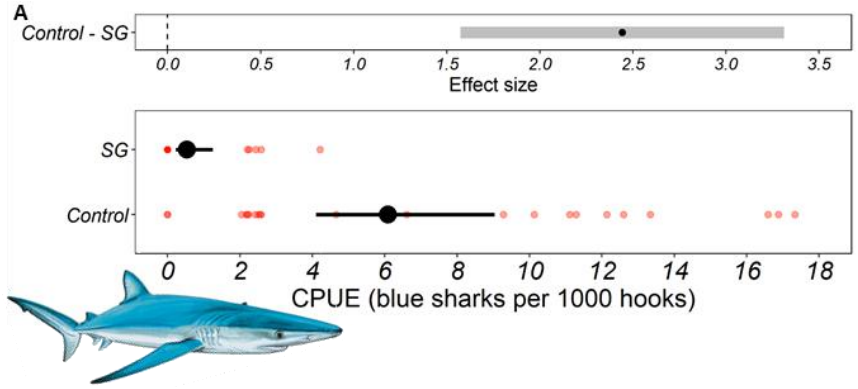
SharkGuard Induction System (MKV)

FCF

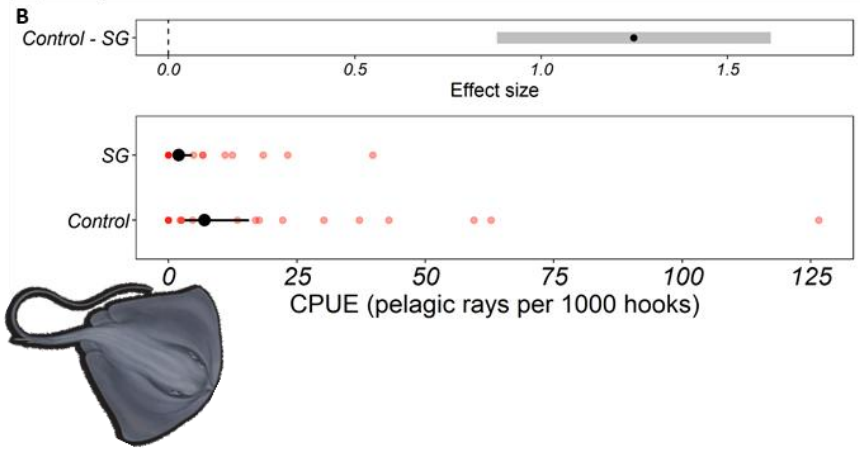
June 2025

Assessing the efficacy of a novel shark bycatch mitigation device in a tuna longline fishery.

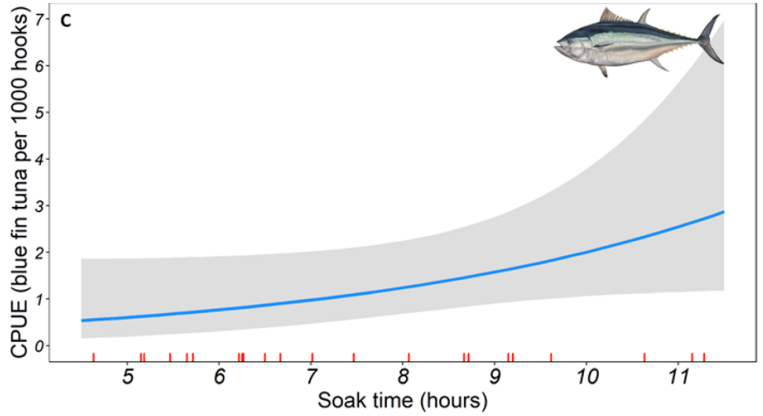
-91% (n=75)**



-72% (n=270)**



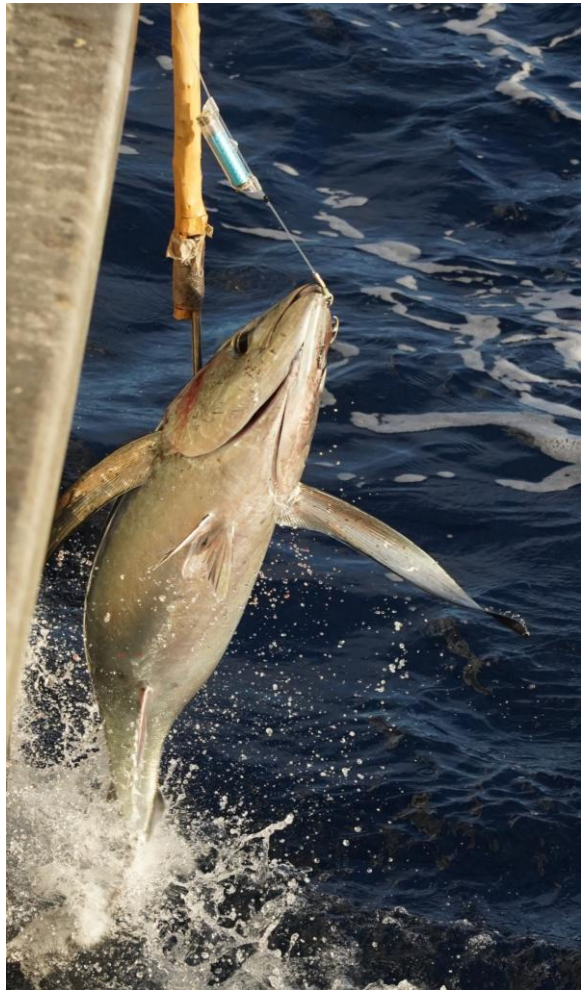
-40% (n=28)

