Galleries of ADI's catch data profile 2020-2022

1. Introduction

The Indonesian Demersal Association (ADI) has started to manage demersal fisheries entities in Indonesia. To ensure that ADI has managed its fisheries in compliance with the principles of sustainable fisheries management, ADI has joined the FIP (Fishery Improvement Projects). As a reference for improvement, there are 31 indicators that ADI has to work on in FIP until June 2025. The indicators lump into three principal indicators (PIs): fish stock sustainability, environmental impact, and effective management. In reporting the progress of work plan implementation, the online biennial report is submitted to the fishery progress since June 2020.

One important element in fisheries management is the report of catch data. Each ADI member submits catch data to ADI every six months. Currently, most of the data reported are the result of recording data on fish that enter the processing unit of each company. Hopefully, data from the fishing logging book will soon be available and combined with the processing data so that the proportion of fish stocks exploited at any time can be reported. This document briefly provides an overview or profile of the data collection results conducted by ADI each semester. It should bear in mind that the data which forms the basis for future management still focuses on the dominant species, both from the snapper and grouper groups in each fishery management area (FMA). In this case, ADI's profile deals with FMA 712, 713, and 718.

2. Methods and data interpretation

The primary information presented in this profile is the length distribution relationship and the length-weight relationship of the fish. Both pieces of information are displayed only for samples of fish whose sample size is considered sufficient. Incoming data is carefully examined in terms of species certainty and data suitability. Based on length and weight information, outlier data were excluded from the analysis (<2%).

The size distribution of fish collected so far provides clues not only to catch size but also to show the degree of compliance of the ADI with the recommended minimum size. The latest report from YKAN (2020) is a benchmark for size distribution, in which the size at first maturity (L_m) and trade limits in corresponding FMA is compared. The number of samples collected is only in the category of thousands of samples, so they can be analyzed simply using the Excel tool. The length-weight relationship shows how strongly the length parameter as an independent variable influences fish weight. A higher coefficient of determination (R2) indicates a stronger relationship between the two dimensions and vice versa. Based on this relationship, it also indicates how the variation in length to weight is, in some cases, quite fluctuating.

3. ADI's fisheries profile in FMA 712

3.1. Snapper species composition

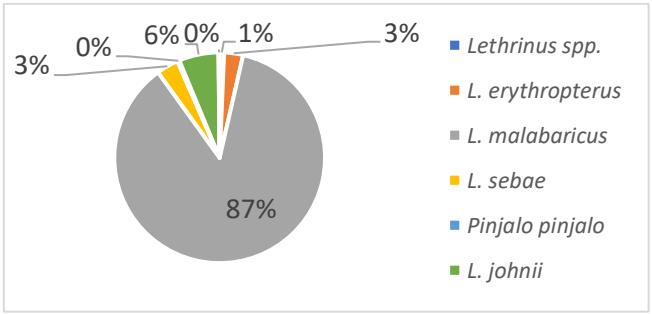

Figure 1. Snapper species composition collected in FMA 712

3.1.1. Malabar blood snapper (Lutjanus malabaricus)

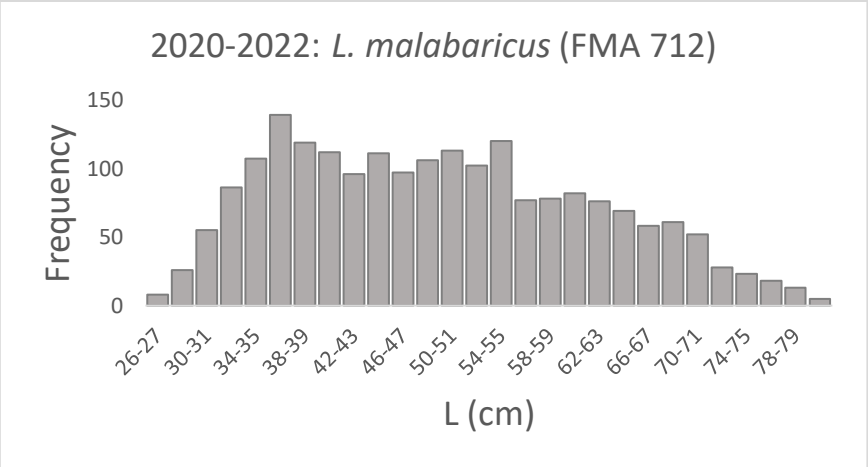

Figure 2. Size distribution of Malabar blood snapper (*L. malabaricus*) collected from FMA 712 during the year 2020-2022

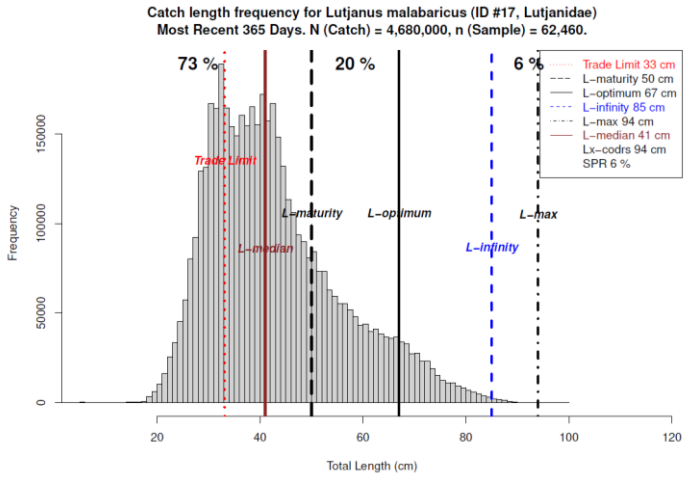

Figure 3. **Benchmark**: Fishery Management Area WPP 712 (Mous et al. 2021).

