



Deep-sea shark identification manual for fishers

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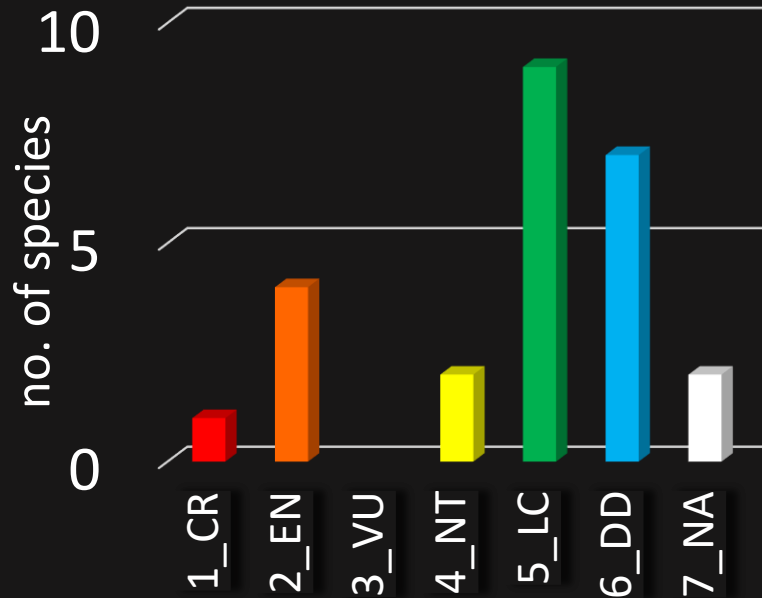
Who are the deep-water sharks?

