



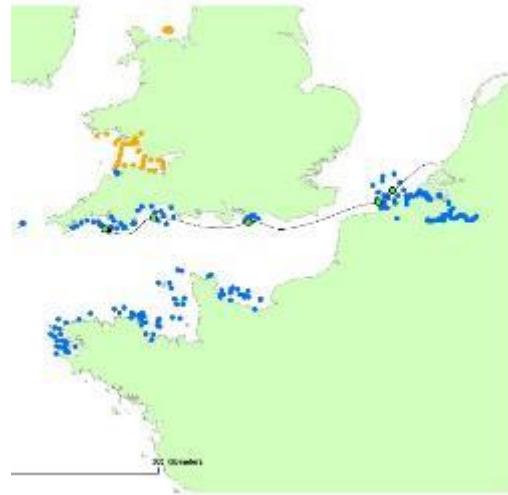
UNIVERSITY OF
PLYMOUTH

Angling for Sustainability

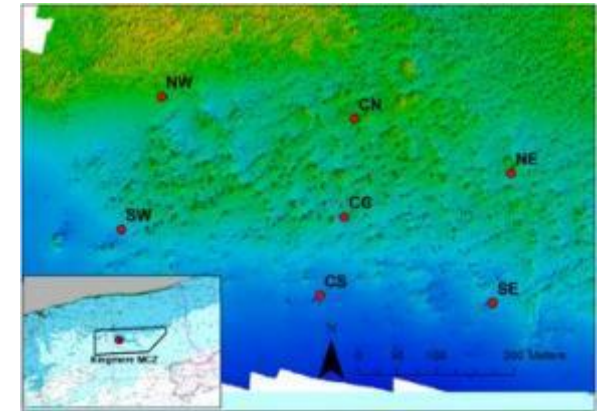
Solent Forum, 11 October 2023

peter.davies@plymouth.ac.uk





Fish tracking research at the University of Plymouth



Acoustic telemetry



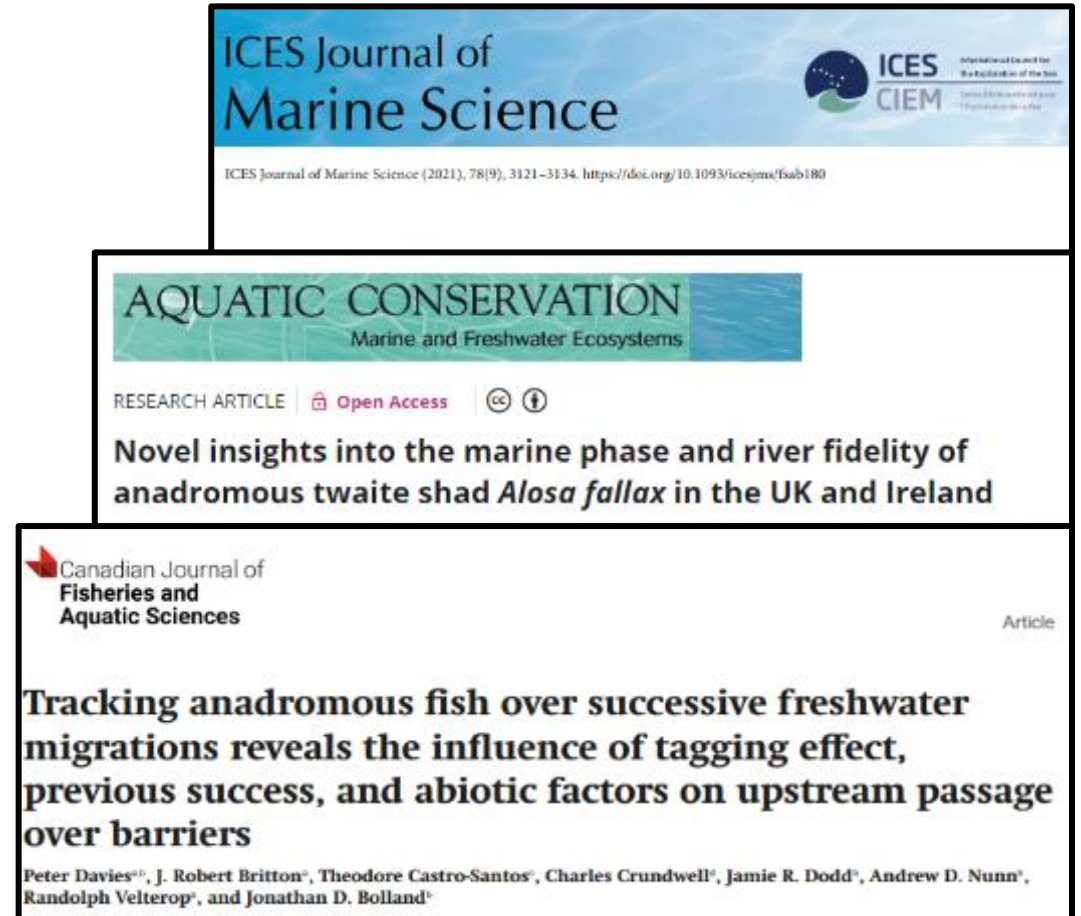
- Fish tagged with acoustic transmitters
- Transmitters send "ping" every ~2 minutes
- Pings detected by network of underwater receivers

