PESKAS data report (testing version)

Last compiled on 2021-11-16 16:20:43

Contents

---

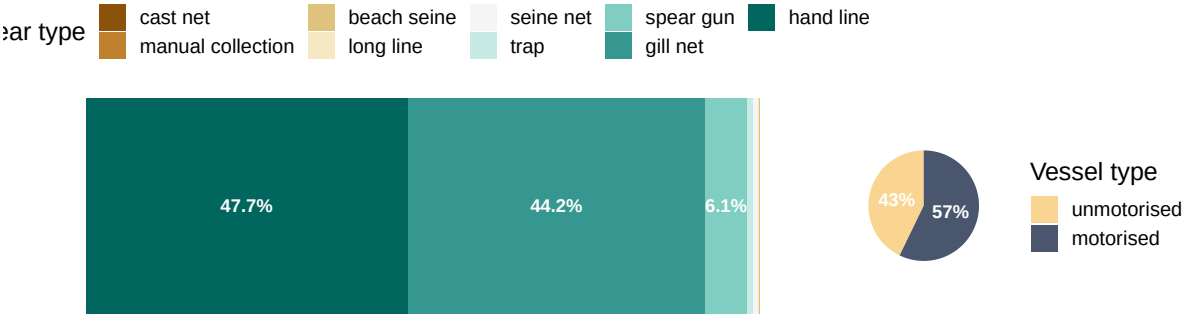
1 Aim

This report summarises relevant statistics and insights from the Peskas platform during the period Jul 2017 - Jan 2022. The report examines the main temporal trends in the national revenue related to small-scale fishing in Timor-Leste and provides quantitative and qualitative information on the catches.

2 Summary of Peskas fleet

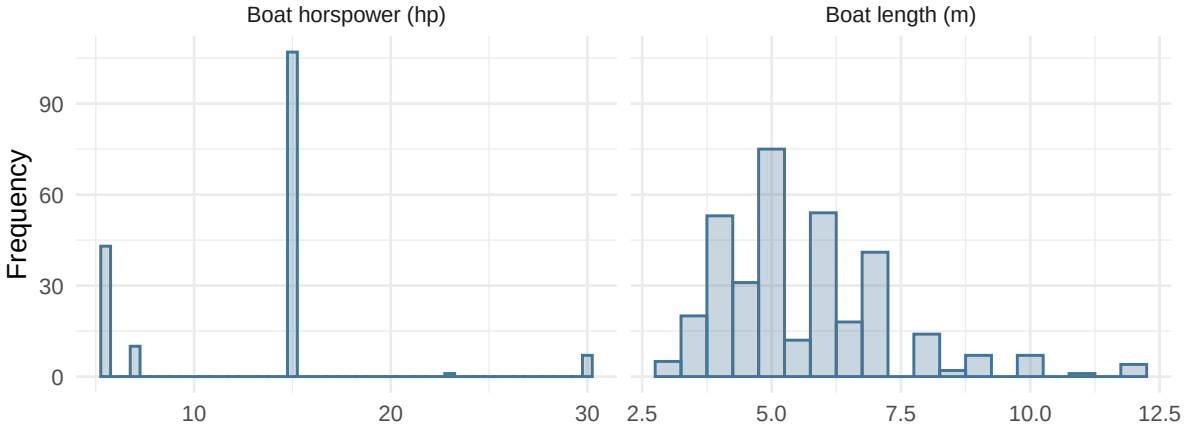
Boats gear type

The Peskas' fleet is composed of a total of 451 recorded boats, most of them motorised. More than 90% of the boats are equipped with hand line and long line while about 6% equip spear guns.



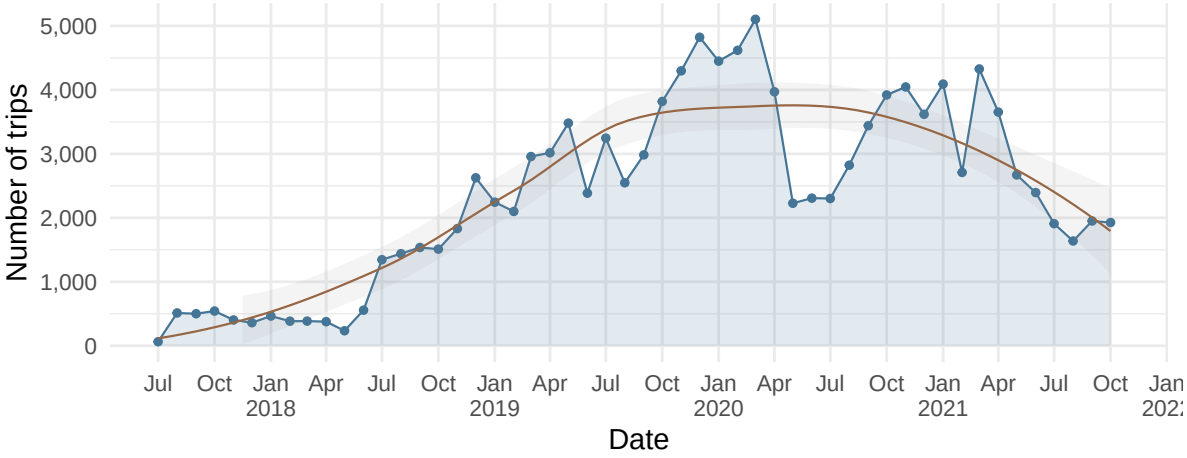
Boat properties

Most of the boats are equipped with a 15−hp motor and measure between 3 and 7 meters. Very few of them are longer than 10 meters.