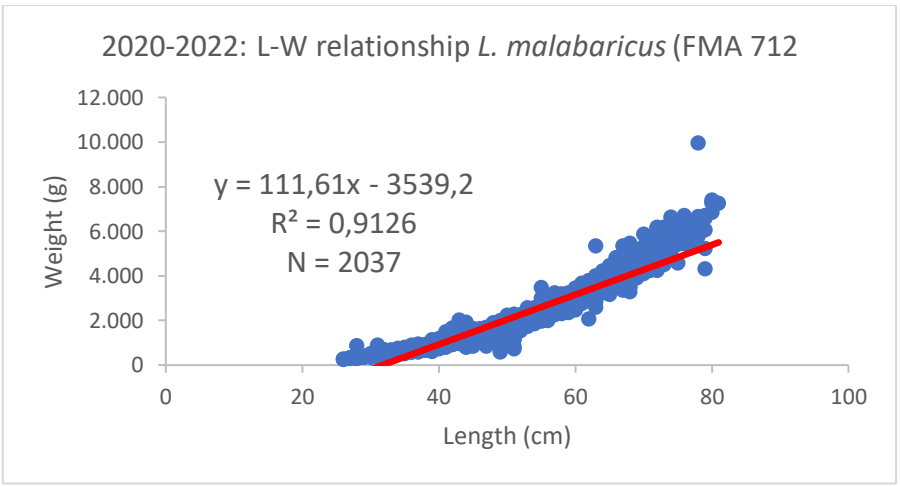

Figure 4. Length-weight relationship of Malabar blood snapper (*L. malabaricus*) in FMA 712 (Based on 2,307 individual fishes)

3.1.2. The crimson snapper *(Lutjanus erythropterus)*

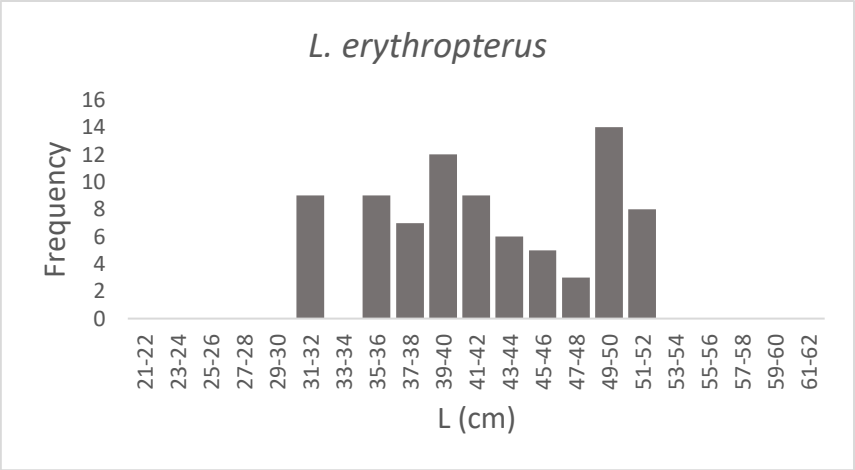

Figure 5. Size distribution of the crimson snapper (*L. erythropterus*) collected from FMA 712 during the year 2020-2022

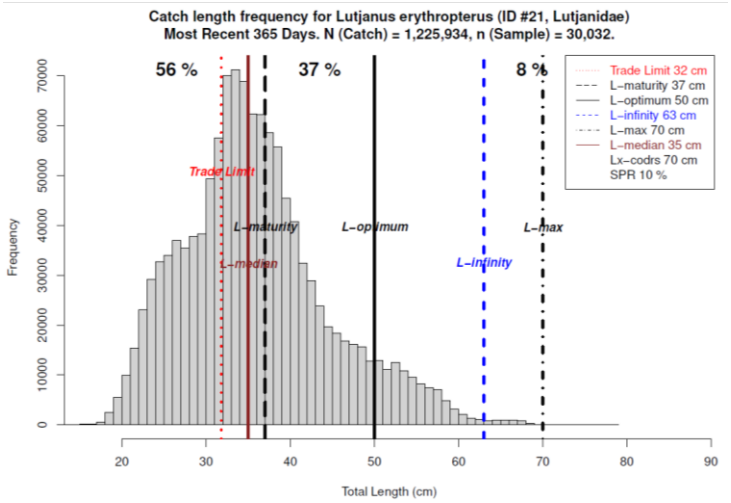

Figure 6. **Benchmark**: Fishery Management Area 712 (Mous et al. 2021)

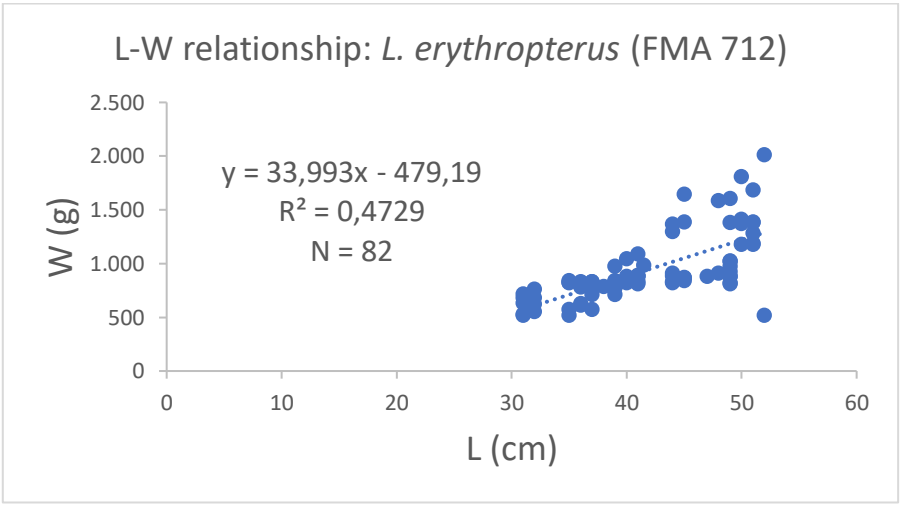

Figure 7. Length-weight relationship of the crimson snapper (*L. erythropterus*) in FMA 712 (small sample size < 100 individual fishes)