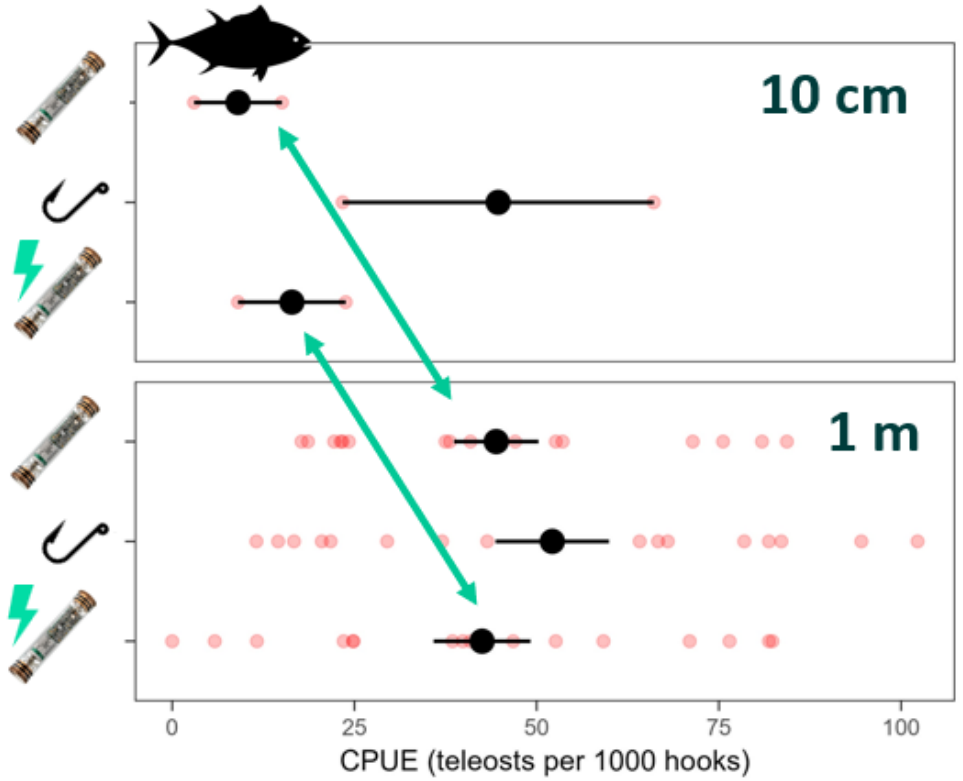


Citation: Philip D. Doherty, Robert Enever, Lucy C.M. Omeyer, Lydia Tivenan, Grant Course, Guy Pasco, David Thomas, Ben Sullivan, Ben Kibel, Pete Kibel, Brendan J. Godley, Efficacy of a novel shark bycatch mitigation device in a tuna longline fishery, Current Biology, Volume 32, Issue 22, 2022, Pages R1260-R1261,ISSN 0960-9822, https://doi.org/10.1016/j.cub.2022.09.003.

NOUMEA 2023 SEA TRIALS

Distance from hook comparison





Improvement in teleost CPUE

MINIATURISE & DISGUISE

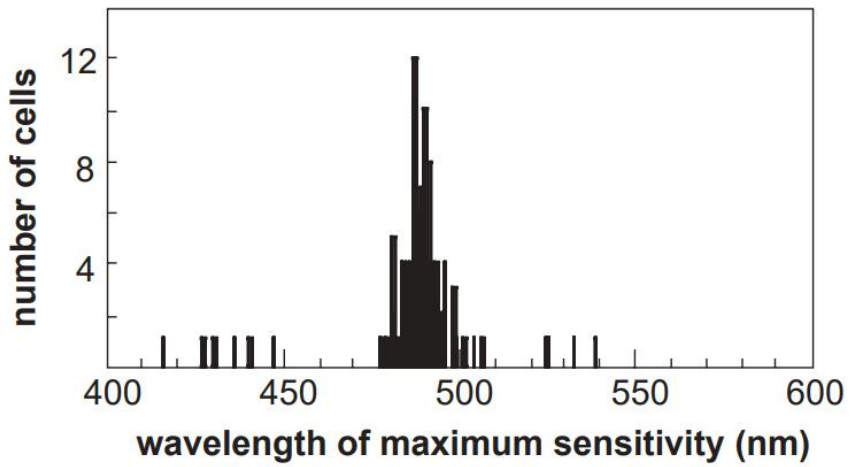
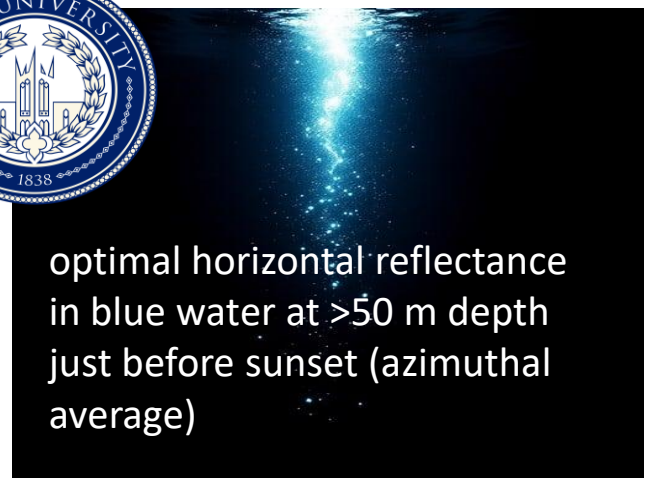
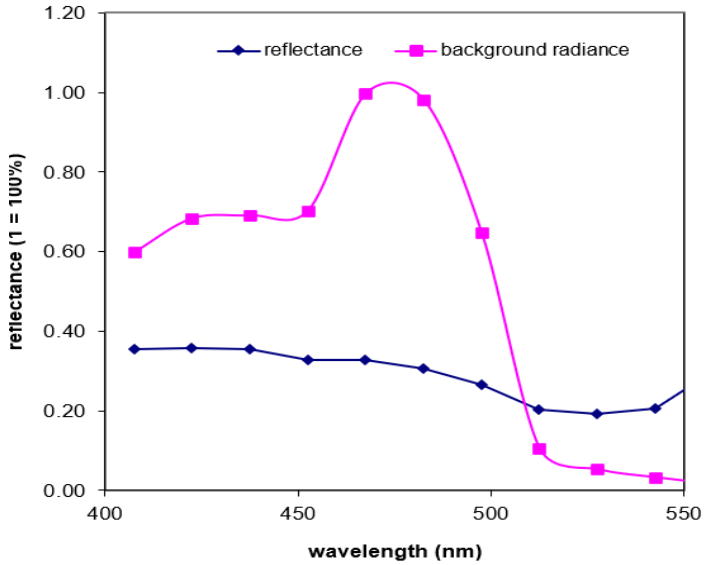


