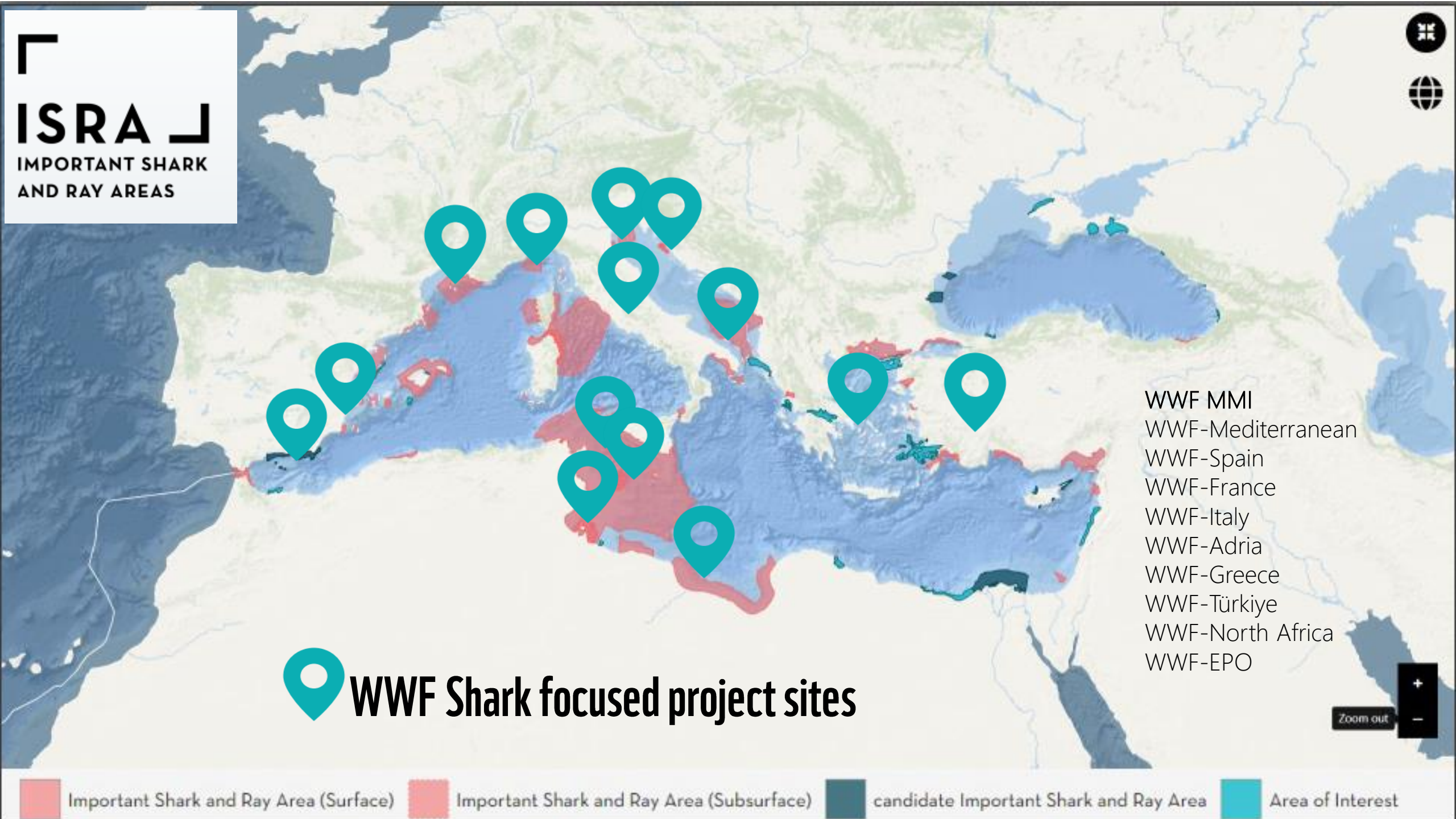
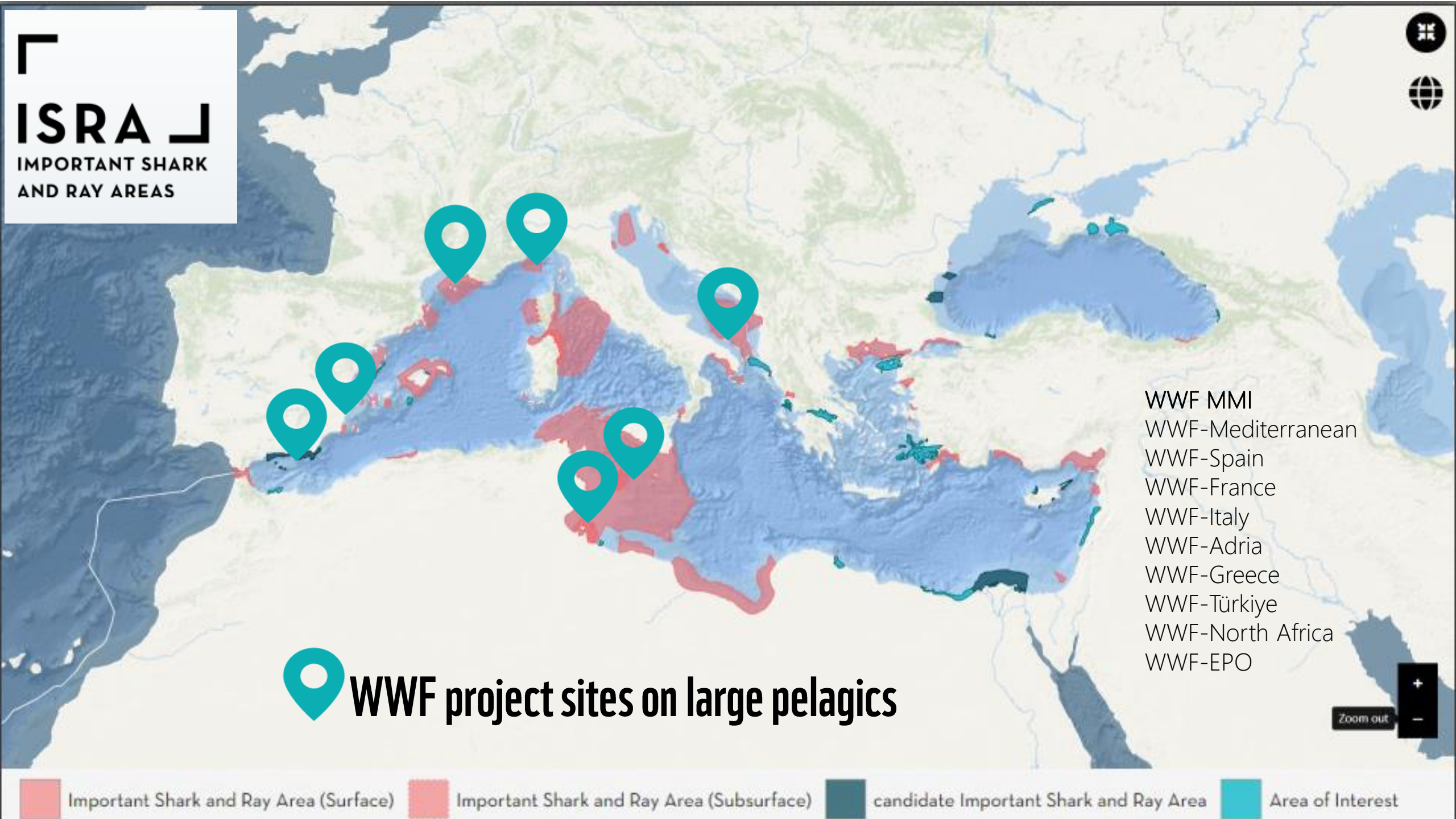
WWF Large pelagics – projects updates

Simone Niedermueller, Regional manager, WWF Mediterranean Marine Initiative

19th June 2025


ISRA
IMPORTANT SHARK
AND RAY AREAS
WWF MMI
WWF-Mediterranean
WWF-Spain
WWF-France
WWF-Italy
WWF-Adria
WWF-Greece
WWF-Türkiye
WWF-North Africa
WWF-EPO
WWF Shark focused project sites
Zoom out
Important Shark and Ray Area (Surface)
Important Shark and Ray Area (Subsurface)
candidate Important Shark and Ray Area
Area of Interest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WWF project sites on large pelagics
Zoom out
Important Shark and Ray Area (Surface)
Important Shark and Ray Area (Subsurface)
candidate Important Shark and Ray Area
Area of Interest