3.1.3. Red emperor *(Lutjanus sebae)*

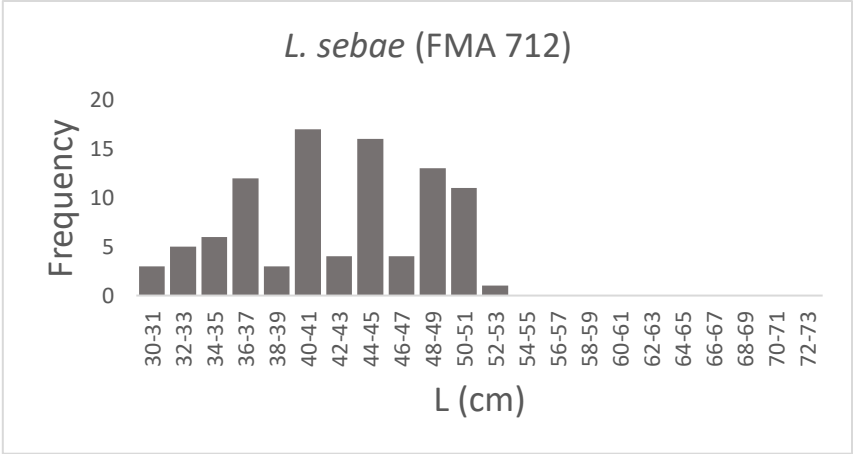

Figure 8. Size distribution of the red emperor (*L. sebae*) collected from FMA 712 during the year 2020-2022

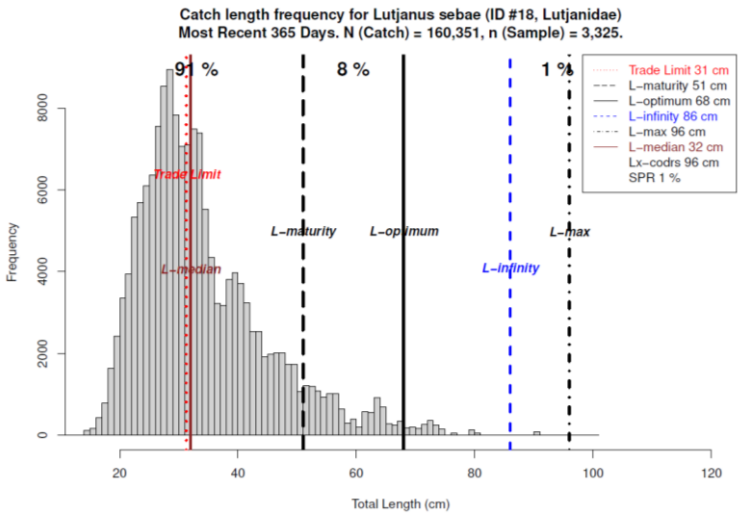

Figure 9. **Benchmark**: Fishery Management Area 712 (Mous et al. 2021)

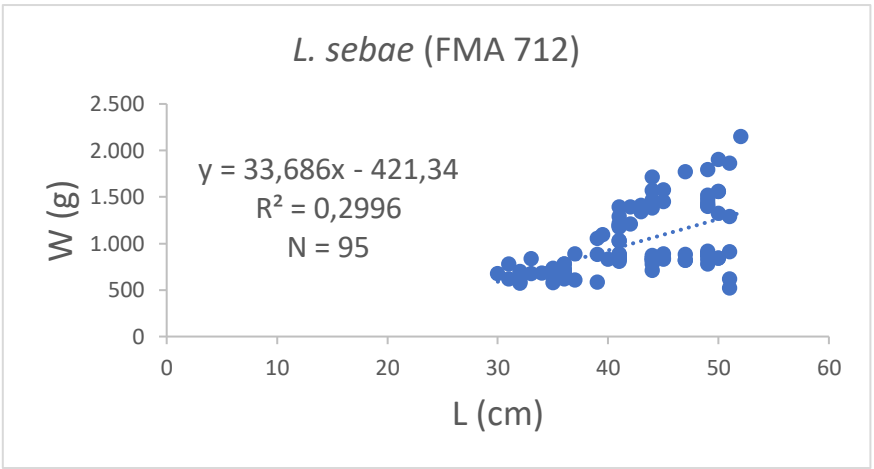

Figure 10. Length-weight relationship of the red emperor (*L. sebae*) in FMA 712 (small sample size < 100 individual fishes)

3.1.4. John's snapper *(Lutjanus johnii)*

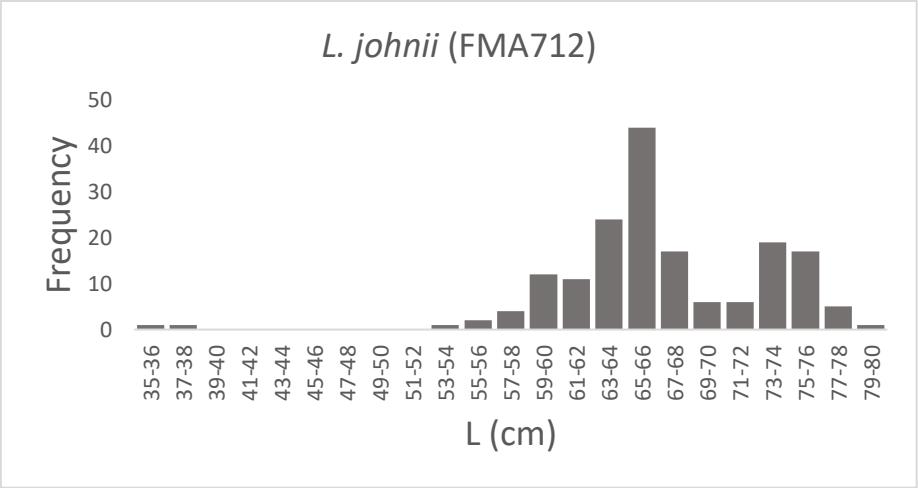

Figure 11. Size distribution of John'snapper (*L. johnii*) collected from FMA 712 during the year 2020-2022

