



Large-scale acoustic telemetry network for fishes in Belgium

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RESEARCH INSTITUTE
NATURE AND FOREST

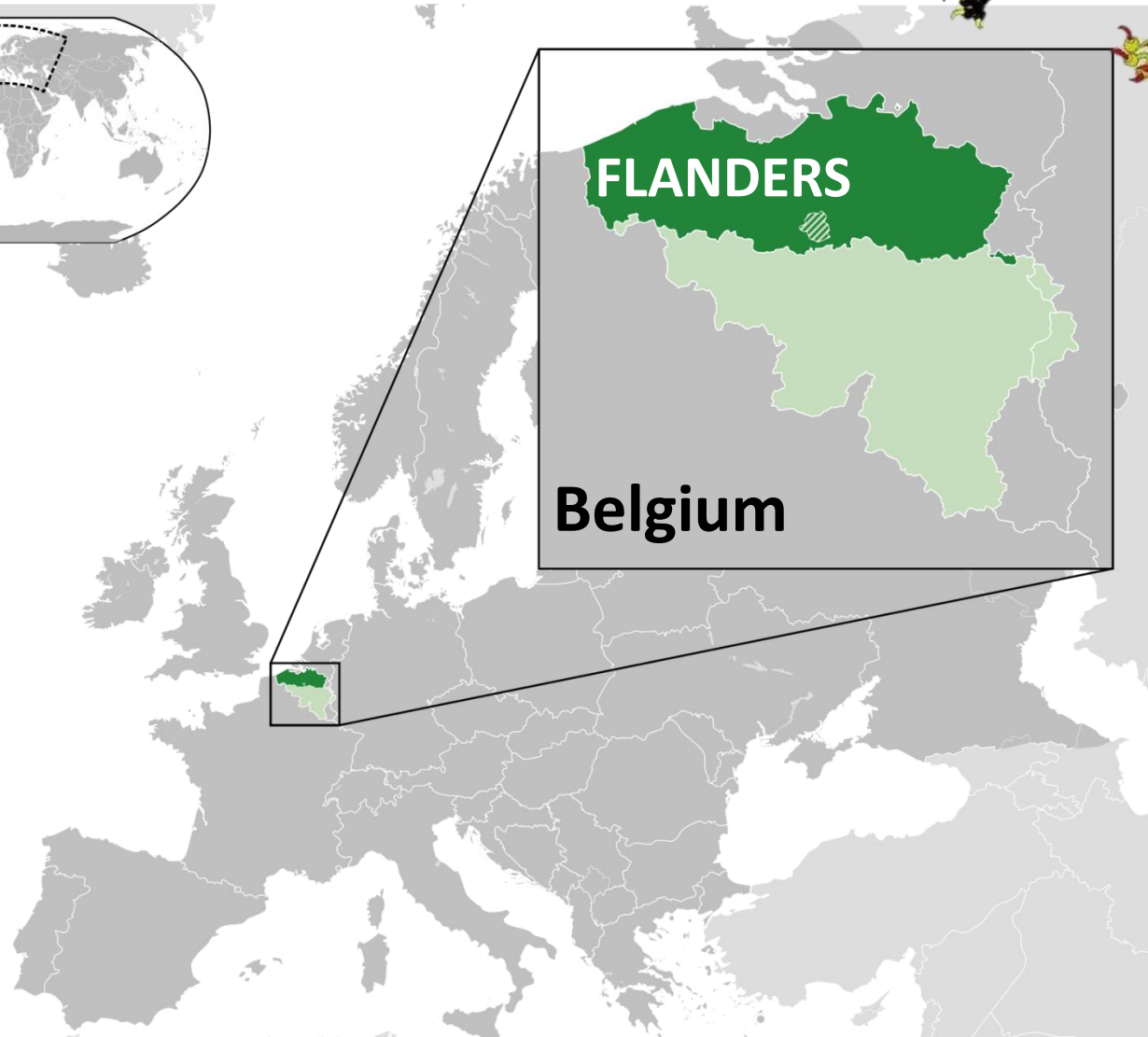
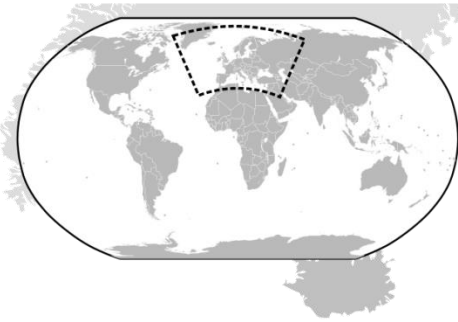
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Belgium



FLANDERS

Belgium

We are Belgium ...