Overall objectives

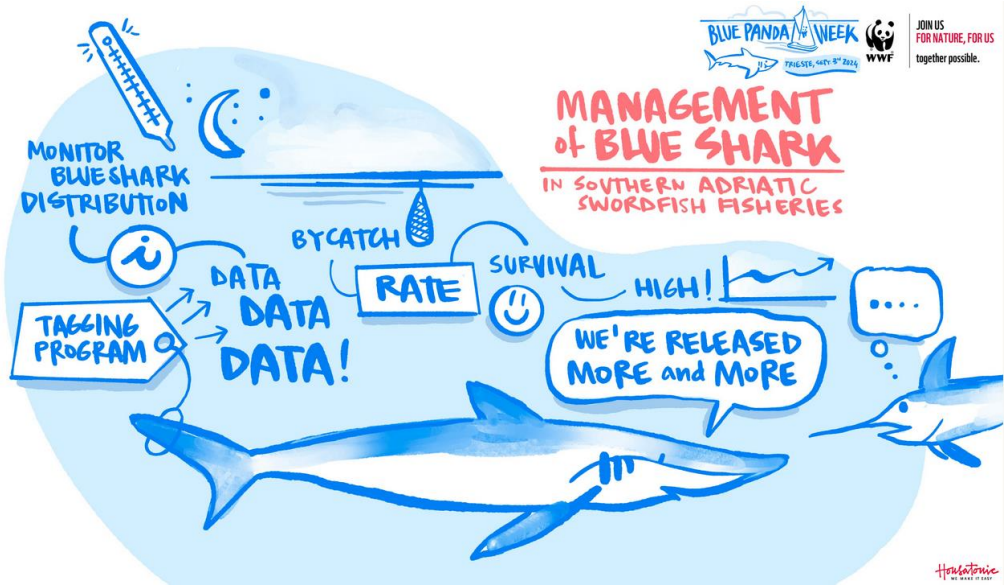
Solutions from the field to decisions

Partners include:

- University of Genova
- COISPA
- IFREMER
- ANSE
- Soldecoccos
- University of Palermo
- INSTM
- MedBycatch partnership (GFCM, IUCN, et al.)
- SATHOAN

Regional and national projects

Public and private funding



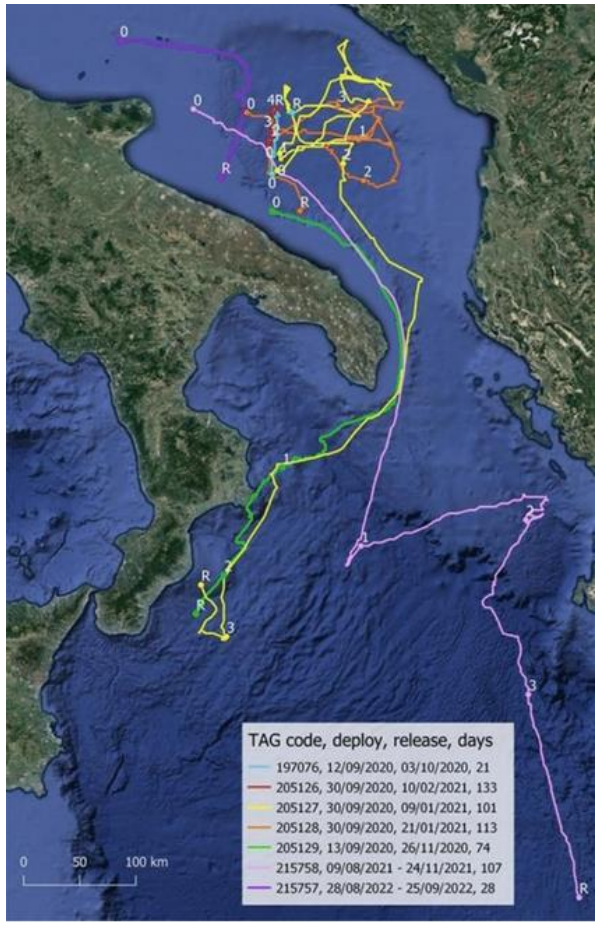
Approach

Bluefin tuna, swordfish and pelagics sharks and rays

- Assess interaction & behaviour of target and bycatch in longlines and traps
- Test mitigation measures
- Understand post-release survival
- Improve handling and post-release survival
- Provide solutions and recommendations for managers and policy makers
- Work with market players
- Bluefin tuna market position and footprint analysis (LCA and feed)
- Tackle juvenile swordfish catches
- Development of regional and sub-regional collaboration and exchanges