Figure 6. Distribution of visual pigments found in 115 photoreceptors in 5 species of tuna and billfish

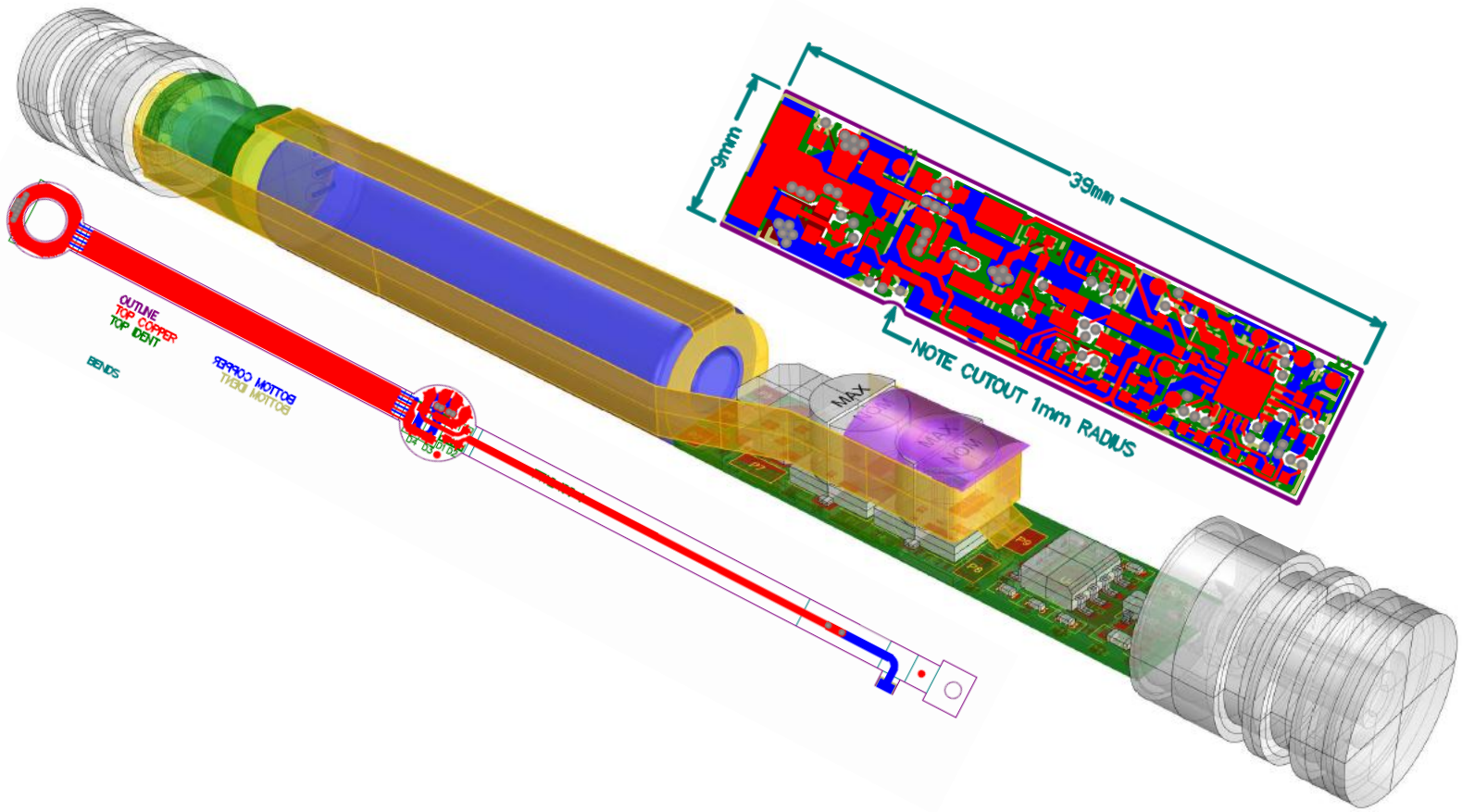


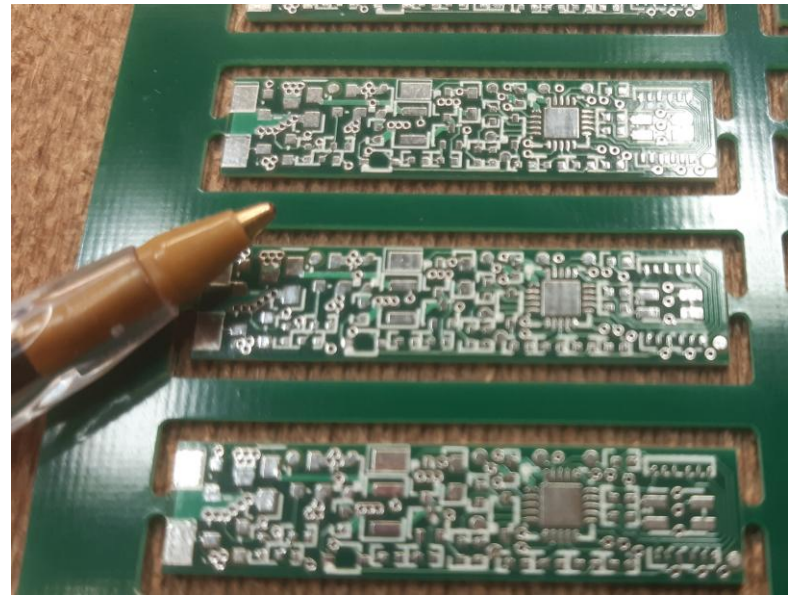
optimal horizontal reflectance in blue water at >50 m depth just before sunset (azimuthal average)



average reflectance (weighted by radiance) is 32%. Munsell value N6.25 matte grey paint

