



Bram Houben

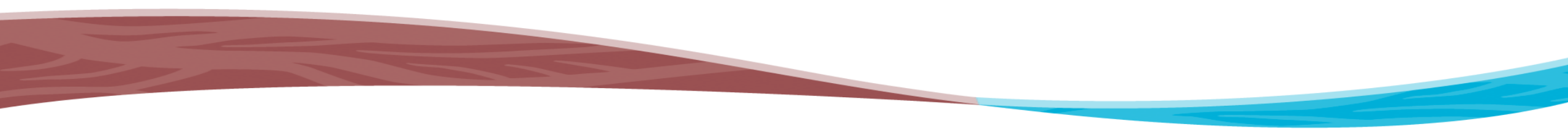
Niels Brevé, Bas Roels, Ernst Schrijver,
Karsten Reiniers and Gijs van Zonneveld



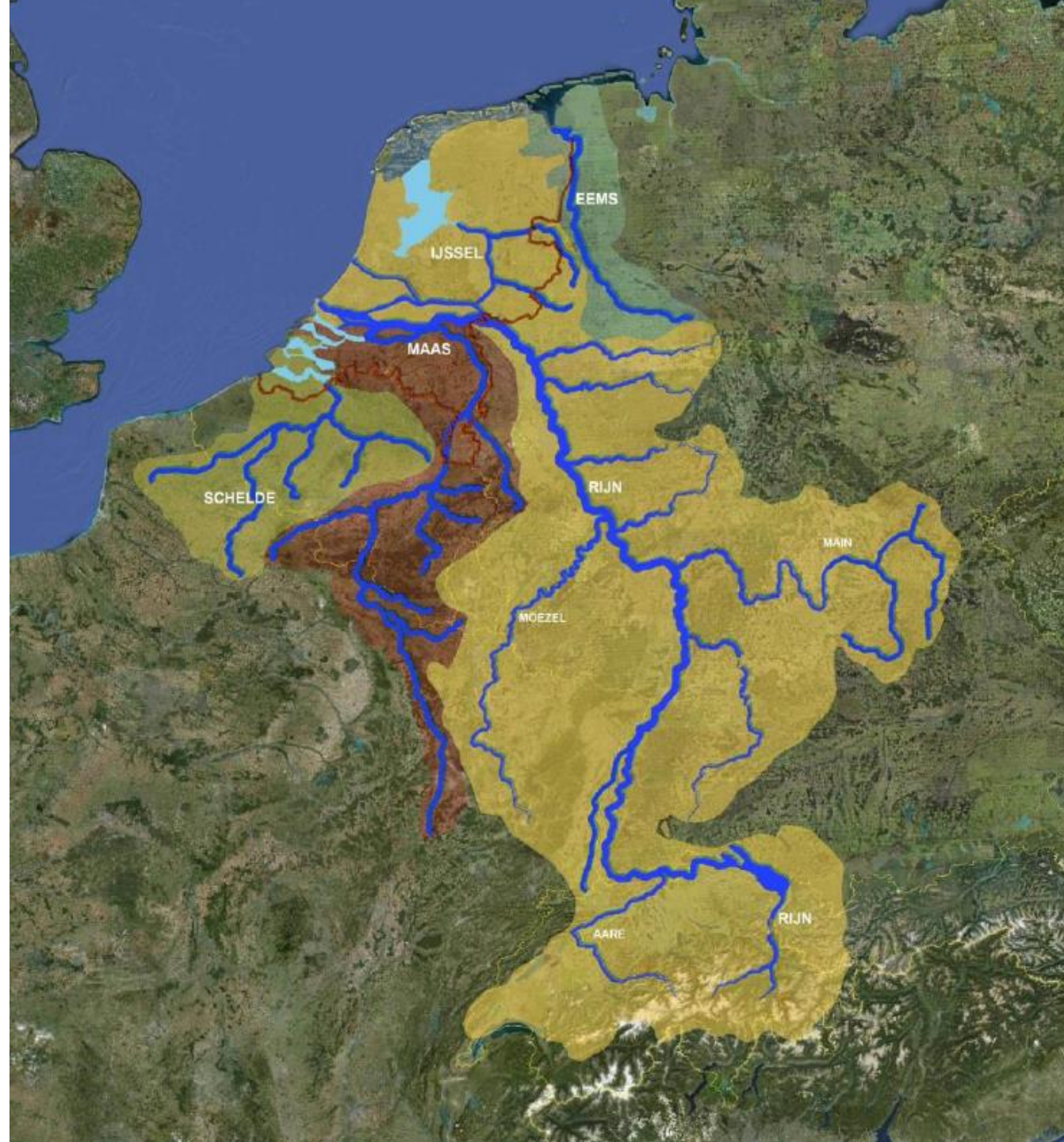
Rhine sturgeon project

European sturgeon – The Netherlands

- The Dutch delta
- European sturgeon in Europe
- The Dutch sturgeon project
- First results
- Potentials for the Rhine
- Future plans and perspectives