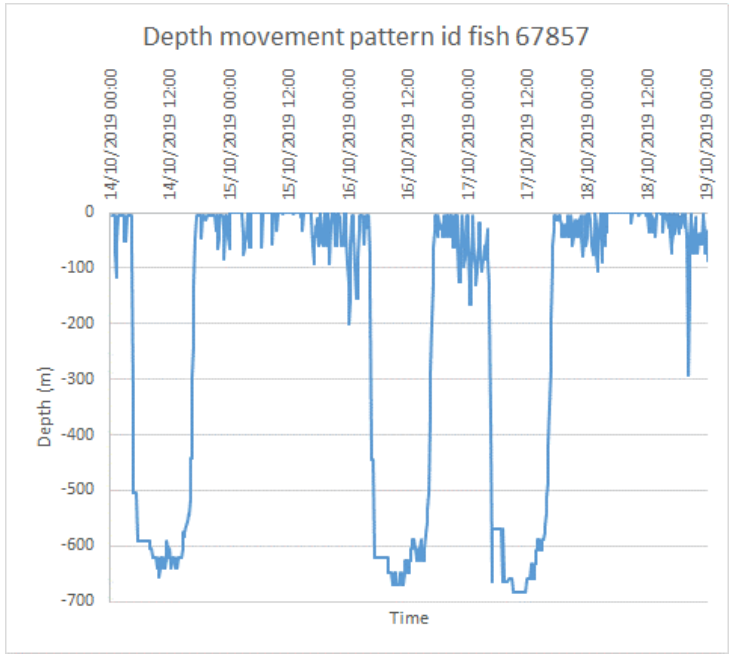
Tagging

Understanding the use of space and post-release survival



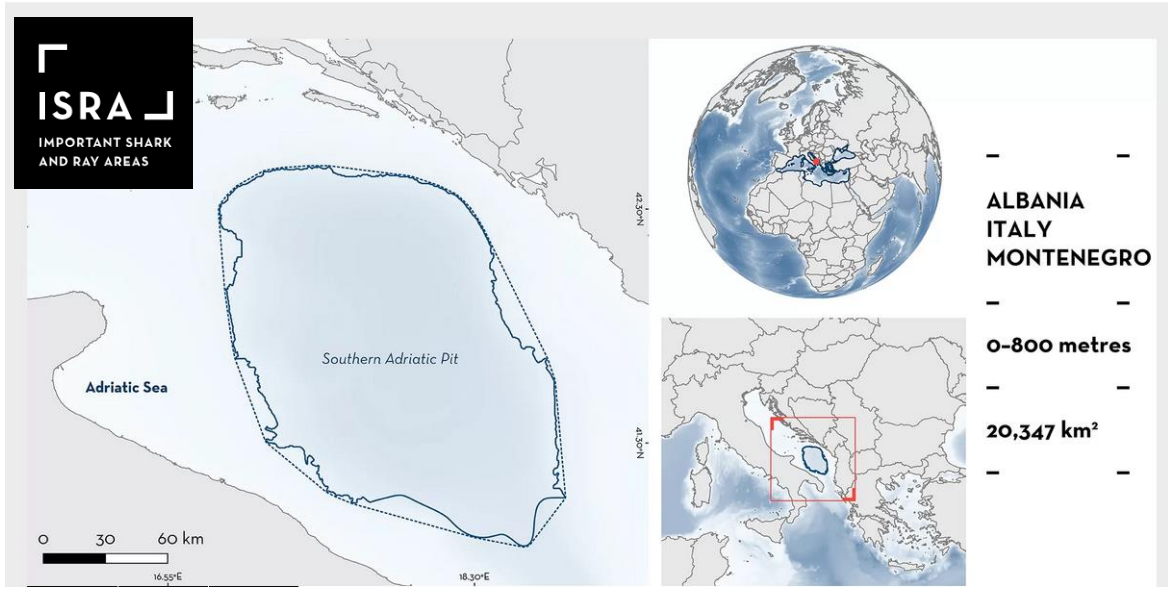
39 satelitte tags deployed

Vertical migrations



ISRA FACTSHEETS

MEDITERRANEAN AND BLACK SEAS REGION



The “Large Pelagics” project

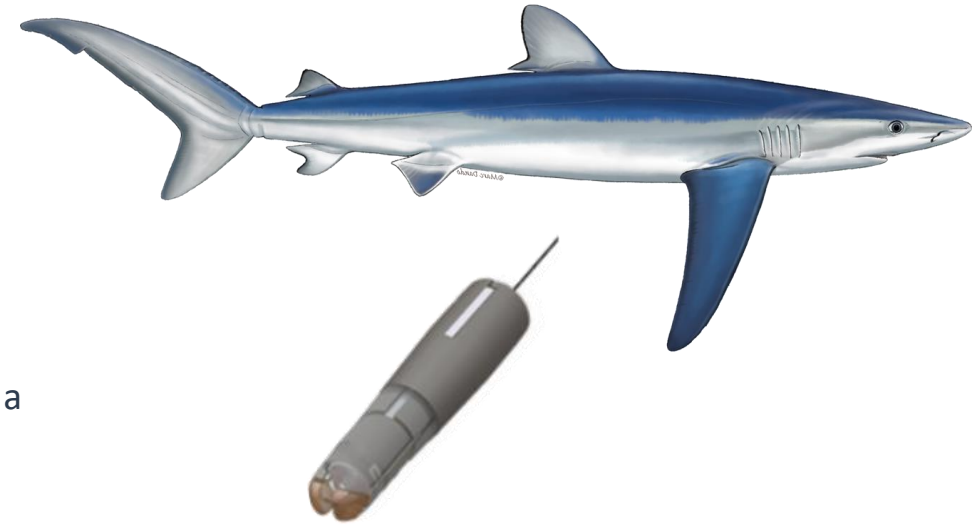
The main goal of the project is, by 2025, to **contribute to large pelagics recovery from overfishing** through sustainable management of their fisheries, including by minimizing mortality of pelagic elasmobranchs.

The project in SATHOAN’s bluefin tuna fishery

Large Pelagic is part of a other actions of SATHOAN’s which aims to **collect data** and **test devices for reducing catches of sensitive species**. One of the task is to continue the characterization of the **post-released survival rate of blue shark (in priority),** pelagic stingray, sunfish or turtles.

How ?

The project in SATHOAN's bluefin tuna fishery



- **10 tags** to asses post-released survival rate of blue shark
  - 7 used in 2024 : tags were deployed during two summer campaigns in the Gulf of Lion:
    - **Protocol 1 (P1):** Titanium anchor inserted into the dorsal musculature with a second anchor to stabilize the tag *> 4 tags in July, on larger fish.*
    - **Protocol 2 (P2):** Tag attached at the base of the second dorsal fin, minimizing injury through the use of plastic plates and careful positioning *> 3 tags in August, on smaller fish.*
  - 3 more to be used in May 2025

The blue sharks were tagged by IFREMER (T.Rouyer) with **MRPAT tags** which collect **temperature** and **inclination** data, onboard professionnal fisherman's boat from SATHOAN.

They are programmed to pop-up in 100 days (no data will be available before they are recovered). Each individual are measured and genetic samples are also taken.

Results ?

First results ? (7 tags)

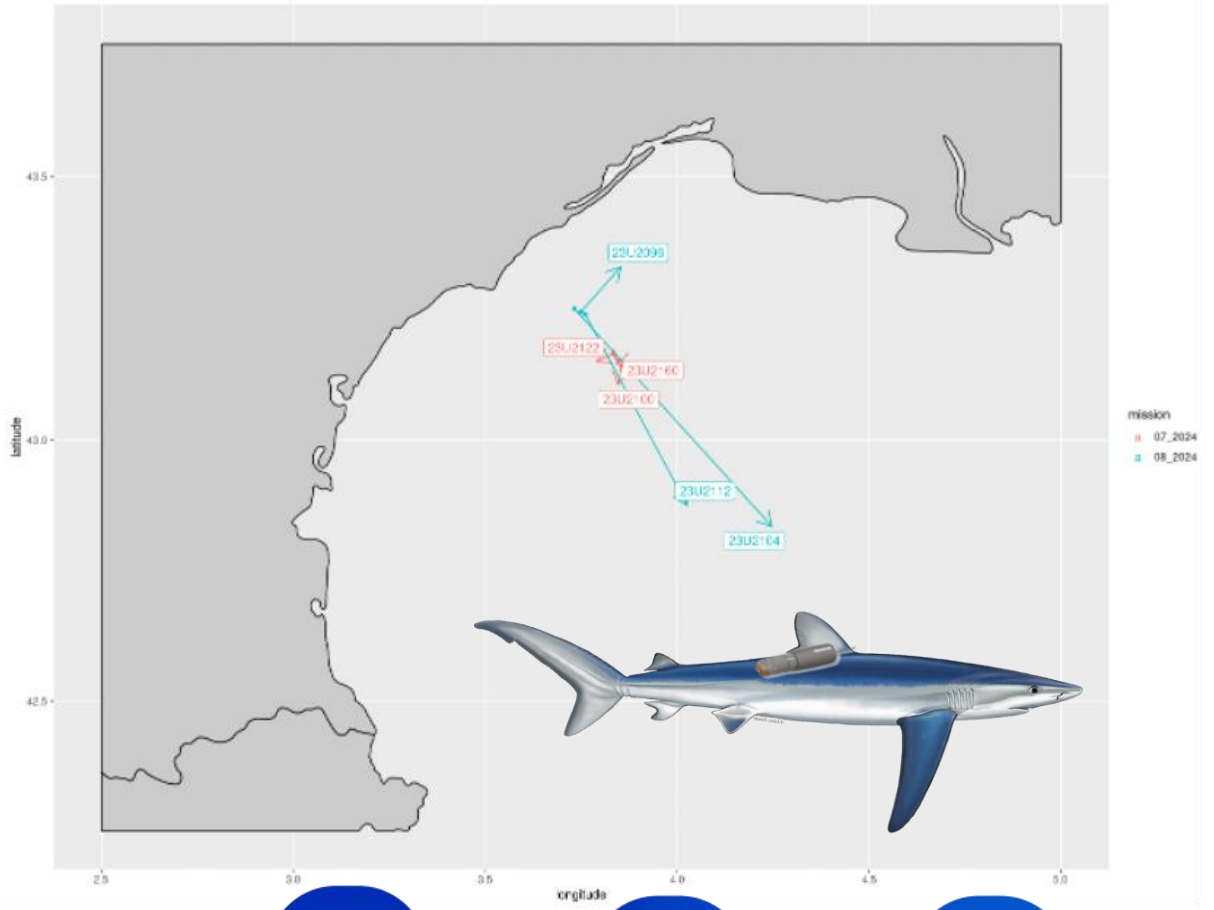
- 6 out of the 7 tags reported, and **5 yielded data** that could be interpreted
- 2 protocol tested :
  - For P1: 2 sharks likely died (constant low temperature), and 2 tags did not yield usable data.
  - For P2: All 3 tags showed daily temperature variations, suggesting the **fish survived.**