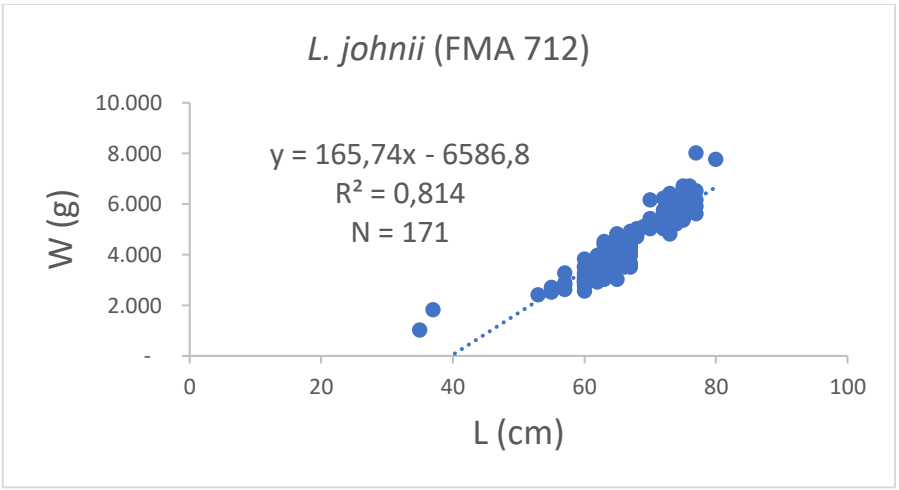

Figure 12. Length-weight relationship of John's snapper (*L. johnii*) in FMA 712 (based on 171 individual fishes)

3.2. Grouper species composition

N/A

4. ADI's fisheries profile in FMA 713

4.1. Snapper species composition

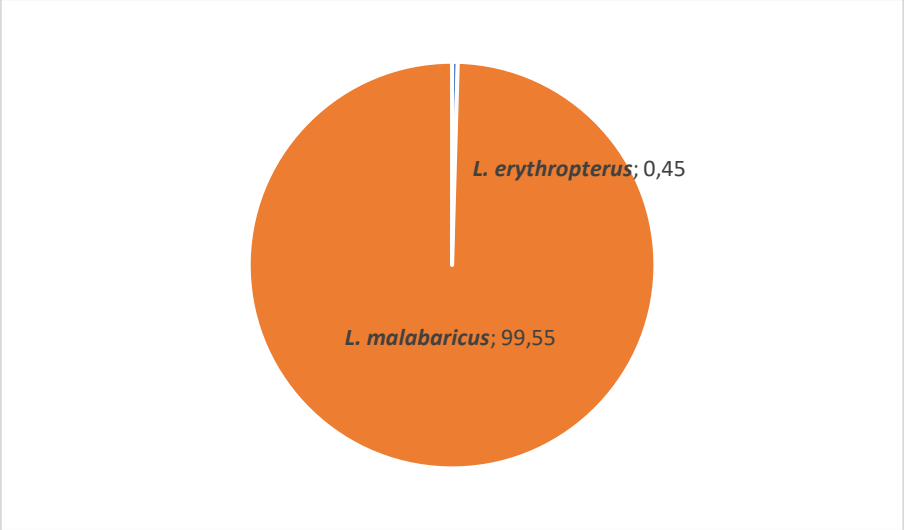

Figure 13. The outstanding Malabar blood snapper (*L. malabaricus*) compared to the crimson snapper (*L. erythropterus*) collected from FMA 713 (2020-2022)

4.1.1. Malabar blood snapper *(Lutjanus malabaricus)*

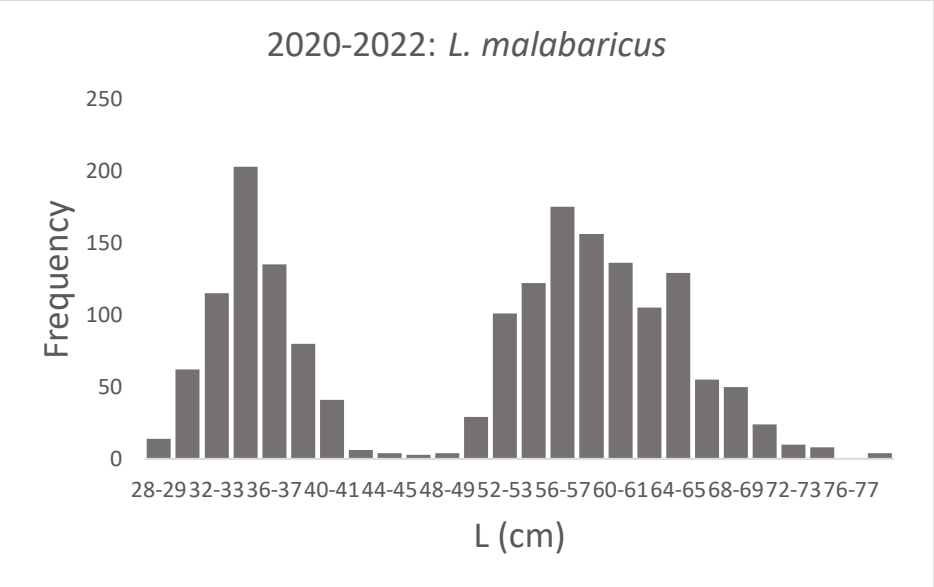

Figure 14. Size distribution of Malabar blood snapper (*L. malabaricus*) collected from FMA 713 during the year 2020-2022

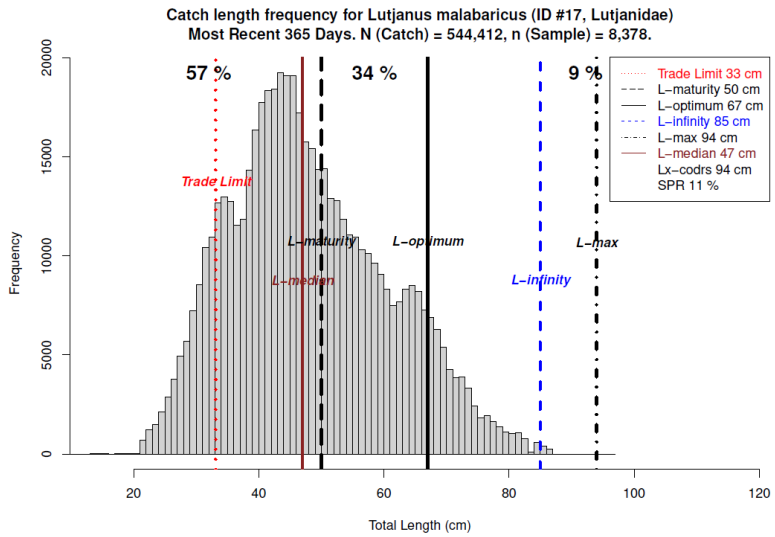

Figure 15. **Benchmark**: Fishery Management Area 713 (Mous et al. 2021)