= those whose distribution is below 200 m

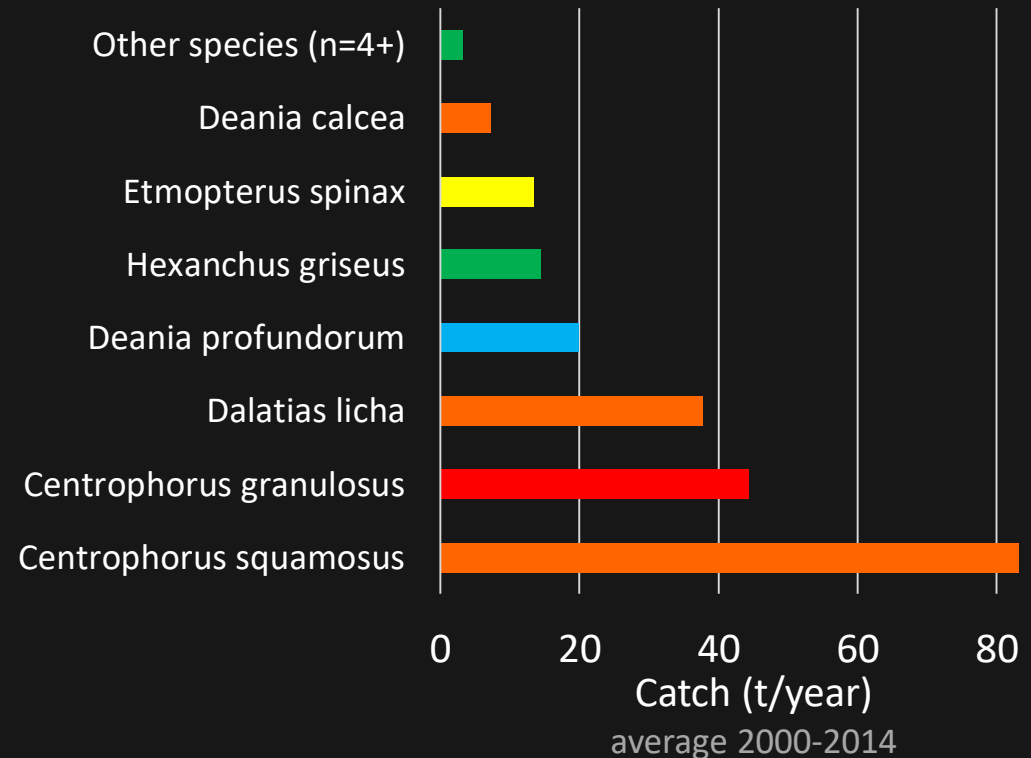


Conservation concern

N = 25 species



Bottom longlines



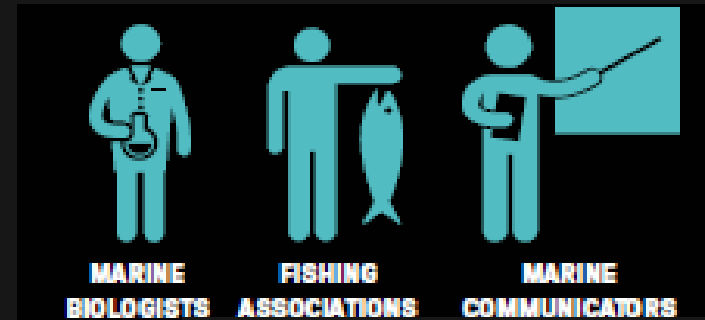
Species identification guide



What for? Help to easily identify deep-water sharks species

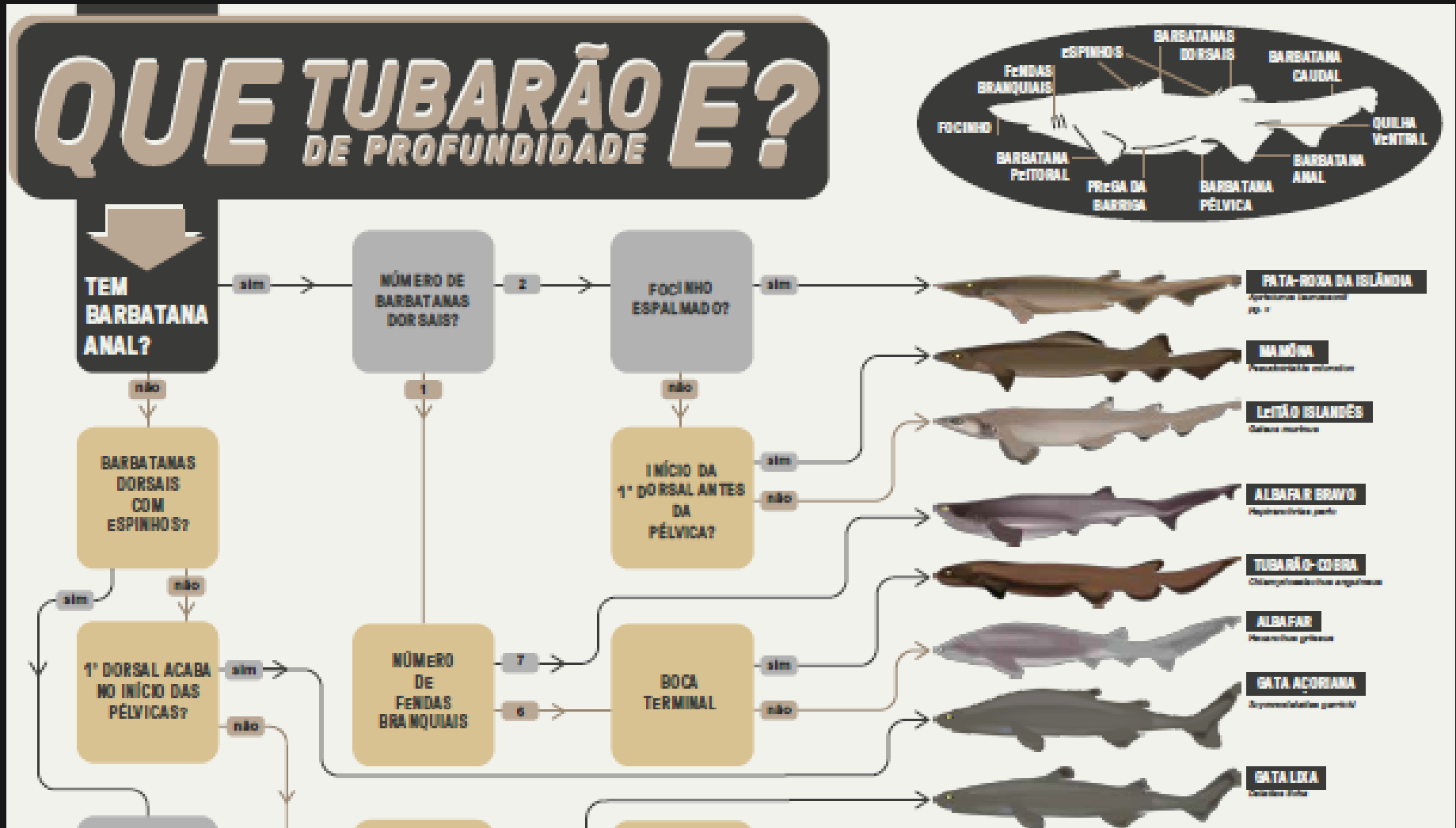
Who? Mainly **fishers**, but also onboard observers, students, etc.