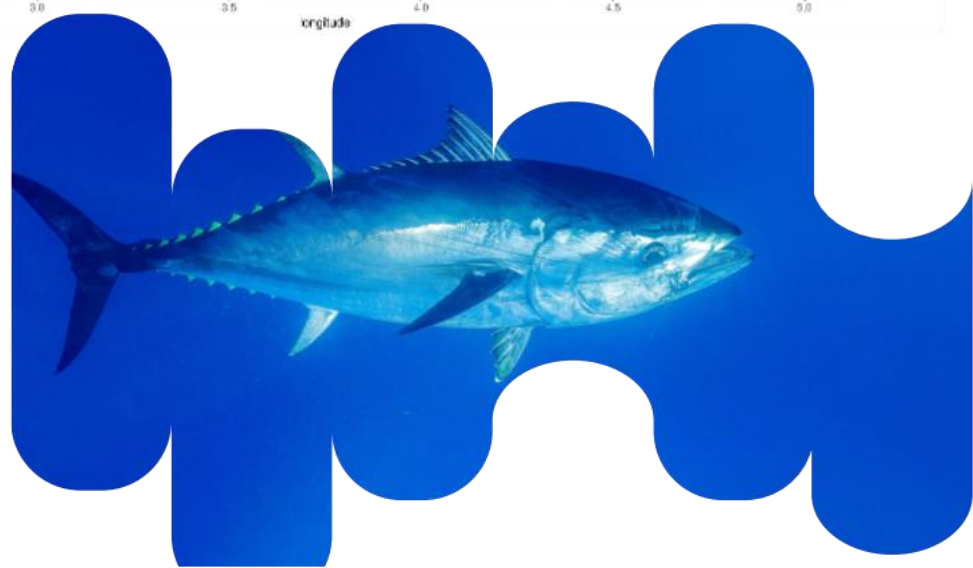
Preliminary conclusions:

- Protocol P2 appears more favorable, as all fish seemed to survive, although retention times were too short for definitive assessment.
- The small size of the P2 fish limited tagging effectiveness, with the filament poorly positioned under the dorsal fin.
- The next step will be to test a larger blue shark with a survival tag in 2025 (3 tags left + 30 tags from LIFE MARINE MOBILE SPECIES)

Final goal:

To produce a scientific publication on these innovative methodologies, paving the way for future studies using PSAT tags. The experience also shows that even very small sharks caught on longlines may have a reasonable chance of survival.





Tagging – Mobula in Spain

Collaboration between conservation NGOs and traditional fishers

60 Mobula tagged with conventional tags

4 with satellite tags

Recently new stranding events

Modification of fishing strategy & technical measures

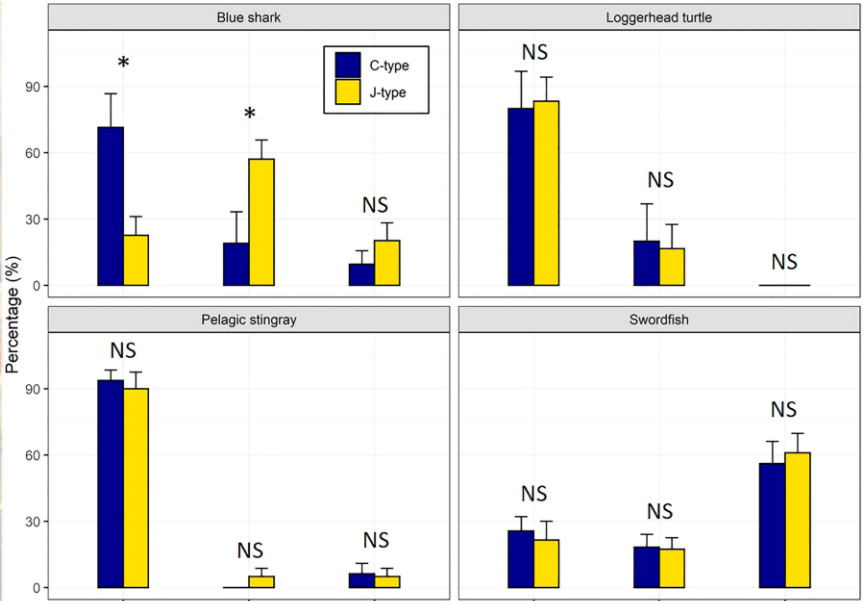
Change of bait, gear or set mode

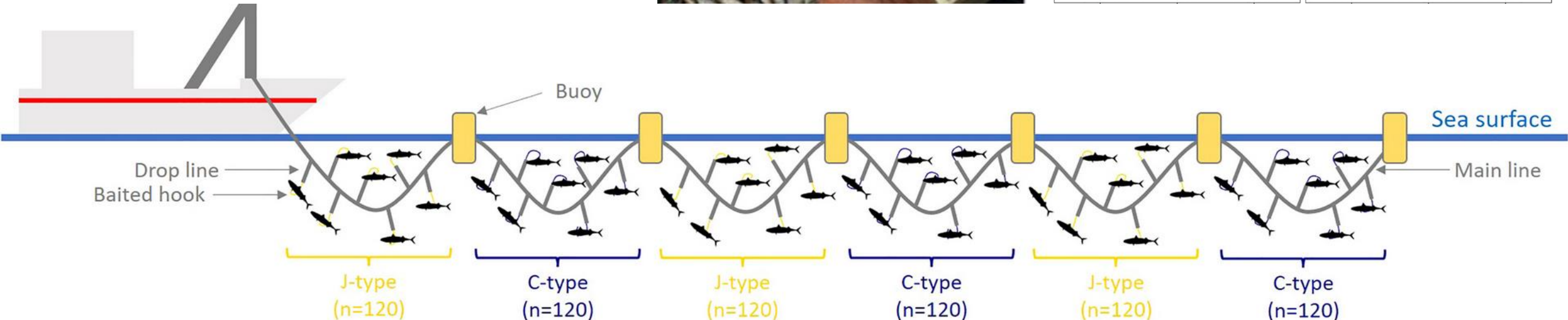
Circle hooks show better conditions of animals

Day sets reduce bycatch

Bait changes included trade offs

Improved handling to increase survival rates



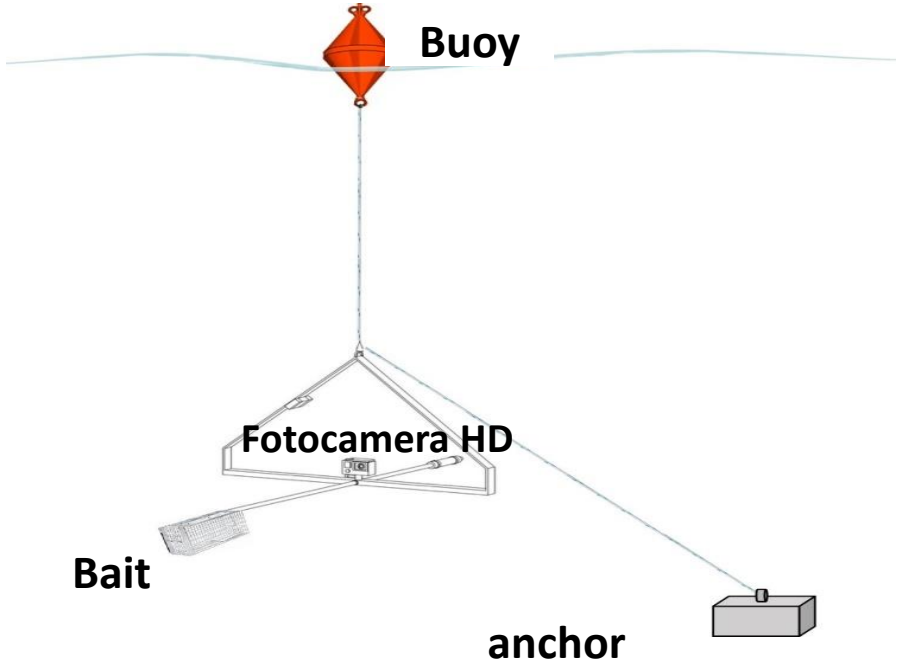


Innovation

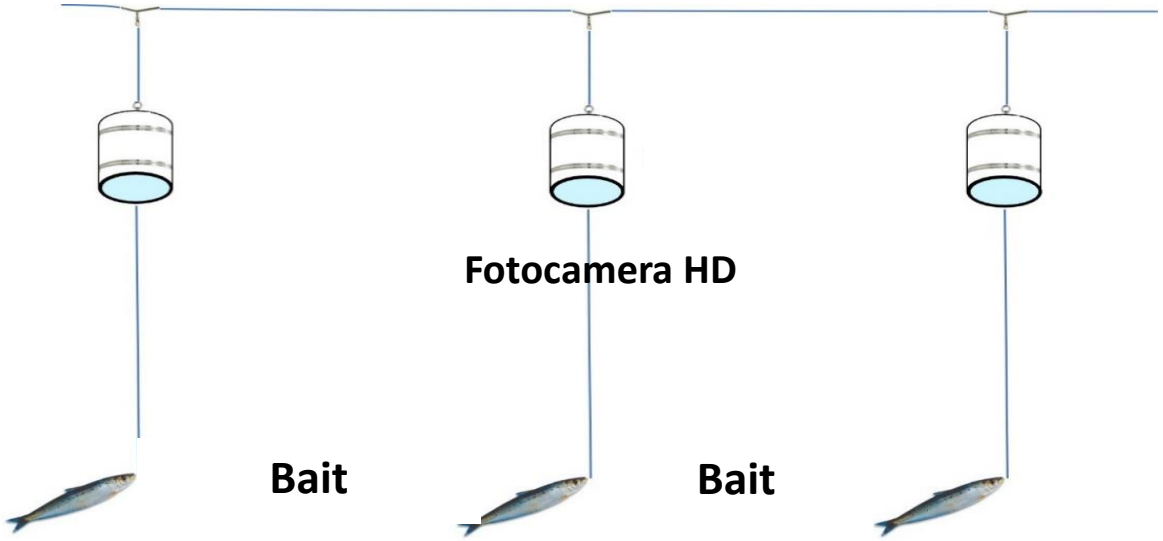
Species-Longline Interaction on the Pelagie Islands

