



IGB

Leibniz Institute of Freshwater Ecology
and Inland Fisheries



Mecklenburg-Vorpommern

Results from the Baltic sturgeon recovery project in Germany

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Mecklenburg-Vorpommern Research Centre for Agriculture and Fisheries (LFA MV),
Institute of Fisheries

30 years of sturgeons research and restoration

- Start of sturgeon research in Germany 1992
- Foundation of "Gesellschaft zur Rettung des Störs e.V." GRS (Society to save the Sturgeon) in 1994
- Many years of research (habitat analyses, morphologics, genetics) in numerous projects carried out by different partners, funded by different bodies provided the basis for today's research
- Transfer of atlantic sturgeon from canada to germany 2005/2006
- First successful reproduction in 2010
- Establishment of the first and only spawning stock of *A. oxyrinchus* at the LFA MV
- Since 2019 EMFF/EMFAF funded sturgeon restoration projects



Gerd-Michael Arndt and Jörn Gessner, Research facility Born MV

Two cooperating projects in Germany dealing with the stocking and migration behavior of tagged sturgeons

EMFAF-Project MV

Topic:

Restoration of Baltic sturgeon (*Acipenser oxyrinchus*) populations in the Odra catchment area and in the coastal waters of MV

Project period: 01.07.2023-30.06.27

Institution

Mecklenburg-Vorpommern Research Centre for Agriculture and Fisheries (LFA)

Institute of Fisheries: **Gerd-Michael Arndt**
Department Aquaculture: **Christin Höhne**

BfN „HaffStör“ funding BMUV/BfN

Topic:

Research on the habitat use of Baltic sturgeons in the Szczecin Lagoon and the Lower Oder and determination of factors affecting their survival during migration

Project period: 01.05.2024-31.12.26

Institution

Leibniz Institute of Freshwater Ecology and Inland Fisheries (IGB), Berlin

Department of fishbiology, fisheries and aquaculture: **Dr. Jörn Gessner**



Restoration of Baltic sturgeon (*Acipenser oxyrinchus*) populations in the Odra river basin and in the coastal waters of Mecklenburg-Vorpommern

DRM 201 01.07.2023-30.06.2027

Ex-situ protection - Objectives:

- Development of a spawning stock of *A. oxyrinchus*.
- Controlled reproduction and adaptive rearing and stocking to reintroduce and support the population
 - Responsible person: **Janina Fuest** (j.fuest@lfa.mvnet.de)

In-situ protection - Objectives:

- Release management – optimization of release strategies
- Monitoring – acoustic telemetry, recoveries-external floy tagging, GPS-tagging
 - Responsible person: **DR. STEFANIE FELSING** (s.felsing@lfa.mvnet.de)

Management and public relations work - *Objectives:*

- Increase public, administrative and political awareness of sturgeon protection
- Monitoring and evaluation of the implementation of the AP for adapted management
- Implementation of target-oriented communication strategies, evaluation of the AP
 - Responsible person: **STEFFEN SCHULZ** (s.schulz@lfa.mvnet.de)

Supervision of this project:

Christin Höhne (Head of Aquaculture Dep.), **Gerd-Michael Arndt** (Head of Institute of Fisheries) – Mecklenburg-Vorpommern Research Centre for Agriculture and Fisheries