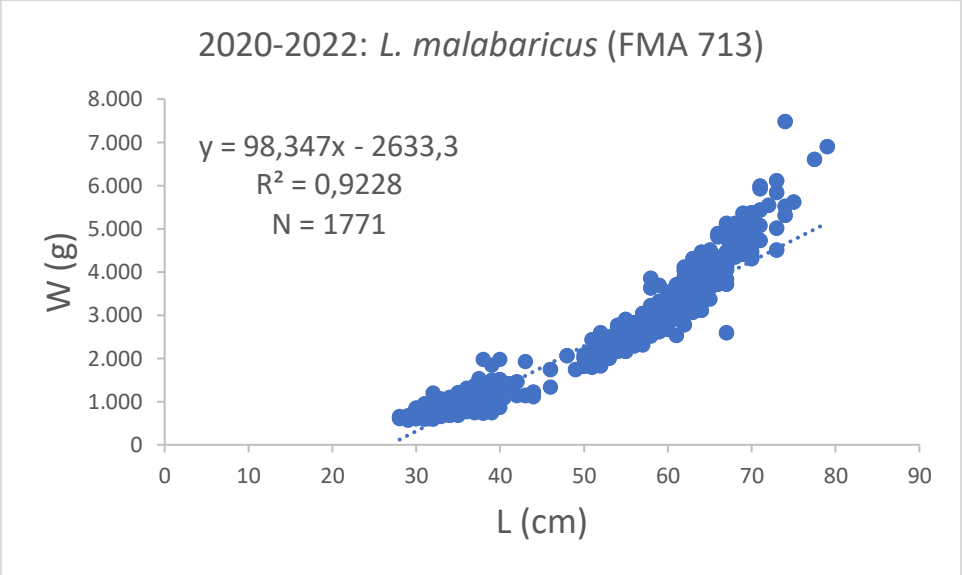

Figure 16. Length-weight relationship of Malabar blood snapper (*L. malabaricus*) in FMA 713 (based on 1771 sample)

4.2. Grouper species composition

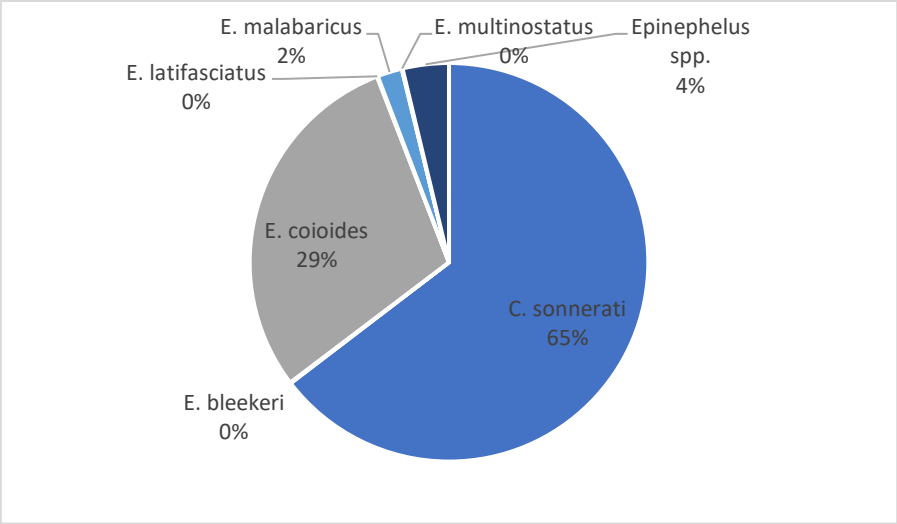

Figure 17. Grouper species composition collected in FMA 713 (2020-2022)

4.2.1. Tomato hind *(Cephalopholis sonnerati)*

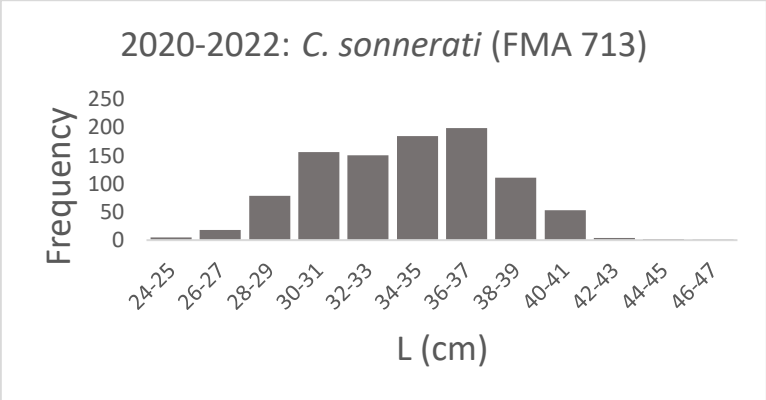

Figure 18. Size distribution of tomato hind (*C. sonnerati*) collected from FMA 713 during the year 2020-2022

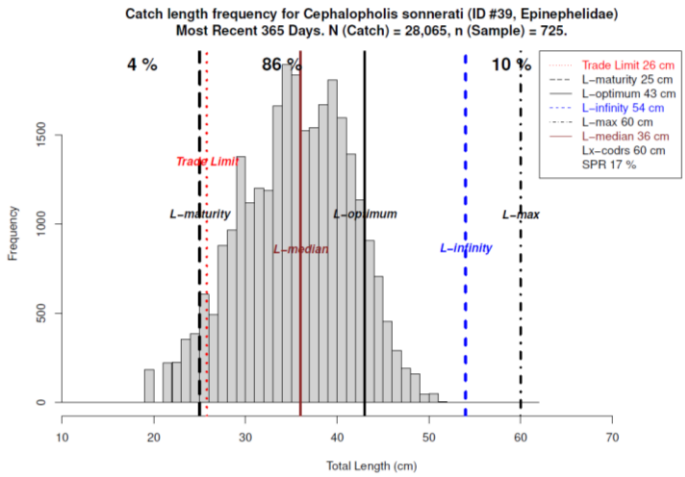

Figure 19. **Benchmark**: Fishery Management Area 713 (Mous et al. 2021)