How? In collaboration between



(APEDA) (OMA)

Dichotomic key for EASY identification



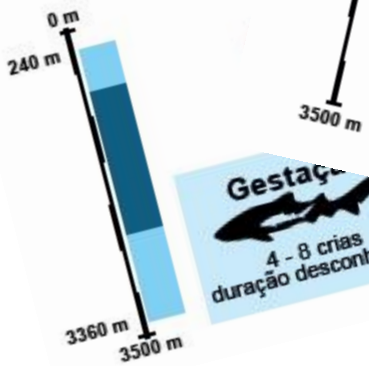
SQU Tubarão

XAR Xara branca
Centrophorus squamosus

pele clara (cinzenta)
relativamente lisa, com
escamas pouco
proeminentes



barbatana peitoral
com ponta arredondada



Gestação
4 - 8 crias
duração desconhecida

GMU Leitão islandês
Galeus murinus

Tirar fotografia!

PSE Mamôna
Pseudotriakis microdon



focinho não espalmado, boca de forma triangular



Gestação
2 crias
duração desconhecida

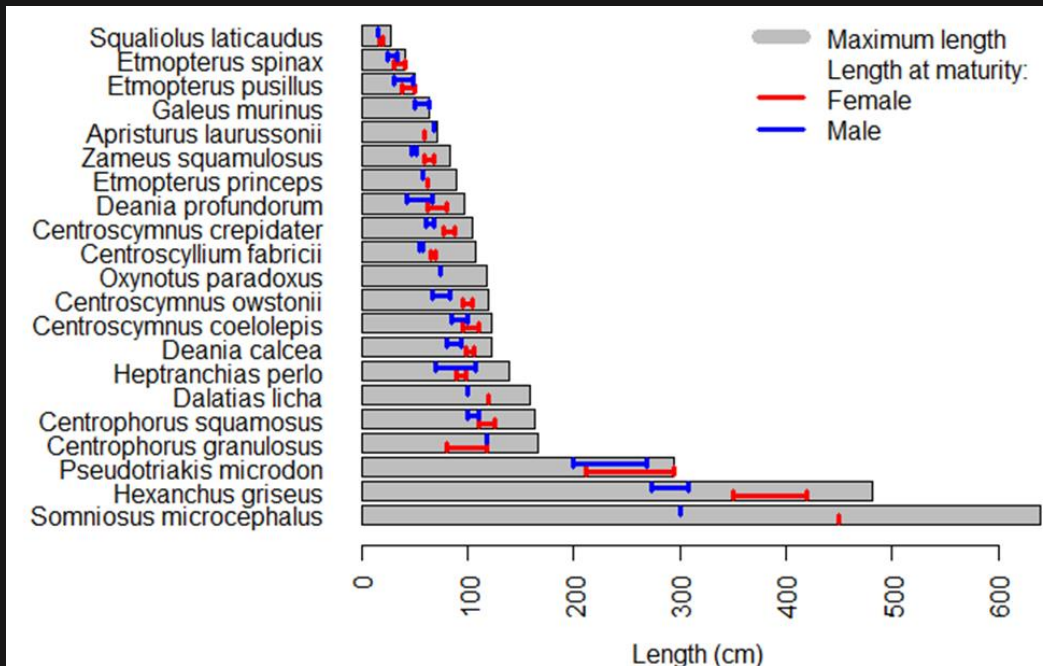
Curiosidade
Ovovivíparos, os embriões desenvolvem-se no útero da mãe, onde se alimentam de ovos não fecundados (oofagia).

A great biodiversity

- 25 species
- **Rarest:** only 2 specimens captured in the world, in Azores



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- Smallest: **28 cm**
=> Largest: **640 cm**
- **Late** maturity
- Most viviparous with **few pups**

