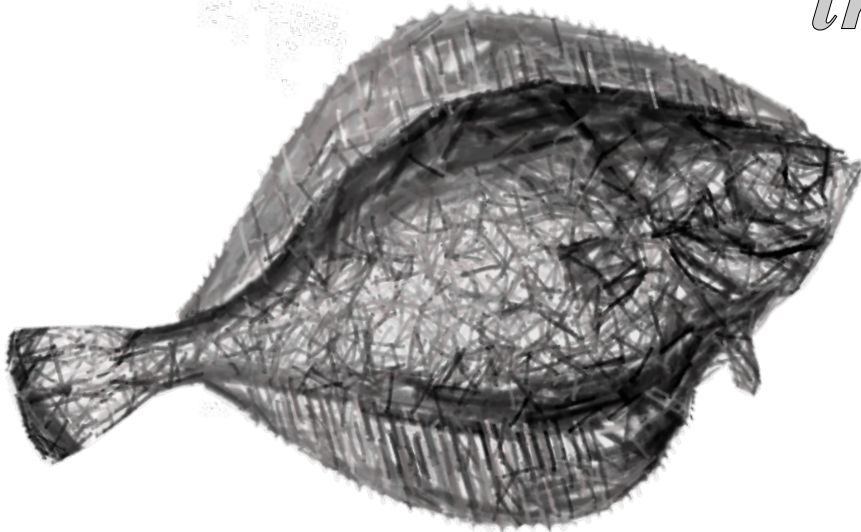


*Small scale
flatfish nursery differences
in the southern Bight
of the North Sea*

Breine N.¹, Vanden Bavière A.¹, Volckaert F.² & Hostens K.¹



Naomi Breine

ILVO

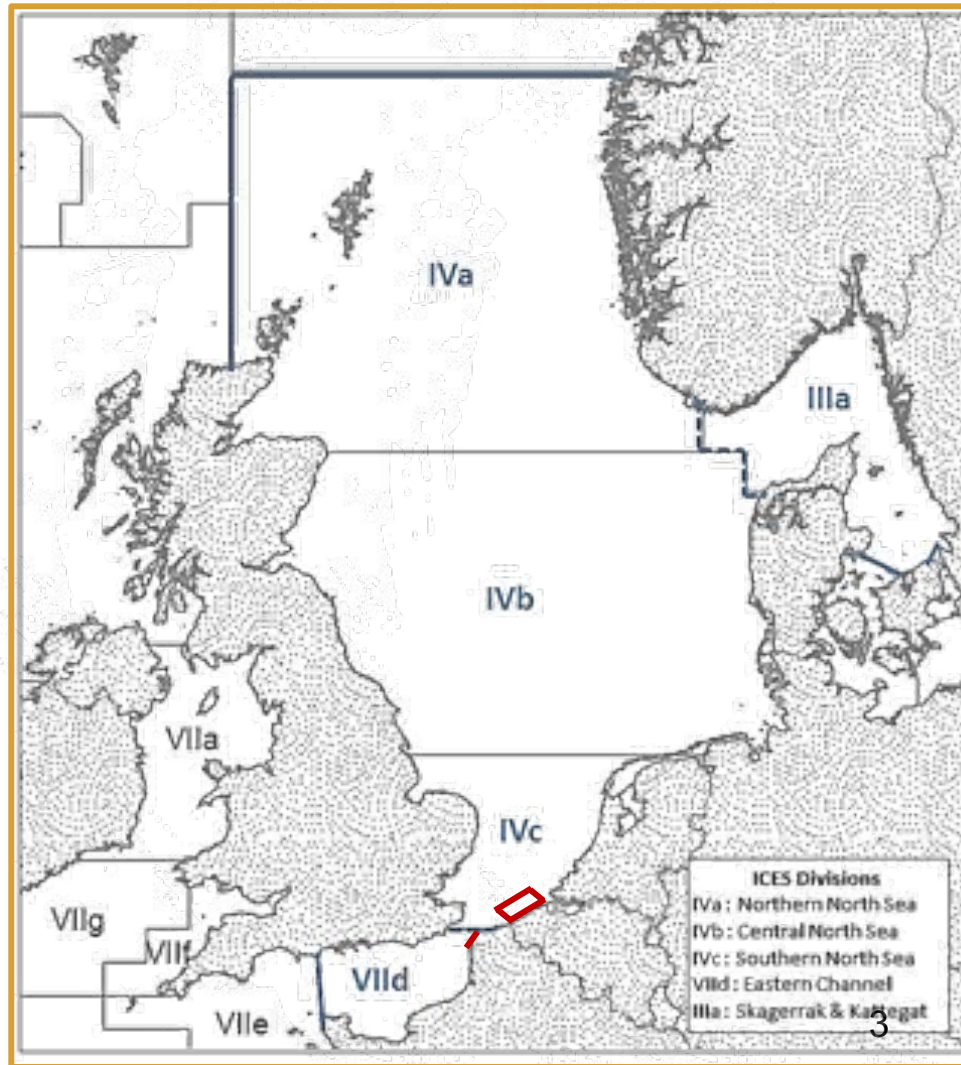
Flanders research institute for
agriculture, fisheries and food