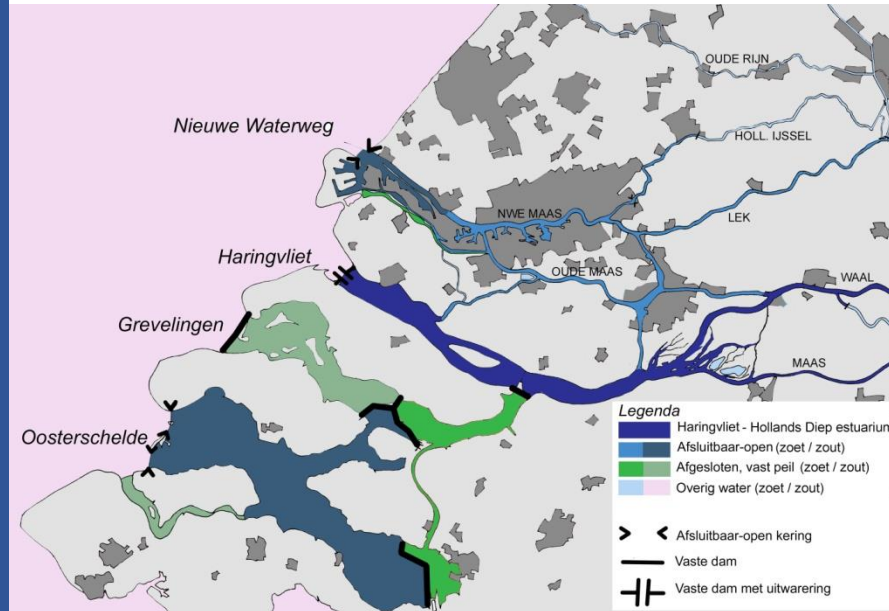


The Dutch Rhine delta

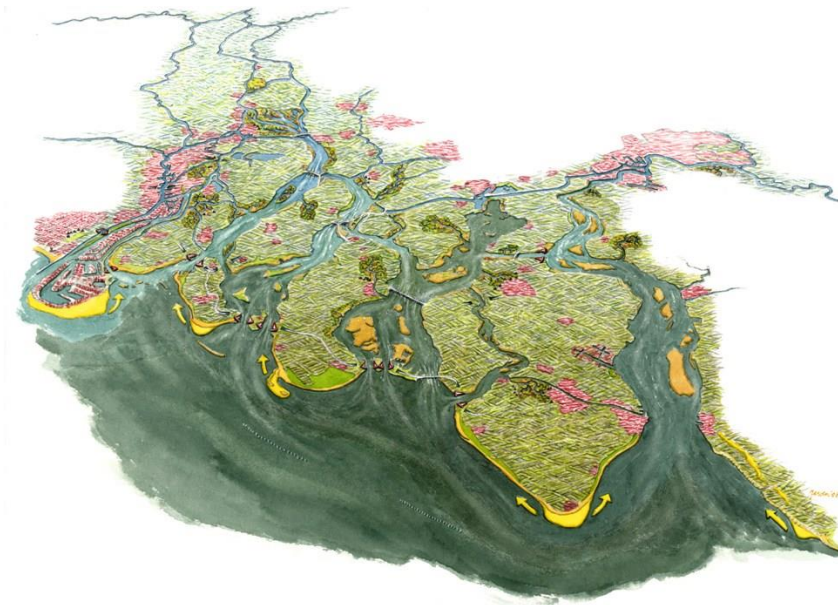




The Dutch Rhine delta

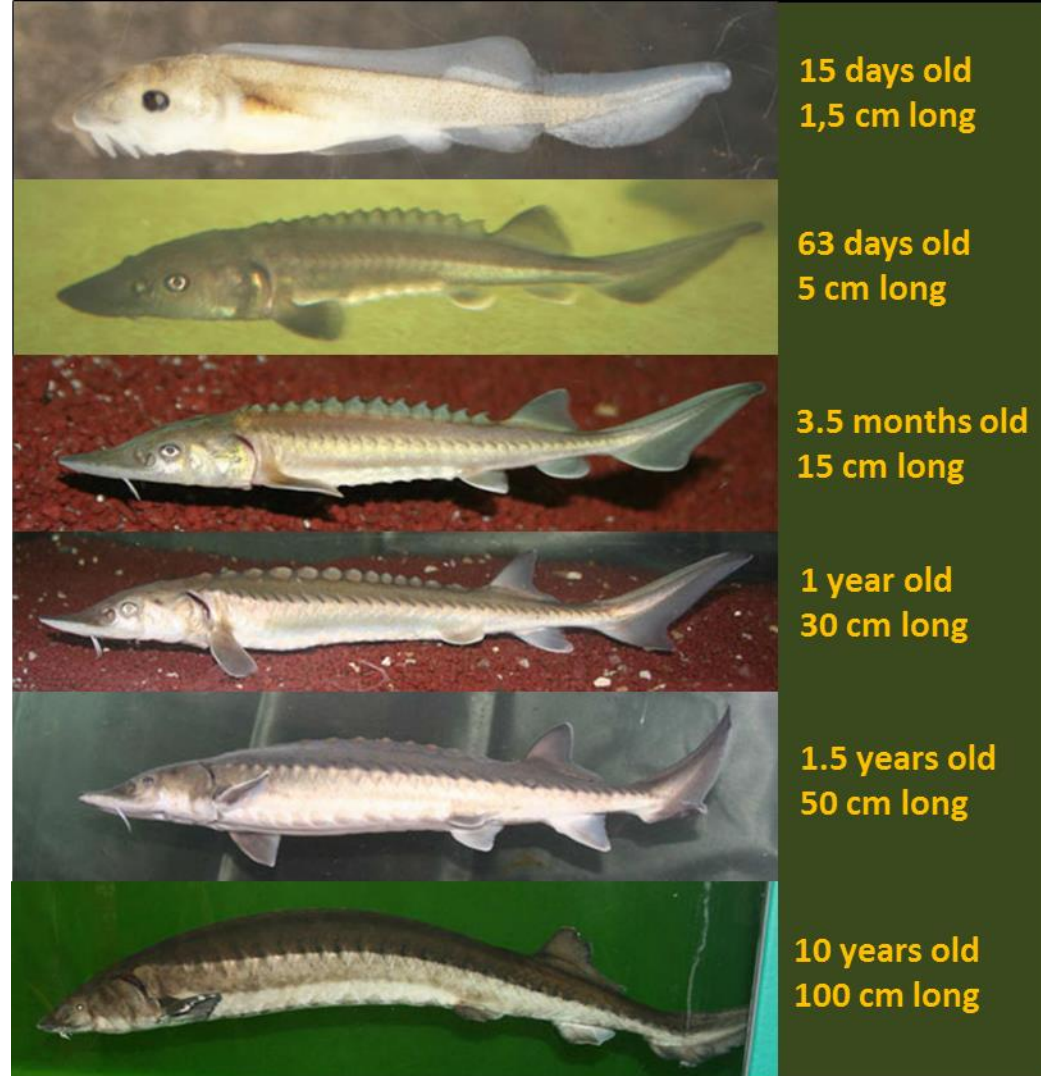
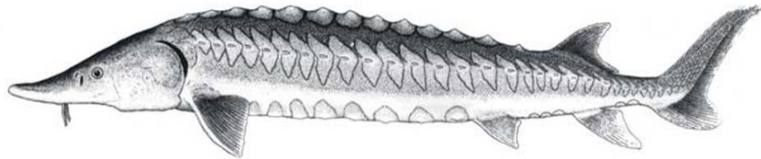


- The estuary of the Rhine, Scheldt and Meuse
- Average combined flow ca. 2500 m³/sec
- Urban area with 15 million people
- Safety issues