Milazzo M., Turco G., Quattrocchi F., Niedermüller S., Grancagnolo D., Aglieri G., Mininni C., Bressan G., Leone A., Calò A., Cattano C.

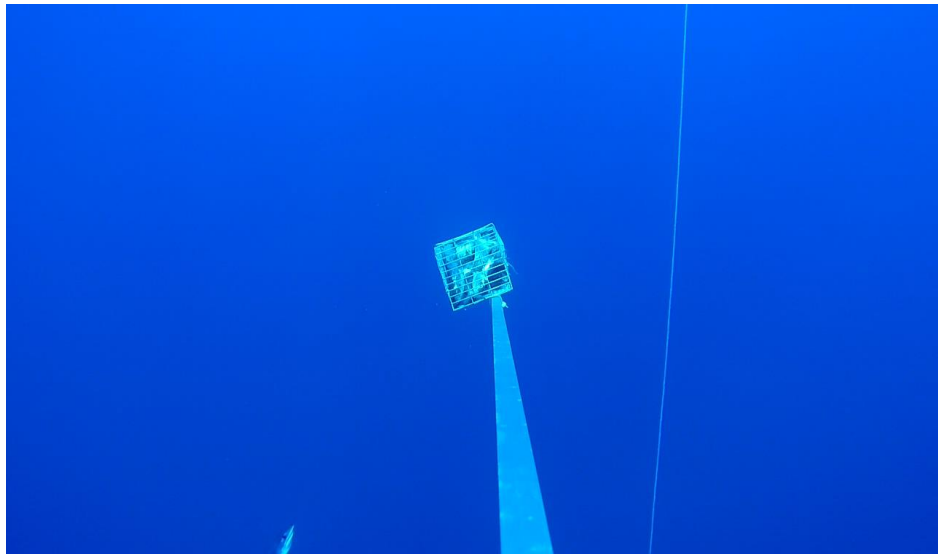
Baited Remote Underwater Video (BRUV) pelagico