1. Introduction

Sampling

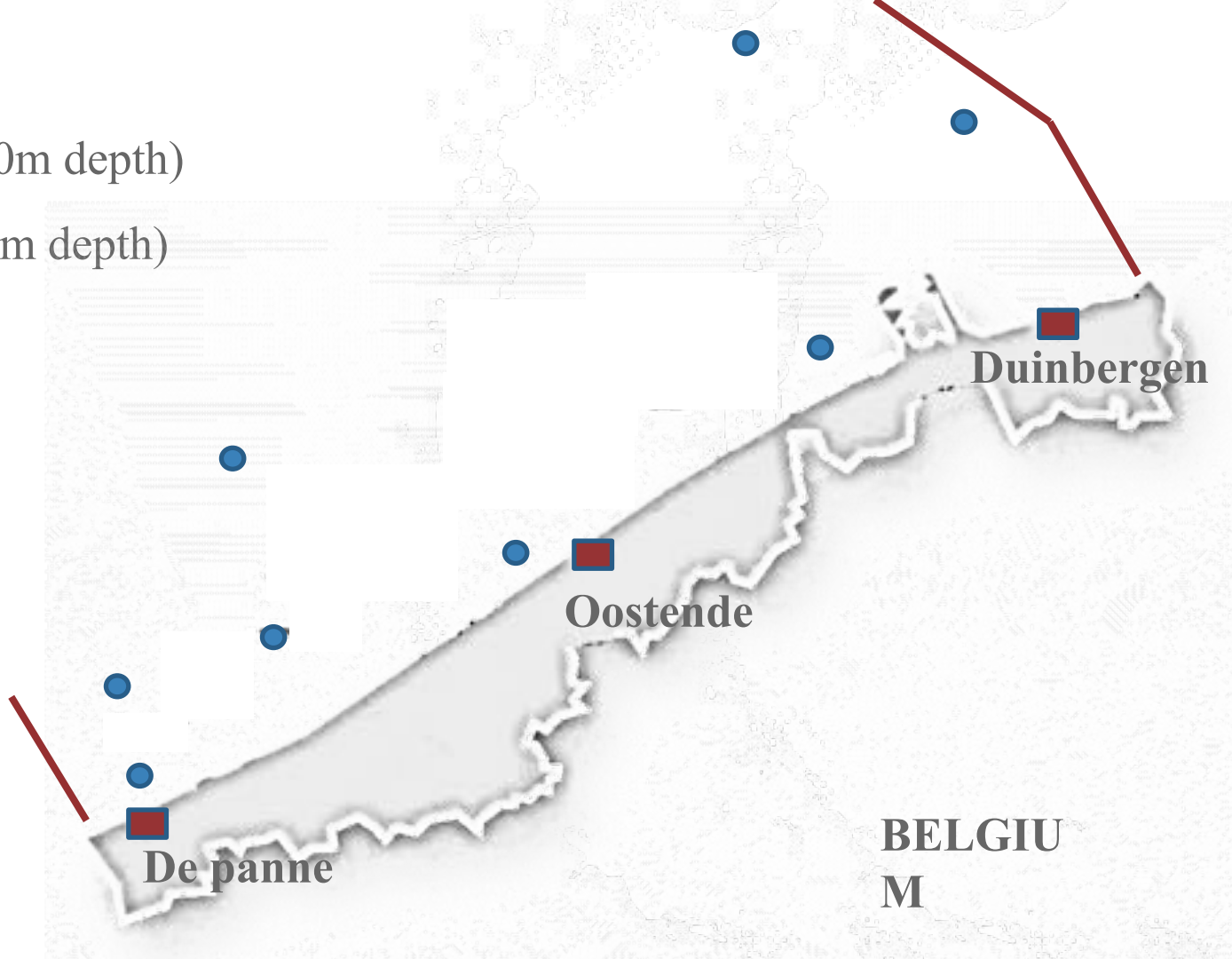
- × 13 stations
- × Sampled monthly
- × 2 years (2013-2014)