In-situ protection

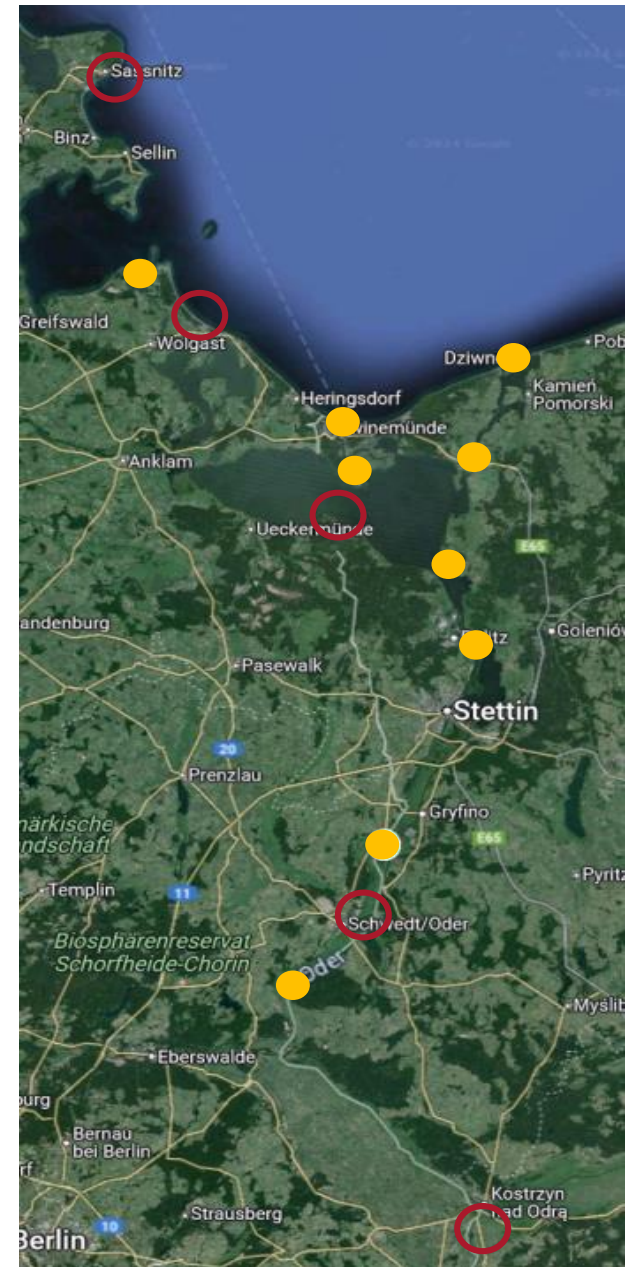
Stocking Management and Monitoring

Stocking

- 5 main stocking areas ○
- Stocking in different size classes (Larvae, fingerlings and juveniles)

Monitoring

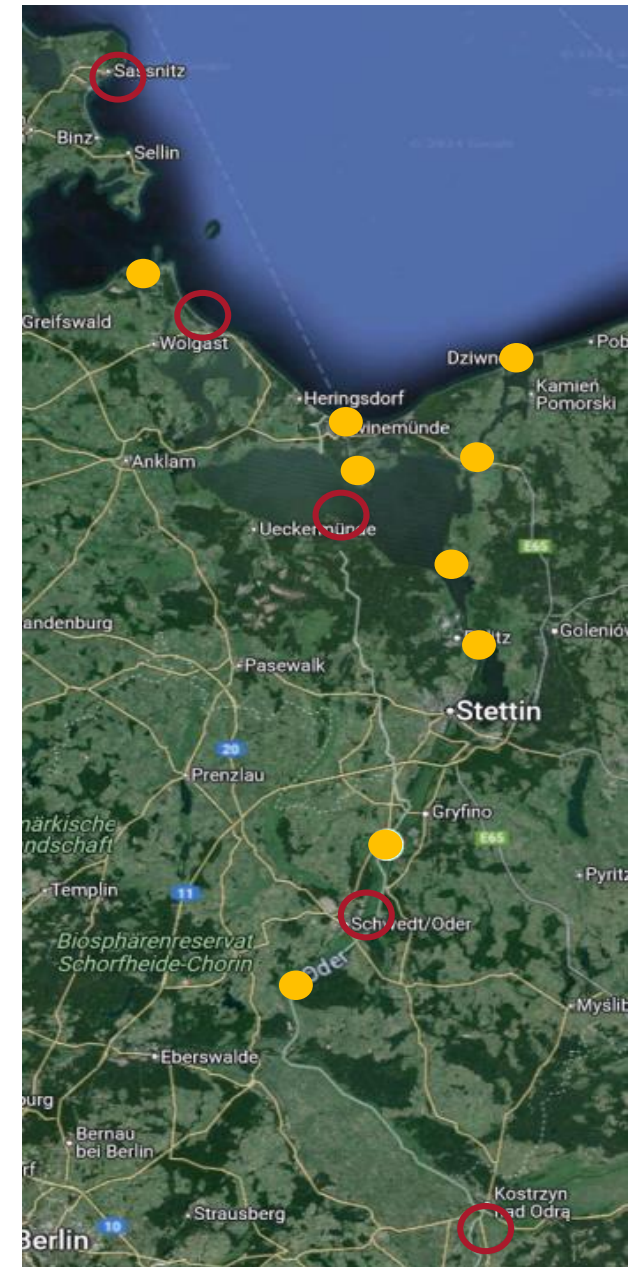
- 19 Receiver ● on different locations for **acoustig telemetry** research, 120 tagged sturgeons with long-term acoustic tags (15 years battery life) for determination migration routes and detecting „returners“
- Reporting evaluation of catches and finds(FloyTag)
- Sattelite tracking in the Baltic Sea