What does the work look like?



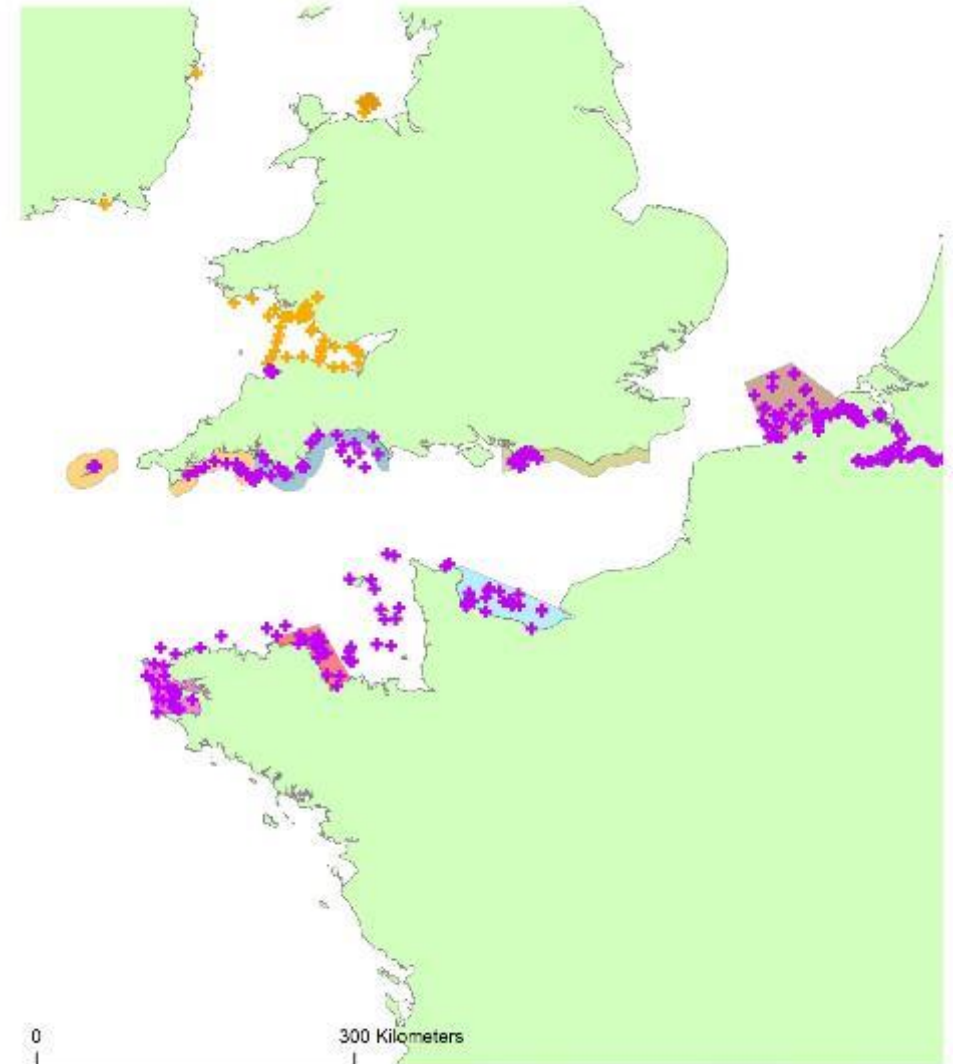
Applications of acoustic telemetry

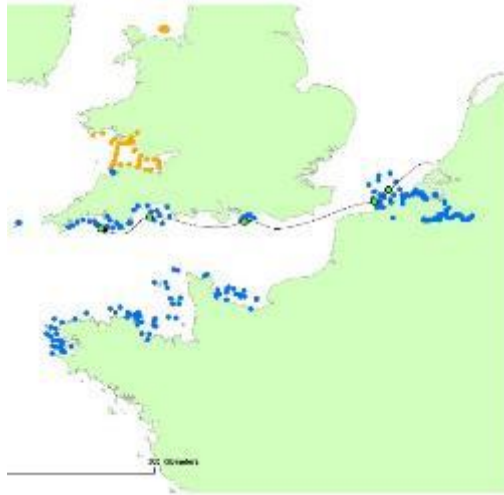
- Identify use of essential fish habitats and effectiveness of spatial/temporal conservation measures
- Map extent of long distance migrations/fisheries interactions
- Explore anthropogenic factors affecting space use



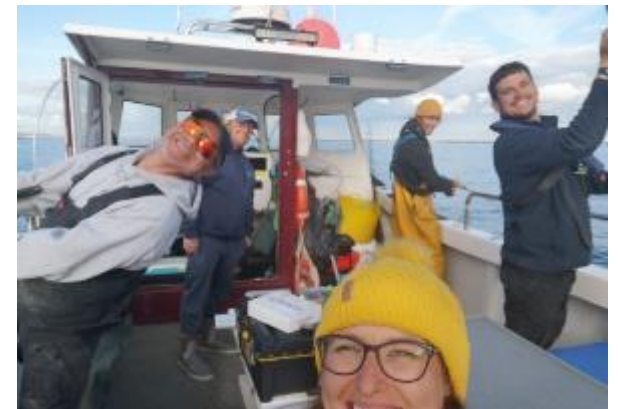
Growth of large scale tracking networks

- Receiver coverage across English Channel increasing rapidly, most notably through UoP-led FISH INTEL project
- Collaborative, continental-scale research increasingly facilitated through networks such as ETN