ELECTRONICS – MKV DEVICE



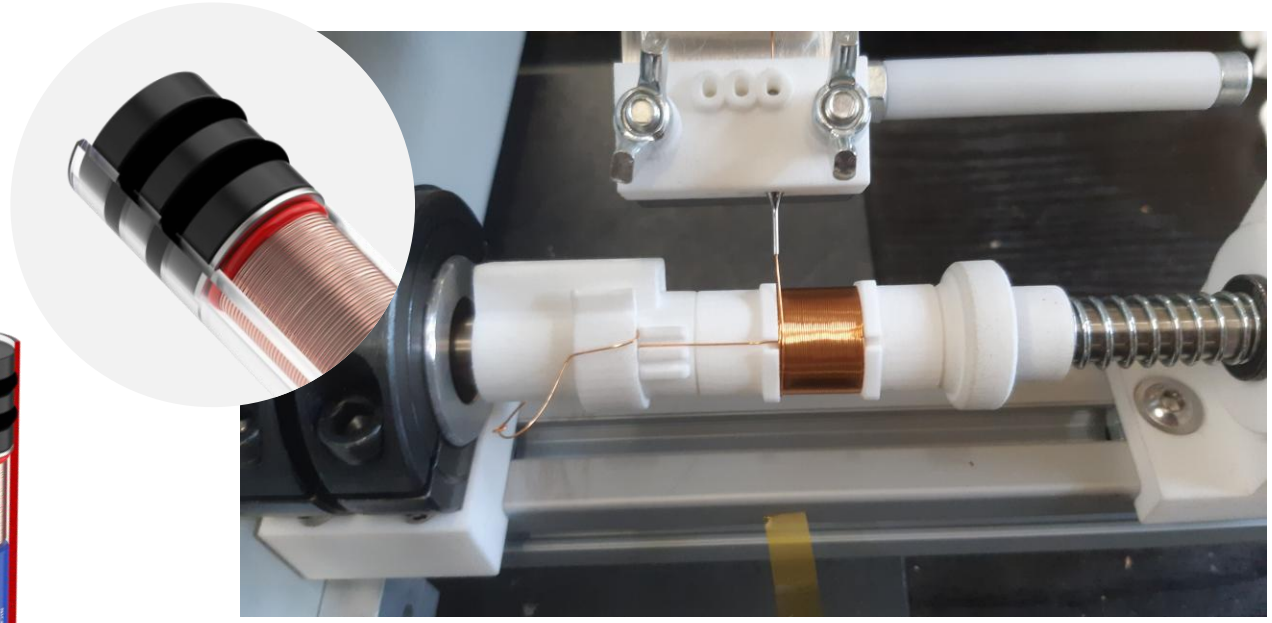


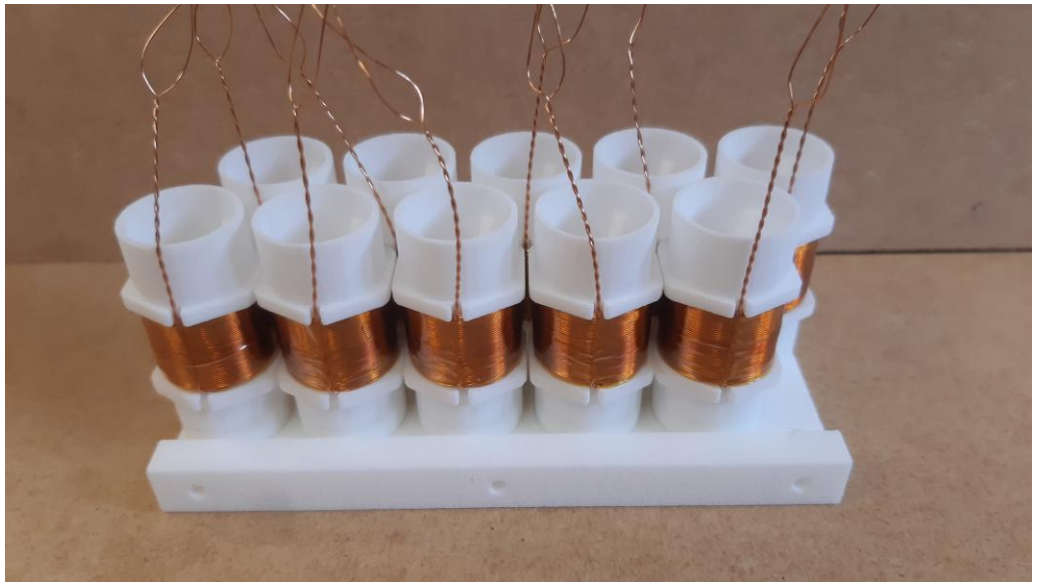
“The step-up from MKIV to MKV is HUGE!! At least 5-fold the R&D”