Stocking

Restocking measures

Year	Stocking rate of the LFA (different age stages ≤ 10kg)	Delivery of larvae to cooperation partners
2021	499,476	793,000
2022	3,832	265,500
2023	49,585	2,291,000
2024	1,059,793	1,176,490
Sum 2021-2024	1,612,793	4,525,990

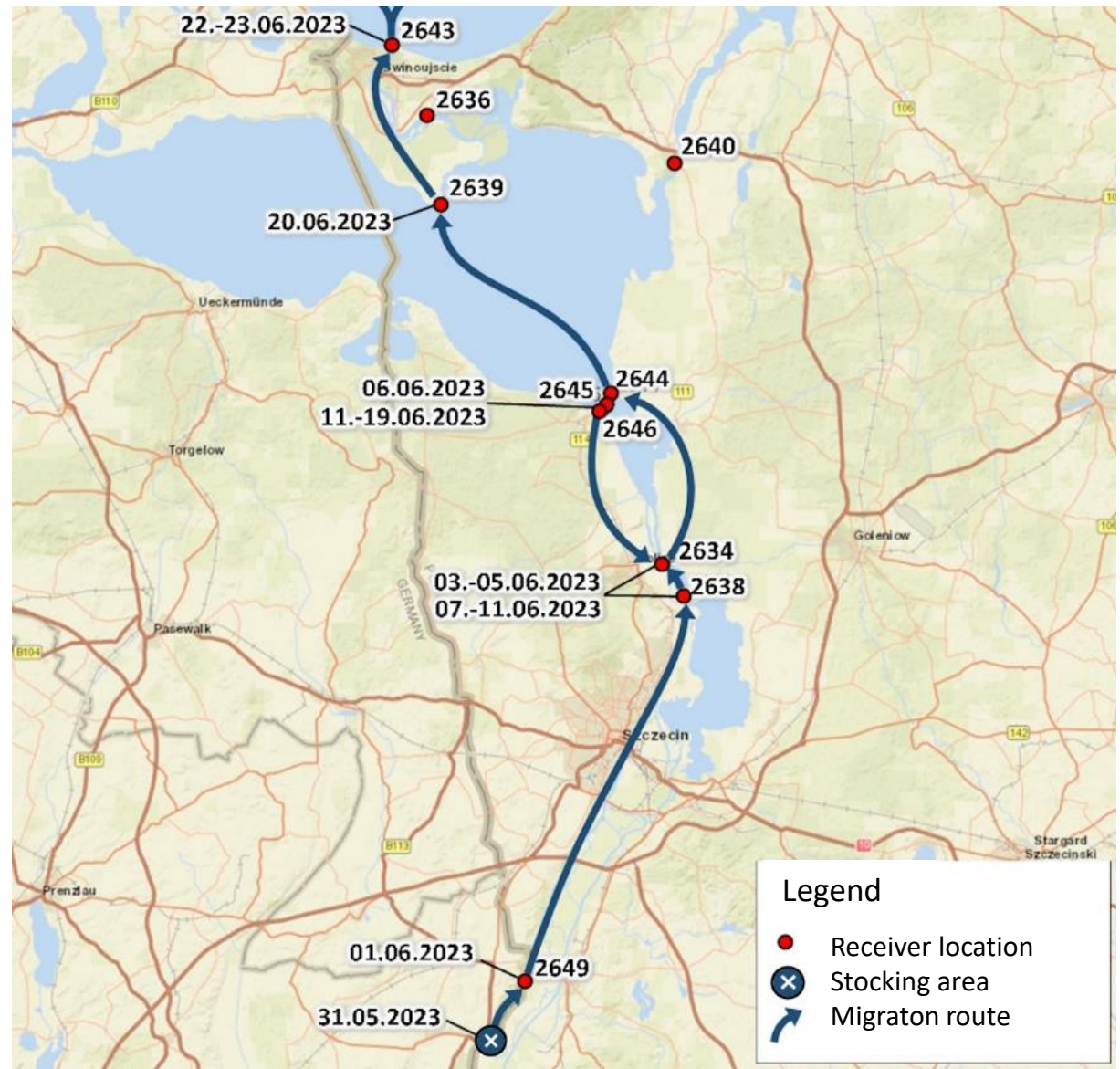


Monitoring

Acoustic Telemetry

- Successful recording of migration routes after stocking (102 fish)
- Receiver readout 2 times a year
- ETN and OTN registration almost complete