Fisheries Industry Science Partnership



The partnership

Industry Partner



Communications



Lead science partner

Equipment and advisor



Logistical support and liaison



Department
for Environment
Food & Rural Affairs

About the FISP scheme

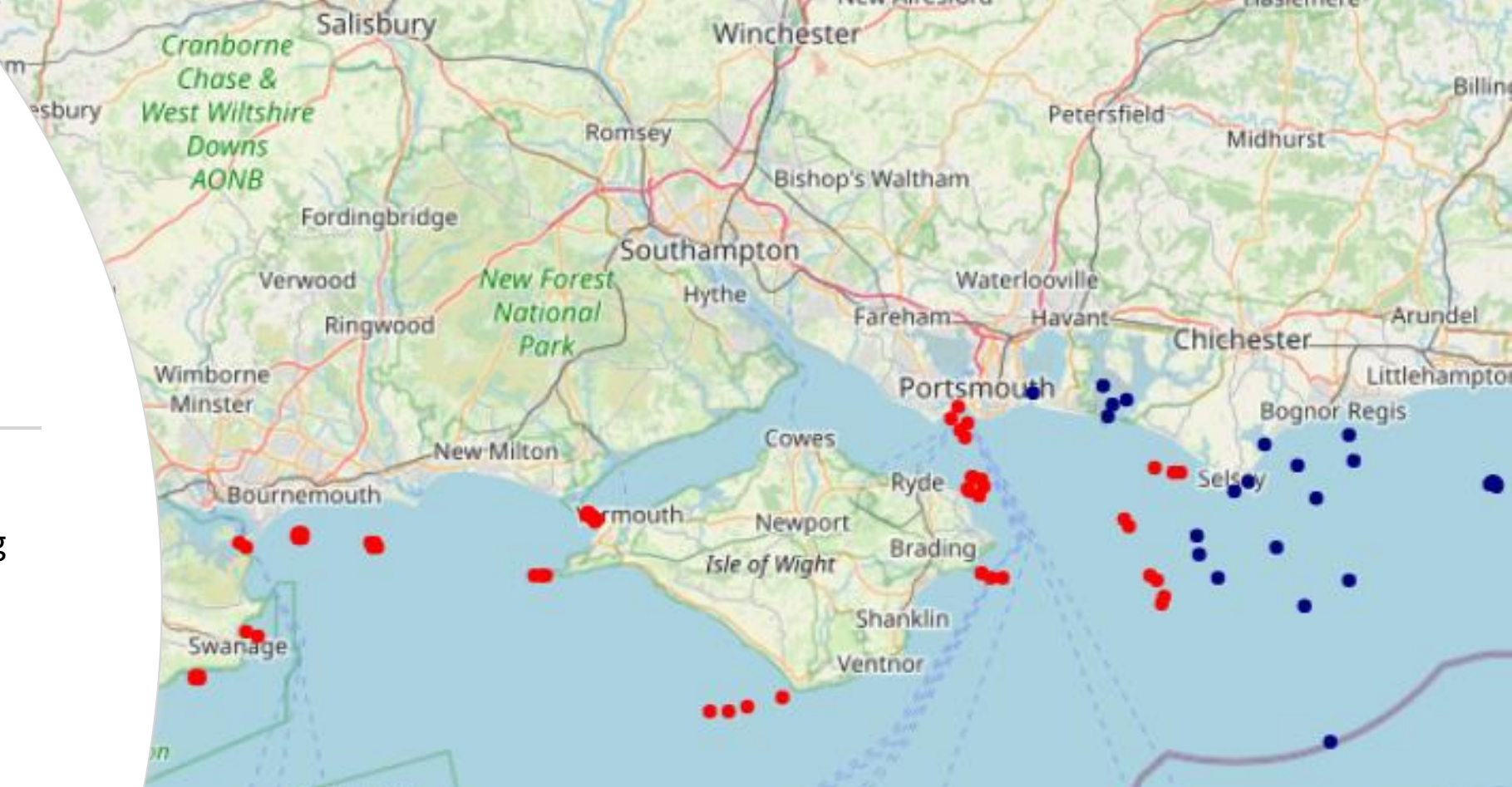
The FISP scheme will improve and share knowledge of fisheries and aquaculture by funding data collection and research to support sustainable fisheries management.

The FISP scheme and the [Seafood Innovation Fund](#) share the £24 million of funding allocated to the science and innovation part of the UK Seafood Fund.

All FISP projects must be a partnership between a member of the UK seafood industry and a research organisation.