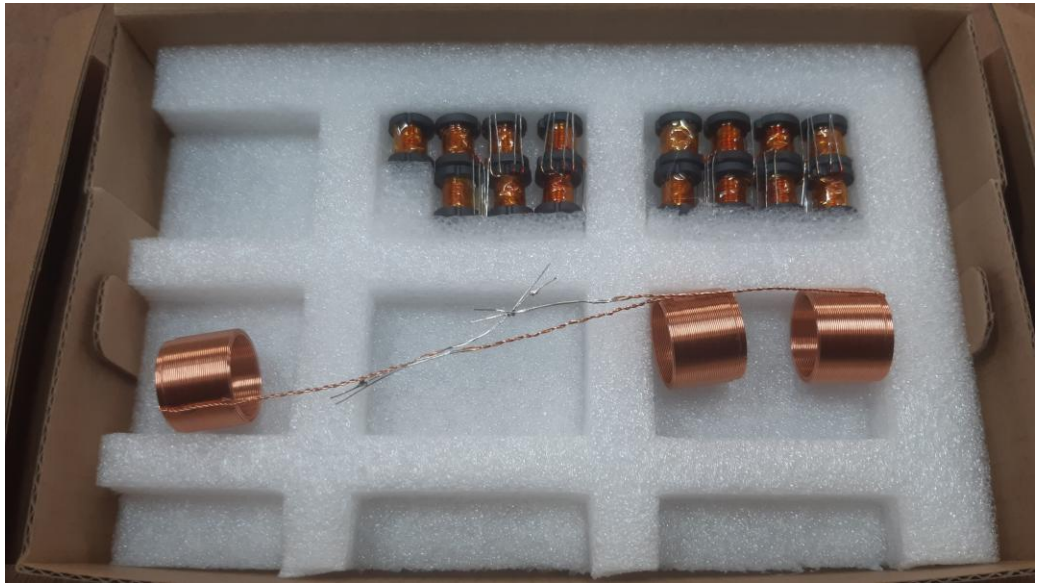
A

B

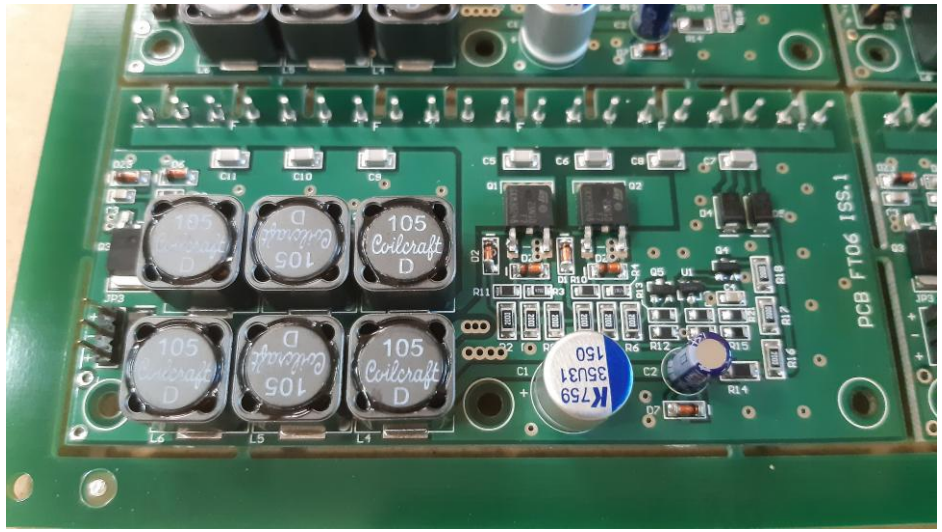
ELECTRONICS – INDUCTION CHARGING

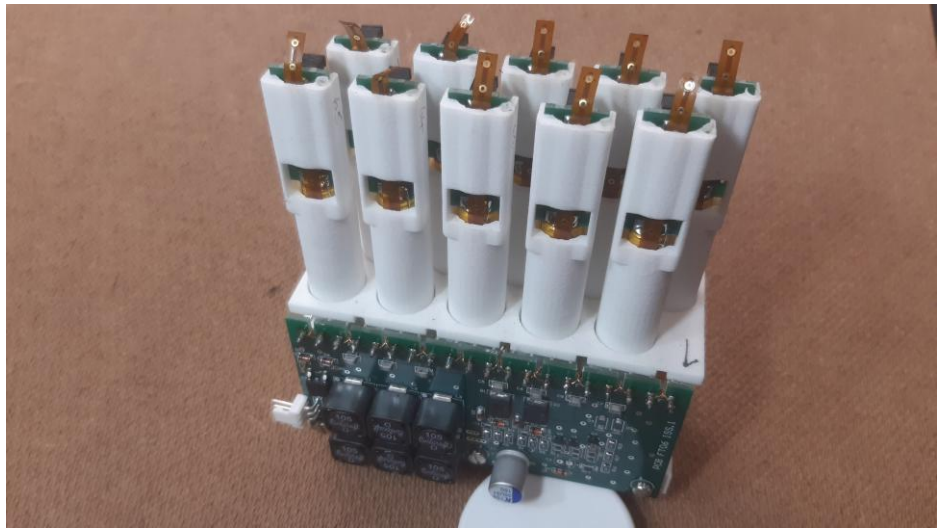