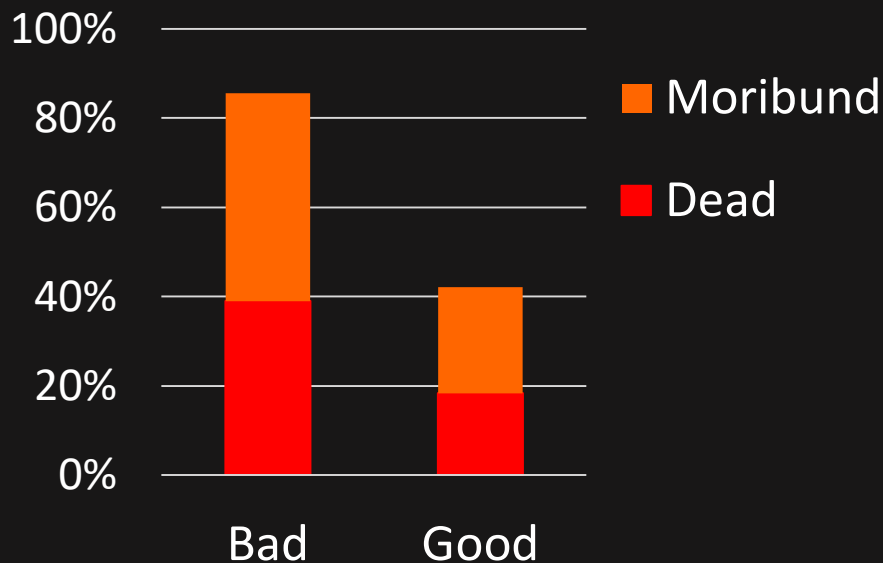
- **Unknown** gestation time for most species, until 3.5 years for frilled shark!



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Good handling practices

Fishers handling practices



Onboard observer data
(DiscardLess 2017-2018)

Como usar o desembucha

Como manusear um tubarão

Como transportar e libertar um tubarão

Tubarões de pequeno porte:



Levar o animal o mais perto possível da superfície do mar, apontando a sua cabeça para baixo a 45° e empurrando-o ligeiramente para baixo na água.

Tubarões de médio porte:



Good handling can help improve **post-capture survival**

Next steps

- **Present** and **distribute** the manual to deep-water longline fishers
- Implement an **auto-sampling program**

Objectives:

- Get **more** and **better** data on those data-poor species
- Evaluate the **sustainability** of this bycatch



=> **Project SosTubaProf**

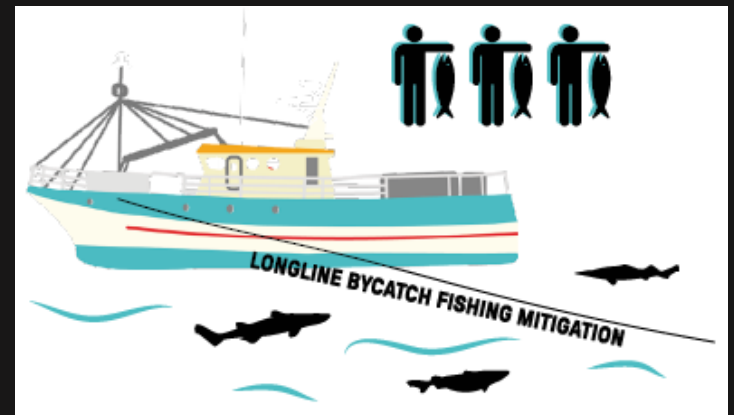
Objectives of SosTubaProf



Build on the work carried out as part of the DiscardLess project in the Azores

Evaluate the sustainability of deep-water shark bycatch:

- 1/ Increase the amount and quality of available **data**
- 2/ Estimate **relative abundances**
- 3/ Study mitigation measures:
 - Longline **selectivity**
 - Post-release **survival**

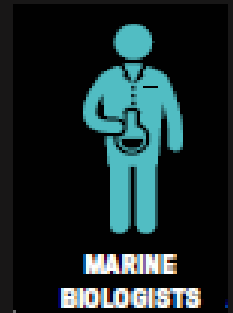
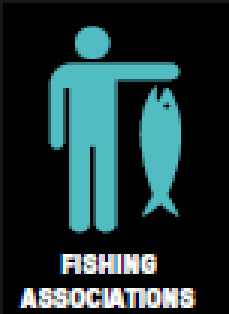


=> In close collaboration with fishers
to find the best compromise
between conservation and exploitation

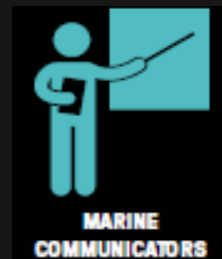
Portaria N°54/2018:

Knowledge transfer between fishers & scientists

FPA / APEDA & IMAR / Okeanos



In partnership with **marine communicators**



OMA



Many thanks

=> to all colleagues and partners from OMA and APEDA who helped develop the manual and who will contribute in its utilization

=> to Aurora Ribeiro (OMA) who did the design of the manual

Questions ?