Study area

- Dorset and the Solent are hotspots for recreational Angling
- Revenue of charter angling businesses in certain key ports such as Poole/Weymouth far greater than that of commercial fishing



Study species

“Recreational fishing is economically and socially important along the south coast of England, but we know remarkably little about the species it depends on”

Black bream



Starry smooth hound



Tope



Undulate/thornback ray



Project plan: research questions to inform ecology and evidence-based management

Knowledge gap	Relevance to fisheries management
How loyal are fish to feeding/breeding locations?	Are specific sites used by the same individuals year on year?
How long do fish remain resident at breeding sites?	What is the appropriate timing of measures to protect reproductive sites– e.g. construction/ dredging?
Does catch and release angling have any effect on breeding success?	Does temporarily removing nesting male bream from nests affect reproductive success?
How far, when and how do fish migrate?	How large is the area needed to manage populations? Who do we need to cooperate with locally, regionally, internationally? Can populations be managed as separate stocks?

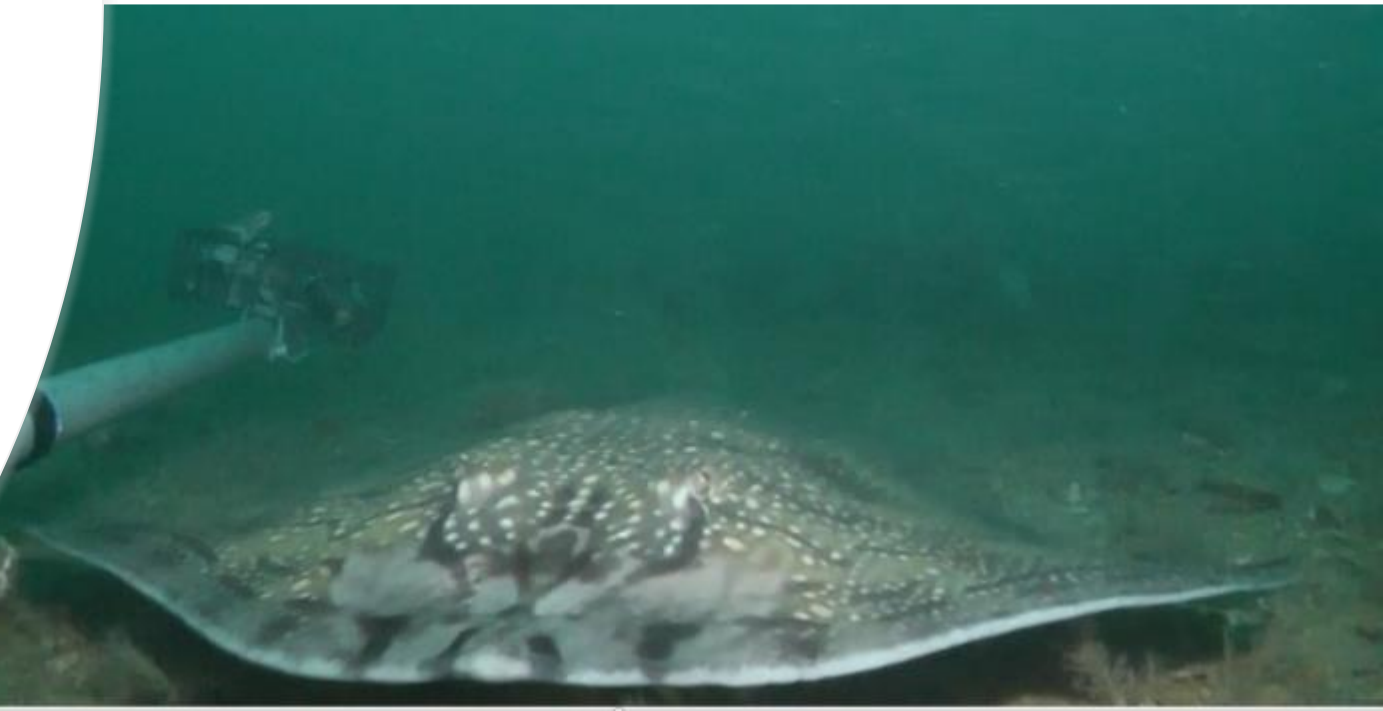
Project plan: tagging and tracking

Black bream:

- 200 fish acoustic tagged over two years (100 in year 1, year 2)
- 25 acoustic receivers deployed to track bream in Dorset waters
 - Fine scale array (~40 fish)
 - Broad scale array (30 fish at site 1, 30 fish at site 2)
- Additional fish tagged with PIT tags. Scan captured fish for recaptures and record.