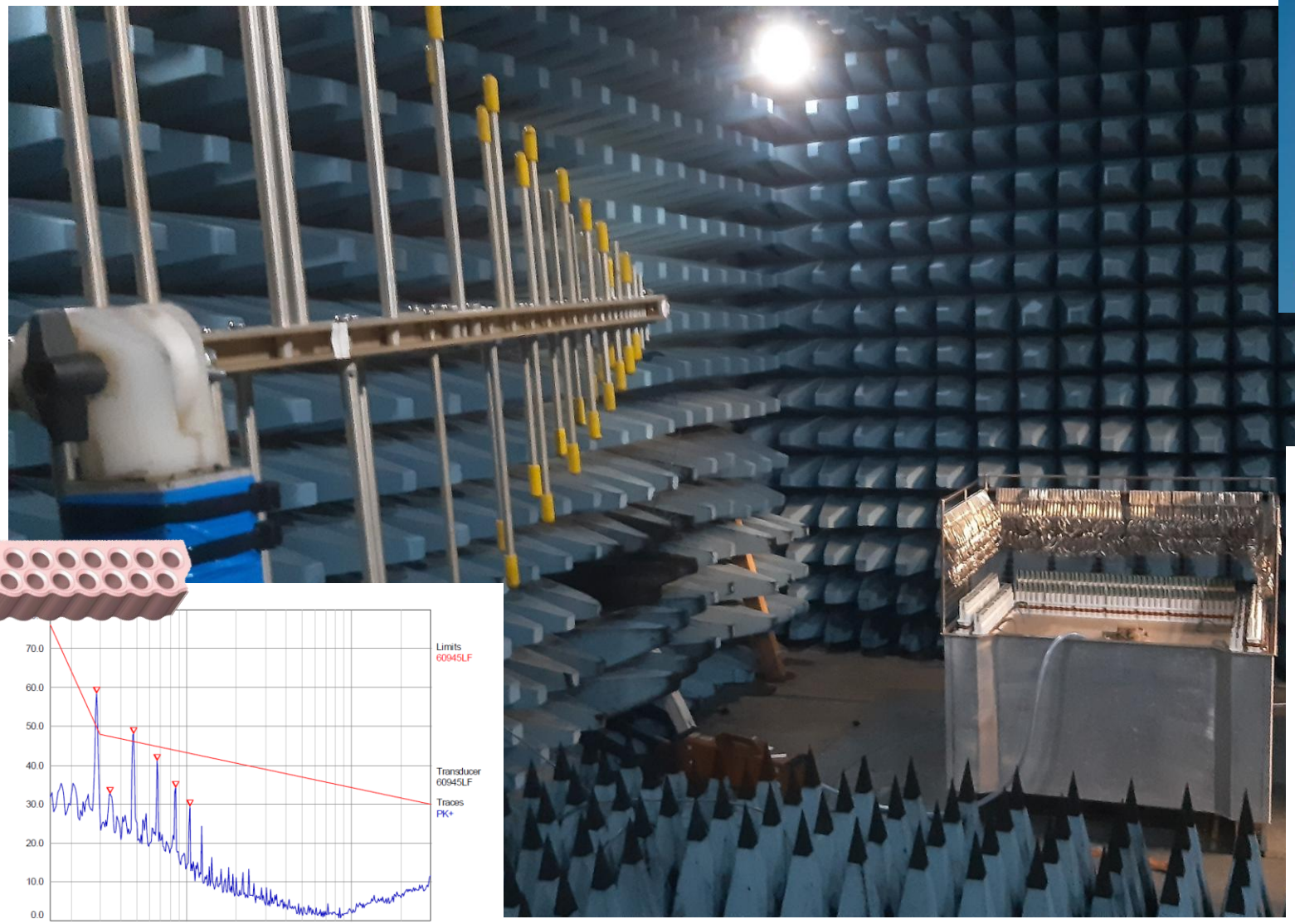
ELECTRONICS – DOCKING STATION



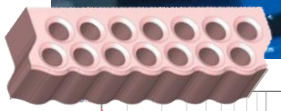


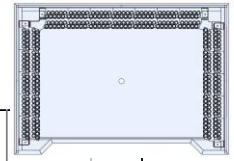
ELECTRO MAGNETIC COMPATIBILITY (EMC) TESTING

