



# Using historical bycatch records to direct restoration efforts in the UK

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# Talk Outline



1. Overview of the historical database
  - Purpose of the database
  - Database development and data source
  - Overall numbers & examples
2. High level analysis
3. Spawning evidence
4. Wider impacts
5. Next Steps



Image: Sturgeon specimen in Natural History Museum

The image shows two sturgeons swimming in an aquarium. The top sturgeon is lighter in color, while the bottom one is darker. Both have long, pointed snouts and rows of bony scutes along their backs. The background is a light-colored, sandy or gravelly bottom with some greenish-brown rocks or coral. The word "INTRODUCTION" is written in white, bold, sans-serif capital letters across the middle of the image. In the bottom left corner, there is a logo consisting of the letters "ZSL" in a white, bold, sans-serif font, with a circular emblem containing a stylized animal figure between the letters.

# INTRODUCTION

ZSL

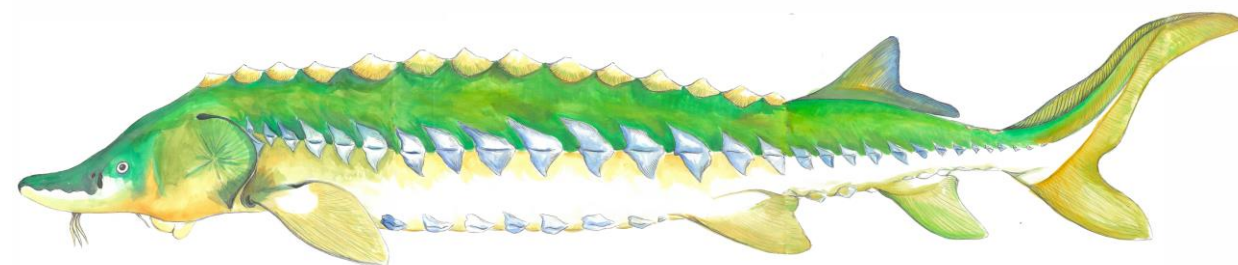
# Purpose of the database

- **Document** historical and modern records of sturgeon in British waters.
- **Support** UK and Pan-EU conservation efforts.
- **Inform** policy decisions, provide a foundation for restoration programs.

Native?

Species?

Habitat?





# Development of the database



## Initiation:

- **Bern Convention 2006**, first ever report on past reports of sturgeon captures in the UK, from 1850 to 1993
- **Bern Convention 2007**, Publication of The Action Plan for the conservation and restoration of the European sturgeon (2007)



## Expansion and growth:

- Continuation of record collection.
  - Slow growth before 2020, only 500+ records
- Rapid growth due to digitization of newspaper archives.



Image: Steve Colclough

# Sources of data

- Museum records and archaeological findings.




- Reports from anglers and commercial fishermen.



- **Historical newspaper archives** (e.g., British Newspaper Archive, Welsh National Library).



- Complemented by** 
- Modern records contributed by French, German, and other European restoration programs.
  - Recent sightings and captures in UK waters.

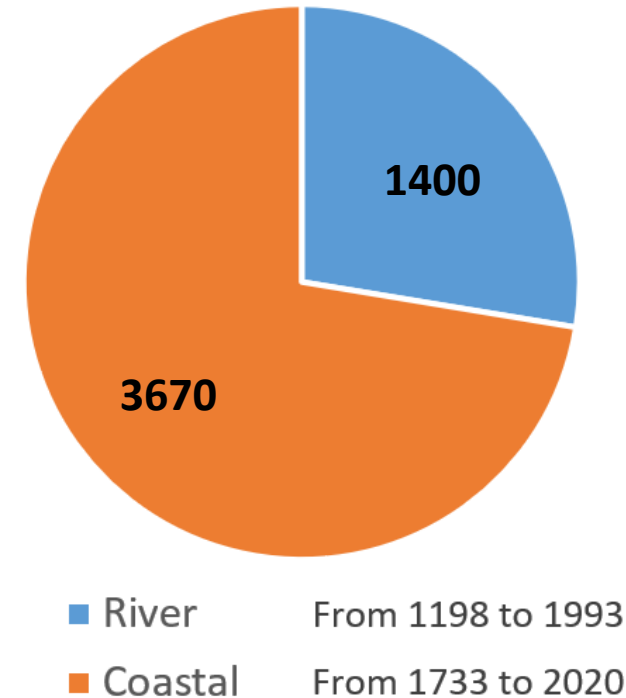
# Main Dataset Overview



## Data elements:

- Date of sighting
- Length and weight
- Number caught
- Location
- Sources (BNA, WMO,...)
- Comments (e.g. "Taken in salmon nets at the Old Bar ,Moray Firth, East of Nairn, Scotland. Landed at Nairn.")