13 stations:

- 8 subtidal (5-20m depth)
- 5 intertidal (<1m depth)

■ Calais
■ Boulogne



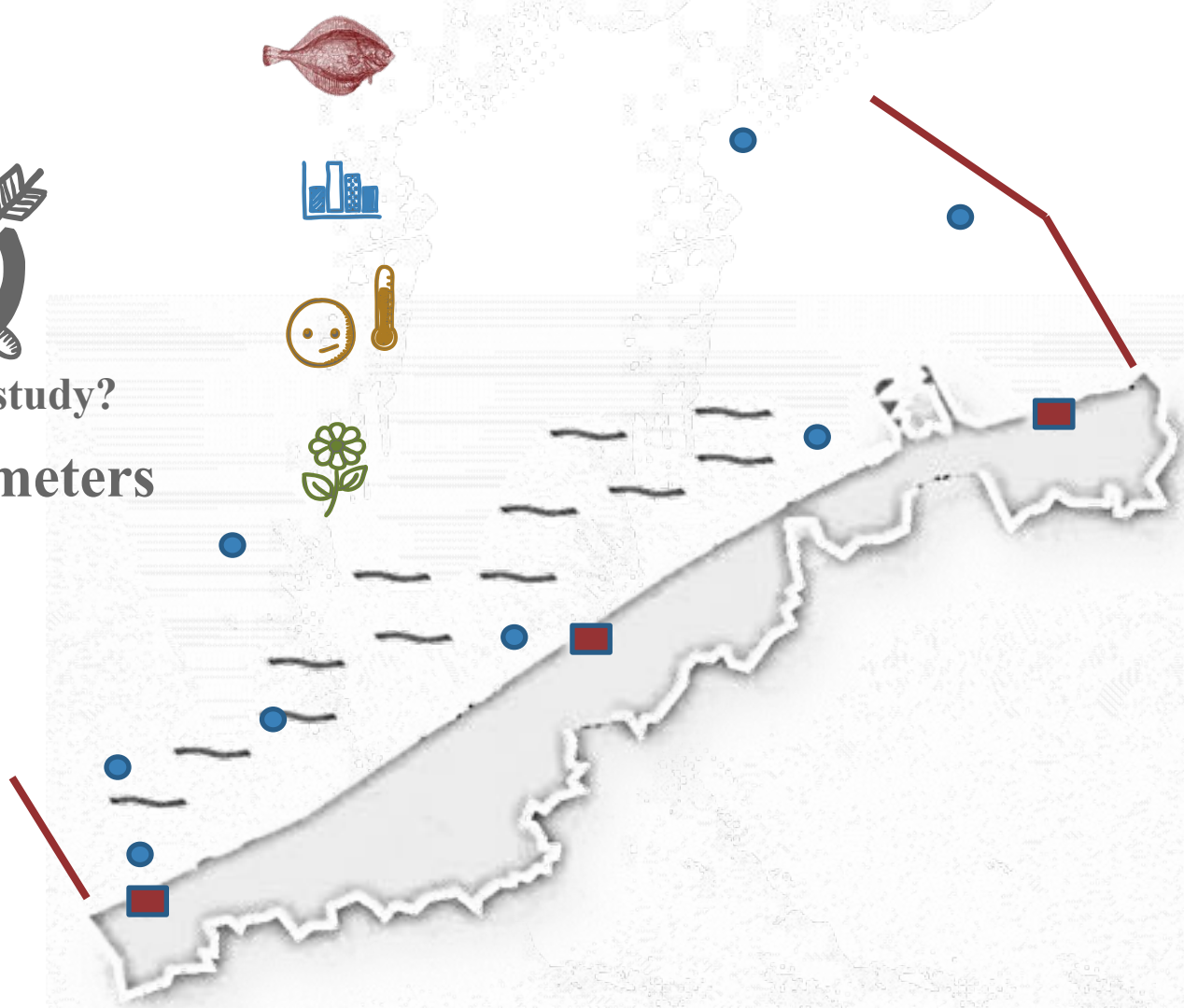
Species


Abundance

Length & Condition

Environmental parameters

Aim of the study?