European sturgeon

- Anadromous species
- 3m, 100 kg & 70 years old
- Scutes
- Benthic fish
- Different migration patterns



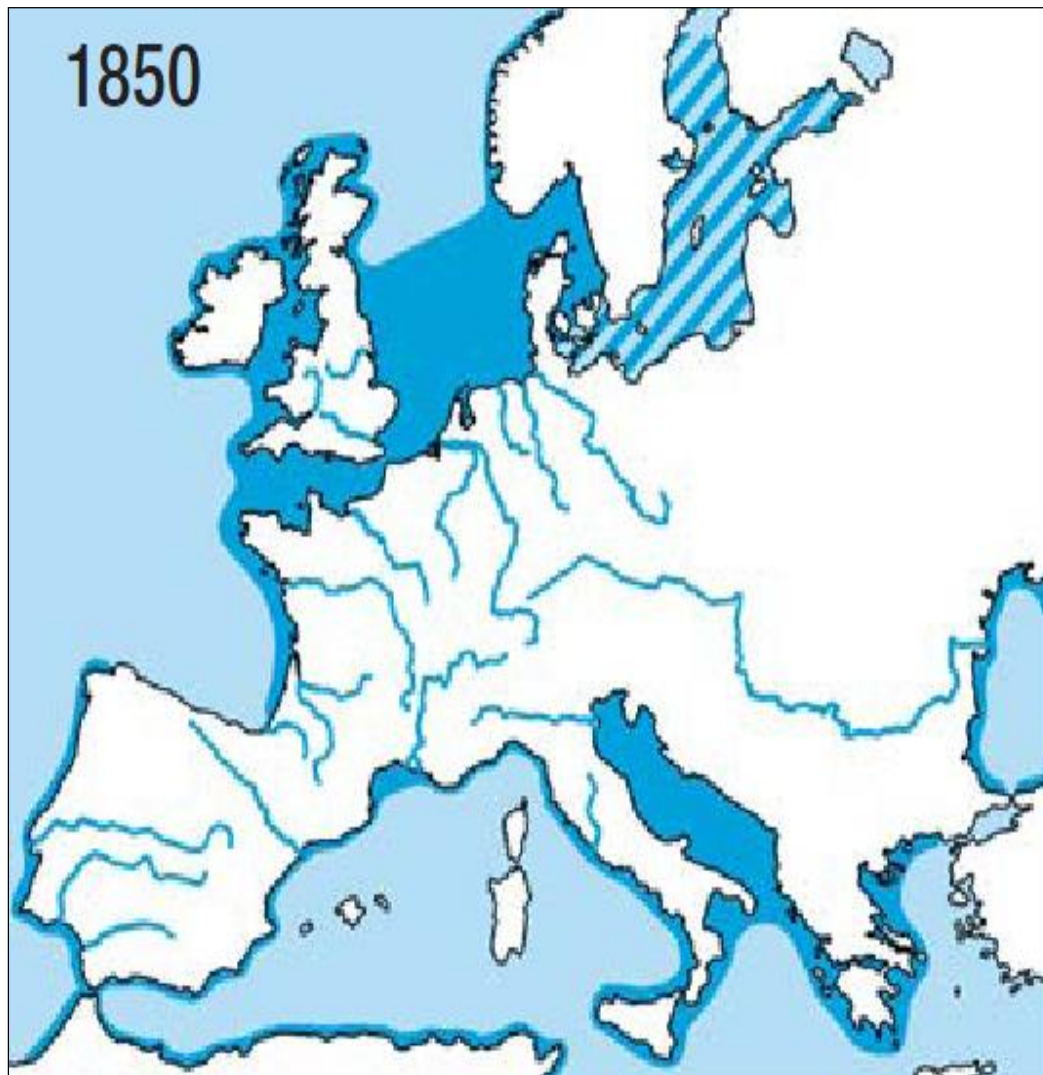
European sturgeon - Rhine

Untill the beginning of 20th century
Rhine also an important river for sturgeon

Overfishing, pollution, rivercorrection...
1952: last sturgeon of the Rhine







Actual situation

International projects

- Irstea, MIGADO, CNPMEM, France
- IGB, Berlin



New progress

- Reproduction succes 2007 - 2014
- Start of large scale releases in the Gironde
- Start in river Elbe
- Hope for the European sturgeon!