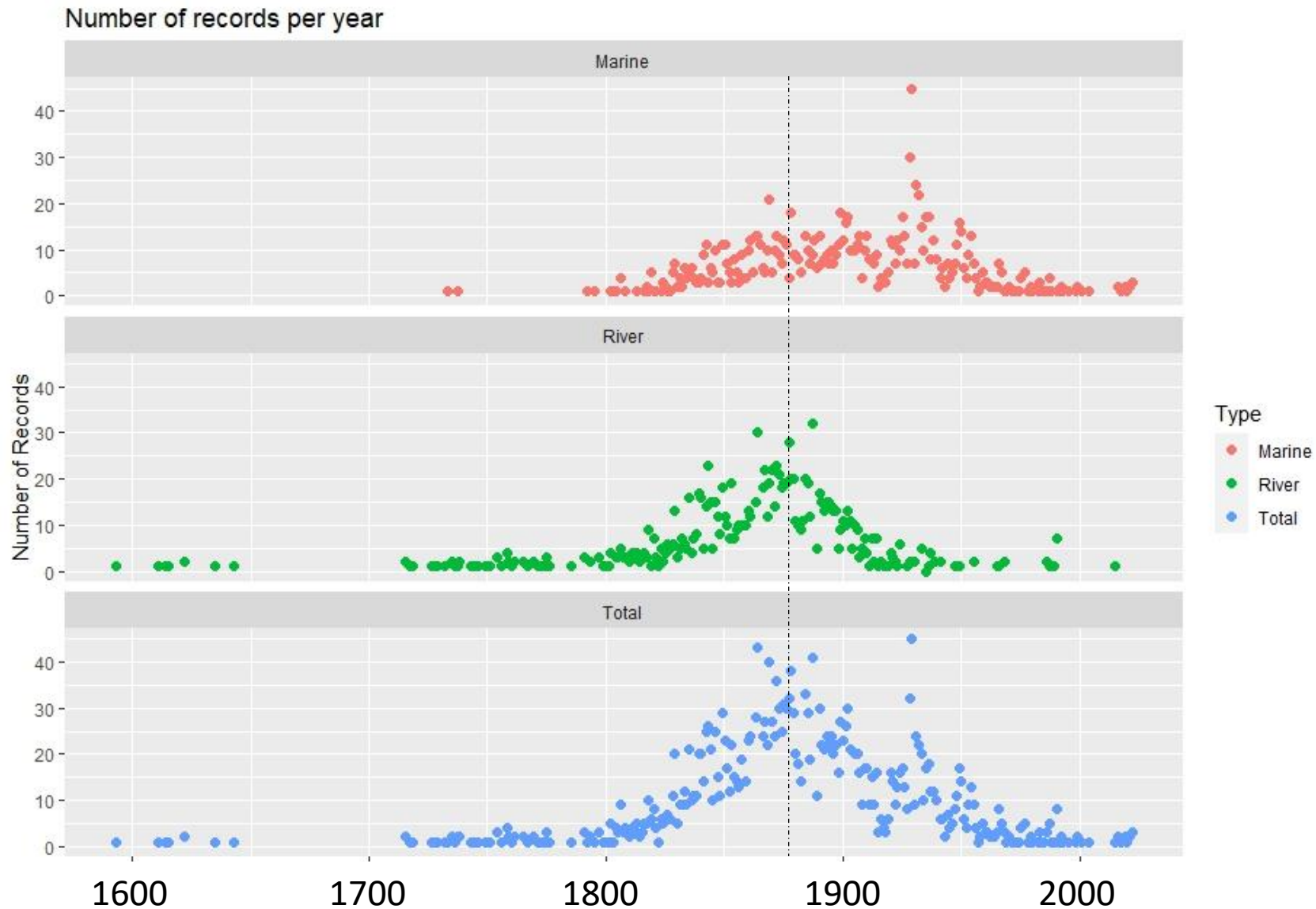
Total Number of Records by water body



ID	Year	Month	Day	Date	Source	River	River Group	Wt. Kg	Lth m.	Girth m.
2006	1860	May	24	24th May	Nairnshire Telegraph and General Advertiser for the Northern Counties	30th		31.8	1.82	
2007	1886	May	12	12th May	Aberdeen Press and Journal	13th May 1886 via BNA		27.2	1.87	

Comments	Abundance	F.C.F.	Lat.	Long.	NGR	Colour	Lat	Long	Confidence
Taken in a net by crab fishermen at Inchkeith, Newhaven, Edinburgh	1		56°1'37"N		NT 29369 82135 *		56.02689	-3.13485 *	
Taken in salmon nets at the Old Bar (Moray Firth, East of Nairn, Scotland). Landed at Nairn.	1		57°36'60"N		NH 91920 59956 *		57.61659	-3.81092 *	

# Number of records per year



## History timeline:

12<sup>th</sup> century: human induced decline

14<sup>th</sup> century: sturgeons granted “Royal fish” by Edward II

17<sup>th</sup> century: one of the world’s oldest newspaper

19<sup>th</sup> century: beginning of more formal archiving processes (museums)