- Close cooperation with other instituts/projects (IGB, IfB)

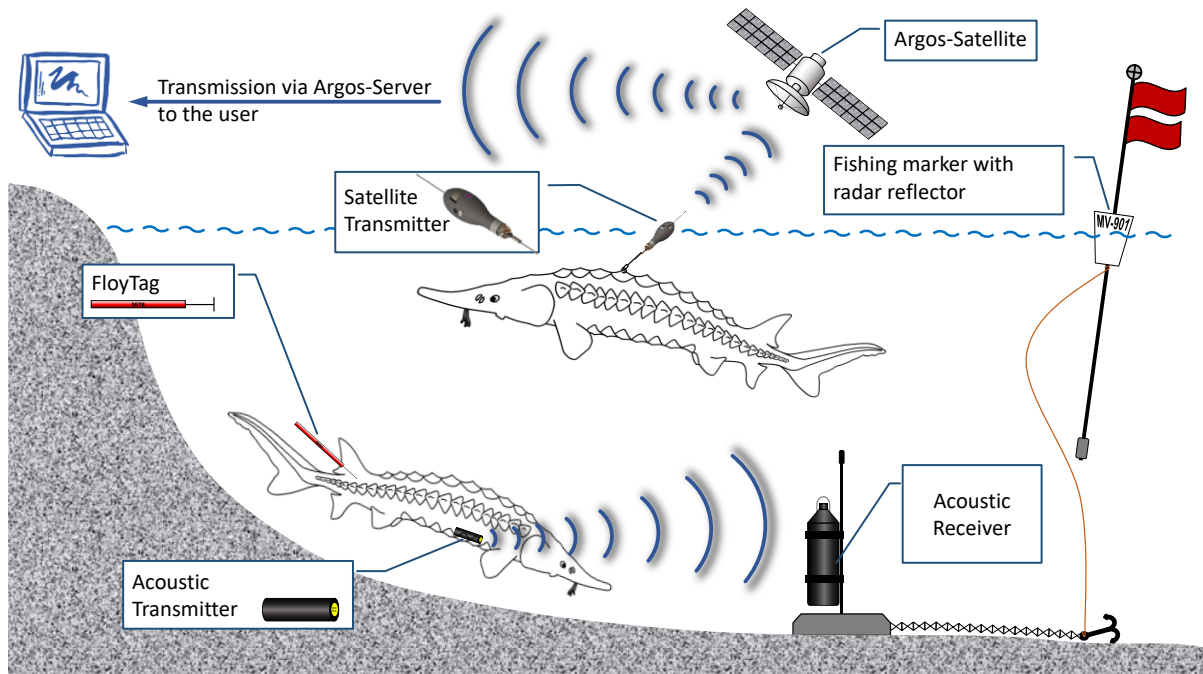
Detection ID 6757	Receiver							
Datum		2649	2638	2634	2645	2646	2639	2643
2023								
Jun								
01. Jun		18						
03. Jun			74	2				
04. Jun				95				
05. Jun				105				
06. Jun					10			
07. Jun				143				
08. Jun			44	282				
09. Jun			50	235				
10. Jun			99	194				
11. Jun				210	6			
16. Jun					146	11		
17. Jun					81			
19. Jun					11			
20. Jun							101	
22. Jun								85
23. Jun								52