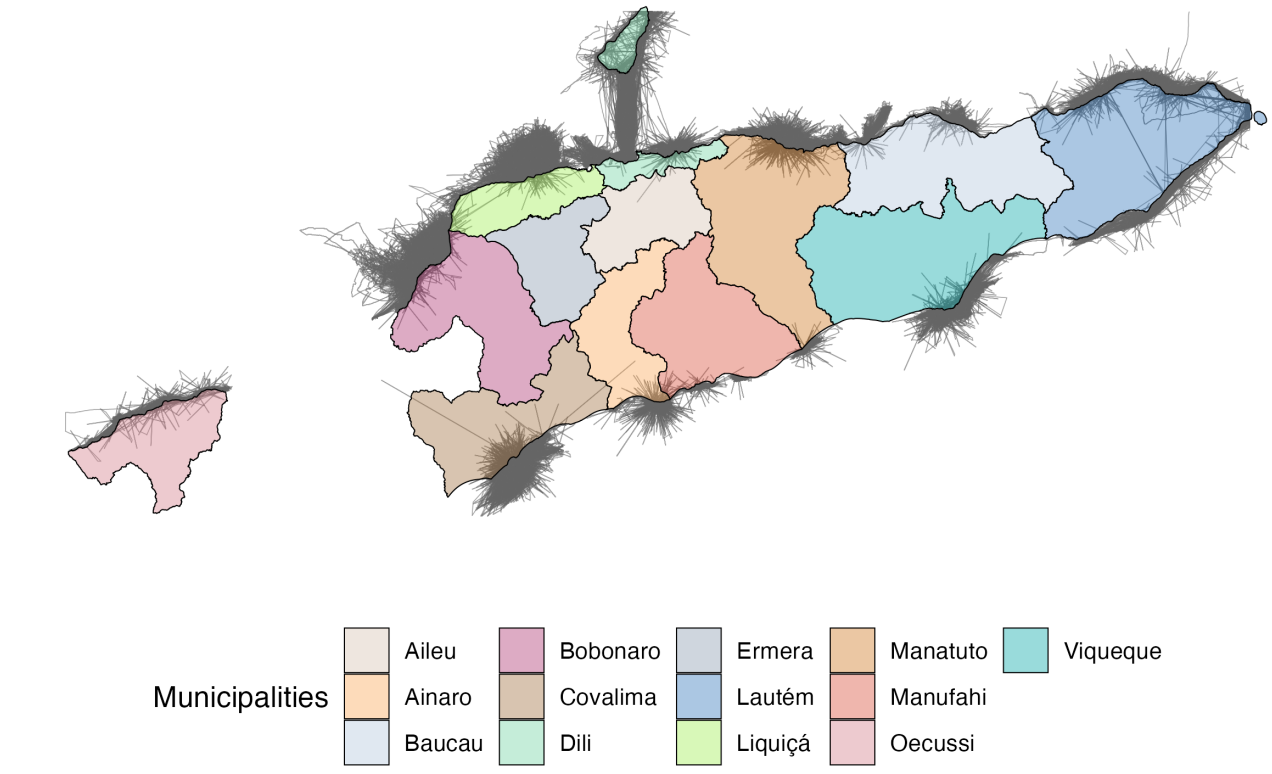


Fishing trips

The Peskas platform recorded a total of 126905 fishing trips. Trips increased considerably until 2020 then undergo a slight decrease.