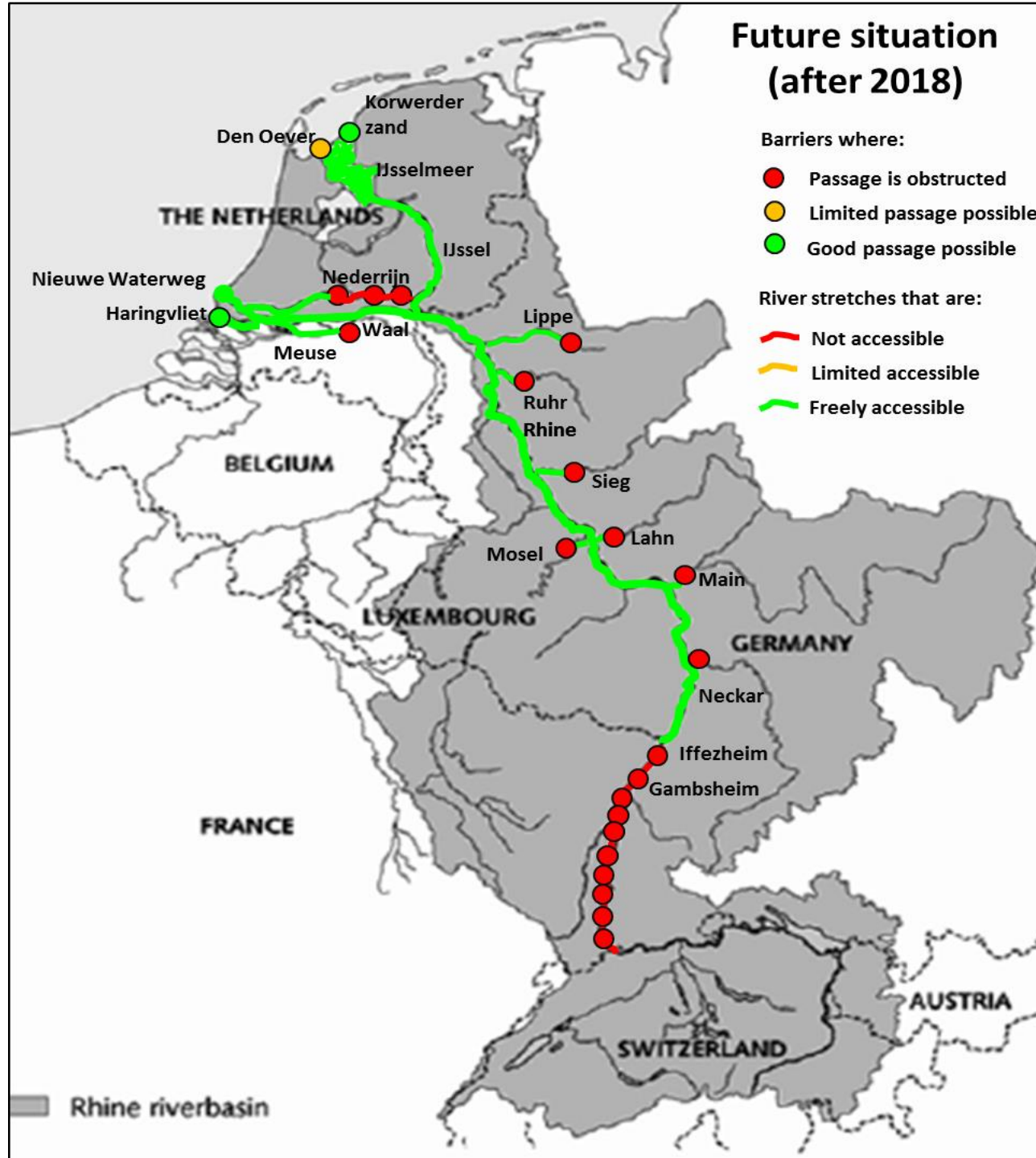
Dutch Sturgeon project group - 2010

European sturgeon – Current approach



Leibniz-Institute of
Freshwater Ecology
and Inland Fisheries

European sturgeon – Potentials Rhine

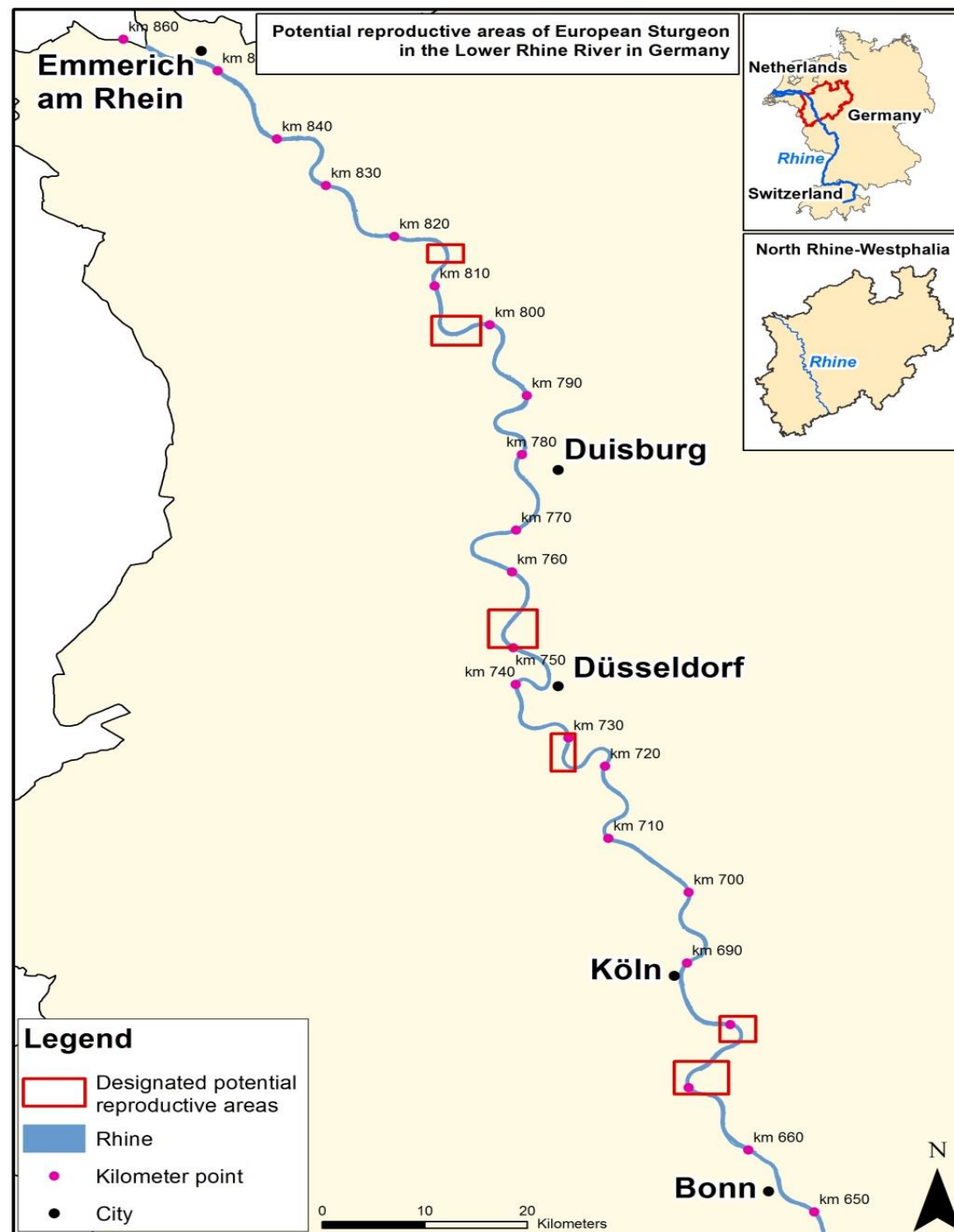


➤ freely accessible

➤ the Rhine up to Iffezheim (>800km) and small sections of the tributaries are accessible