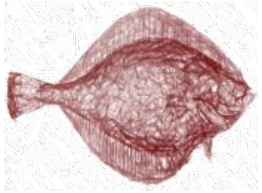


A photograph of two people in a rowing boat on a choppy sea. The person on the left is wearing a red jacket, and the person on the right is wearing a yellow jacket. The sea is greyish-blue with small waves. The sky is overcast. The right side of the image is partially obscured by a white, splatter-like graphic element.

2. Results

(PRELIMINARY)

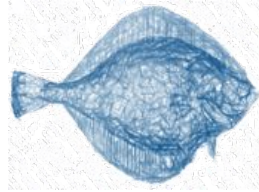
Juvenile flatfish



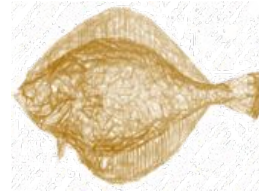
PLAICE



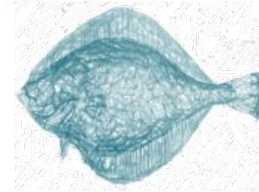
DAB



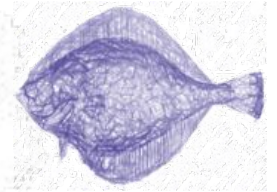
TURBOT



SOLE



BRILL



FLOUNDER

%

67

1

8

8

3

2

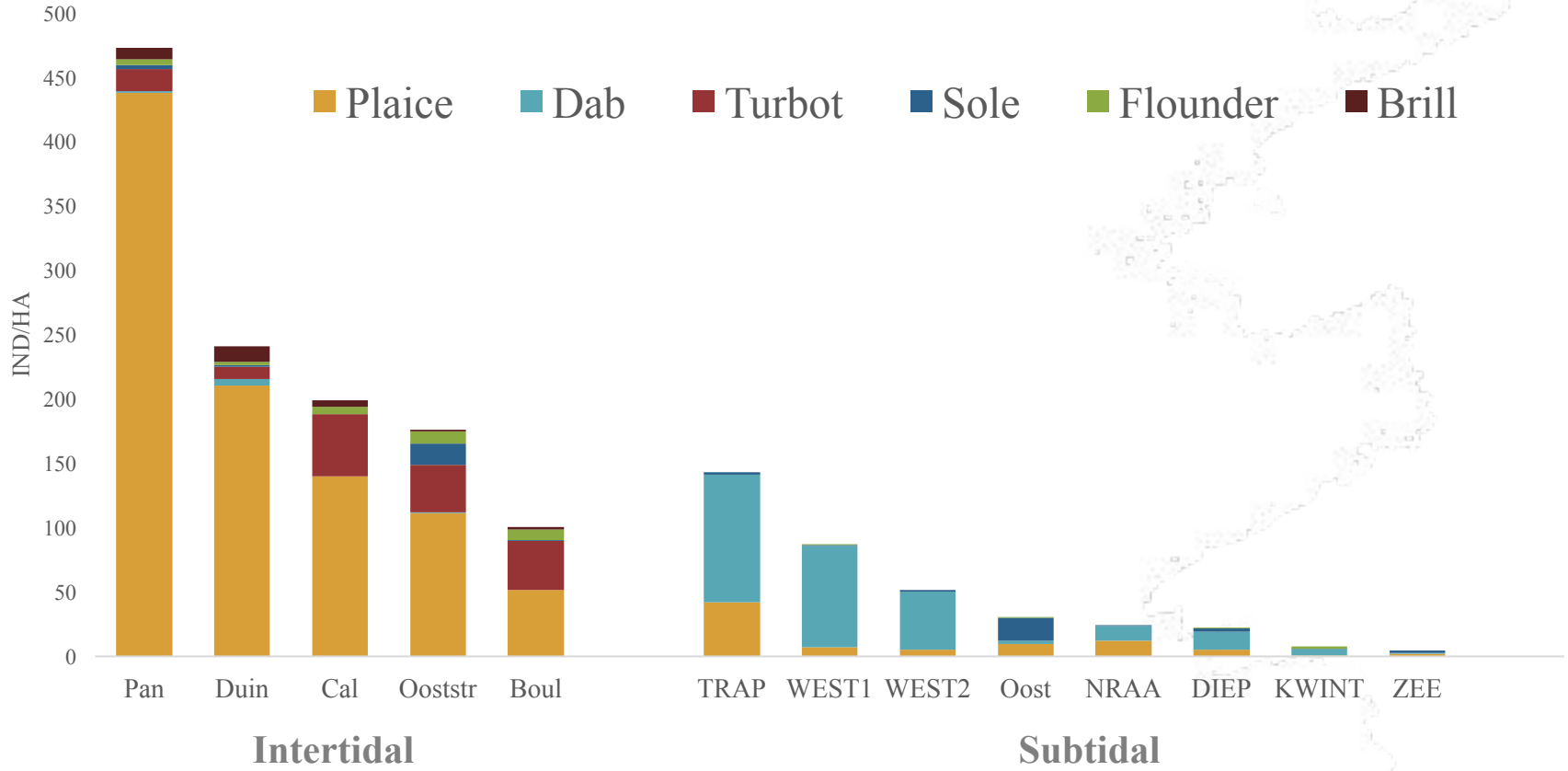
2

Contribution to total density



SPECIES

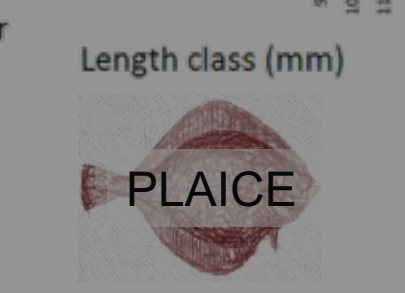
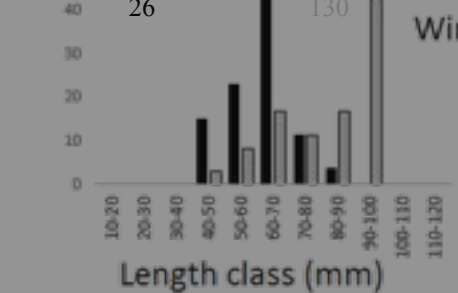
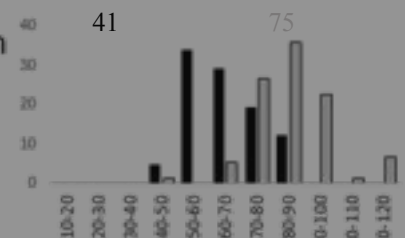
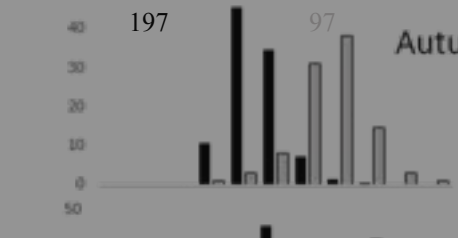
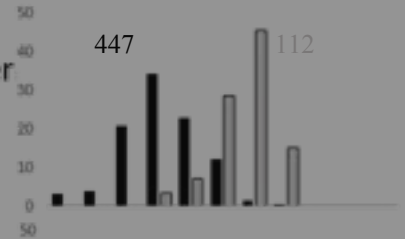
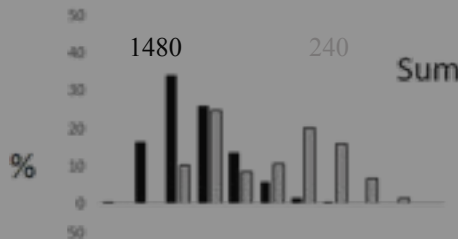
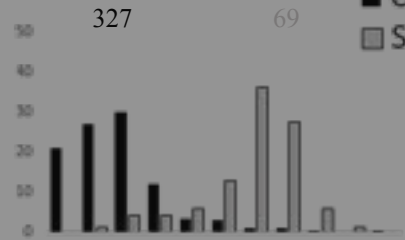
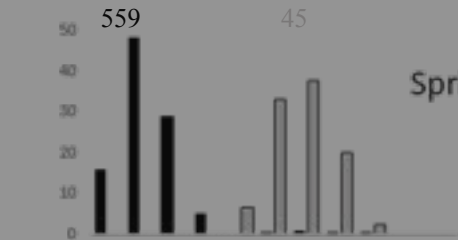
ABUNDANCE