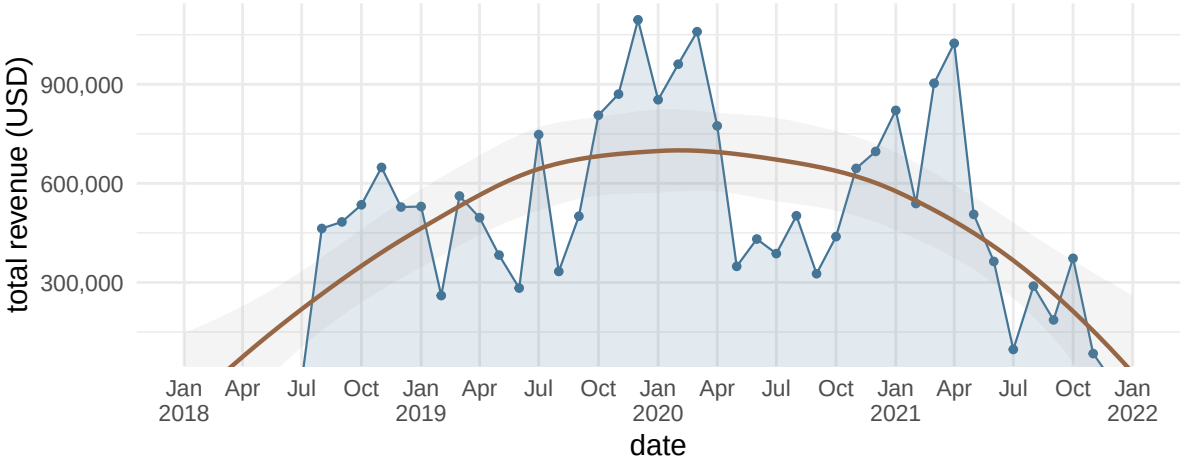
3 Boat tracks



4 National revenue

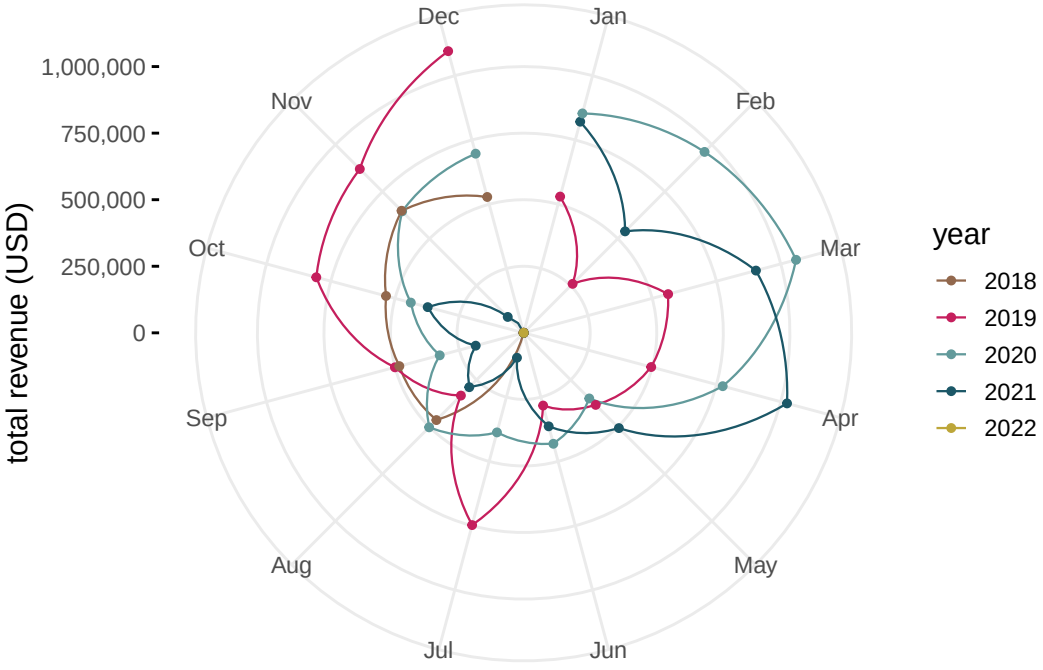
Interannual total revenue

The total revenue increased between the end of 2018 and the beginning of 2020 touching values greater than $ 900,000, then it gradually decreased.