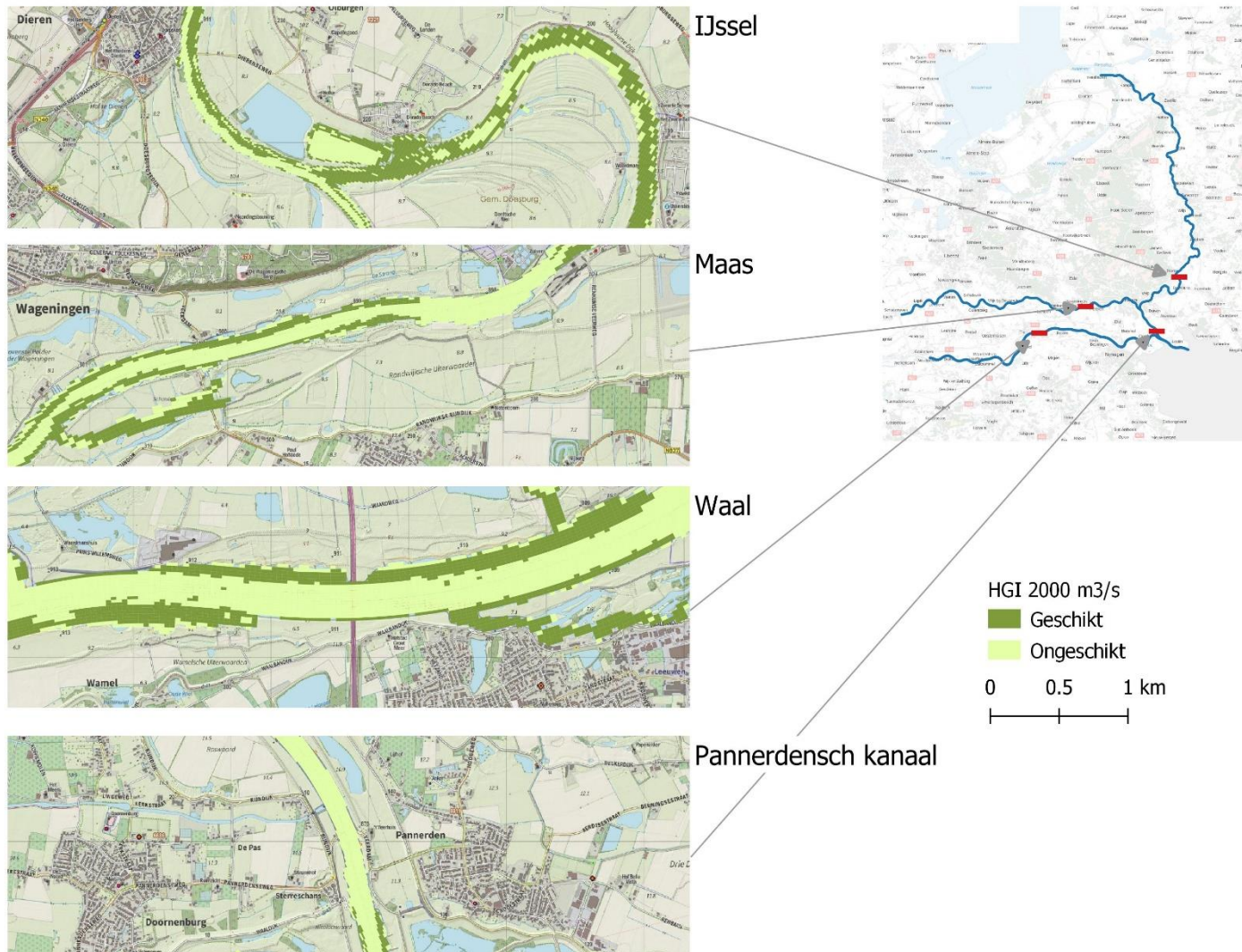
➤ Potential spawning grounds

European sturgeon – Potentials Rhine



- Potential spawning grounds NRW (33%)
- 6 hot spots

Habitat Juveniel sturgeon (< 2 y)



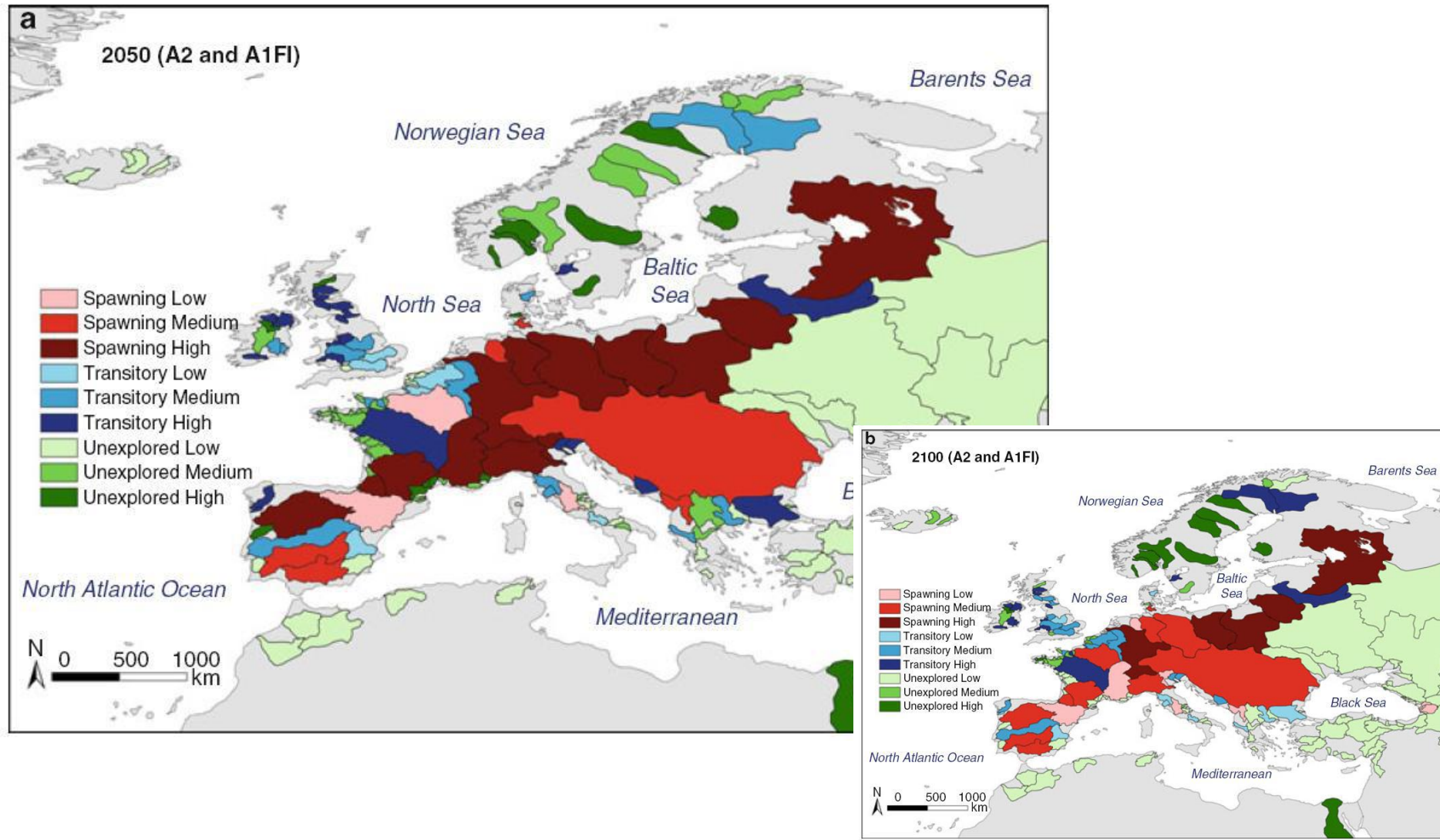
Total research area: 32-46km² suitable habitat for juveniele sturgeon (<2 y)