Monitoring

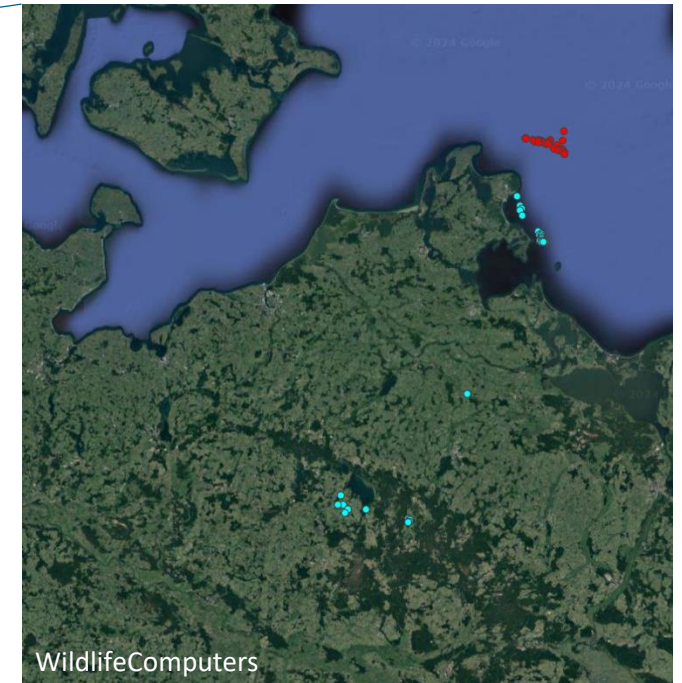
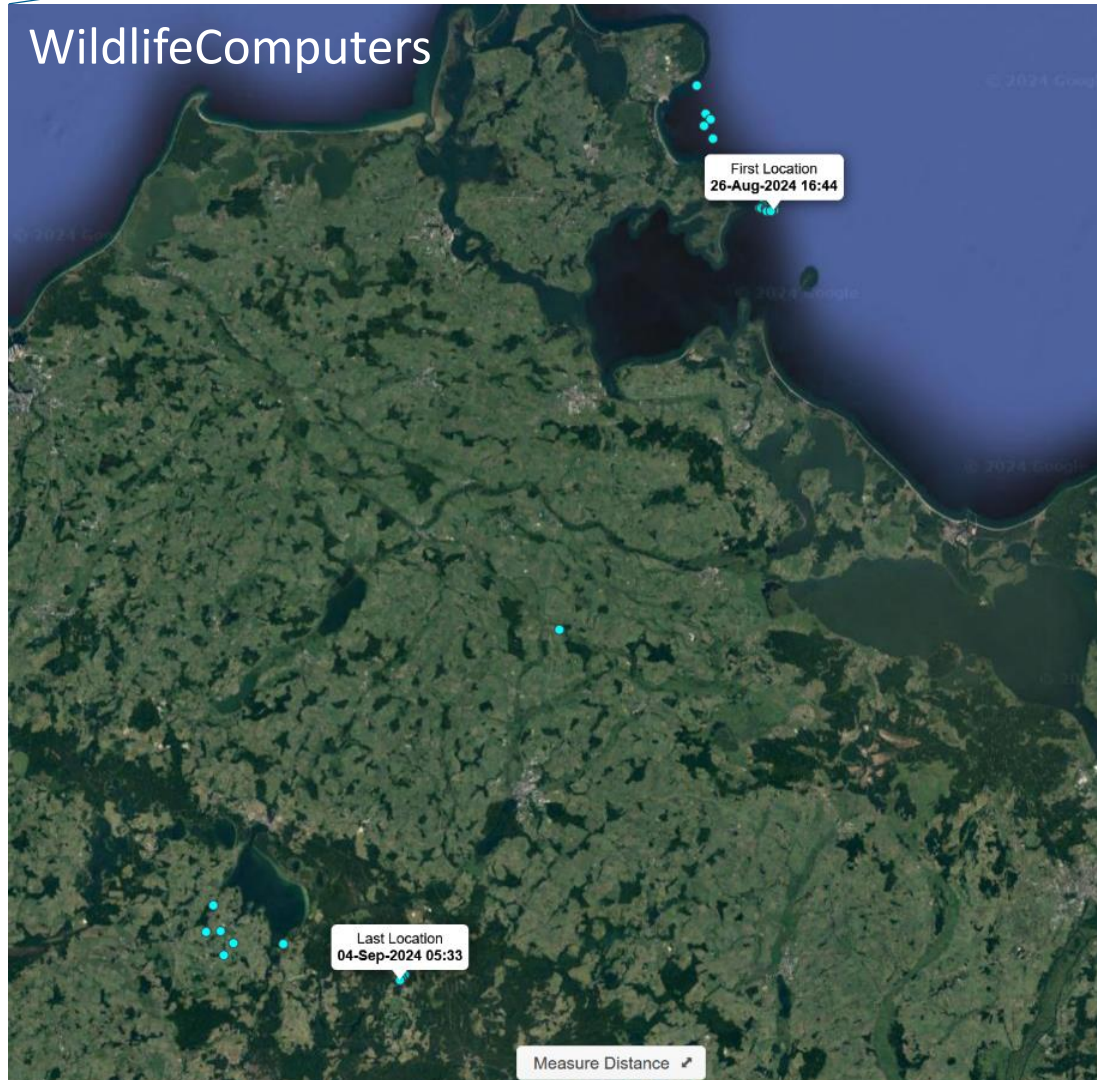
Pilot Study Sattelite Tracking in cooperation with SLU (SE)