We produce and eat chocolate

We are Belgium ...



We produce and drink beer

We are Belgium ...



We track and study fish

Rationale

- Inform you on our telemetry network and dataset
 - Facts and figures on the network and dataset
- Inform you on open data policy
 - You can use the data beyond our research questions

Rationale

SHARING
IS
LARING



Here, you can have
some. But only the
pretzels...



Who even
ARE you?!

Who are we?



FLANDERS MARINE
INSTITUTE

RESEARCH INSTITUTE
NATURE AND FOREST



Europe

Virtual, e-lab supporting
monitoring of biodiversity and
ecosystems through
infrastructure



Fish tracking

Flanders

Bird tracking

Bat tracking

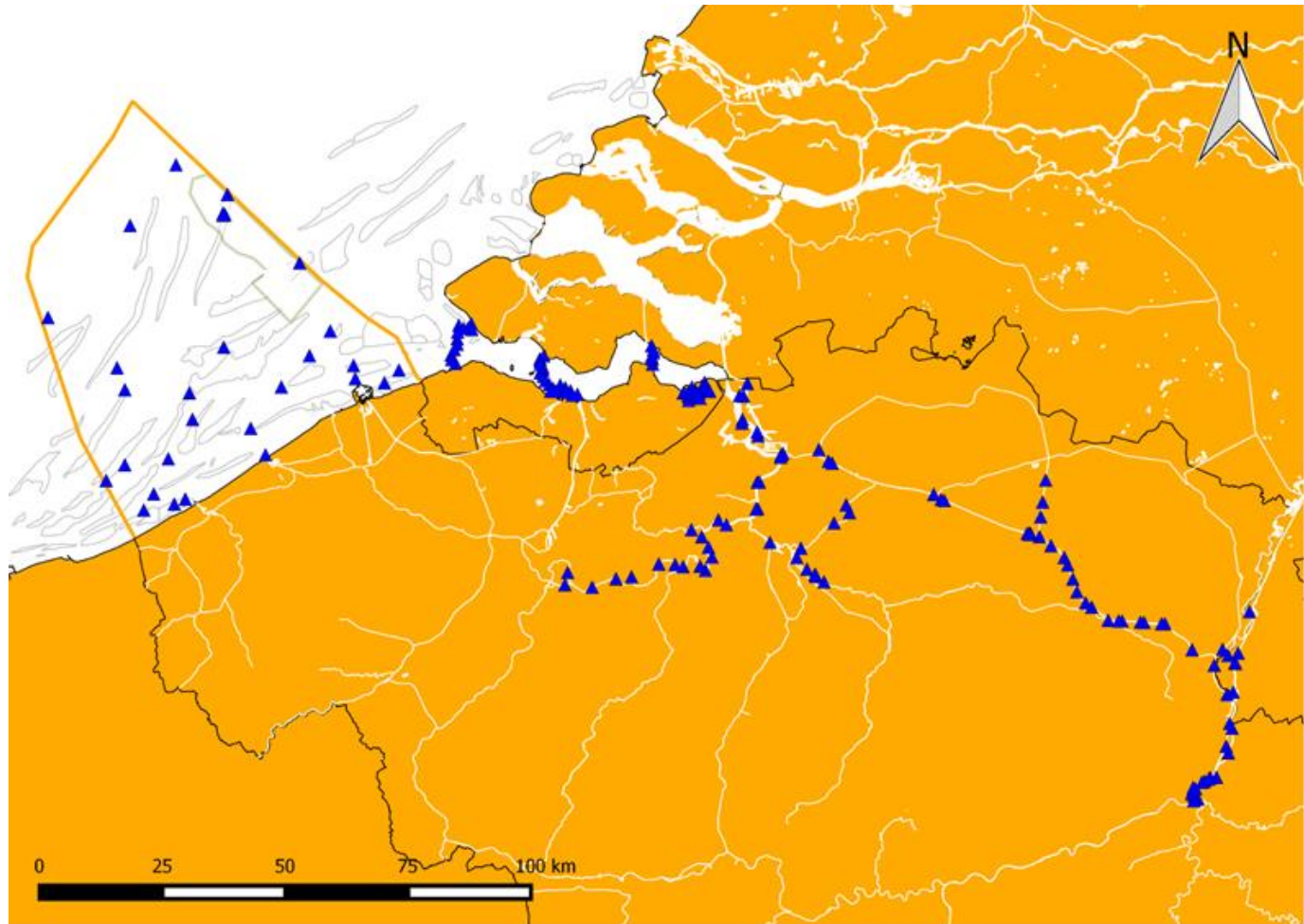
Fish (acoustic) tracking in Flanders Projects