Waal, Nederrijn, Lek most robust areas (30% of total)

Effect of ships/ shipping is uncertain

	Paai	Juveniel (0+)
Waterdiepte		
Ondiep (>0-1 m)	0	0
Matig diep (>1-2 m)	0,5	0,5
Diep (>2-5 m)	1	1
Zeer diep (>5 m)	1	0
Stroomsnelheid		
Langzaam (0-0,5 m/s)	0	1
Matig (>0,5-1 m/s)	1	0,5
Snel (>1-2 m/s)	1	0
Zeer snel (>2 m/s)	0,5	0
Substraat		
D50 <25 mm	0	0
D50 >25 mm	1	0
D50 <2 mm	0	1
D50 >2 mm	0	0

Climate study (Lasalle et al., 2011)



European sturgeon – Research

Set up of the research pilot

Migration study (2012-2015)

Release of 47 sturgeon (2 times)
Selected by Irstea

Age: cohort 2007 & 2009

Weight: 1350 – 2450 gr

Length: 50 – 70 cm

Nedap transponders



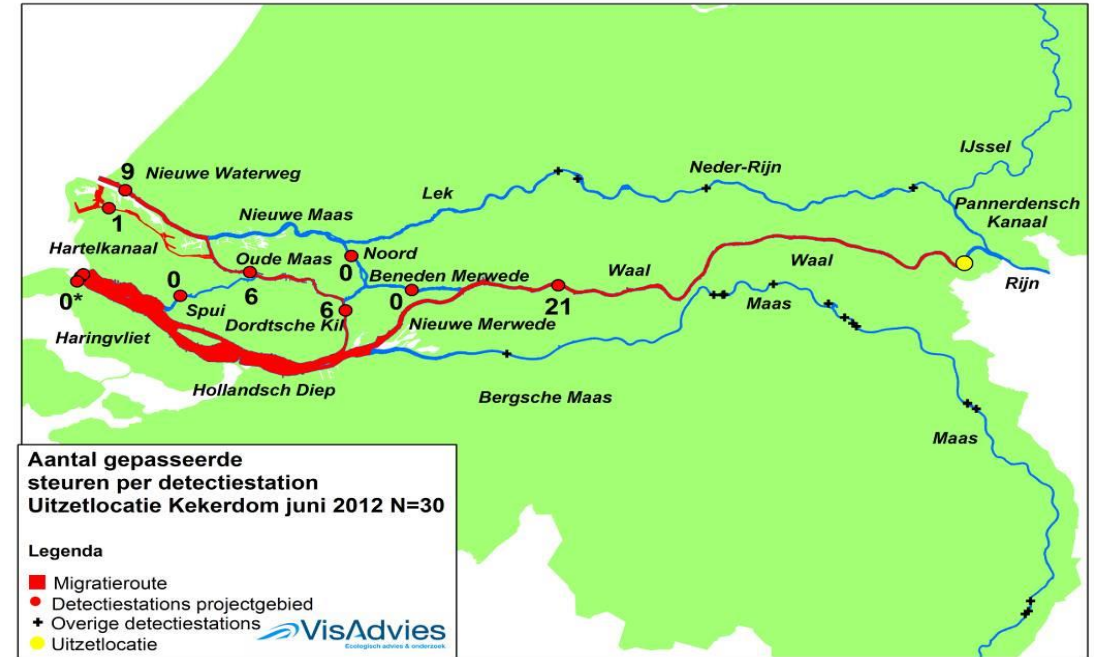
European sturgeon – Potentials Rhine

Experimental releases

- Majority reach the North Sea
- Following the main flow

Literature studies and GIS analyses

- Food availability along the coastal areas of the southern North Sea and in lower section of Rhine Basin > Good
- Spawning habitat available and accessible
- Juvenile habitat available
- Rhine seen as climate proof river for sturgeons