2013

2014

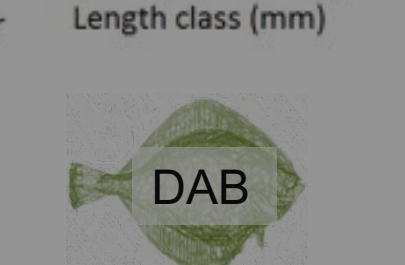
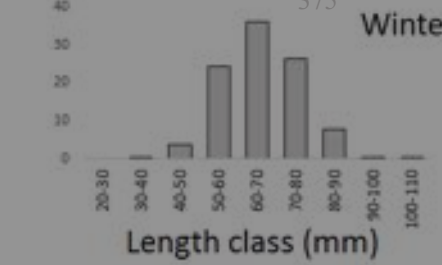
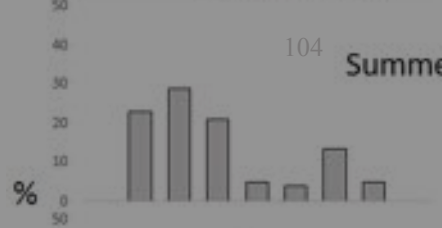
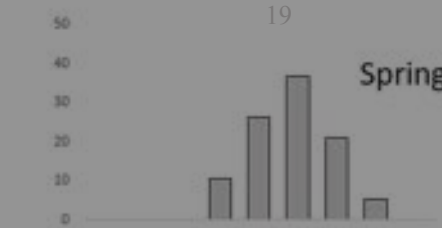
■ Coast
□ Sea