Sharks and rays:

- 100 fish tagged over two years (tope, starry smooth hound, undulate/thornback ray)
- 50 receivers deployed to track movements around Solent / Selsey Bill



Receiver deployments- Dorset



Receiver deployments- Eastern Solent



Receiver deployments- Seaview, Solent



Receiver deployments - Western Solent



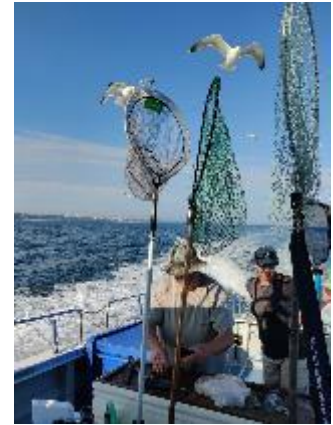
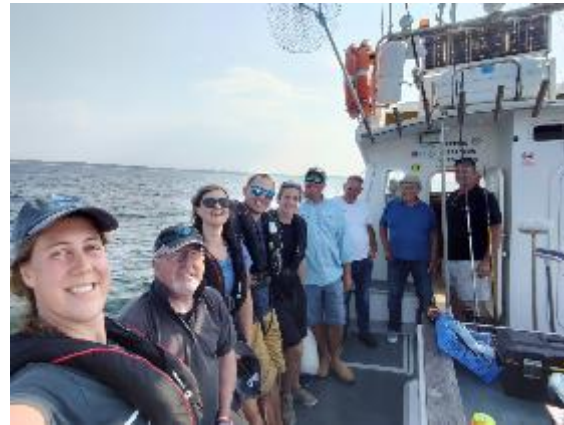
Tagging Dorset - Kimmeridge & Dancing Ledge

- 32 black bream acoustic and PIT tagged



Tagging Dorset- Poole Rocks & Southbourne Rough

- 42 x fine scale acoustic array at Poole Rocks + 35 broad scale array at Southbourne rough
+ 37 additional PIT tags



Shark/Ray Tagging Southsea and Chichester

- 30 smooth-hound, 5 tope and 5 rays tagged with acoustic transmitters



Shark/Ray tagging Poole

- 2 Tope tagged with acoustic transmitters



Receiver download Dorset/Solent

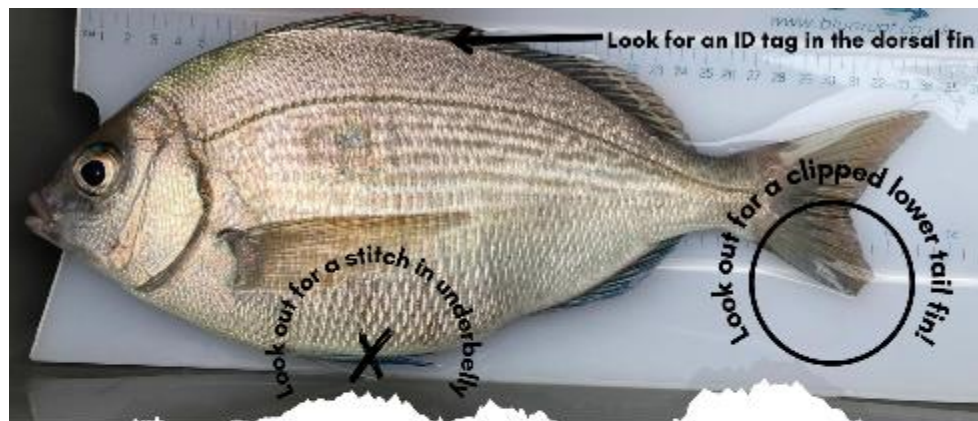
- 35 receivers visited and successfully downloaded



