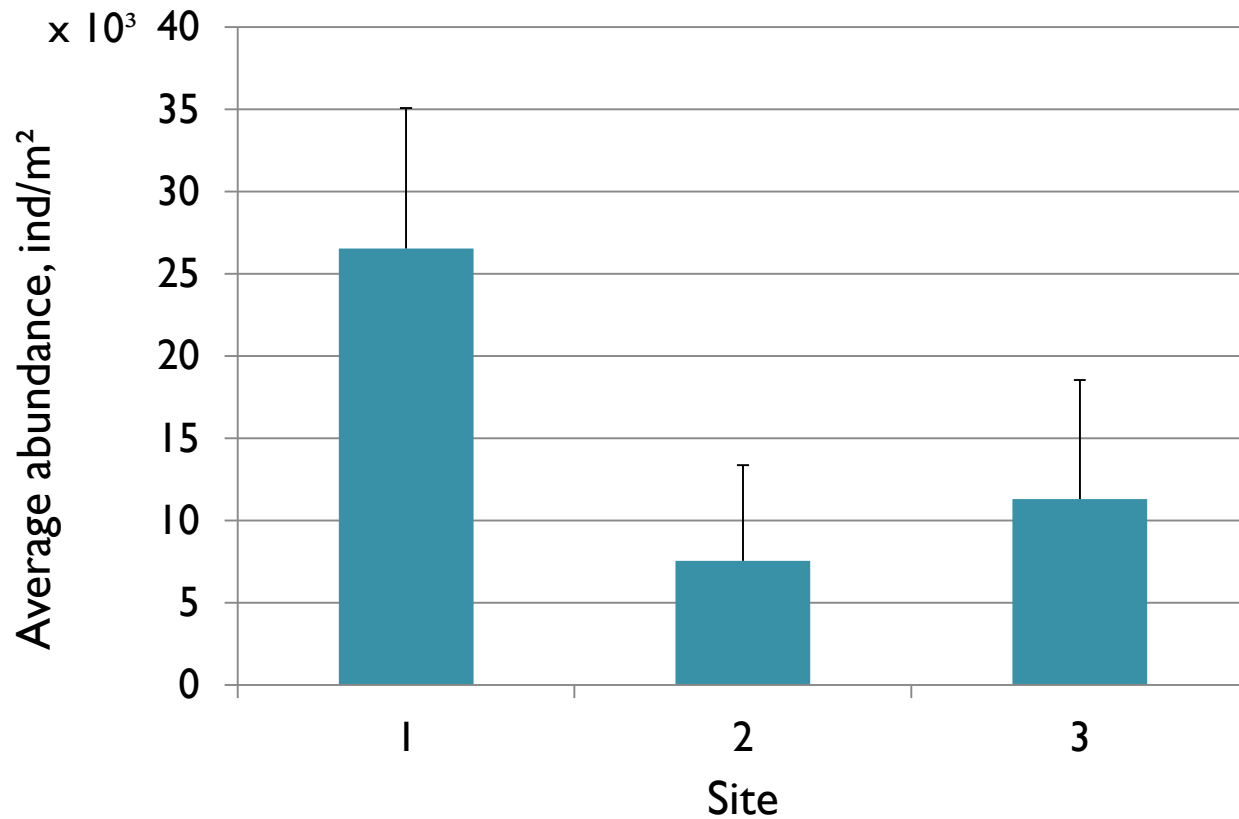
Number of taxa

- number of taxa per taxonomic group

	Site 1	Site 2	Site 3
Mollusca	12	12	13
Crustacea	10	5	1
Polychaeta	11	6	11
Varia	2	1	1