- Short and long term fish telemetry projects
 - PhD's and governmental research
 - Marine and lotic systems
 - Focus on one or multiple fish species

Fish (acoustic) tracking in Flanders

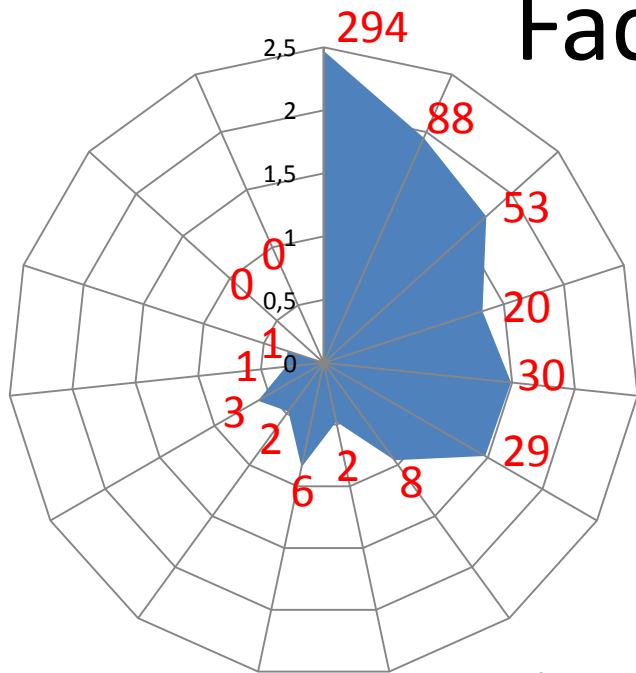
Facts and figures

368 receiver locations (177)



Fish (acoustic) tracking in Flanders

Facts and figures



Sea lamprey

Common dab

Common carp

Roach

Chub

European flounder

River lamprey

Twaite shad

European catfish

Salmon

Cod

Eel

Lemon sole

Plaice

Ide

13 species

770 individuals (70% detected)

90 644 detections (days)

Fish (acoustic) tracking in Flanders

Facts and figures

- Tags
 - Internally and externally
 - Small and large tags (VEMCO; V7, V9, V9P, V13, V13P, V16)