2013

2014

□ Sea





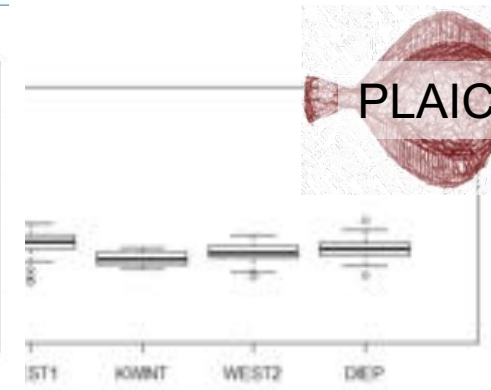
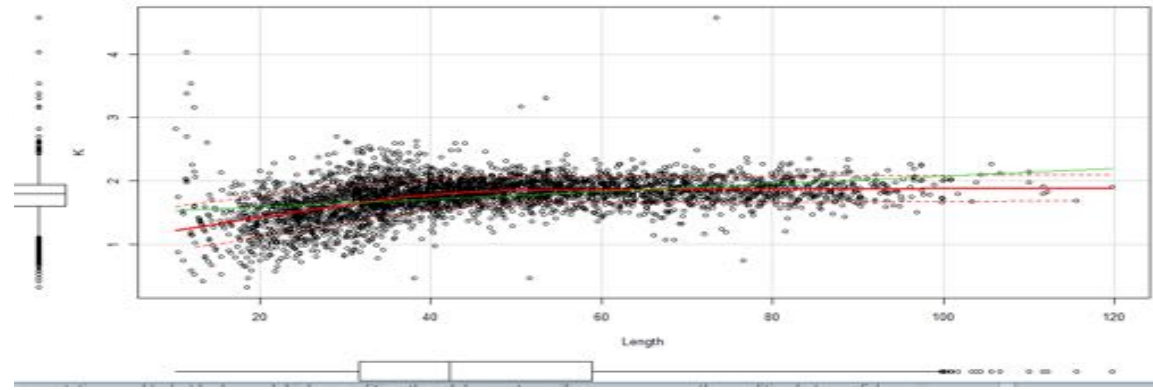
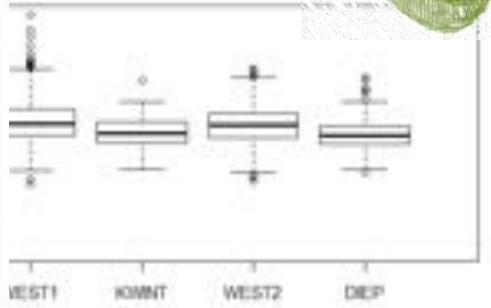
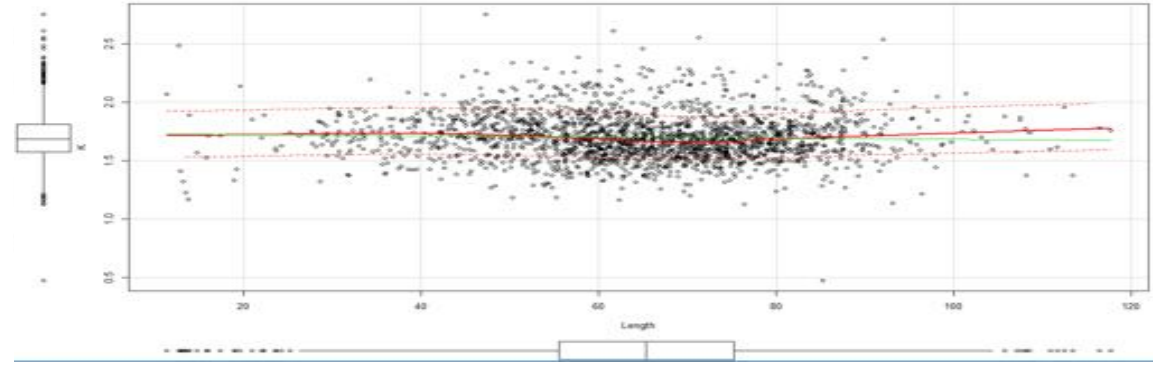
CONDITION