19<sup>th</sup> century: developed into the golden age of the British press

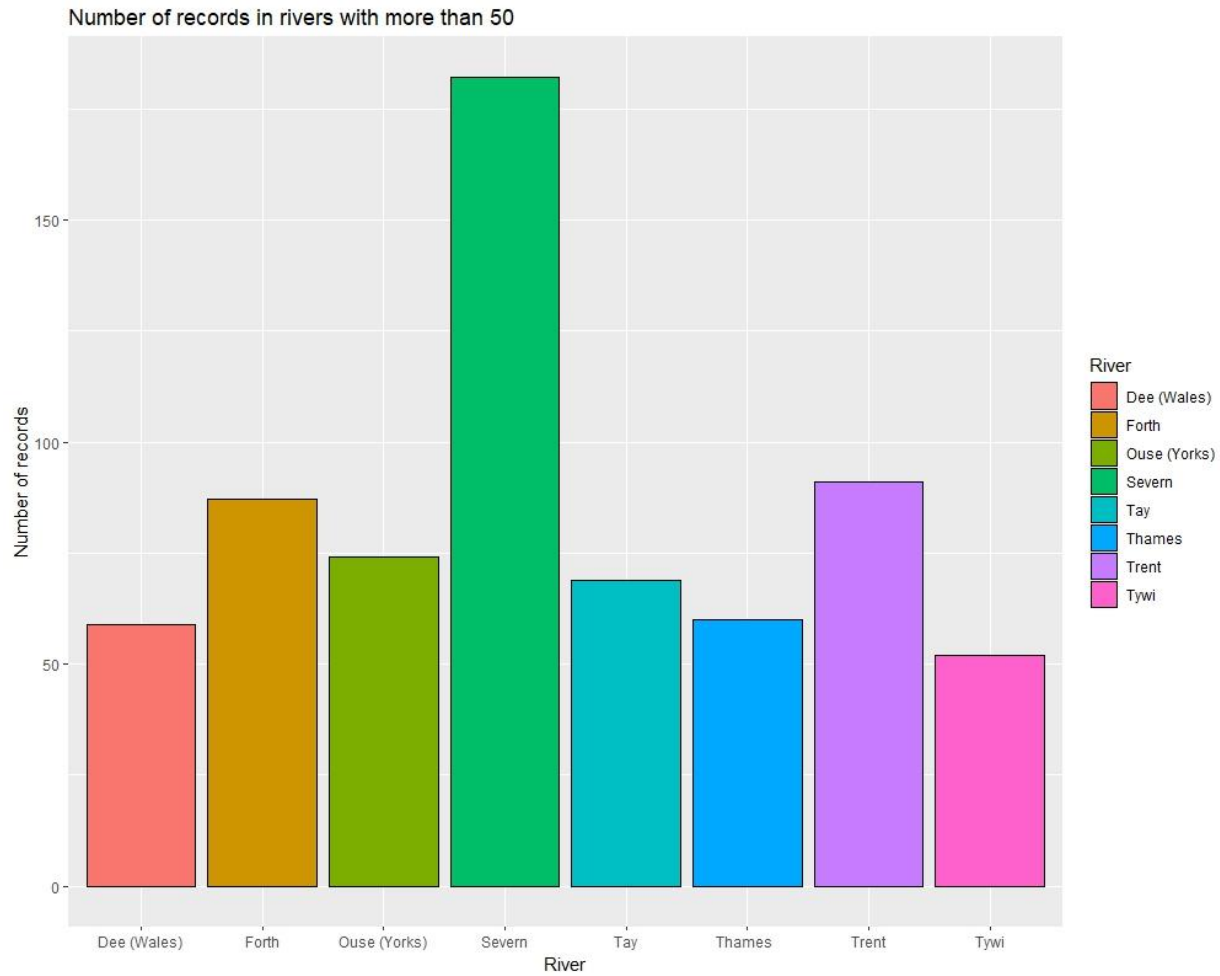


Two sturgeons are swimming in an aquarium tank. The top sturgeon is lighter in color, while the bottom one is darker. Both have long, pointed snouts and rows of bony scutes along their backs. The background shows a sandy bottom and some greenish rocks.