Fish (acoustic) tracking in Flanders

Facts and figures

- Receivers



VR2W



VR2Tx



Transponding
Hydrophone



VR100
Receiver



VR2C



VR2-AR



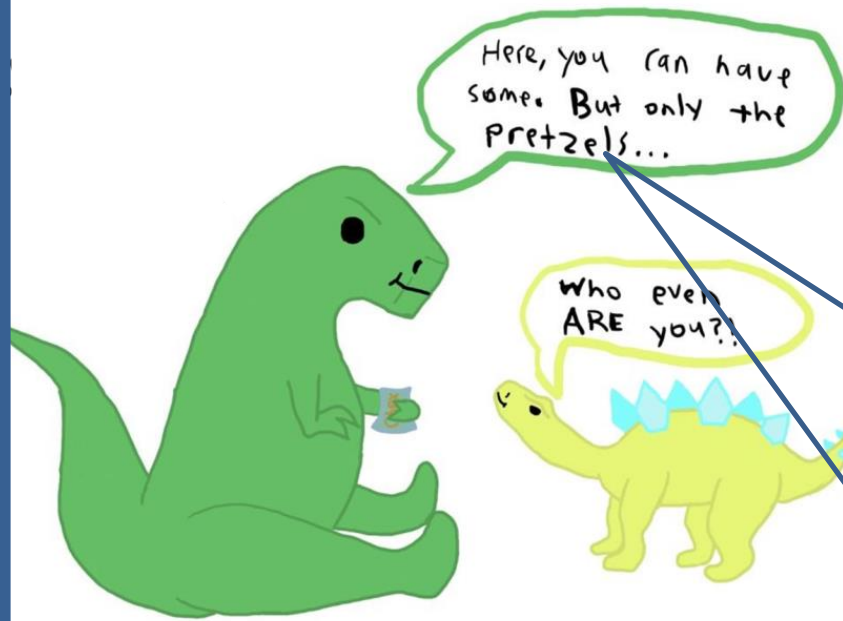
Fish (acoustic) tracking in Flanders

Perspectives

- Near future
 - Dataset publication through GBIF



Fish (acoustic) tracking in Flanders Moratoria



Available	Soon (1 yr) available	Future (> 1 yr)
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THE PRETZELS

Eel	Chub
Cod	Roach
Salmon	Common carp
Catfish	Common dab
Twaite shad	Sea lamprey
River lamprey	Ide
European flounder	Plaice
Lemon sole	

Fish (acoustic) tracking in Flanders

Perspectives

- Near future
 - Dataset publication through GBIF
 - Data paper publication
 - European Tracking Network
- see poster Pedro Afonso (contact: Jan Reubens)



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Follow my chocolates!

Fish (acoustic) tracking in Flanders

Presentations

- Your near future
 - Today 13u45 – Eel migration – **Pieterjan Verhelst**
 - Thursday 14u15 – Eel VPS at HPP – **Jenna Vergeynst**
 - Thursday 14u50 – Atlantic cod and seismic sound - **Inge Van der Knaap**
 - Next speaker: Range tests – Jan Reubens

Thank you !!

- Today 13u45 – Eel migration – **Pieterjan Verhelst**
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Fish (acoustic) tracking in Flanders