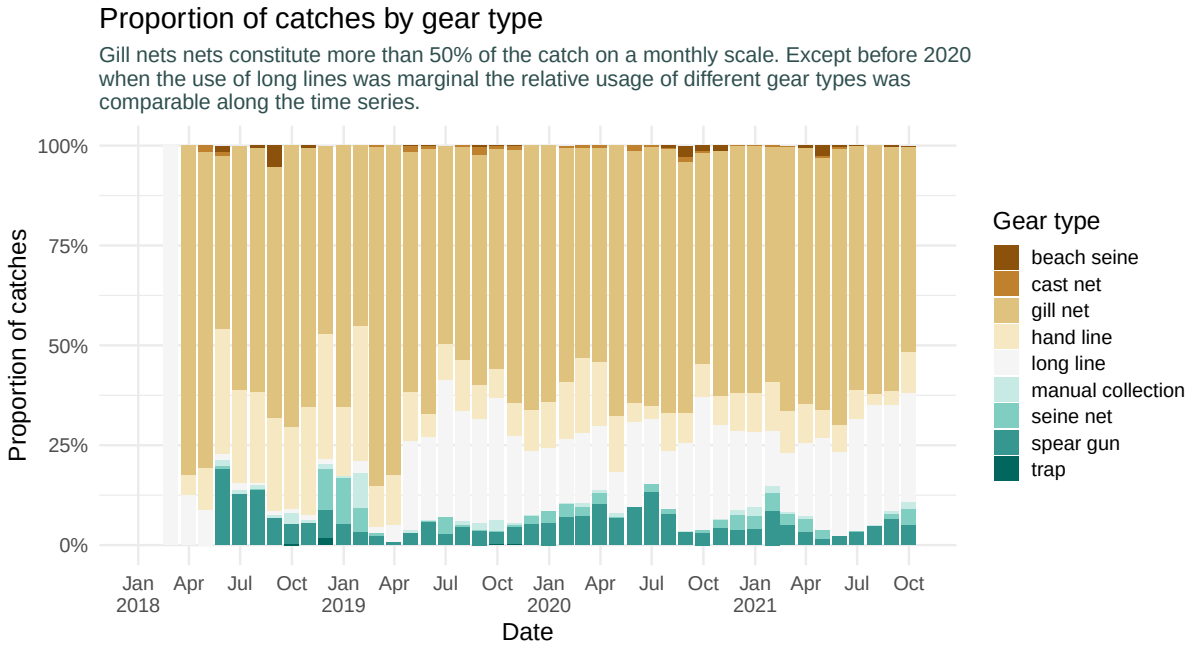


Seasonal total revenue

Except for 2019, the total revenue is seasonal, showing the highest during



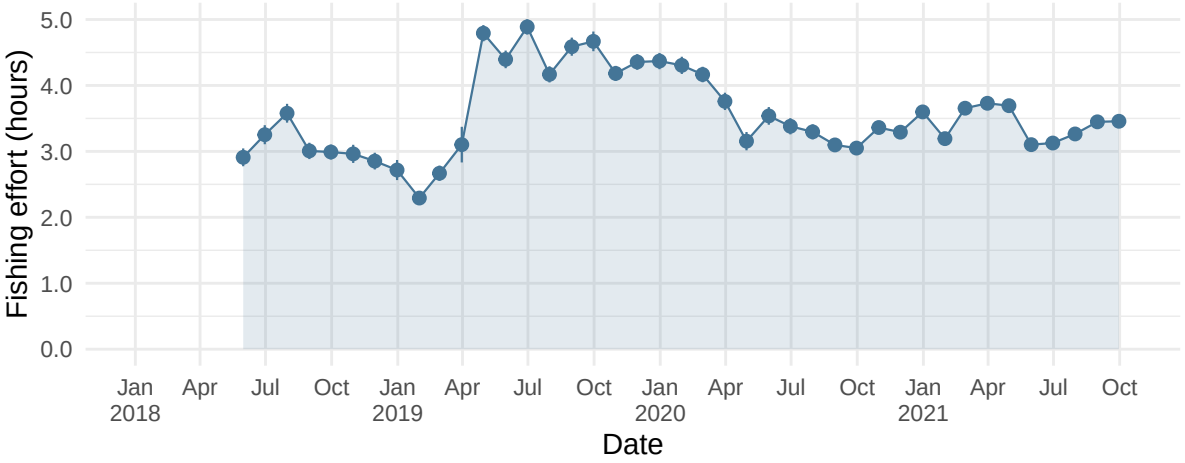
5 Catches by gear type



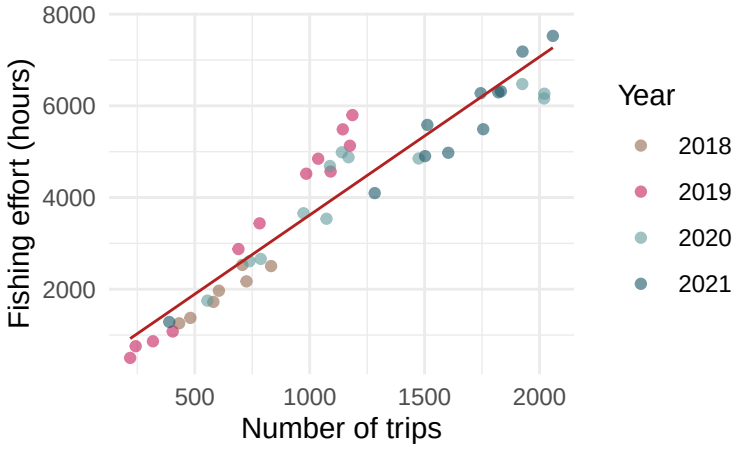
6 Fishing effort

Interannual distribution of fishing effort

Fishing effort was highest during autumn in 2019 and during the winter in 2020, then remained mostly stable for the rest of the time series.