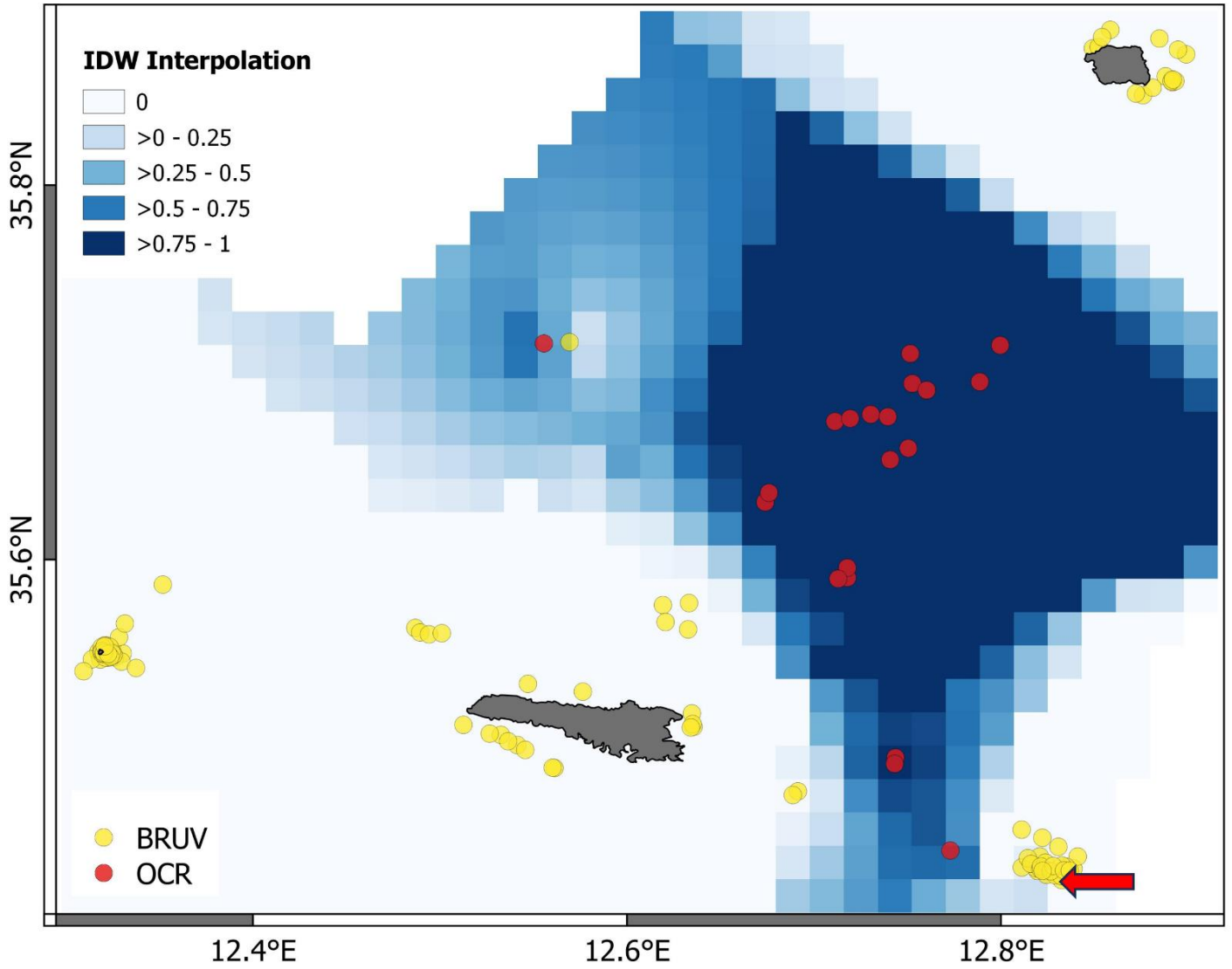


Longline with camera mounted on branch lines



Shortfin mako shark

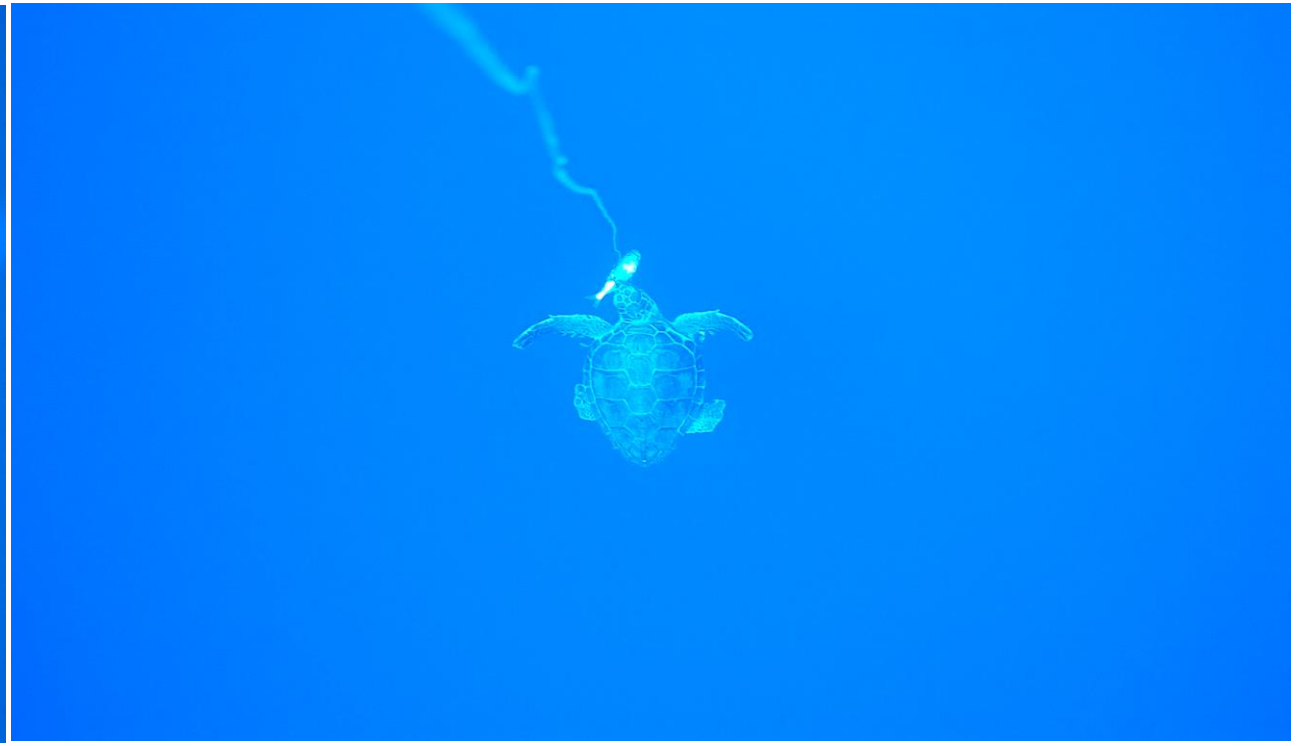


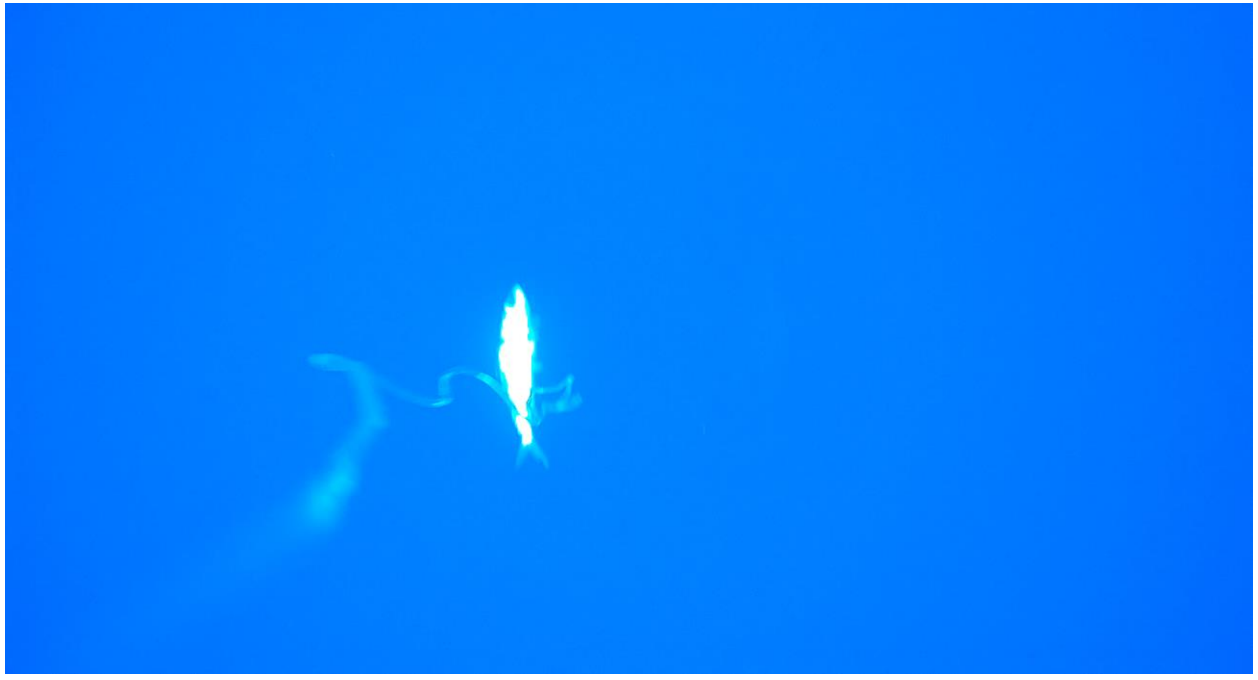


Reports from fishermen, pelagic BRUVs and line cameras

Cattano et al. 2023