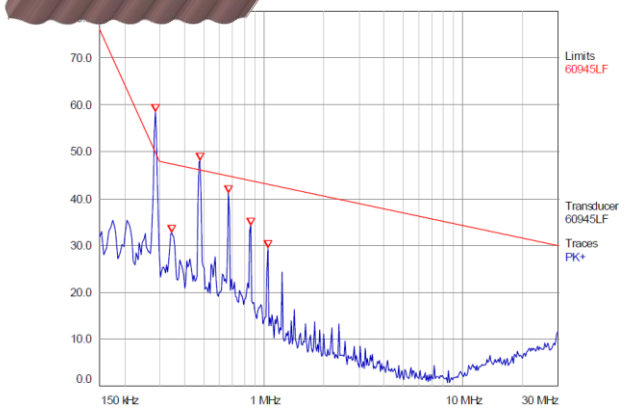
FISHTEK MARINE



PASSED



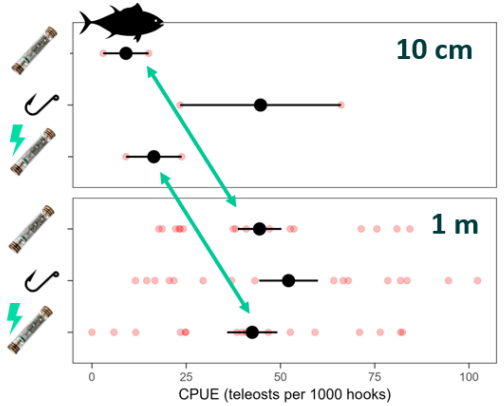




MECHANICS – LINE ATTACHEMENT

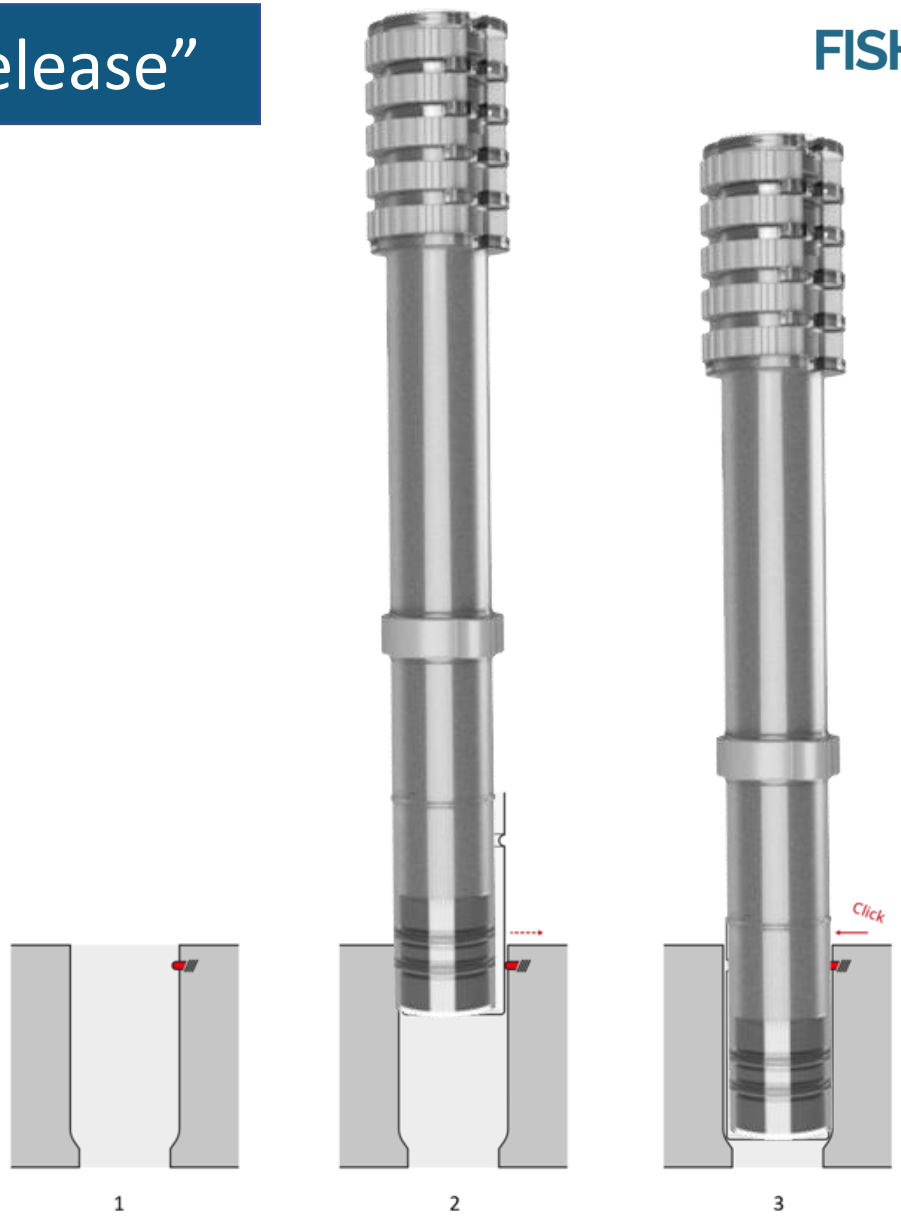
Line attachment
Fisherman in practise were found to use line diameters ranging from 1.0 – 3.0 mm.

- Exploring line attachment mechanisms for sliding devices; both friction fit and clutch style mechanisms.
- Mechanisms that accommodate different line diameters; Discrete ranges (1.0 – 1.5 & 2.0 – 3.0) and universal systems (1.0 – 3.0 mm)



Improvement in teleost CPUE

MECHANICS – DOCKING STATION – “dock & release”

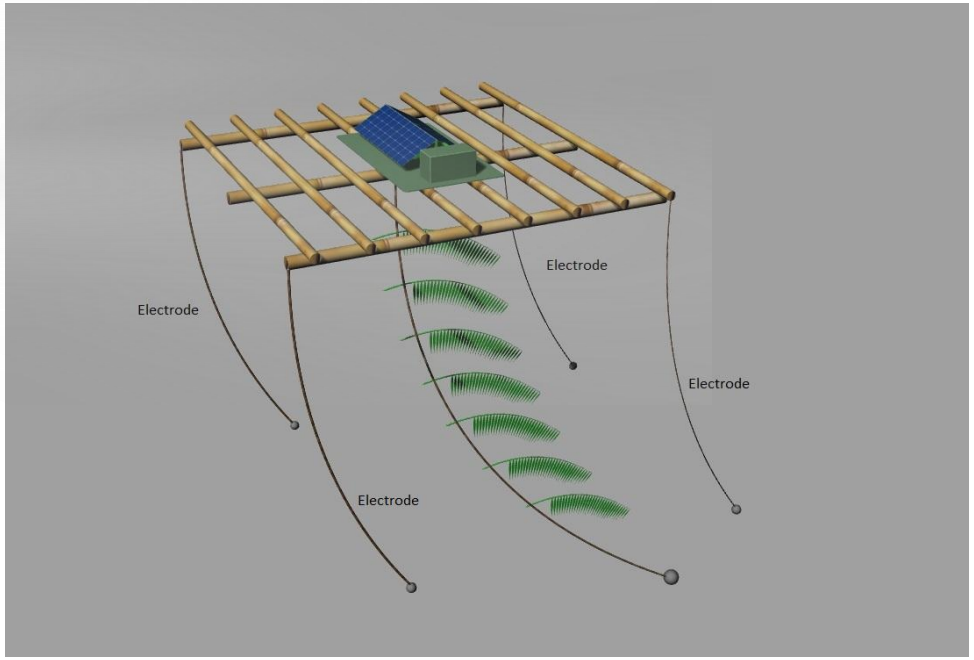


Each bay will include a retention feature to secure the SharkGuard during charging. It’s retention force will be less than the grip force of the device on the line, so that on removing a clip and hook from the rail, the device will lift out of the bay rather than requiring the user to manually remove it. The design of the mechanism will also respect the charging coil and thus avoid metal components.

