Ad hoc contract on Iberian common sole

Executive Summary

This report assesses the potential fisheries and economic implications of alternative catch limits for Iberian common sole (*Solea solea*) in 2026 and 2027. It describes the mixed-fisheries context, reviews the applicable scientific advice and management arrangements, estimates potential quota-exhaustion periods under five scenarios, and evaluates the associated effects on revenue, gross value added, gross profit and net profit for the principal Spanish and Portuguese fleet segments. The analysis combines Fisheries Dependent Information data with economic data from the Annual Economic Report on the EU Fishing Fleet.

All scenarios explored indicate that quota may be exhausted before the end of the year, with the ICES advice scenario resulting in the potential closure of the fishery in Q2. As common sole is caught alongside a range of commercially important species in mixed demersal fisheries the exhaustion of the common-sole quota may restrict fishing activity beyond the directed sole fishery and create a potential choke situation. The 190-tonne catch limit corresponds to the ICES advice and represents the principal scientific reference point. However, the analysis indicates that this scenario could result in quota exhaustion before the end of the year, with the Spanish allocation potentially exhausted earlier than the Portuguese allocation.

Overall scenario outcomes indicate revenue increases under each of the scenarios, while all other economic indicators indicate decline. This divergence suggests that revenue alone is an inadequate measure of impact because the affected fleets may continue to bear operating, labour and capital costs even where some income is maintained through other species.

While exploration of individual fleet segments highlights that economic impacts vary considerably between fleet segments. Higher catch-limit scenarios generally delay closure and reduce the estimated economic losses, but the report does not assess whether catch levels above the ICES advice would be biologically sustainable or consistent with the Western Waters multiannual plan. It therefore does not recommend a preferred TAC scenario.

Reopening the sole fishery in the fourth quarter of 2026 could result in total landings exceeding the level advised by ICES for the Iberian common sole stock. Based on landings reported through the FDI data call, approximately 65 tonnes of sole were landed during Q4 of 2024. Assuming comparable fishing patterns, a similar quantity would be required to maintain fishing activity during Q4 of 2026.

The results are subject to substantial uncertainty. Landings projections are based principally on 2024 FDI patterns, while the economic assessment relies on AER data available only up to 2023. The analysis cannot fully account for more recent changes in stock availability, catchability, fleet behaviour, effort allocation, quota management or market conditions.

Quarterly data also provide only an approximate indication of closure timing, while confidentiality-related clustering reduces the precision of some fleet-level economic estimates.

Species identification and reporting constitute a particularly important limitation. Common sole, Senegalese sole, sand sole and catches recorded as *Solea* spp. are not consistently identified in FDI. The species split applied in this assessment is therefore an analytical assumption rather than a validated reallocation of the underlying FDI records. This uncertainty directly affects estimated common-sole landings, quota uptake, fleet dependence and economic impacts. Accordingly, the results should be interpreted as indicative estimates of the direction and possible scale of impacts, rather than precise forecasts or evidence supporting a specific TAC level.

Finally, the outcomes of this static analysis do not account for the possibility that fleets may have already adjusted their activity in response to reduced fishing opportunities and lower TACs. Such adjustments could include changes in fishing location, timing, métier, effort allocation, catch composition or targeting behaviour. Reductions in sole catches may also reflect declining stock availability, rather than behavioural adaptation alone. The relative contribution of these factors cannot be determined from the available aggregated data. If fleets have already adapted successfully to reduced sole availability, estimates based on earlier fishing patterns could overestimate the additional TAC required to avoid the premature closure of mixed fisheries

1 Background from the Commission

The Council sets fishing opportunities for sole species (common sole, Senegalese sole and sand sole) in the Iberian waters (SOO/8CDE34) on a biannual basis. This TAC includes a sub-TAC for common sole (SOL/8CDE34), which is jointly shared between Portugal and Spain. Iberian common sole is a target species under the Western Waters multiannual plan (WW MAP, link).

The current TAC is set in Regulation (EU) 2026/249 (link). This year, the TAC for Iberian common sole was exhausted, and the fishery was consequently closed on 19 June 2026. In August, Portugal provided information highlighting that Iberian common sole is caught in mixed fisheries and the resulting choke effect caused by the closure.

2 Terms of Reference

Task 1 The contractor is requested to use FDI data to describe to what extent common sole, is caught in mixed fisheries, the relevant metiers and the potential for choke species scenarios.

Task 2 The contractor is requested to assess the “total effect” on the fisheries and the economic impact of setting the TAC for Iberian common sole for 2026 and 2027 at the following levels:

- (i) Baseline: 165 tonnes fished between 1 January and 19 June 2026;
- (ii) the ICES advice published in June 2025 (link) and associated 2026 TAC: 190 tonnes;
- (iii) recent 2025 landings: 270 tonnes; and

- (iv) at an additional level compared to (i) that would allow relevant mixed fisheries to be reopen as of 30 September or as of 31 October (and until 31 December 2026), based on the 2025 fishing effort and the average effort of the last three years.