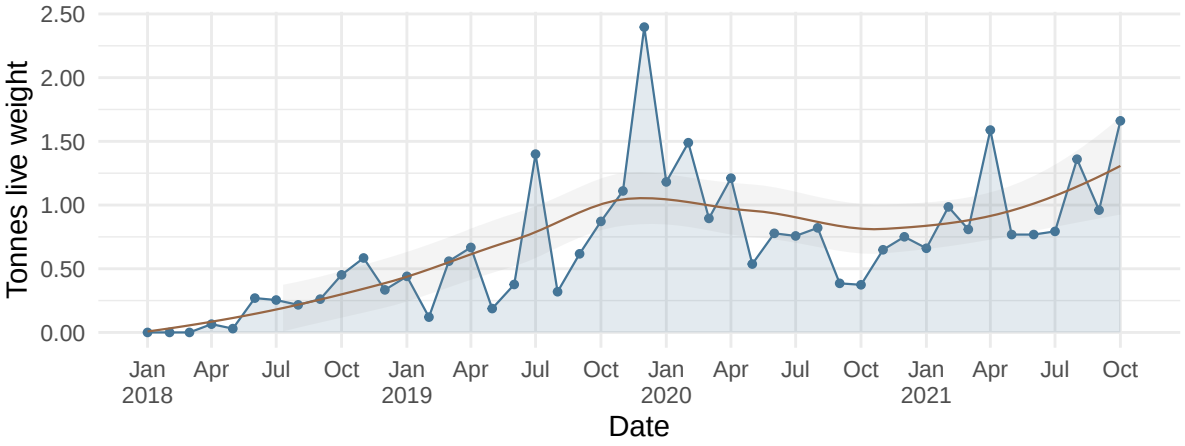
Except for 2019, where there appears to be a greater fishing effort in proportion to the number of fishing trips, the relationship between the two is stable throughout Peskas' period of activity.



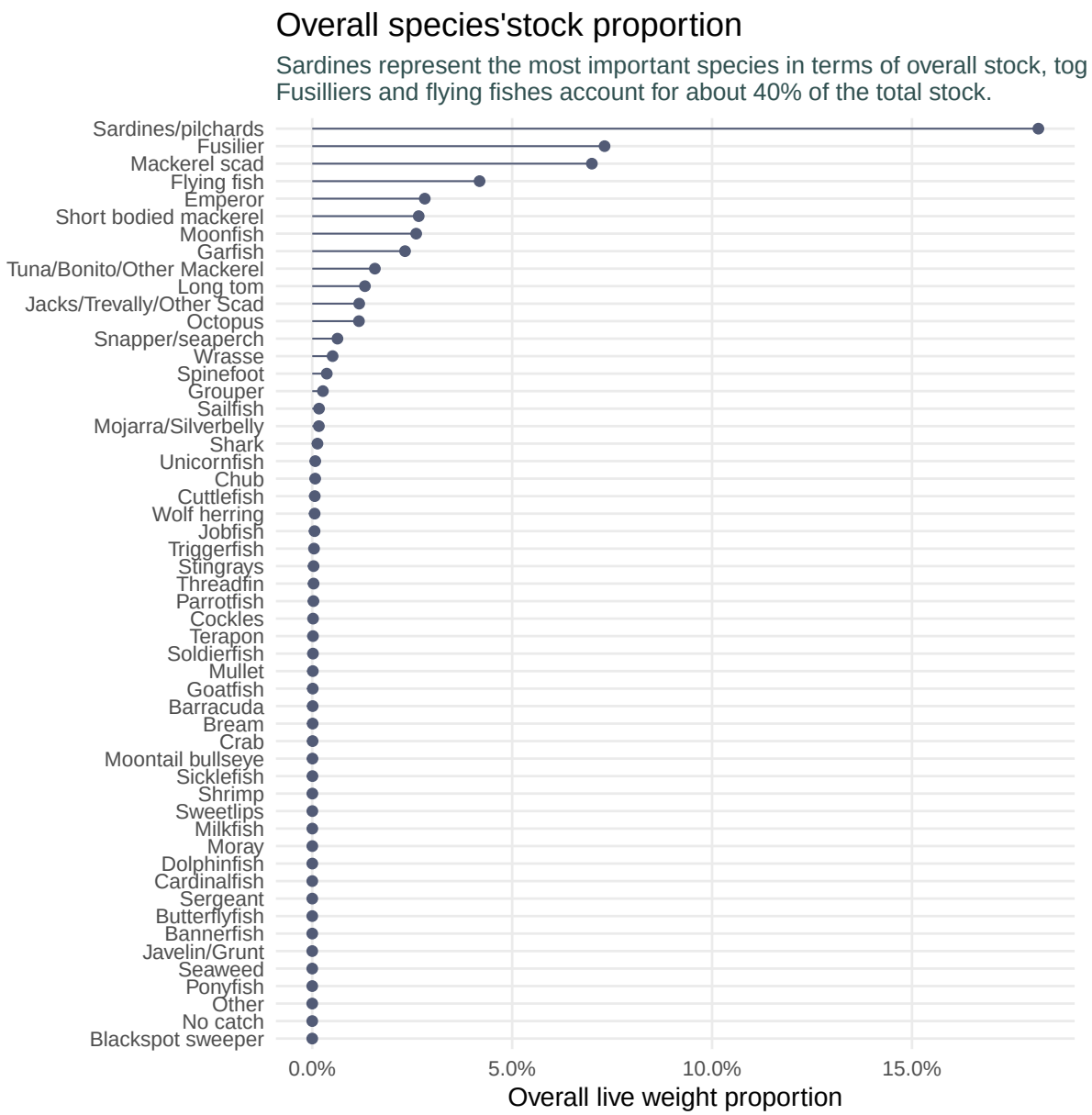
7 Catch volume

Quantity of catch

The catch revenue increased between the end of 2018 and the beginning of 2020 touching values greater than 2 tons at the end of 2019, then it gradually decreased and remained stable for the rest of the series.