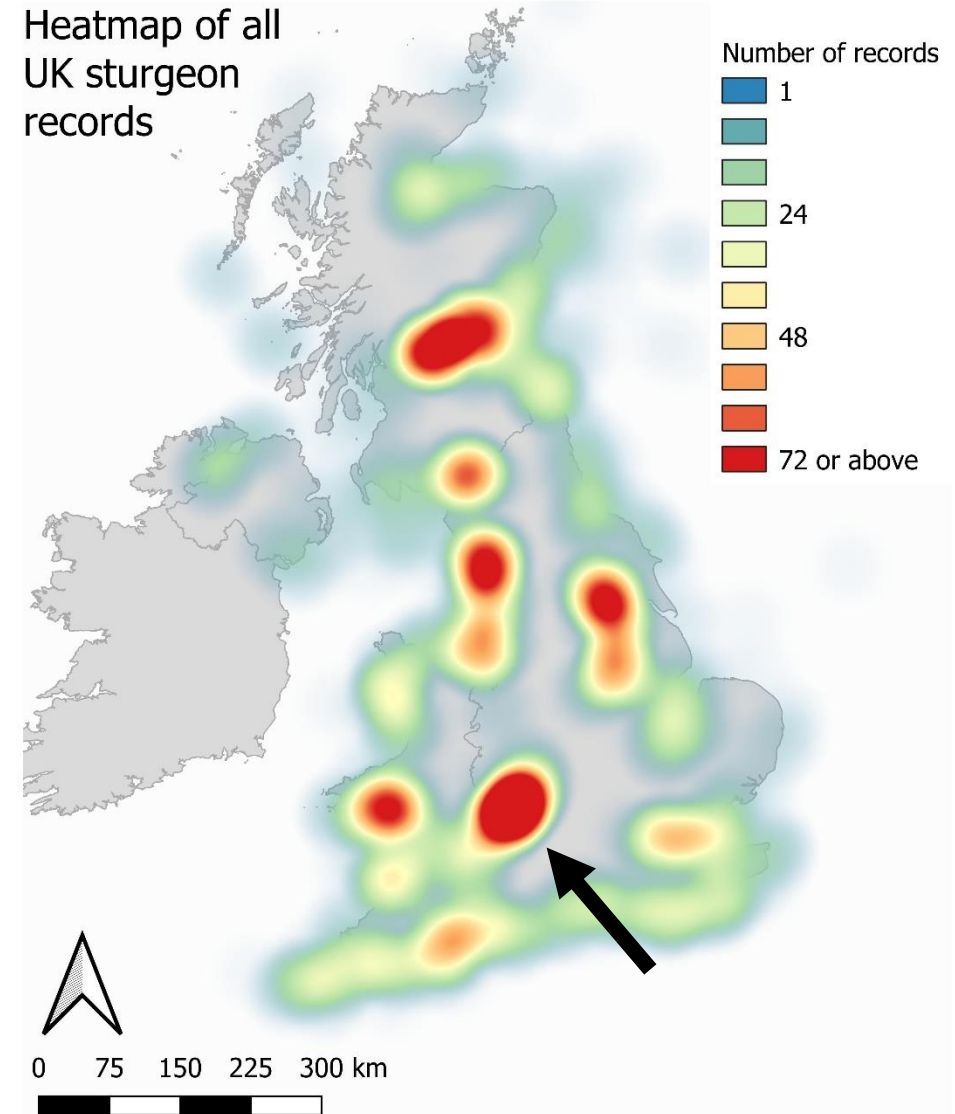
# ANALYSING THE DATA

ZSL

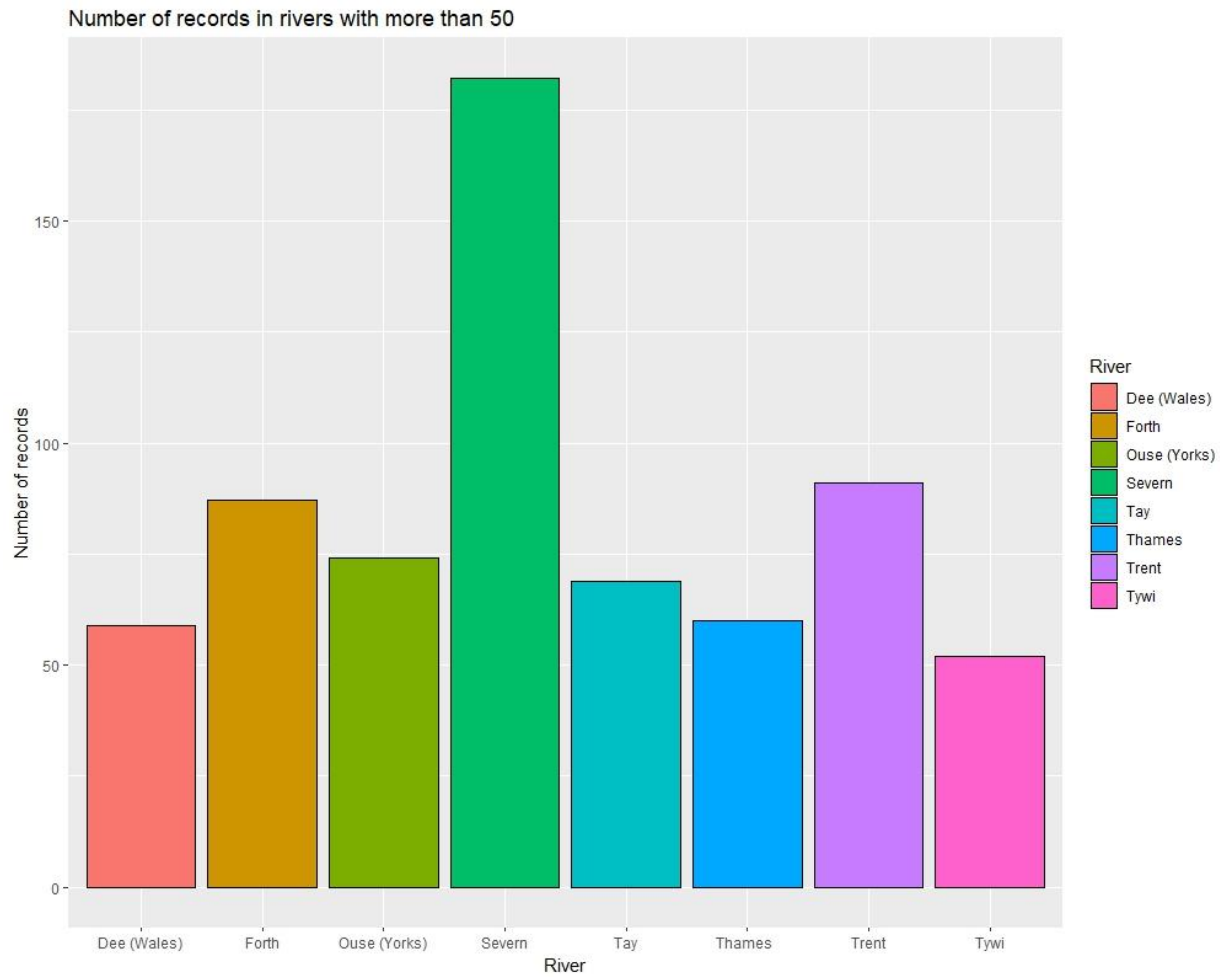
# Locations of historical bycatch



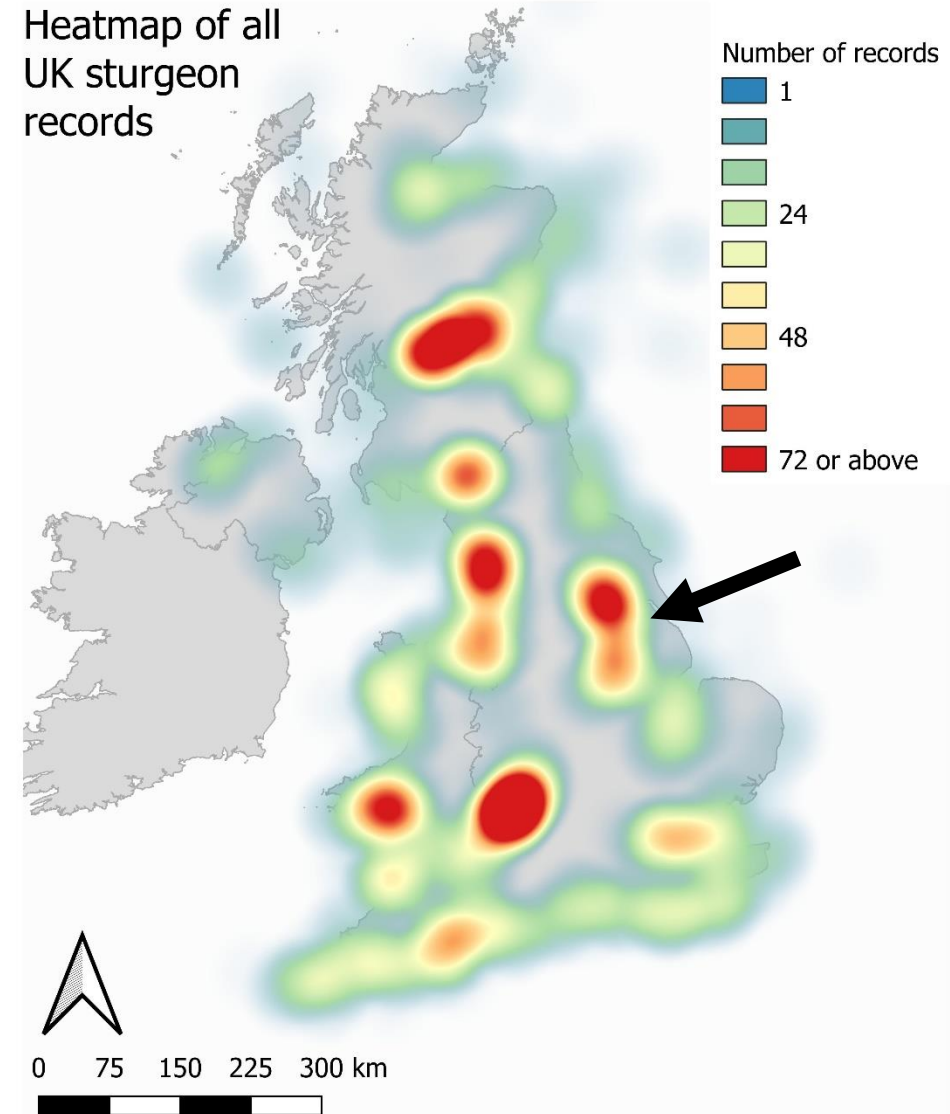
Heatmap of all UK sturgeon records



# Locations of historical bycatch

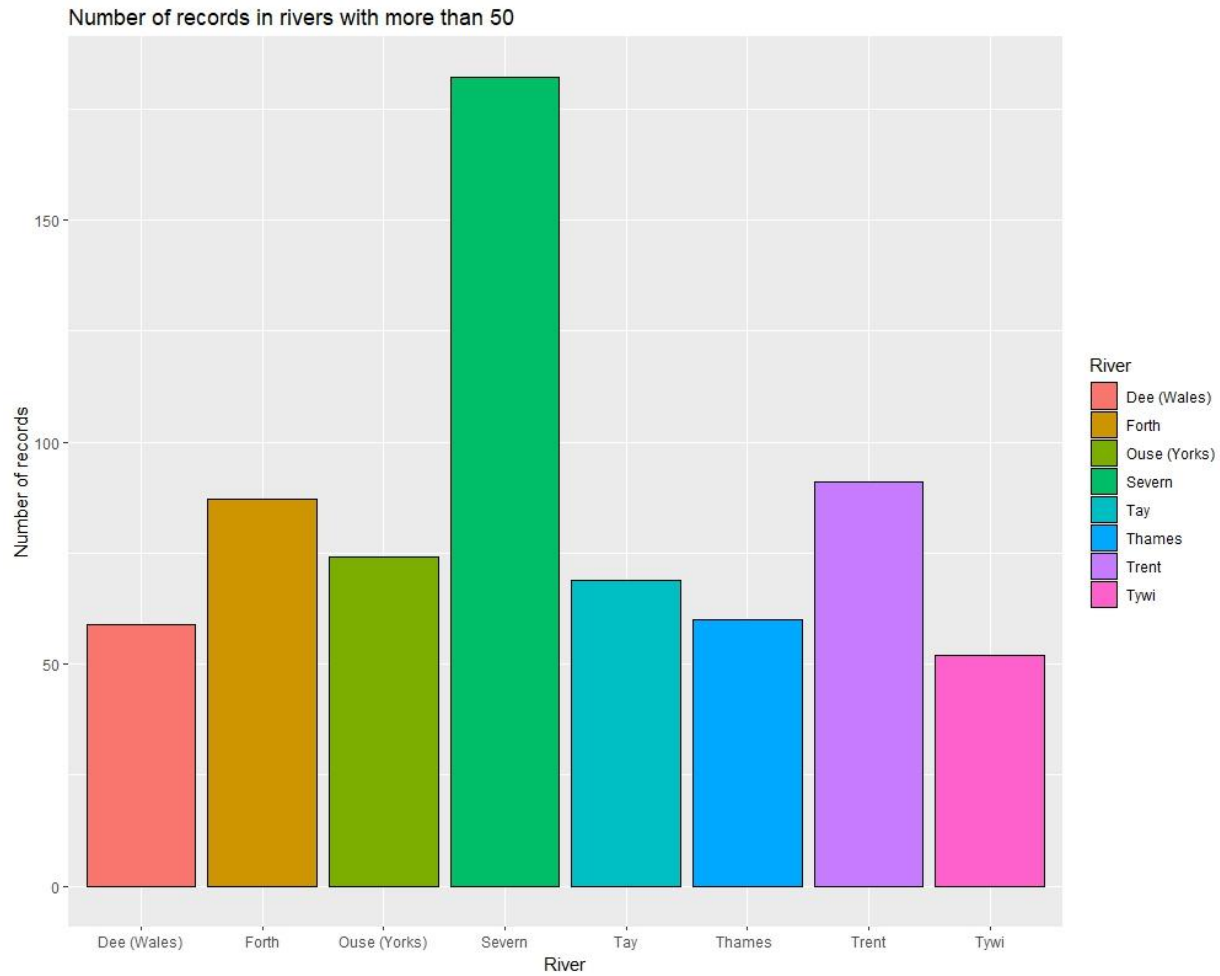


Heatmap of all UK sturgeon records

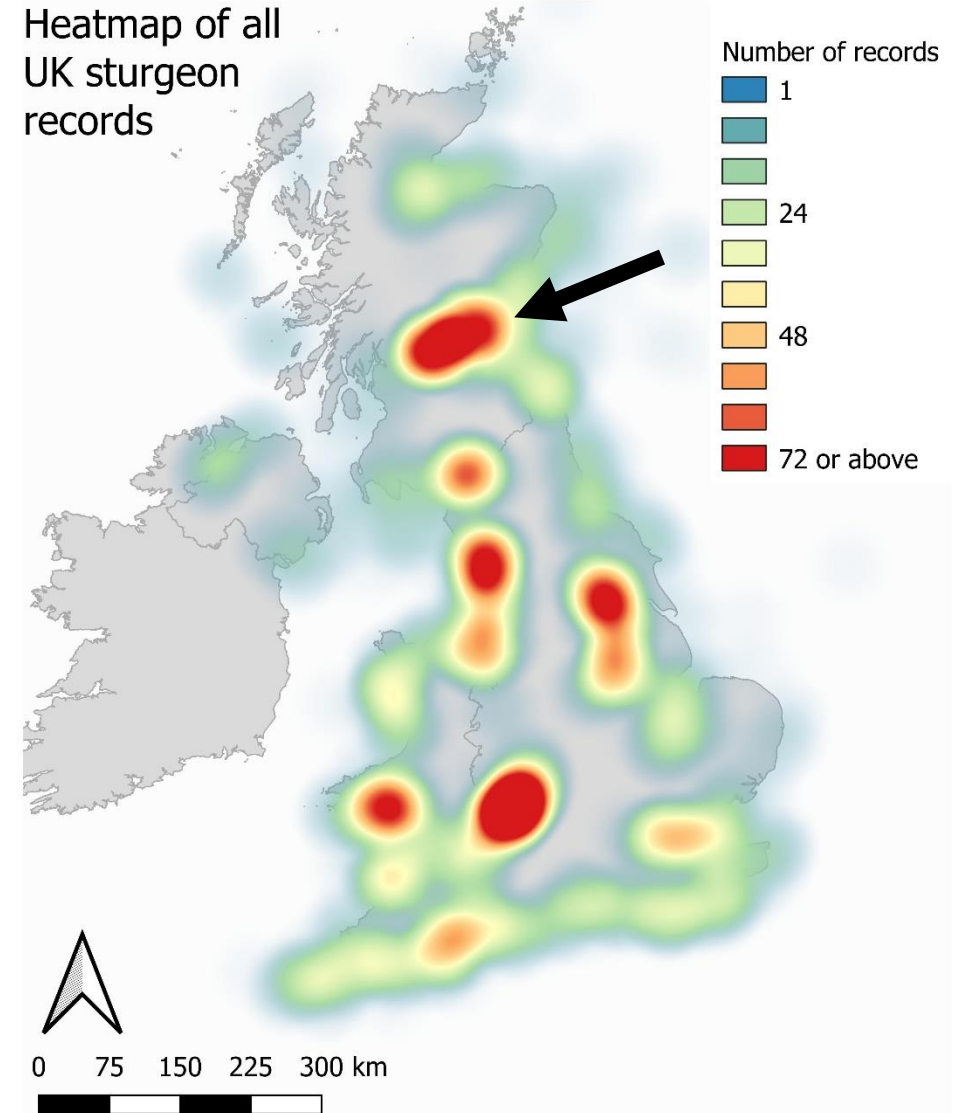




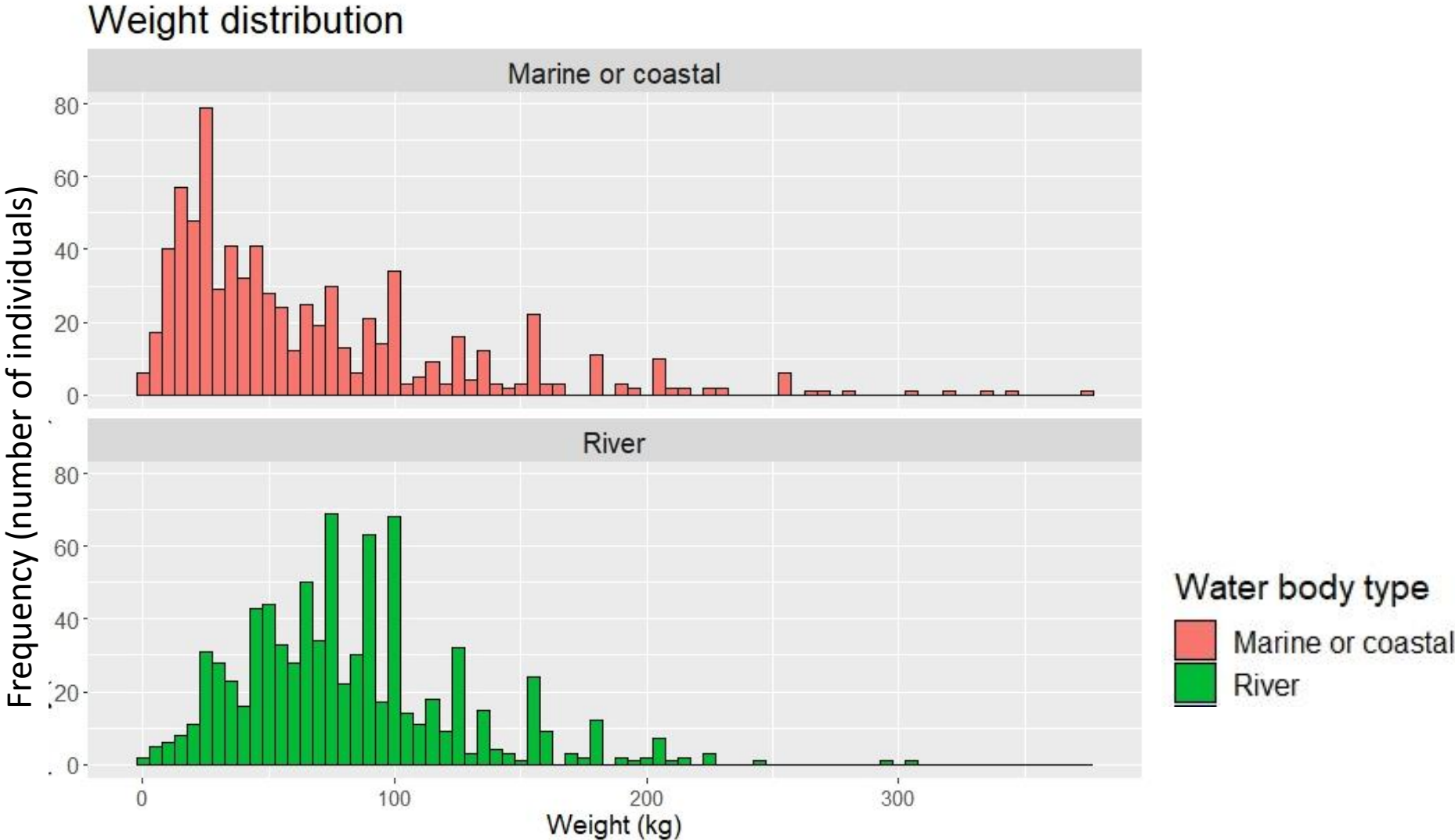
# Locations of historical bycatch



Heatmap of all UK sturgeon records