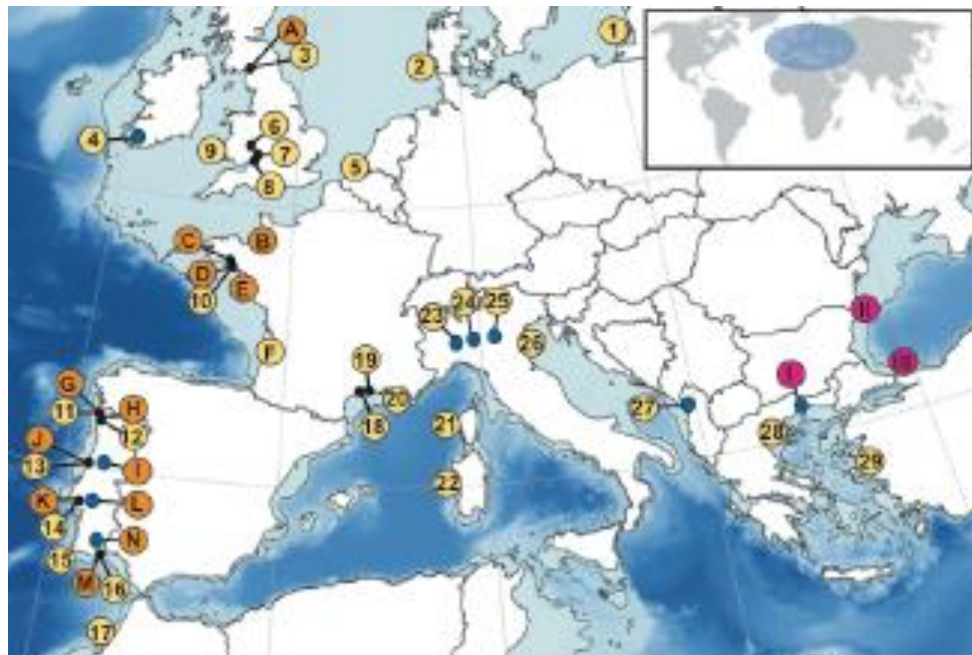
Results



Eel



Twaite shad



Map: Sabatino et al. 2012

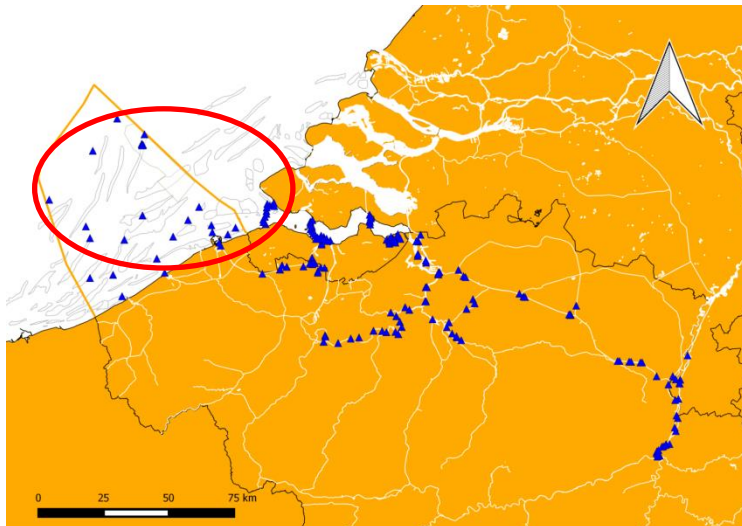
Fish (acoustic) tracking in Flanders Projects

- Cod movement around a windmill farm



PhD Jan Reubens (Ugent - VLIZ)
40 cod tracked from 2010 - 2012

PhD Inge van der Knaap (Ugent - VLIZ)
2017 (90)

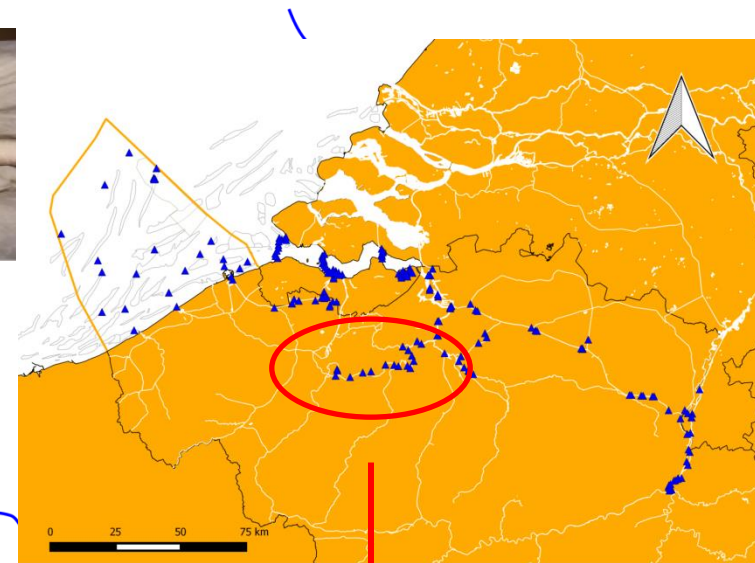


PhD Pieterjan Verhelst (UGent – VLIZ)
2017 (90)

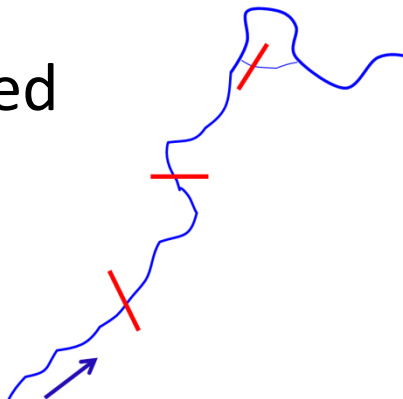
Refs to publications

Fish (acoustic) tracking in Flanders Projects

- Upstream spawning migration of river lamprey crossing several migration barriers