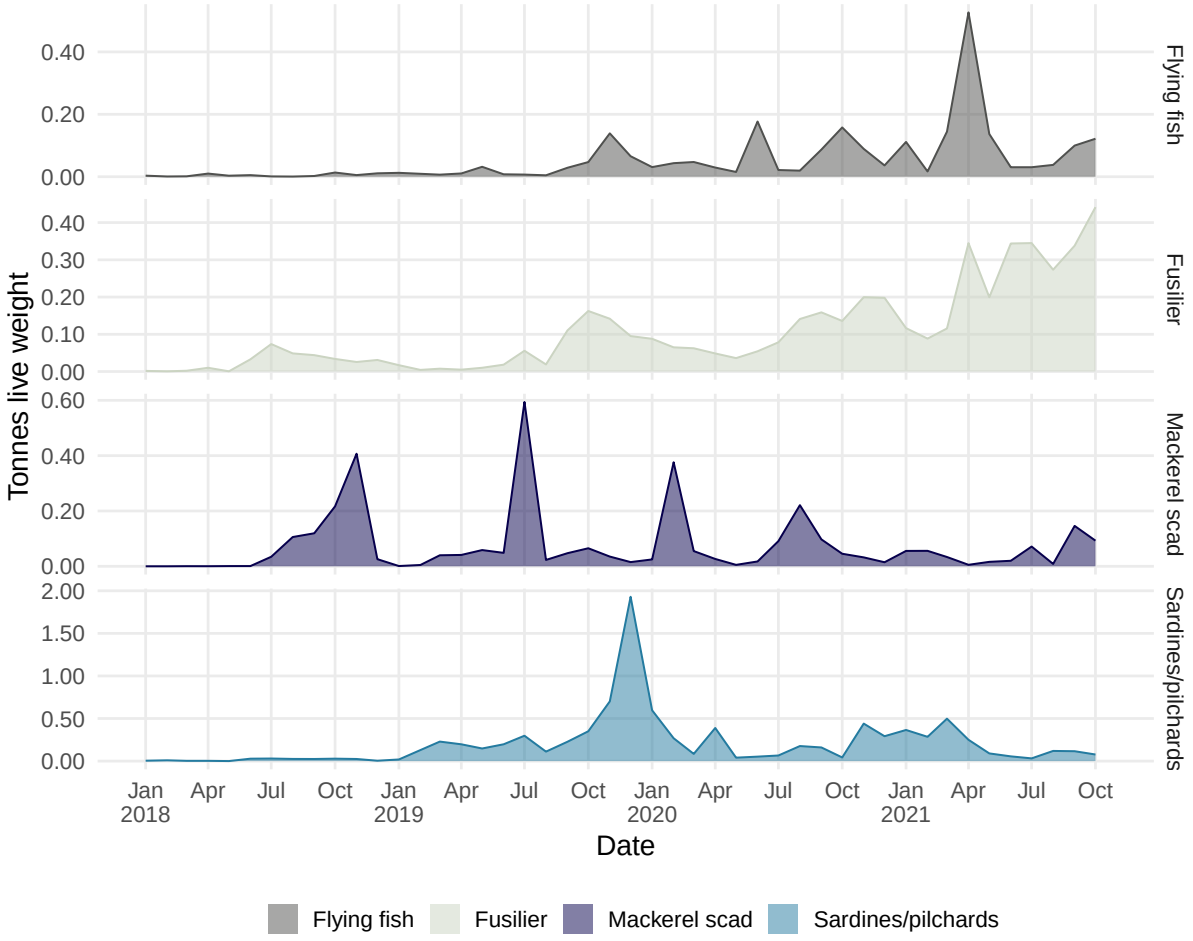


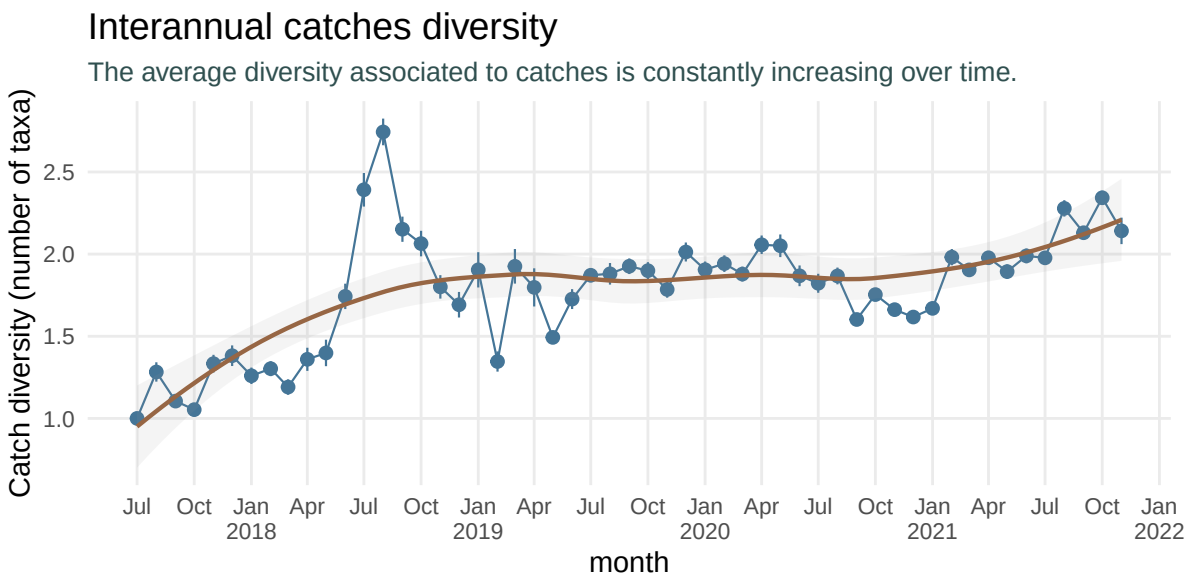
7.1 Species stock



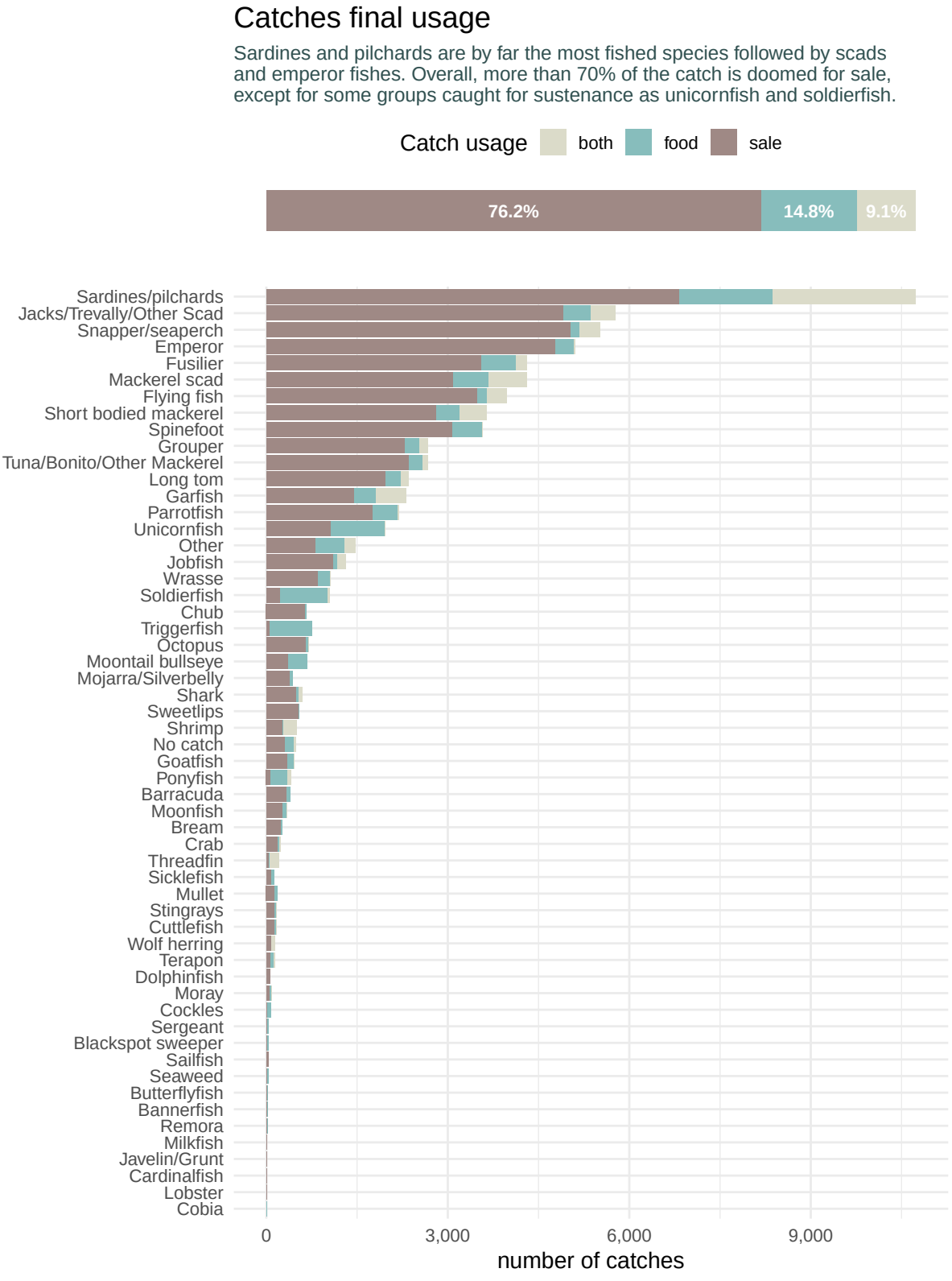
Interannual species distribution

Fishing of the most important species remained mostly stable, except for a considerable increase of fusiliers and to a lesser extent of flying fish.