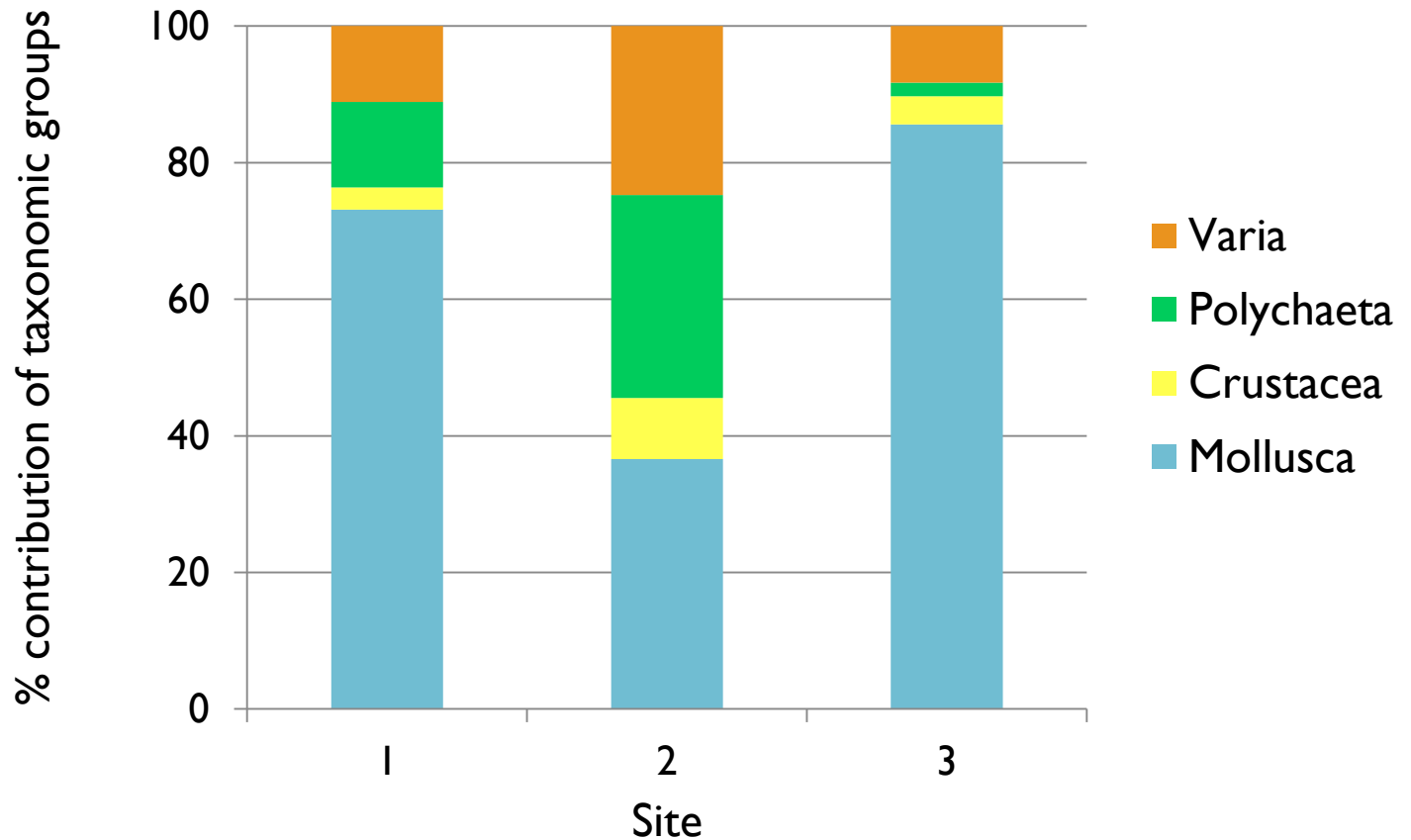
Abundance

- average abundance by site



Abundance

- contribution of major taxonomic groups



Abundance

- most abundant taxa:
 - *Bittium reticulatum*



Abundance

- most abundant taxa:
 - *Bittium reticulatum*
 - oligochaetes



Abundance

- most abundant taxa:
 - *Bittium reticulatum*
 - oligochaetes
 - *Loripes lucinalis*



Abundance

- most abundant taxa:
 - *Bittium reticulatum*
 - oligochaetes
 - *Loripes lucinalis*
 - *Mytilaster lineatus*