European sturgeon – Haringvliet project

Goals Sturgeon project

1. Research

- Experimental releases
- Spawning habitat assessment

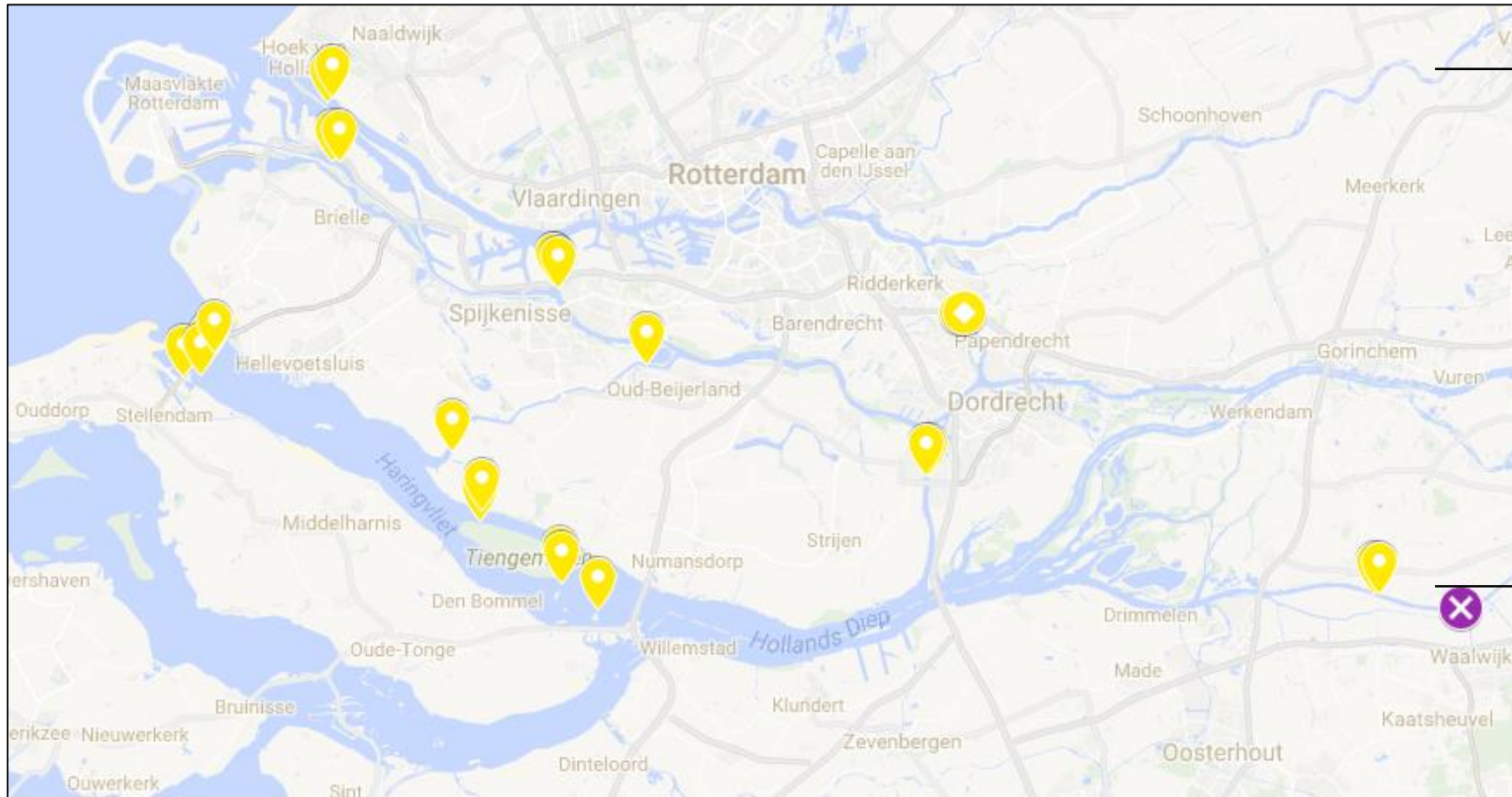
2. Support of the broodstock

- Cooperation with broodstock France / Germany
- Set up of a rearing station in NL



Preparation monitoring system, Vemco

Goal: monitoring juvenile sturgeons (< 1 year)
Infrastructure Vemco in study area



Naam water	Receivers basis meetnet
Bergsche Maas Hollands Diep	2x aan boeien in de Bergsche Maas 0 6x aan boeien voor Haringvlietdam*
Haringvliet	1x aan paal buitenhaven Stellendam 5x aan boei nabij Tiengemeten
Dordtsche Kil	2x aan boei Noordzijde tunnel N2
Spui	1x aan boei bij Bernisse
Beneden Merwede	1x aan boei bij Oud-Beijerland
Noord	0
Oude Maas	1x aan boei bij Alblasserdam
Nieuwe Maas	1x aan brug bij Alblasserdam
Hartelkanaal	3x aan boeien bij de Botlekbrug
Nieuwe Waterweg	1x extra boei Botlekbrug*
Totaal	28 receivers

European sturgeon – Haringvliet project

Goals Sturgeon project

3. Governmental involvement on national and international level

Participation IKS

4. Ensure funding for the long term

5. International cooperation

>> *Working towards a Rhine action plan for Sturgeon*



Goals Sturgeon

6. Info public

- Reir



Als u een **beschermde Europese steur** vangt:



1. **Noteer lengte, gewicht, datum** en **locatie** van de vangst
2. Als de steur een **geel merkteken** heeft: laat dit zitten en noteer het **merknnummer** 
3. Maak een **foto** van de vis en het eventuele merkteken
4. **ZET DE STEUR TERUG IN HET WATER**
5. **Meldt de vangst** bij IMARES of via steurwwf@gmail.com



Dank voor uw oplettendheid en hulp!





☒ Zoom to selected results

Species

- ☒ European sturgeon (*Acipenser sturio*)
- ☐ Siberian sturgeon (*Acipenser baeri*)
- ☐ Russian sturgeon (*Acipenser gueldenstaedti*)
- ☐ Sterlet (*Acipenser ruthenus*)
- ☐ Unknown