Task 3 The following projections should be made:

a) Project the closure dates of the relevant mixed fisheries / metiers catching Iberian common sole when setting the TAC for Iberian common sole for 2026 and 2027 in line with the scenarios (ii) to (iii).
b) Project the TAC for Iberian common sole for 2026 and 2027 in line with the scenario (iv).
c) Assess the economic impacts under scenarios (ii) to (iv) compared to the (i) (baseline) scenario based on the following economic variables: revenue, Gross Value Added (GVA), Gross Profits (GP) and Net Profit (NP)).

Task 4 Assess the uncertainties associated to the projections and their likely impact on the results obtained. Provide recommendations on how these uncertainties could be addressed, including through methodological improvements.

When addressing the request above, the following should be considered: most recent effort data, catch composition and catchability for metiers targeting or by-catching Iberian common sole; the seasonality of the fishery; and the implementation of the landing obligation. For the "choke situation" analysis, only the following stocks should be considered: target stocks under the WW MAP, stocks with fishing opportunities at EU level, and stocks economically relevant in the concerned metier.

3 Introduction

Sole in Atlantic waters is typically caught as part of mixed demersal fisheries. The management of these fisheries is complicated by difficulties in distinguishing between sole species and by inconsistencies in species identification and catch reporting. These challenges are particularly relevant in Iberian waters, comprising ICES divisions 8.c, 8.d, 8.e, 9 and 10, and Union waters of CECAF division 34.1.1.

Two Total Allowable Catches (TACs) apply to groups of sole species in this area: SOO/8CDE34 and SOL/8CDE34. The species composition and geographical coverage of these TACs differ, creating potential difficulties in attributing catches to the appropriate species, stock and management unit. In particular, uncertainty arising from species misidentification or misreporting may affect the interpretation of catch data and the management of common sole (*Solea solea*). Recent ICES work has documented these identification and reporting challenges and their implications for scientific assessment and fisheries management ICES 2025.

Recent reductions in ICES catch advice for common sole in divisions 8.c and 9.a, sol.27.8c9a, resulted in a restrictive TAC for the stock. Rapid quota uptake subsequently led to the closure of the fishery on 19 June 2026. This closure may have affected fishing

opportunities in the wider mixed demersal fishery, including opportunities for vessels targeting or retaining other commercially important species caught together with sole.

The objective of this ad hoc assessment is to examine the consequences of setting the TAC for sol.27.8c9a at alternative levels. The assessment will consider the implications of these alternative TAC scenarios for the timing of a potential fishery closure and for the economic performance of the fleets concerned. The analysis is strictly analytical and does not seek to recommend or endorse a particular TAC level.

The assessment will:

1. Describe the fishery, including its fleet and catch characteristics, the applicable management measures and the available scientific advice.
2. Estimate the potential closure dates in 2026 and 2027 under alternative TAC scenarios.
3. Assess the potential economic impacts associated with each alternative TAC scenario.
4. Summarise the principal data and methodological limitations of the assessment and identify recommendations for improving future analyses.

4 Data

Two datasets were used in this analysis: the Fisheries Dependent Information (FDI) dataset, and the dataset supporting the Annual Economic Report on the EU Fishing Fleet (AER). The analysis covered the three most recent years for which sufficiently complete data were available: 2022, 2023 and 2024.

The FDI dataset was used to characterise catches, fishing effort, capacity and the spatial and temporal distribution of fishing activity. The AER dataset was used to provide economic information at fleet-segment level. The two datasets were subsequently combined to assess the potential fleet-level economic consequences of alternative TAC scenarios.

4.1 FDI

The FDI dataset used in this analysis was provided by the Joint Research Centre following a dedicated data request. It comprises harmonised fisheries-dependent data submitted by Member States in response to the annual data call under the EU Data Collection Framework.

The dataset contains information on fishing capacity, effort, catches, landings, discards and biological sampling. Depending on data availability and applicable confidentiality constraints, the information is disaggregated by year, quarter, fishing area, fleet segment, métier and species. It therefore provides a consistent basis for examining fleet activity, including the spatial and temporal allocation of effort, gear use, catch composition and changes in fishing patterns that may be associated with fisheries-management measures.

Member State submissions are reviewed annually by an STECF Expert Working Group. Periodic methodological reviews also seek to improve the consistency of estimation procedures and data submissions across Member States (STECF, 2025a; STECF, 2025b).

For the purposes of this analysis, the following FDI tables were used:

- Table A: catches and landings;
- Table G: fishing effort; and
- Table J: fleet capacity.