"This work has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement DiscardLess No 633680"



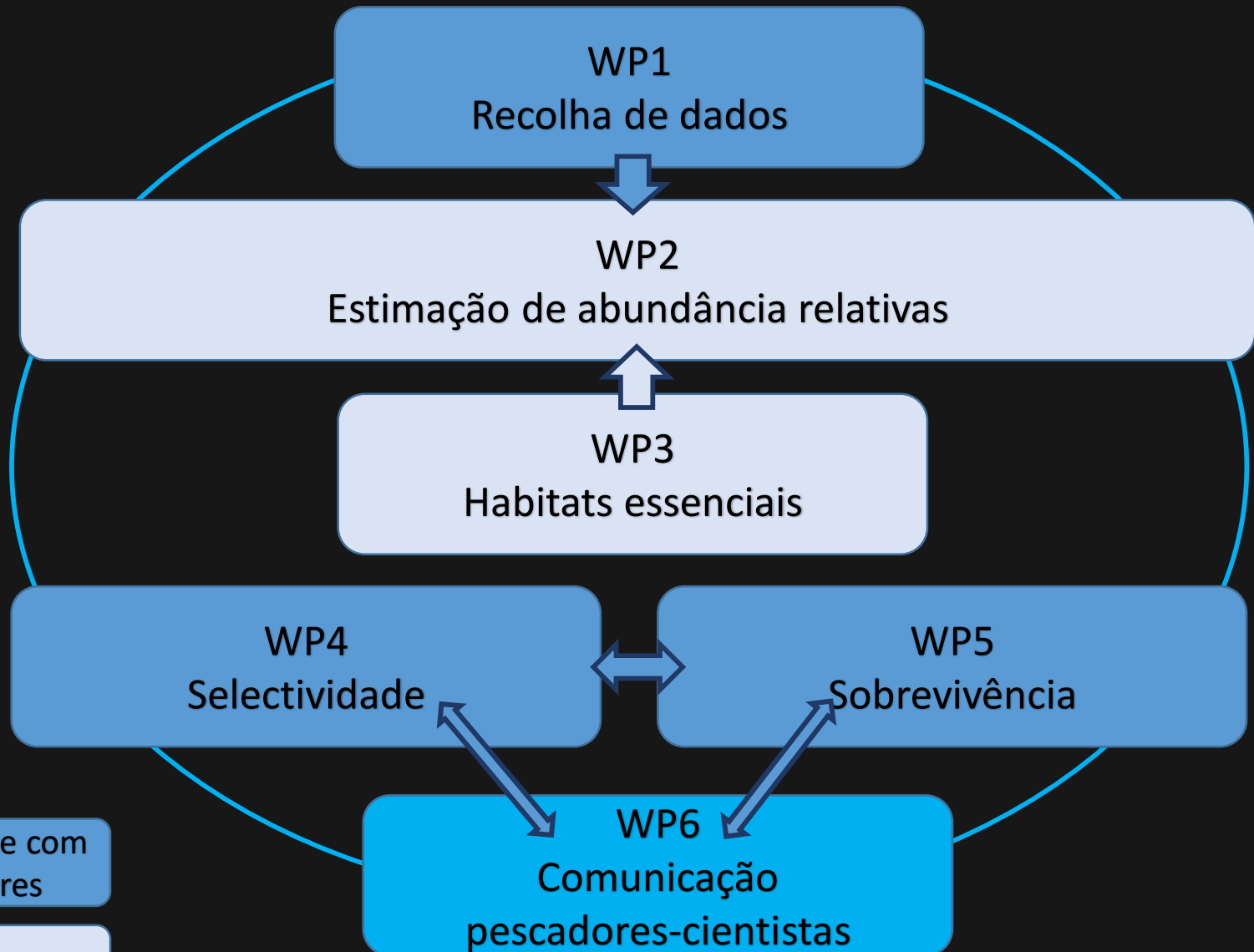
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Pescas e tubarões de profundidade

- **1970-1990s** => Pescarias dirigidas à gata licha
- **2008** => Proibição da pesca dirigida
- **2010** => TAQ 0
- **Dezembro 2018** => “espécies proibidas”

Com recomendação da necessidade de *“estabelecer novas medidas de gestão regional tendo em vista reduzir as capturas acessórias de tubarões de profundidade... estabelecer medidas específicas para a recolha de dados relativamente aos tubarões de profundidade, a fim de garantir uma estreita monitorização destas unidades populacionais”* (EC 2018/2025)

Projecto SOS tubaProf



Diretamente com
pescadores

Análises de dados