Historical

- ☒ Historical
- ☒ Recent

Water body

Project

Fishery

Date



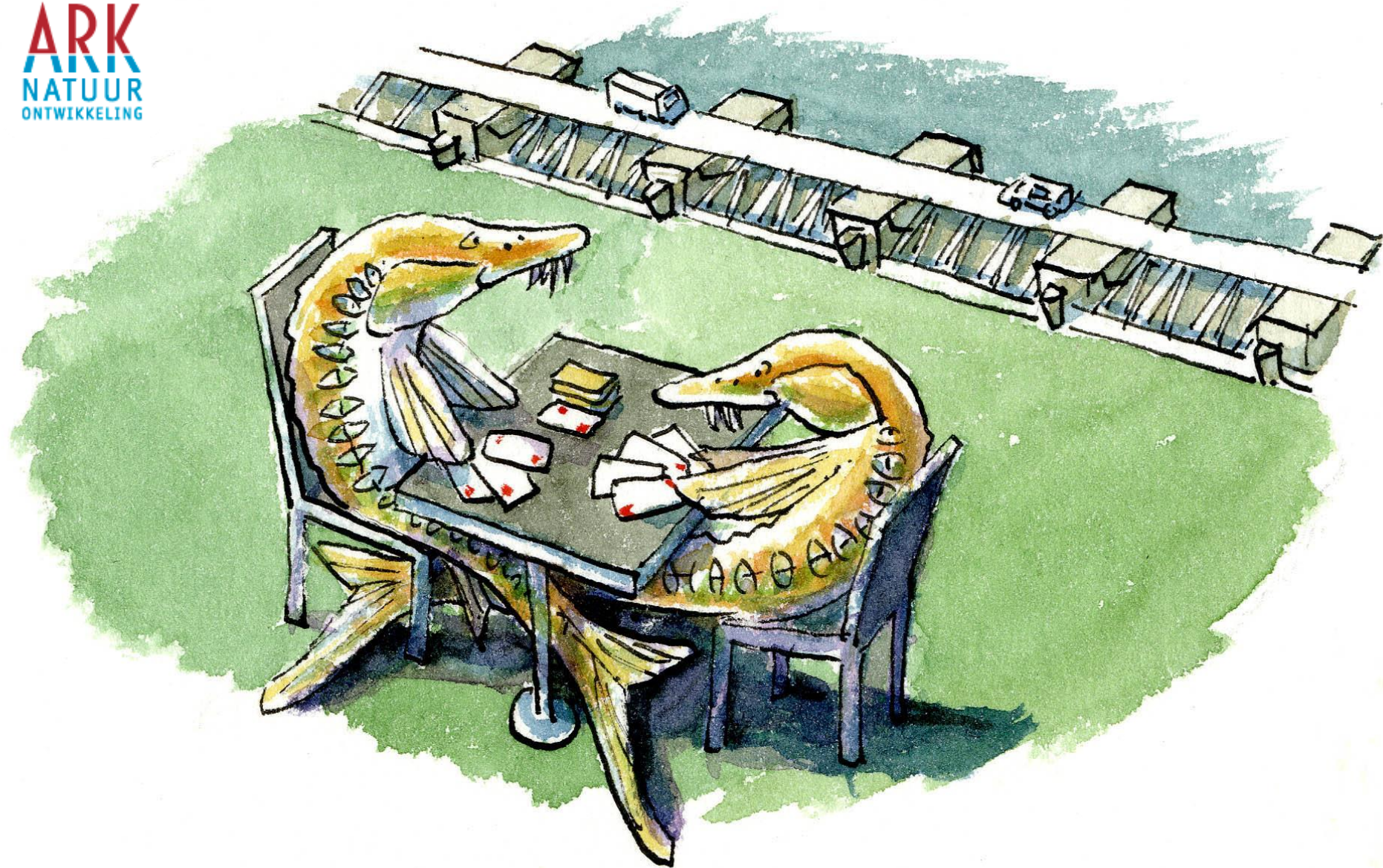


Haringvliet / sturgeon exposition

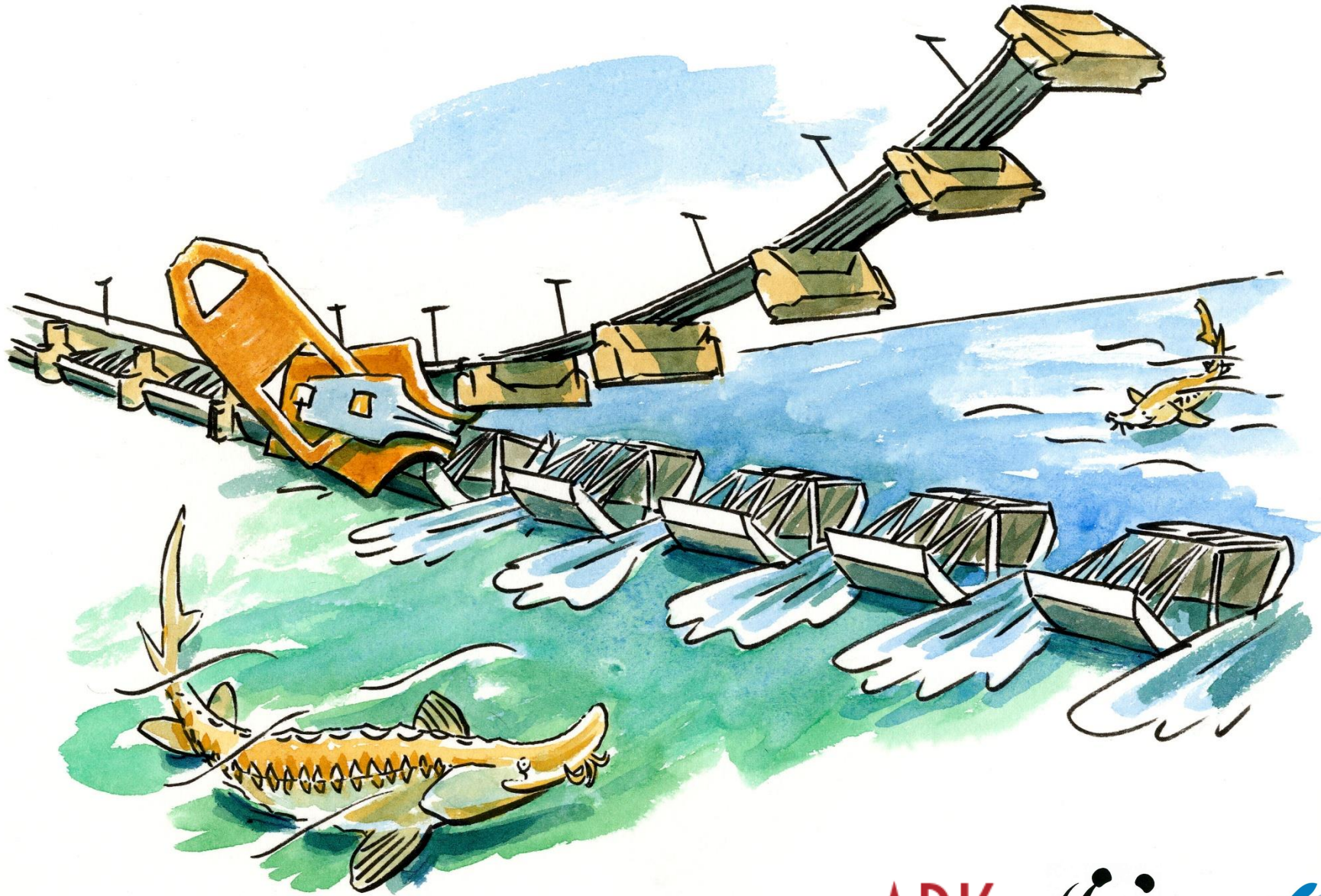
In the delta

In Blijdorp





Many potentials



Thank you!