Avvistamenti

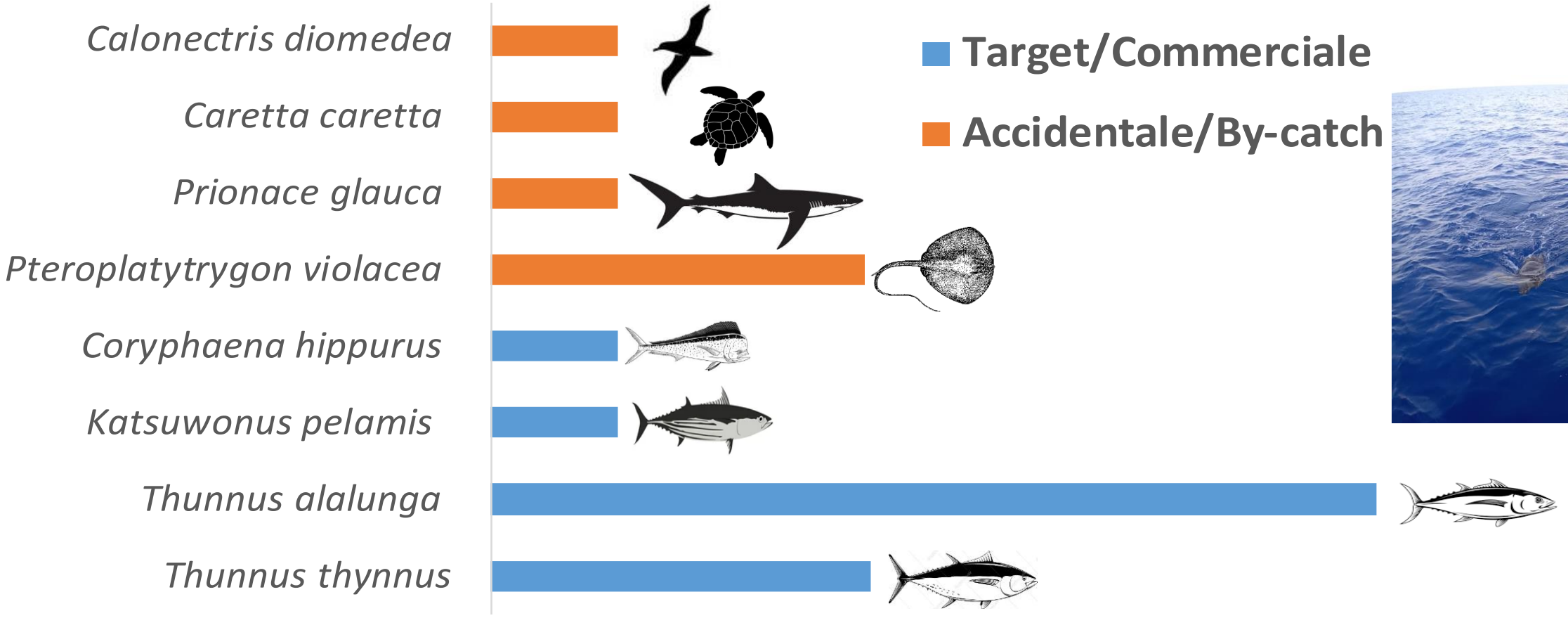




Target catch

Catture accidentali

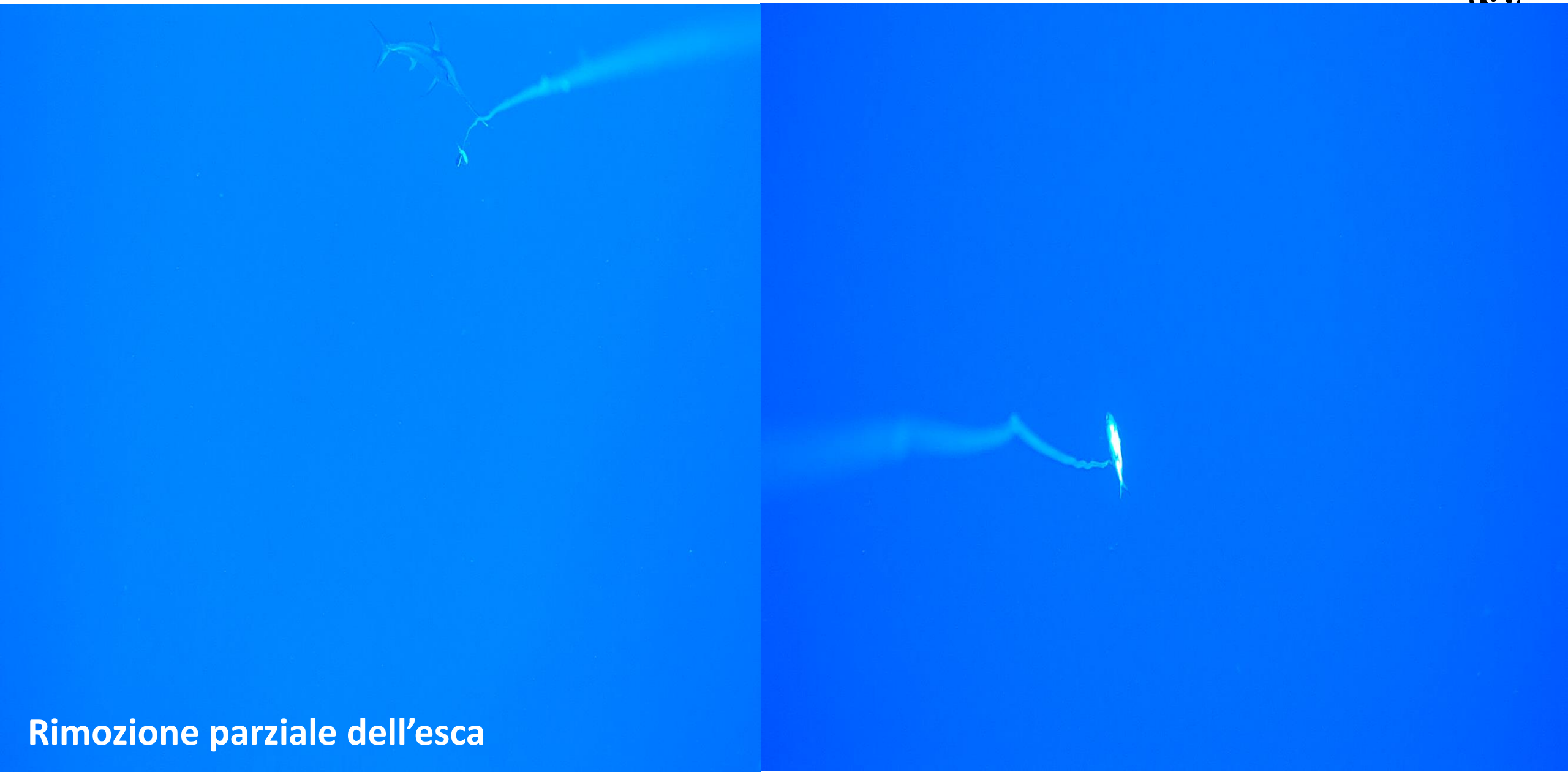
Catture



Catch & bycatch 2023/2024

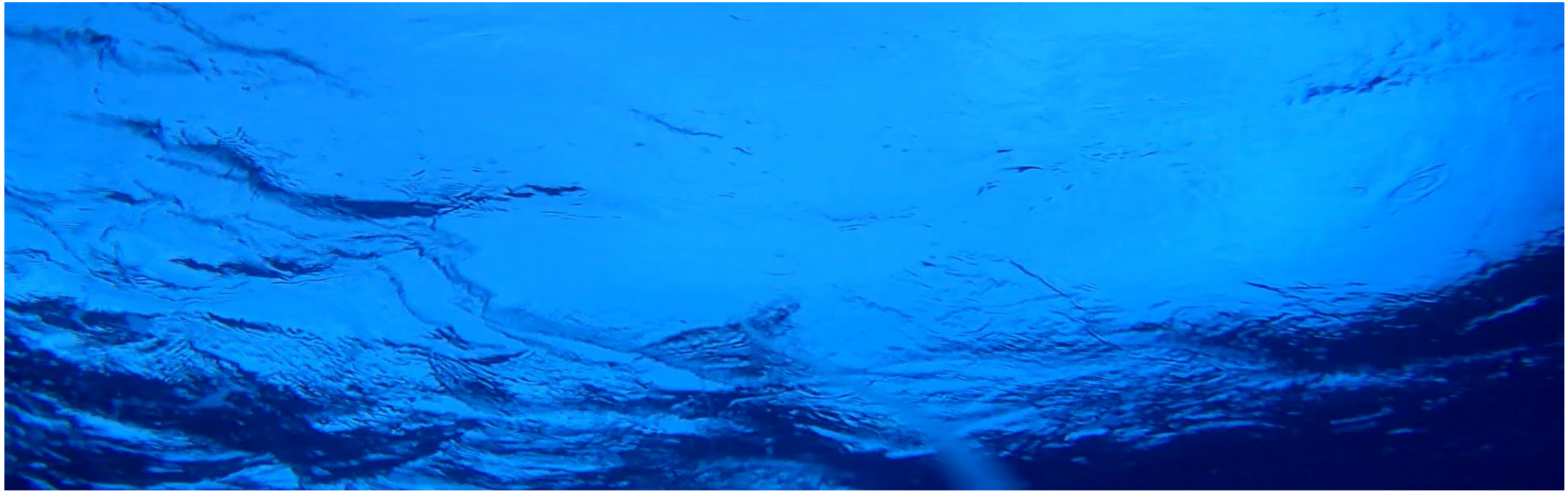
32 deployments of 4 hour and average 140 hooks (100-180 hooks)