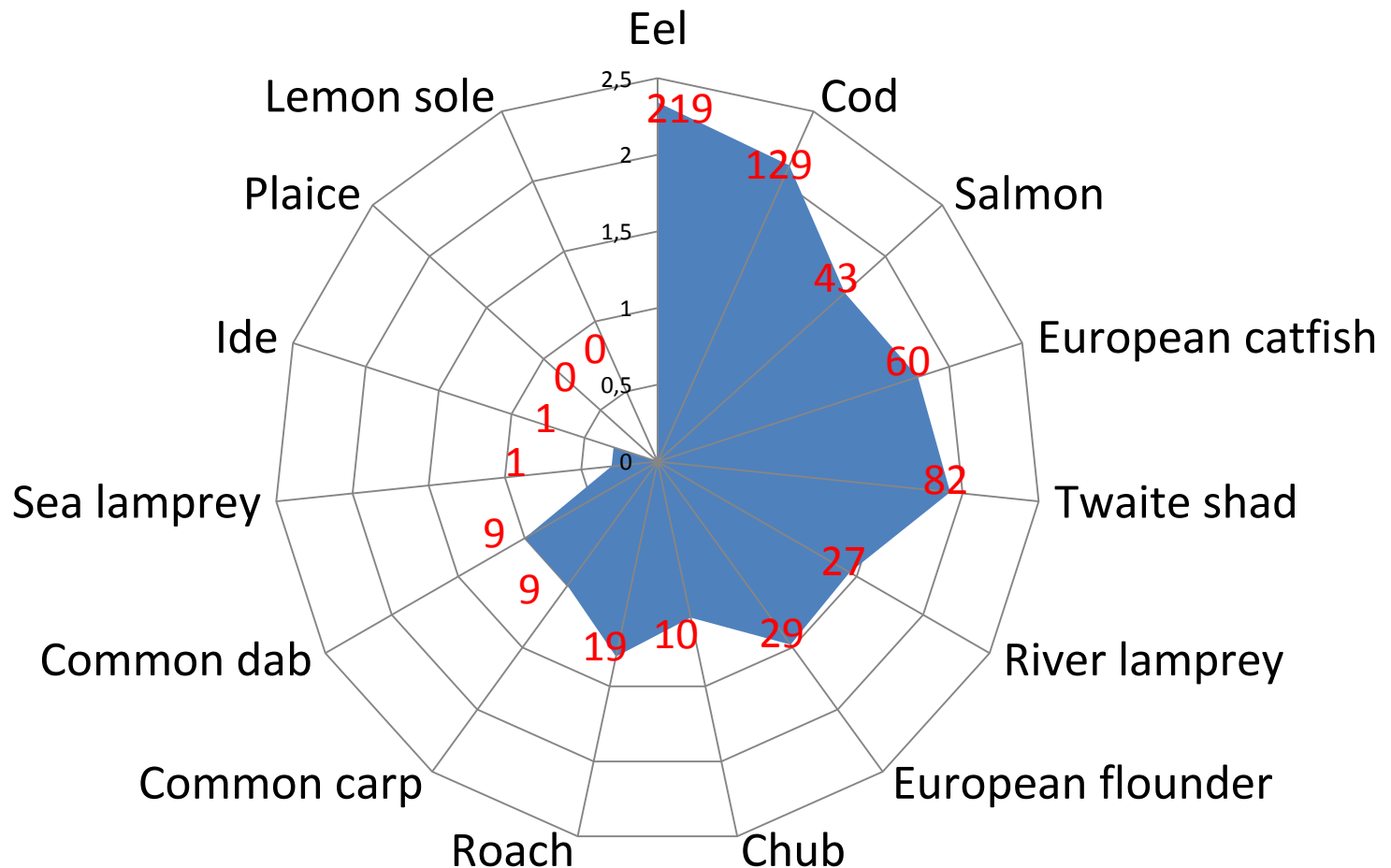
Gov. research (INBO)
2011
40 river lamprey tracked