Operational sea trials

NEW APPLICATIONS – FAD GUARD

TRI MARINE
TUNA DONE RIGHT SINCE 1972



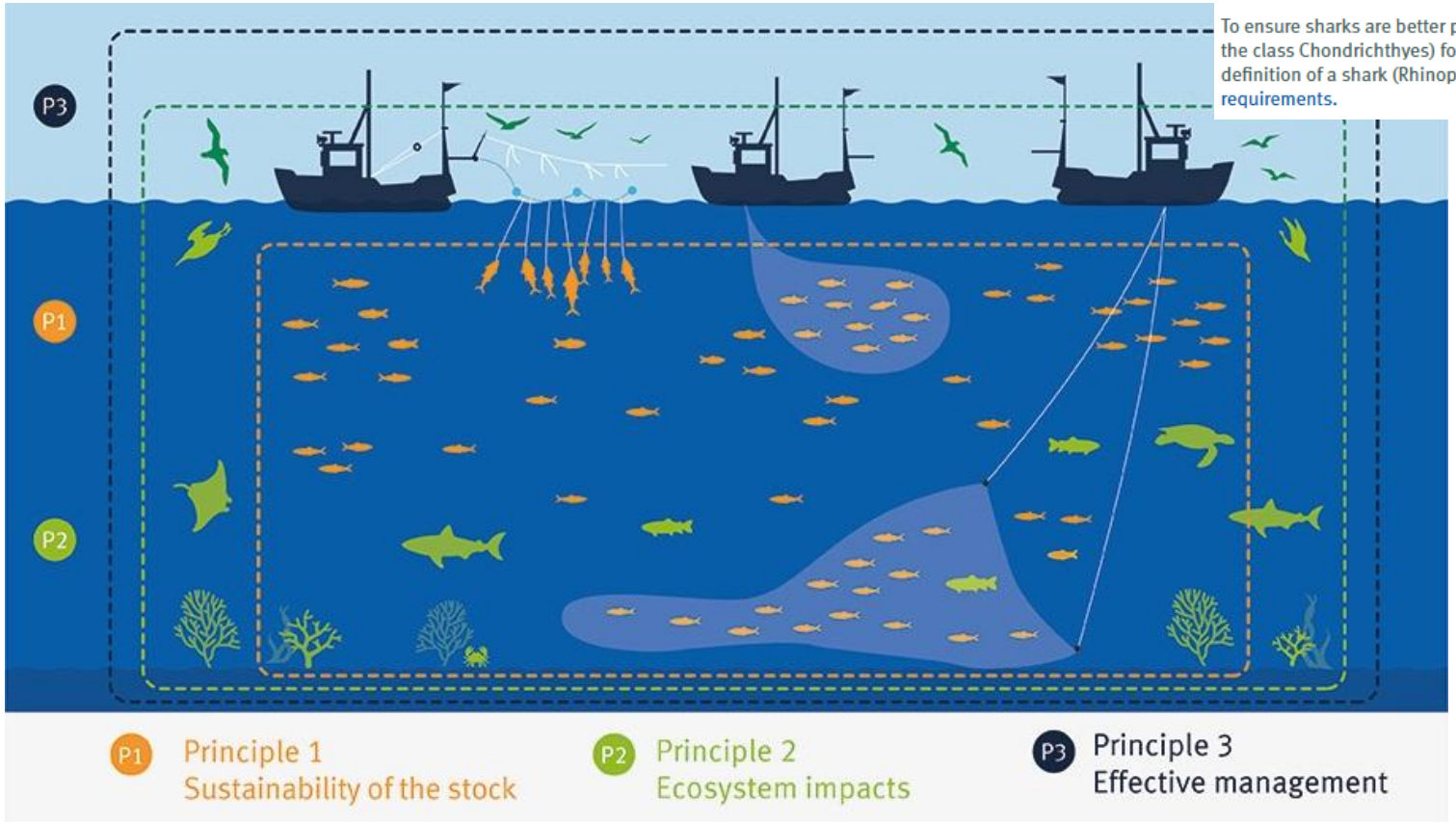
Bottom-up drivers

For the skipper

- Reduced depredation
  - Of baited hooks
  - Of target catch
- Increased hook availability
- Opens ground opportunity
- Less gear entanglement (time/cost)
- Built in light-sticks (reduced disposable costs)

Middle down drivers

MSC CRITERIA



Better protections for sharks

We have also designed our new ETP classification system with greater precaution for sharks. Sharks which are protected under national ETP legislation or those identified by IUCN as endangered, critically endangered, or listed as CITES or CMS Appendix 1 species all automatically qualify as ETP species (so cannot be eligible for MSC certification).

In certain circumstances, sharks listed on CITES Appendix 2 and CMS Appendix 2 may be assessed under Principle 1 or subject to our requirements for in-scope species rather than ETP/Out-of-Scope. However, this can only occur only if the specific stock meets the scientific criteria set out in Step 2 of the process detailed above, demonstrating that the specific stock has a healthy population size and is well-managed.

To ensure sharks are better protected, we have also expanded the definition of 'shark' to include all shark species (from the class Chondrichthyes) for the purposes of classifying a species as endangered, threatened, or protected. The definition of a shark (Rhinopristiformes and Selachimorpha) remains unchanged in relation to our shark finning requirements.

CITES

briefing CITES Appendix II Requiem shark listing

Middle-down drivers

CORPORATE ENVIRONMENTAL & SOCIAL GOVERNACE

As of March 2021, European corporations are incentivised to report strong Environmental, Social and Corporate Governance (ESG) credentials in their annual accounts to prevent divestment from fund managers under the EU Sustainable Finance Disclosure Regulations (SFDR; EU, 2019).

SUSTAINABLE DEVELOPMENT GOALS

14 LIFE BELOW WATER

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Walmart

ALDI

Carrefour

For retail corporates wanting high ESG scores it is likely that seafood procurement will rapidly shift towards sustainable fishing menthods.....

Top-down drivers

- International Plan of Action – sharks, seabirds in longline fisheries, fishing capacity
- National Plan of Action for the conservation and management of sharks (n=10)

- a global platform for the conservation and sustainable use of migratory animals and their habitats.

- Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable use

- International trade – all requiem sharks – COP19

- The international and national frameworks for conservation and management of sharks: Recommendations for Ecuador

RMFOs

CMM – Conservation and Management Measure – sea turtles, sharks, seabirds

Sharks: Minimizing bycatch and practicing safe release