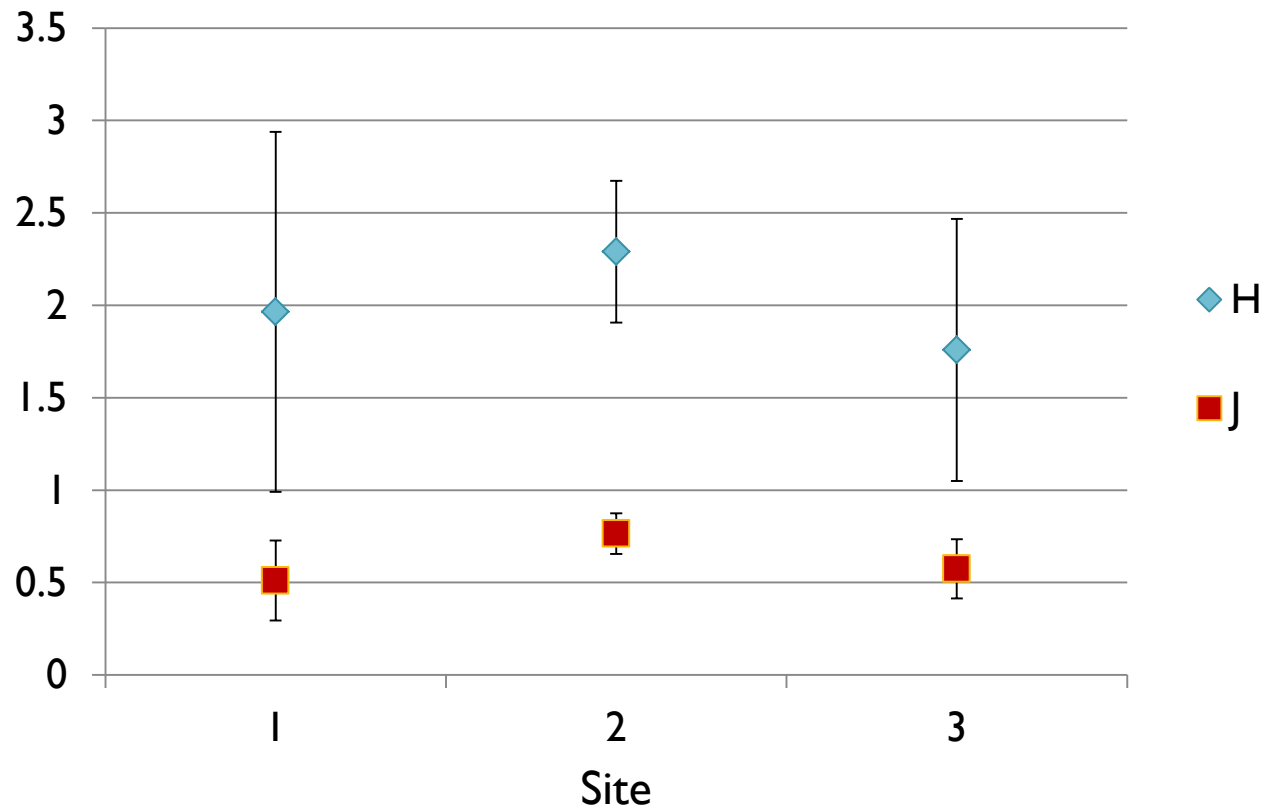
Diversity

- Shannon-Wiener diversity H' and Pielou evenness J'

	H'	J'
Site 1	1.965 ± 0.974	0.511 ± 0.216
Site 2	2.290 ± 0.383	0.764 ± 0.110
Site 3	1.758 ± 0.709	0.574 ± 0.161

Diversity

- Shannon-Wiener diversity H' and Pielou evenness J'