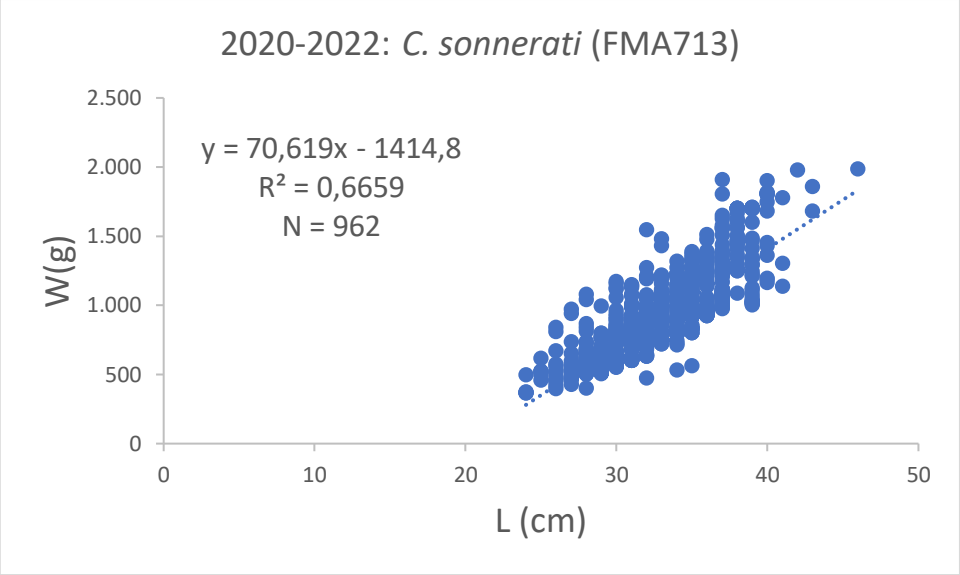

Figure 20. Length-weight relationship of tomato hind (*E. sonnerati*) in FMA 713 (based on 962 sample)

4.2.2. Orange-spotted grouper *(Epinephelus coioides)*

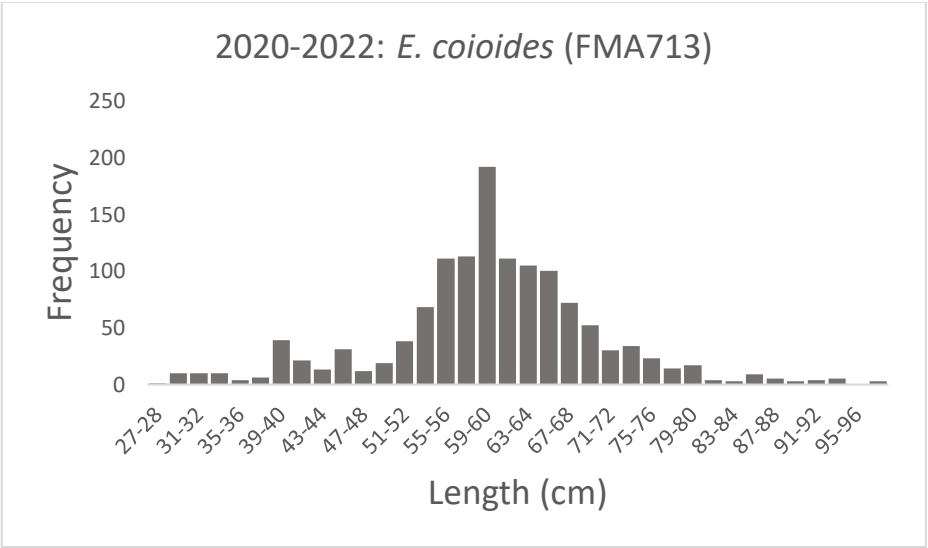

Figure 21. Size distribution of orange-spotted grouper (*E. coioides*) collected from FMA 713 during the year 2020-2022

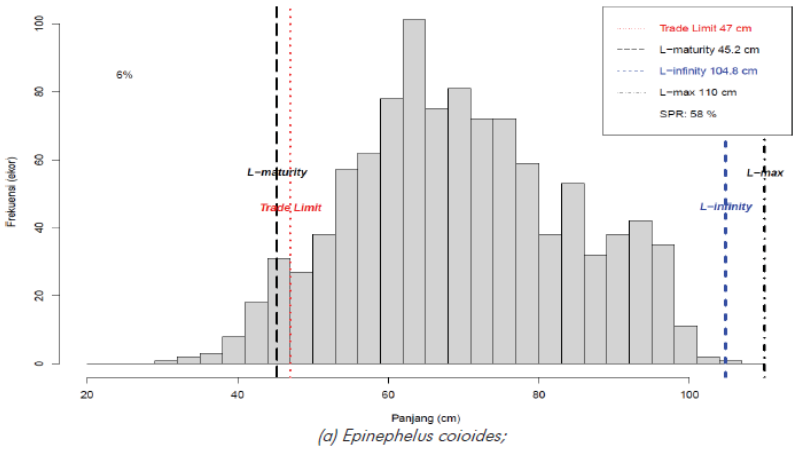

Figure 22. **Benchmark**: Fishery Management Area 713 (MMAF 2020)

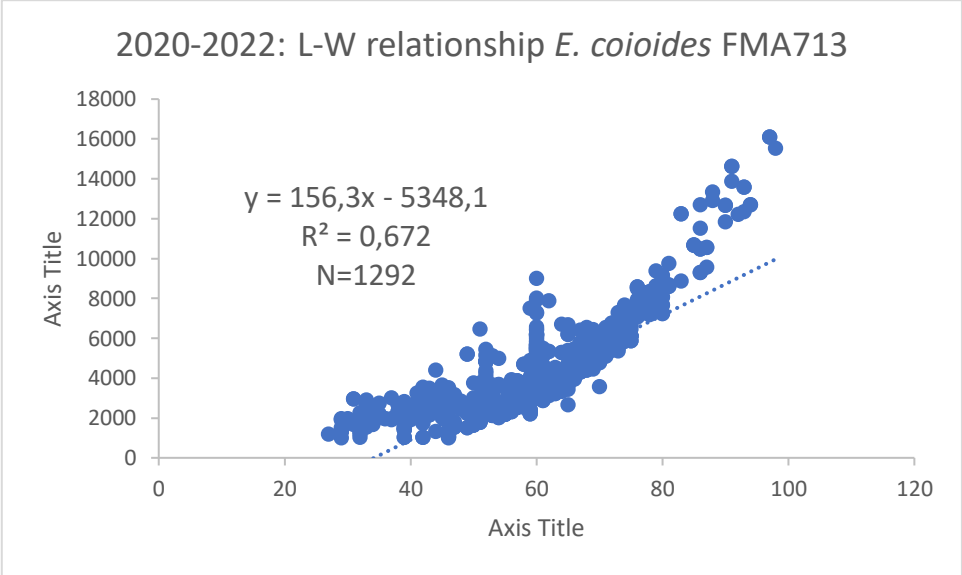

Figure 23. Length-weight relationship of orange-spotted grouper (*E. coioides*) in FMA 713 (based on 1292 sample)