- 8+4 sturgeons, average: weight 9,8 kg and size: 123cm
- Migration recording using satellite tracking in the Baltic Sea
- Comparison of three appliances: MiniPAT-390, mrPAT 376 and SPLASH10-F (WildlifeComputers)
- Project duration 87 to 365 d



Monitoring

Pilot Study Sattelite Tracking in cooperation with SLU (SE)



argos location class	statet accuracy (radius of error)	Message received per satellite pass
3	<250m	4 or more
2	250-500m	4 or more
1	500-1000m	4 or more
0	>1500m	4 or more
A	no stated	3
B	no stated	01. Feb
Z	no location	invalid location attamp
Fastloc GPS	20-70 m	1 or more

Monitoring

Pilot Study Sattelite Tracking in cooperation with SLU (SE)



Realtime-Map of raw location data provided by WildliefComputers



Tagdetection with the Goniometer-2 Antenna



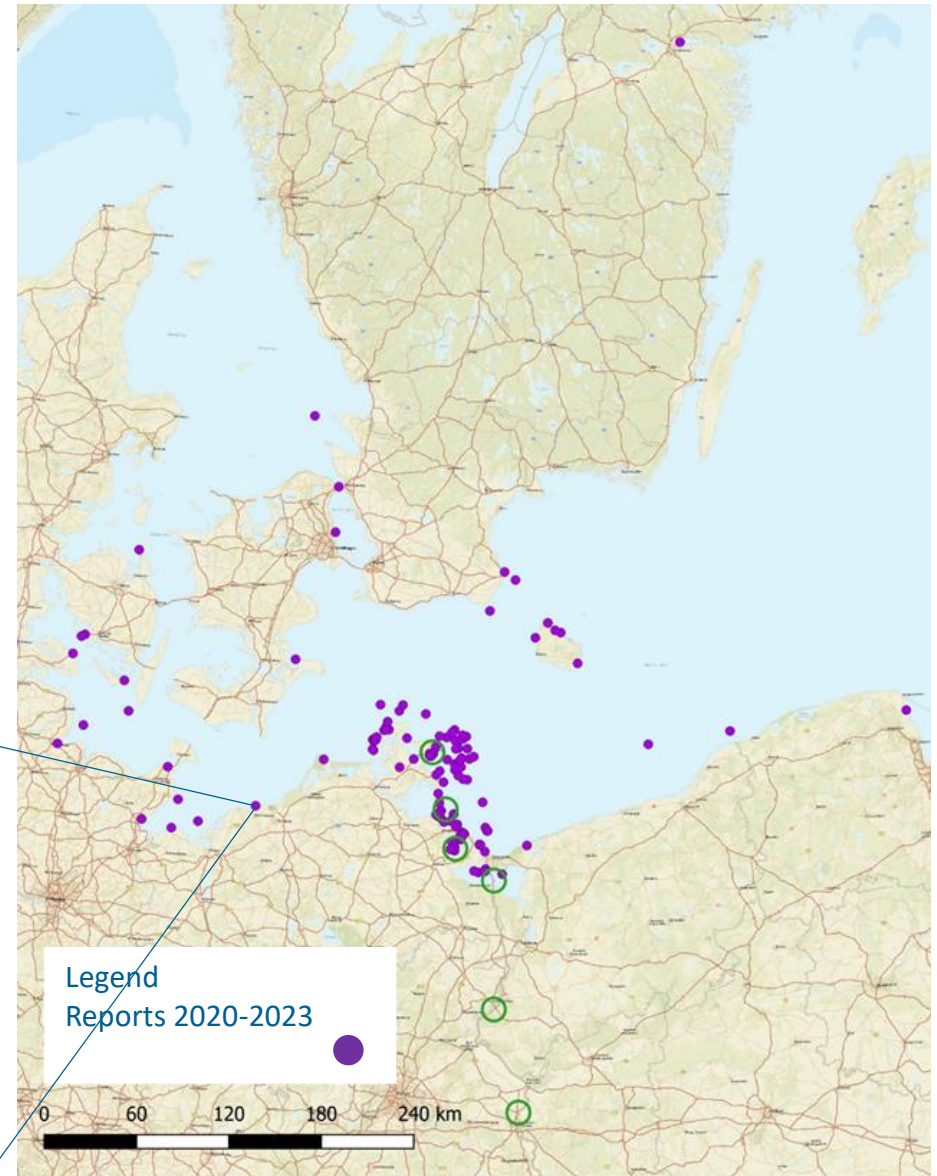
Position determination via Goniometer-2

Monitoring

Reporting evaluation

- Current data recording by letter, mail, whatsapp
- Internal backup via “StörApp”
- More than 400 reports since 2020
- Less than 7 % dead finds

Mass increase determined by recapture data



Monitoring

Reporting evaluation summary of valid data since 2020

➤ 69 Reporters

Sizeclass reports

40-49	7
50-59	34
60-69	145
70-79	121
80-89	28
90-99	21
100-130	10
Sum	366

Rest smaller or without measurement

Smallest: 0,7 kg

Heaviest: 14,5 kg

No marking: 62

Highest reporting rate per reporter

1. 57 reports since 2021

2. 43 reports since 2021

Exotics and other:

Sturio 1, Russian sturgeon 2, Hybrid 1

Distance from stocking area

GBS 972 since 2020 Usedom - Ystad >190 km

GBR 009 since 2020 Lassar - Kalmarsund > 450 km

GBR 942 since 2022 Sassnitz - Bråviken > 590 km

Dead finds since 2020 including view dead reports

<7,5 %

Most reported net-type: Gillnet

Open questions:

Evaluation and visualization of all archived data

Compare stocking strategies

Reporting stocking and recapture over time

Largest increase in mass

Tracking stock development



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Thanks for your attention!

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