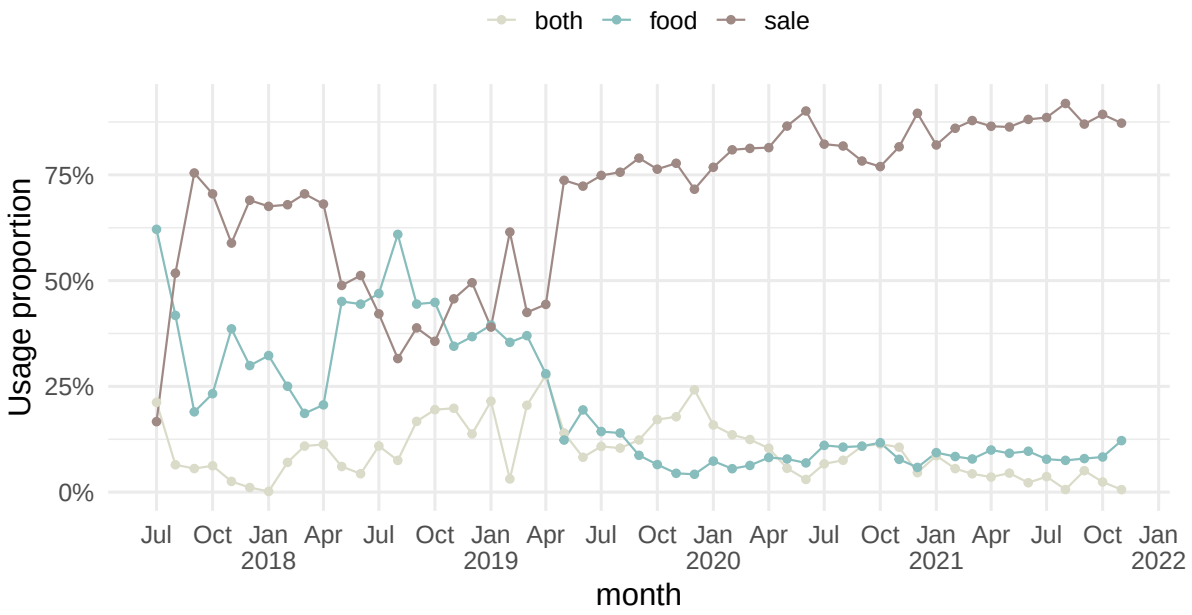

Interannual catches diversity
The average diversity associated to catches is constantly increasing over time.
Catch diversity (number of taxa)
2.5
2.0
1.5
1.0
Jul
Oct
Jan
2018
Apr
Jul
Oct
Jan
2019
Apr
Jul
Oct
Jan
2020
Apr
Jul
Oct
Jan
2021
Apr
Jul
Oct
Jan
2022
month

8 Catch usage



Time series of catches final usage

Since 2019 catches sale is constantly increasing relatively to other usages.



9 Other fisheries

10 About Peskas

Peskas is the official fisheries national monitoring system of Timor-Leste and represents one of the most sophisticated data collection systems for small-scale fisheries in the world.

Peskas' platform collects real-time information directly from fishermen's activity via a system of digital surveys developed in KoBo toolbox. In addition, Peskas uses the technology provided by Pelagic Data System to record vessel movements via solar-powered tracking devices).

The data and the information collected is subjected to an elaborate processing and cleaning through an open-source code pipeline on GitHub, and provide important data in the hands of fisheries officers, researchers and local stakeholders and enables them to better understand the contribution of fish and fisheries to local livelihoods and food security.

Information about the process and user-centred design of the Peskas pipeline and initial analytics, and its application in fisheries research & management can be found in the following publications:

- PeskAAS: A near real-time monitoring system for small-scale fisheries in Timor-Leste. In A. Tilley & M. B. Roscher (Eds.), Information and communication technologies for small-scale fisheries (ICT4SSF) - A handbook for fisheries stakeholders. In support of the implementation of the Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (pp. 11–18). FAO; WorldFish.
- PeskAAS: A near-real-time, open-source monitoring and analytics system for small-scale fisheries. PloS One, 15(11), e0234760.
- Nearshore Fish Aggregating Devices Show Positive Outcomes for Sustainable Fisheries Development Frontiers in Marine Science, 6, 487.