Communication Activities

- Regular communication throughout the project with the wider recreational angling community
- So far: 3 in person workshops and feedback events in Poole, Weymouth and Southsea
- Further workshops planned as results come in
- Final conference event December 2024
- Anglers recording recaptures





ANGLING FOR SUSTAINABILITY PROJECT

Tracking Black Bream

What is the Project About?



Look for a clipped lower tail fin

Angling for Sustainability is a Defra FISP funded project tagging black bream in Dorset and beyond. We are using acoustic telemetry to monitor their movements along the English Channel. The project is led by University of Plymouth, partnered with the Professional Boatman's Association, Natural England, Angling Trust and Southern IFCA.

What to do if you catch a tagged black bream?



Look for an ID tag in the dorsal fin

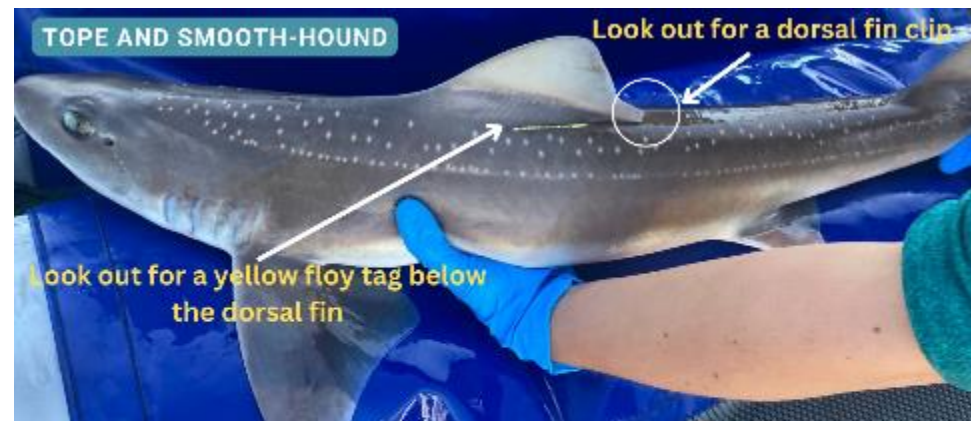
Alive? Photograph, note date, time, location and dorsal fin tag ID. Please minimise handling and return to water as soon as possible. Report all catches to the email address below.

Dead? Please keep the fish and contact the team at the email address below for advice.



Email: fishtracking@plymouth.ac.uk

Twitter: @fish_intel



Tracking Sharks and Rays



ANGLING FOR SUSTAINABILITY PROJECT

This project is a Defra funded Fisheries Industry Science Partnership (FISP) project which has been tagging and tracking sharks and rays across the Solent to understand their behaviour and movements. The project is led by University of Plymouth, partnered with the Professional Boatman's Association, Natural England, Angling Trust and Southern IFCA.

WHAT TO DO IF YOU CATCH A TAGGED TOPE, SMOOTH-HOUND OR RAY?

Alive? Photograph, note date, time, location and yellow floy tag ID. Please minimise handling and return to water as soon as possible. Report all catches to the email address below.

Dead? Please keep the fish and contact the team at the email address below for advice.



Project Partners:



For more information contact fishtracking@plymouth.ac.uk

A person wearing a black wetsuit with red trim is holding a large, light-colored shark on the deck of a boat. The shark is oriented vertically, with its head pointing upwards. The background shows the blue water of the sea. The text "Any Questions?" is overlaid in the upper center of the image.

Any Questions?

Contact details:

fishtracking@plymouth.ac.uk

Peter Davies peter.davies@plymouth.ac.uk

Alice Hall alice.hall@plymouth.ac.uk