Conclusions

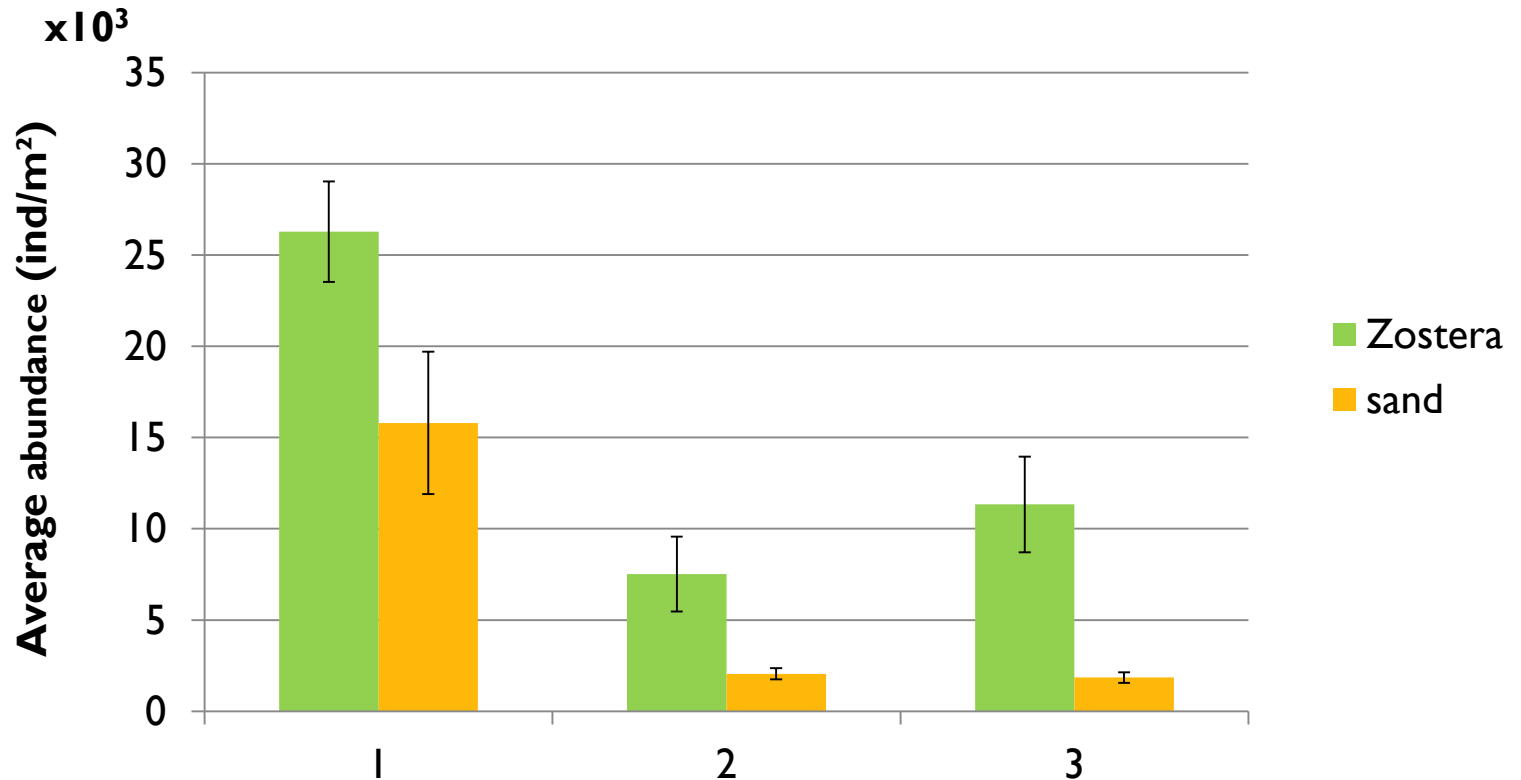
- seagrass meadows in Sozopol Bay support diverse invertebrate communities
- mollusks dominate in terms of both number of taxa and abundance at all 3 sites
- high abundances of polychaetes and oligochaetes (except site 3)
- overall – good ecological state

**Thank you for
your attention!**



Comparison vegetated/unvegetated sediments

Average abundance of zoobenthos



Comparison vegetated/unvegetated sediments

Average number of taxa