Fish (acoustic) tracking in Flanders

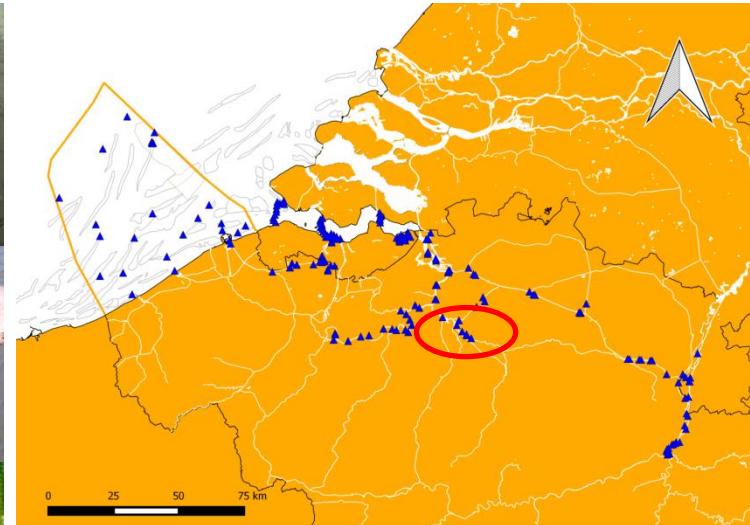
Facts and figures

- Of a total of 368 receiverlocations



Fish (acoustic) tracking in Flanders Projects

- Movement behaviour of multiple freshwater species around migration barriers (2014-2016)



Fish (acoustic) tracking in Flanders Projects

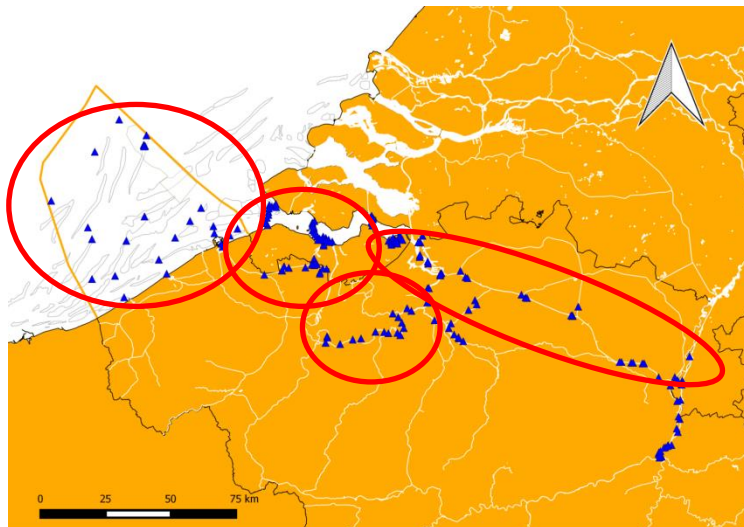
- Silver and yellow eel downstream migration

Gov. Research INBO

PhD Pieterjan Verhelst (UGent – INBO - VLIZ)

PhD Jenna Vergeynst (UGent - INBO)

315 eel tagged since 2012 + 65 in 2017



Verhelst, P. et al. 2017. Ecology of Freshwater Fish

Verhelst, P. et al. Submitted.

Huisman et al. 2016. MEPS 554: 257-262.

Fish (acoustic) tracking in Flanders Projects

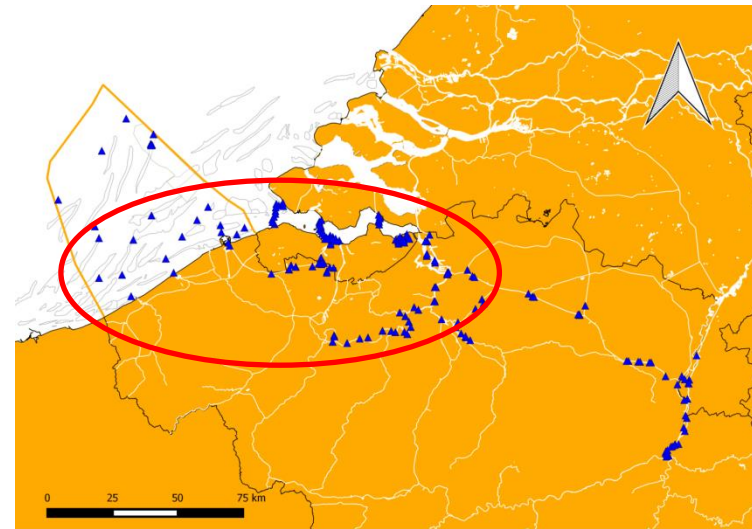
- Spawning behaviour of twaite shad in tidal freshwater

INBO research

2015 : 8 twaite shad

2016 : 26 twaite shad

2017 : 5 twaite shad



Breine, J. et al. 2017. Fisheries Research 19: 36-40.