5. ADI's fisheries profile in FMA 713

5.1. Snapper species composition

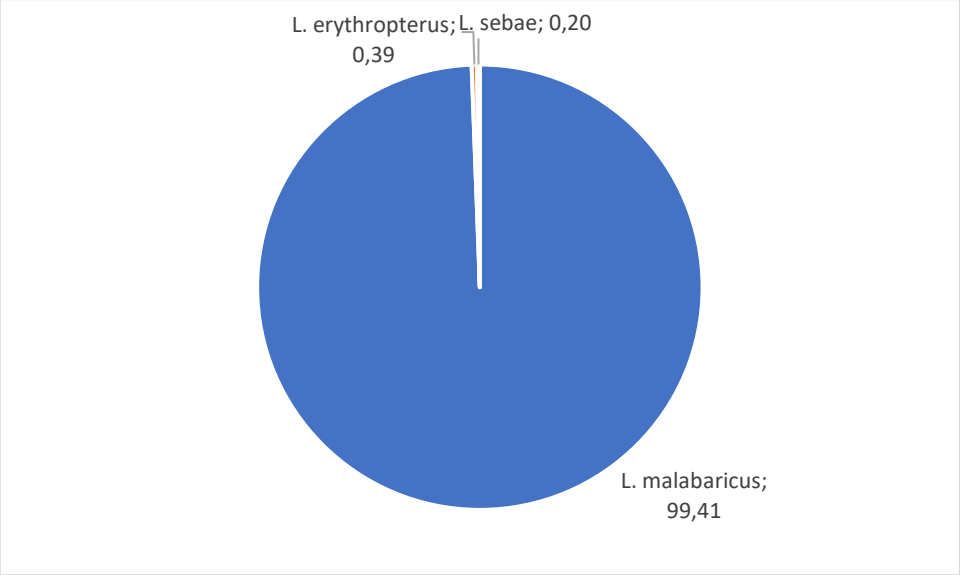

Figure 24. Snapper species composition in FMA 718 showing the Malabar blood snapper as primary species

5.1.1. Malabar blood snapper (*Lutjanus malabaricus*)

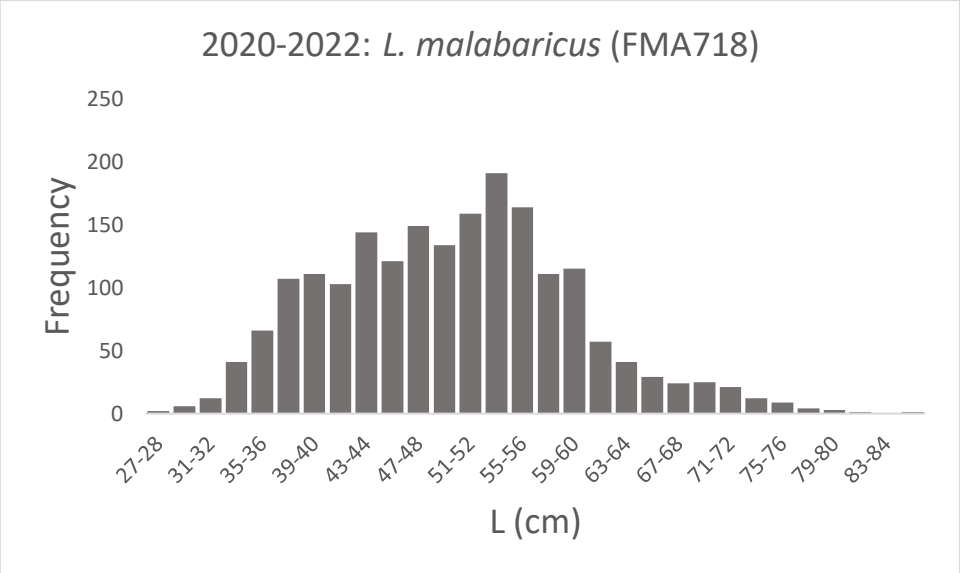

Figure 25. Size distribution of Malabar blood snapper (*L. malabaricus*) collected from FMA 718 during the year 2020-2022

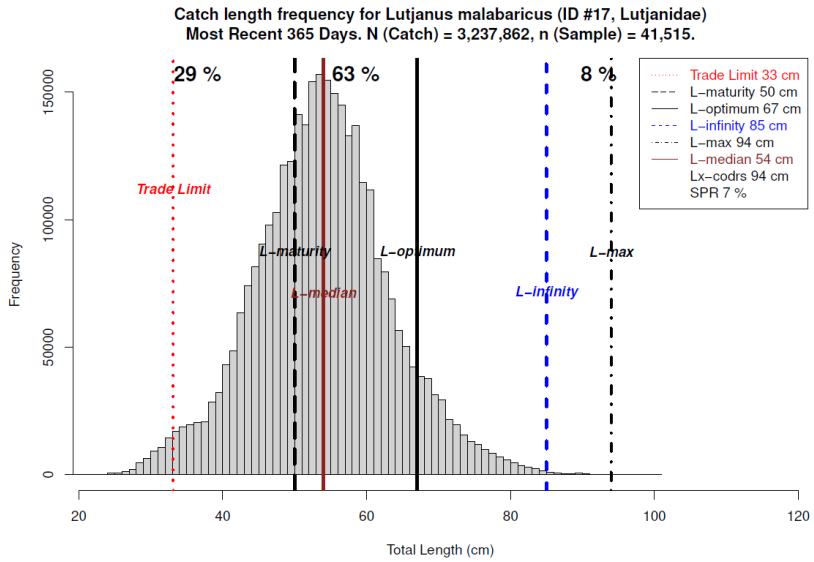

Figure 26. **Benchmark**: Fishery Management Area 718 (Mous et al. 2021)