Full bait removal

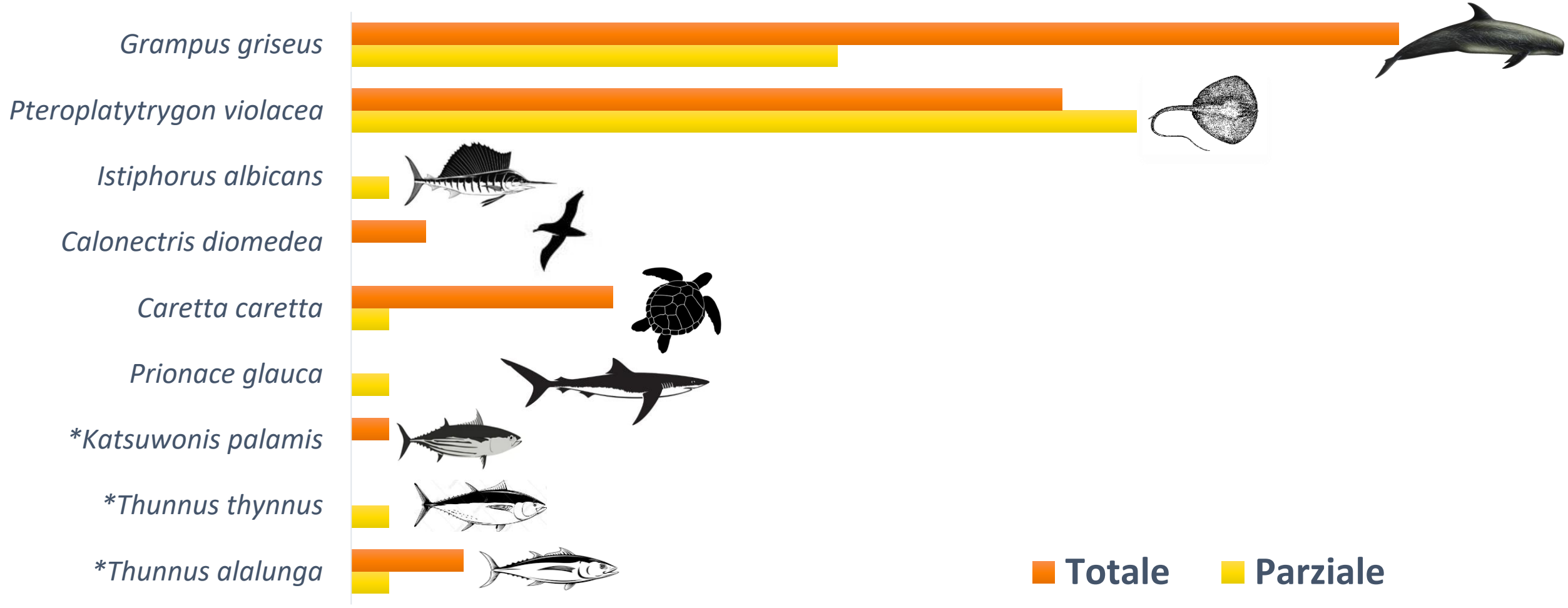


Rimozione parziale dell’esca

Depredation of bait



Depredation events



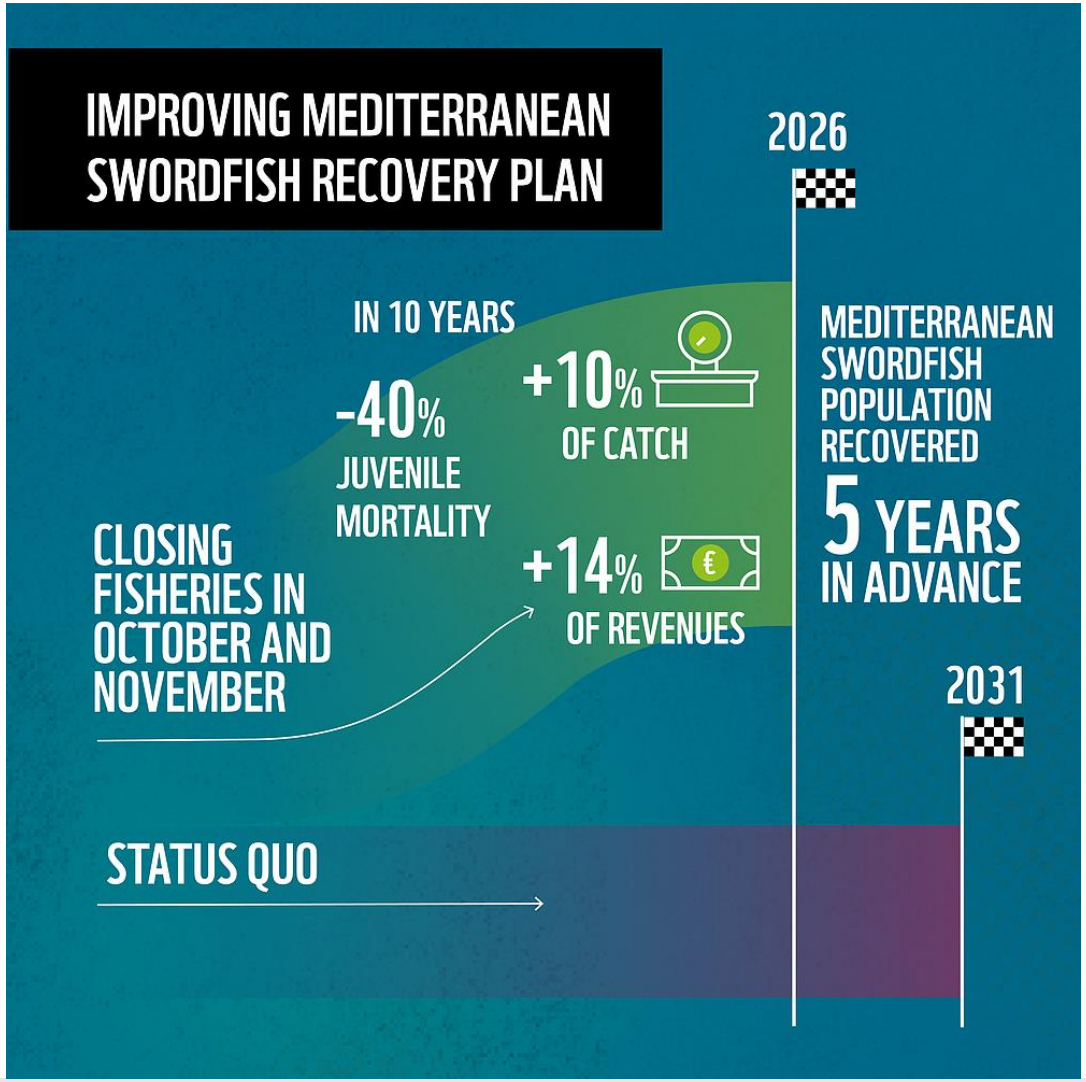
99 events of full or partial bait removal (8,7%; 1140 hooks/camera)

Bluefin tuna sustainability & issue of juvenile Swordfish

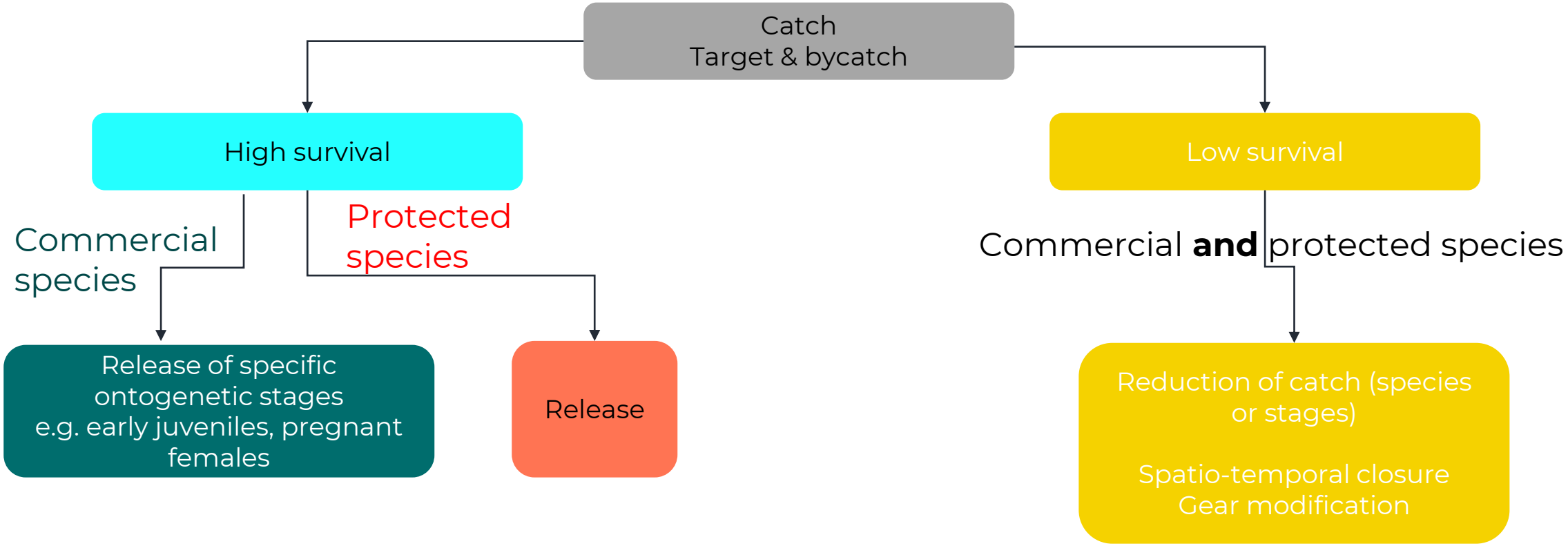
Bluefin tuna – 20 years later

Two studies still in finalization

- Life Cycle Assessment (LCA) for Bluefin tuna (Thunnus thynnus) fisheries in the Mediterranean
- Study on the impact of small pelagic fish utilization in bluefin tuna farming



Strategies in dependence of survival rate



Data collection and mitigation measures should be:

- tailored to species, gears, and sites
- in collaboration with fishers, e.g. handling methods to improve species' survival

Thanks to all the fishers across the Mediterranean!

Stay tuned!

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Riccardo Cingillo/WWF-Mediterranean