# Weight distributions





Two sturgeon are swimming in an aquarium tank. The top sturgeon is light-colored with a prominent row of bony scutes along its back. The bottom sturgeon is darker and also has a row of bony scutes. Both fish have long, pointed snouts and small barbels near their mouths. The background shows a sandy bottom and some greenish-brown rocks or coral.

**SPAWNING  
EVIDENCE**



# Spawning descriptions



Newspaper records post-1800 describe spawning-related features, e.g.

- “Roe weighed 40lbs”
- “Eggs released while body pulled ashore”
- The fish was “exhausted with a rubbed nose, evidently having recently spawned”
- “Both this fish and the one the day before were heavy with spawn, which would indicate that they had ascended the river for the purpose of spawning”



# Juvenile specimens



- From newspaper articles & fisheries records, only two mention juvenile under 50cm
- However, over 7 juvenile specimens indicated to be caught in UK waters have been found in UK museums in the past 2 years





Two sturgeons are swimming horizontally in an aquarium. The top sturgeon is lighter in color, while the bottom one is darker. Both have long, pointed snouts and rows of bony scutes along their backs. The background shows a sandy bottom and some greenish rocks.

# WIDER DATABASE IMPACTS



# Wider impacts of the database



1. Expanding our knowledge of sturgeon use of UK waters
2. Identifying target areas for restoration
3. Garnering support from government agencies for sturgeon conservation





The image shows two sturgeon swimming in an aquarium. The top sturgeon is lighter in color, while the bottom one is darker. Both have prominent rows of bony scutes along their backs and heads. The background is a blurred view of the tank with some rocks and a sandy bottom.