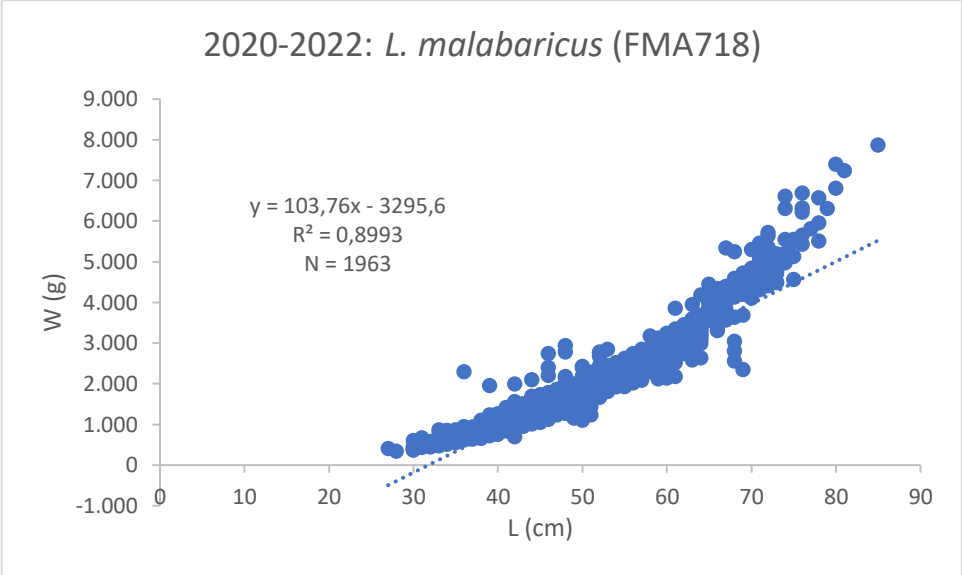

Figure 27. Length-weight relationship of Malabar blood snapper (*L. malabaricus*) in FMA 718 (based on 1963 sample)

5.2. Grouper species composition

5.2.1. Orange-spotted grouper (*Epinephelus coioides*)

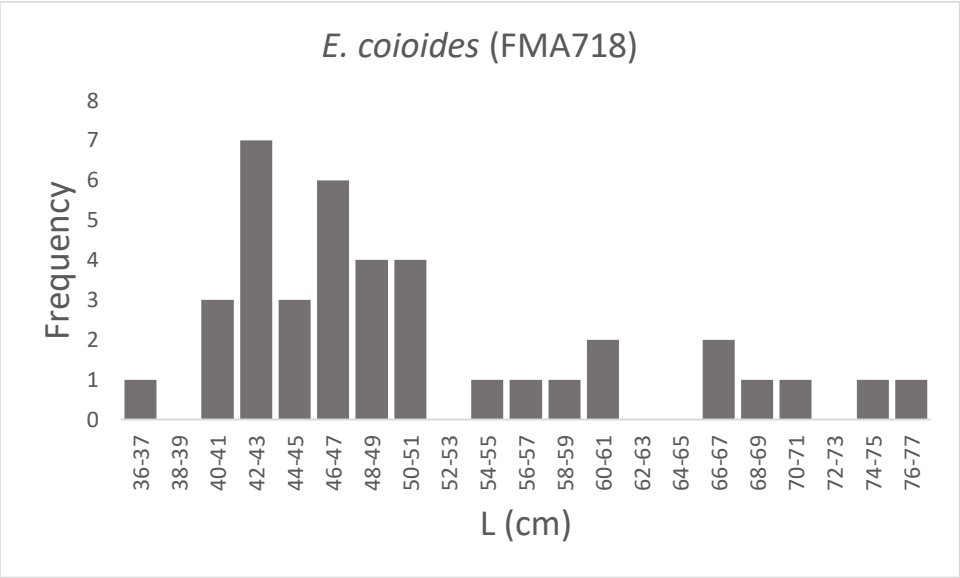

Figure 28. Size distribution of orange-spotted grouper (*E. coioides*) collected from FMA 718 during the year 2020-2022

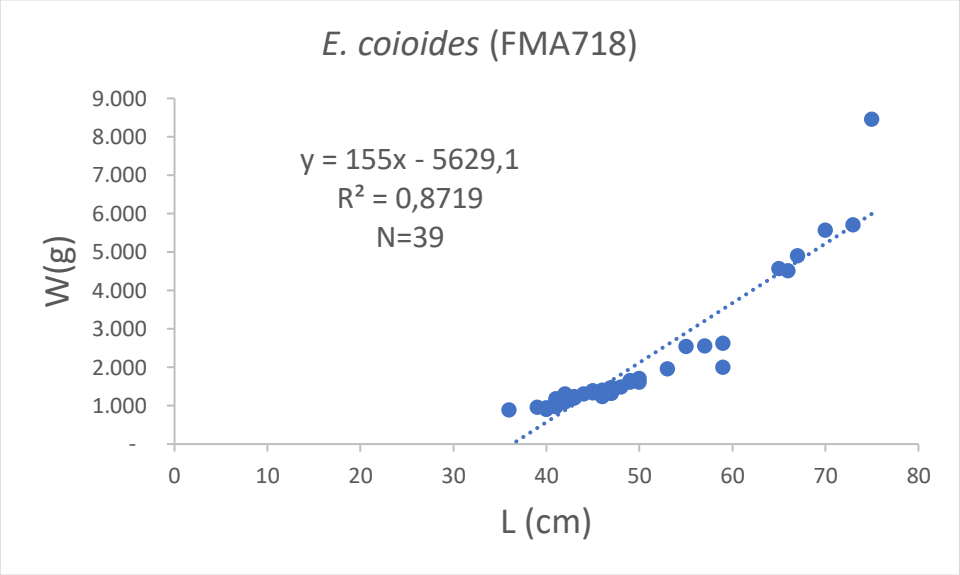

Figure 29. Length-weight relationship of orange-spotted grouper (*E. coioides*) in FMA 718 (based on small sample size <50 individual fishes)