Fultons K

$$K = 100 W/L^3$$



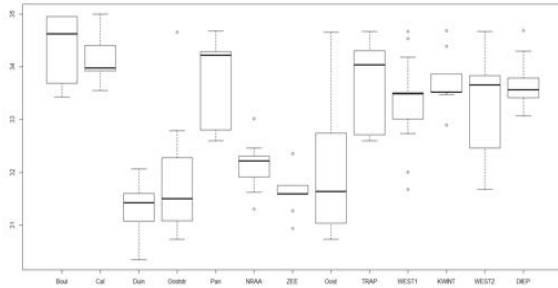
DAB



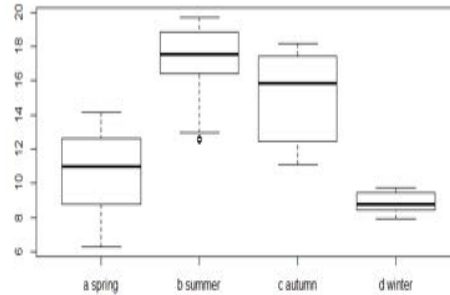
PLAICE

Environmental parameters

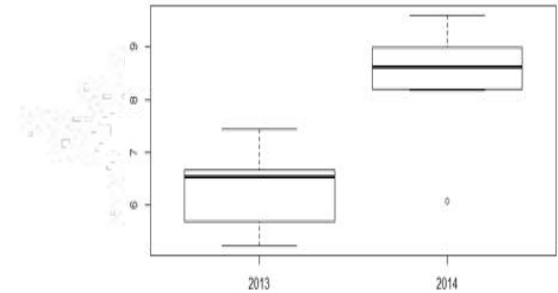
Salinity
Year*
Station*



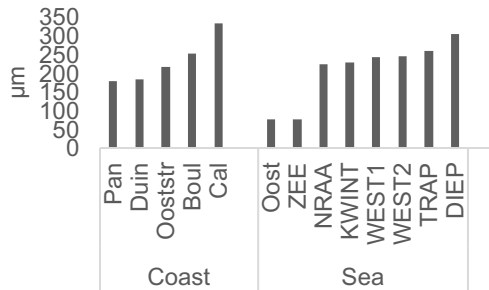
Temperature
Season*



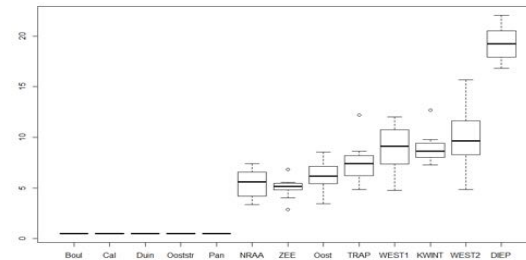
Winter temperature
Year*
Station*



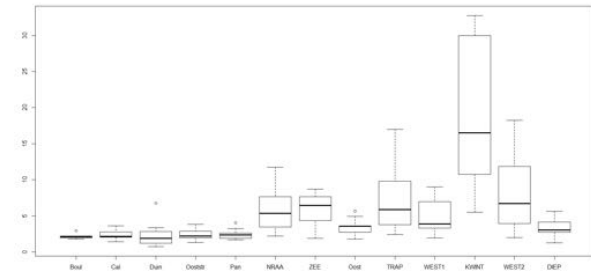
Sediment



Depth
Year*
Station*



Epibenthic diversity
Margalefs d
Station*





SPECIES ABUNDANCE

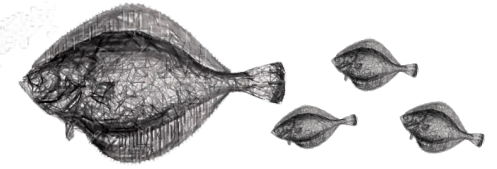
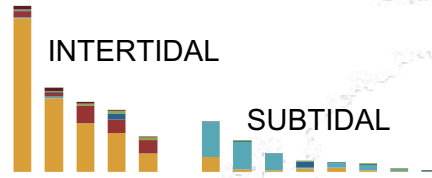
	Dab	Plaice	Sole
station	*	***	*
Year	*	*	
Season	*	*	*
Med grain			
Salinity	** ↑		* ↓
Winter Temp		* ↓	
Temperature			
Depth		*** ↓	
Diversity d		* ↓	
Brown shrimp (<i>C. crangon</i>)		* ↑	
Shore crab (<i>C. maenas</i>)		* ↑	* ↑



3.

Conclusive remarks

- Juvenile flatfish species and their spatial distribution in belgian coastal waters:



- Previous data from 1996-1997

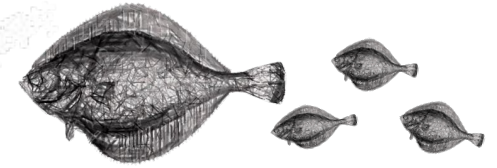


	Plalce				Sole				Dab				Turbot				Flounder			
	1996	1997	2013	2014	1996	1997	2013	2014	1996	1997	2013	2014	1996	1997	2013	2014	1996	1997	2013	2014
January		*		*												1				*
February		*		1				*								1		*		*
March		1		*		*		*				1				4				1
April		*		2				*			*				*	*			1	*
May	3	1	7	2												1	*		*	*
June	2	1	6	2	2		*	*				*				1	*		*	*
July		1	3	1		*	2								*	1			*	*
August	2		2	1	*		*	*							*	2			*	*
September	2		2					*	*		*		*		2					*
October	1		1		*			*	*		*		*		2					*
November																				
December	3				*			*	*		*		*							

Ind/100m²*
 <1ind

Data from Beyst, B., Buysse, D., Dewicke, A., & Mees, J. (2001). Surf zone hyperbenthos of Belgian sandy beaches: seasonal patterns. *Estuarine, Coastal and Shelf Science*, 53(6), 877-895.

- Juvenile flatfish species and their spatial distribution in belgian coastal waters



- Previous data from 1996-1997

- Environmental parameters and species abundance showed Spatial & Temporal variation

Dab → Salinity

Plaice → Winter- Temp, *C. crangon* & *C. maenas*

Sole → Salinity & *C. maenas*

- Further development of models,
Condition → Relative condition



- Larvae + otholyths



FISHCONNECT



KU LEUVEN

ILVO





Thank you

For your attention

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