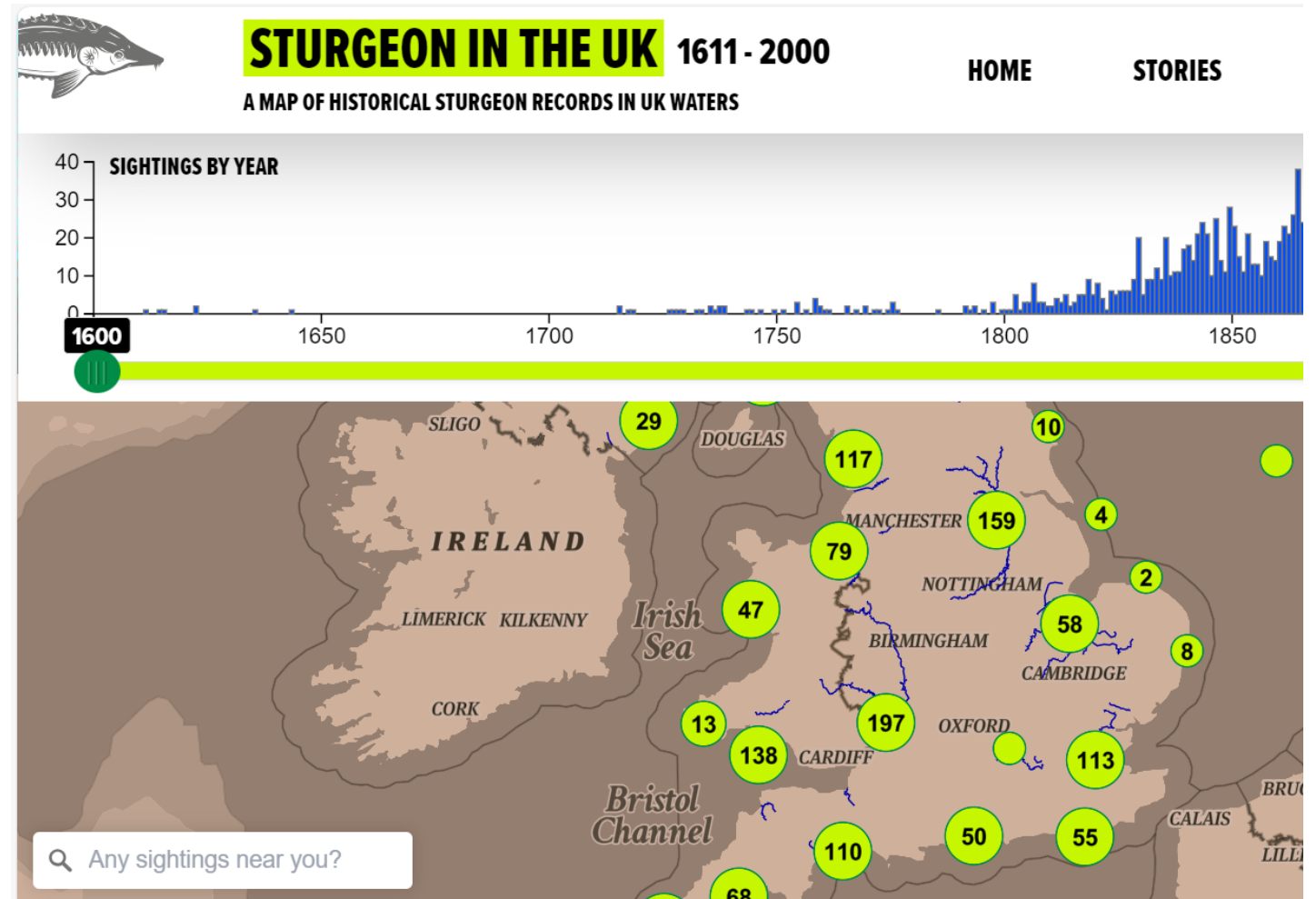
**NEXT STEPS**



# Next steps for the database



- Creating an interactive map for public engagement
- Publishing a peer reviewed paper
- Adding more records and identifying species

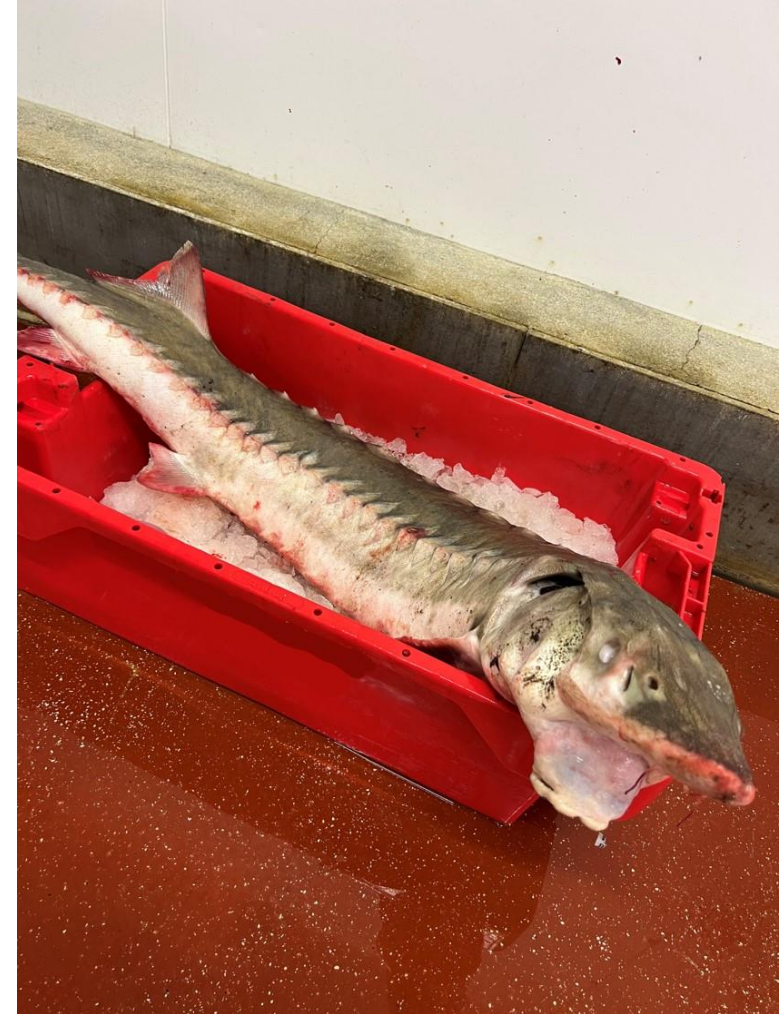




# Modern bycatch



- Modern bycatch records are also collected
- Some fish are safely returned to the sea, some unfortunately are not



# Unclear messaging in media



*He added: "I believe if you bring them ashore, there is a tradition where you have to offer it to the monarch. So, if we bought it home, we would have had to offer it to the King."*

*"Because it was alive, we decided to release it and I'm sure he will not be upset by that and agree with that course of action."*

## Skipper catches 'rare' sturgeon in Devon waters



SEAN BECK

| Skipper Sean Beck said the sturgeon, seen here with crewman Danny Frejoles, was about 4ft (1.2m) long

**Zhara Simpson**  
BBC South West

# Next steps for bycatch mitigation

1. Develop a reporting website and procedure
2. Media and information campaign to share information about sturgeon
3. Engage with fisher groups to encourage safe return of fish, and reporting





Thank you to:



# Thank you for listening!



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