An important limitation of this data concerns the taxonomic resolution of the catch data reported for sole. Species information in FDI Table A reflects the species codes recorded in the source fisheries data, including logbooks, rather than the results of an independent scientific procedure for species identification (i.e. InterCatch). Consequently, the assignment of catches to individual sole species may be affected by misidentification, the use of genus-level codes or inconsistencies in national recording and reporting practices.

Five species or taxonomic categories associated with sole were recorded in the FDI data for the area (27.8c, 27.8d, 27.8e, 27.9a) and period (2022 – 2024) examined:

- common sole, *Solea solea* (SOL);
- Senegalese sole, *Solea senegalensis* (OAL);
- Sand sole, *Pegusa lascaris* (SOS);
- sole identified only to genus level, *Solea* spp. (SOO);
- Egyptian sole, *Solea aegyptiaca* (EGY);
- elongated sole, *Solea elongata* (SZI); and
- ovate sole, *Solea ovata* (OAO).

The occurrence of some of these species codes in the dataset, particularly where the reported species would not normally be expected in the relevant fishing area, should not be interpreted as confirmation of their biological presence. Such records may reflect species misidentification, coding errors, the use of commercial rather than taxonomic categories, or inconsistencies introduced during data compilation and submission.

These uncertainties are particularly relevant to the present analysis because catches reported as *Solea solea*, *Solea* spp. or other sole species may be assigned to different biological stocks or TAC reporting categories. The FDI data alone do not provide a scientific basis for reallocating catches among species.

To circumnavigate this challenge only SOL, SOS, OAL and SOO were considered in this analysis. ICES InterCatch estimates of landings of SOL were used to determine the percentage of the total TAC taken in a year that should be considered SOL (ICES 2026a)(Table 4.1.1). The sole species data reported to ICES InterCatch have been adjusted for

scientific estimates of species, and therefore provide a better estimate of the proportion of SOL caught in Iberian Waters. However, the uncertainty resulting from this assumption should be considered when interpreting species-specific catch trends and estimated quota uptake. Sole species submitted to the Table A of FDI are not adjusted for scientific estimates of species separation. Discards of SOL in Iberian Waters are considered negligible (ICES 2025b) therefore the remainder of the analysis considers the impact on landings only.

Table 4.1.1 Catches (in tonnes) of *Sole solea* reported to InterCatch (ICES catch) and total *Solea* spp reported to FDI, from 2021–2025 (ICES 2026a, STECF 2025 a)

Year	ICES *Solea solea* landings	Total *Solea* spp. In FDI landings	ICES estimated proportion of *Solea solea* applied to the to FDI Solea spp. landings
2021	372	751	0.50
2022	301	630	0.47
2023	303	625	0.48
2024	285	539	0.53
2025	257	unknown	unknown

4.2 AER

The AER data set used was downloaded from the publicly available website (STECF 2025c d). The dataset comprises harmonised structural, activity, employment and economic data submitted annually by EU Member States under the EU Data Collection Framework and Multiannual Programme. Data are reported at Member State and fleet-segment level and include vessel capacity, employment, fishing effort, landings, income, operating costs, capital value, gross value added and profitability indicators.

The AER dataset can support analyses of fleet behaviour by allowing changes in activity, fleet structure, economic performance and resource use to be compared among fleet segments, regions and years, including possible responses to fuel prices, stock availability and fisheries-management measures. Member State submissions are evaluated by STECF expert working groups and used to produce EU-level, regional and national fleet assessments, with recent reports also including nowcasts for years for which complete economic data are not yet available. Nevertheless, differences in national estimation methods, data coverage and levels of aggregation should be considered when making comparisons among fleets, Member States or reporting periods (STECF 2025d). Economic, landings, effort and capacity data from the Fleet Segment Table.

Although the AER provides the best available estimates of economic information at the level of the fleet segment, when merged with the FDI data set provides a highly disaggregated tool

that enables the user to explore the impact trends in species and areas specific trends at the level of quarter and year.

At the time that this ad hoc was completed AER data for 2026 (STECF 2026) was not publicly available and was requested form JRC too late to include in this analysis.

5 Methods

5.1 Fleet data handling

Before merging the FDI and AER datasets, both datasets were aggregated to a common level of resolution, defined by year and fleet segment, and filtered for the fleet segments identified as catching sole in Iberian Waters. Key variables available in both datasets, including landings, fishing effort and fleet capacity, were compared to assess consistency. A summary of this comparison is presented in Annex 1.

The comparison highlighted that the two datasets were sufficiently consistent for the purposes of the analysis in terms capacity. Nevertheless, differences were observed in the total values reported for some fleet segments. These differences mainly resulted from the clustering procedures applied in the AER dataset to comply with national confidentiality requirements. Under these procedures, data for smaller fleet segments, including their total landings by weight, may be combined with data for other fleet segments. Consequently, the allocation of landings among fleet segments may differ between the AER and FDI datasets, even where the overall totals are broadly comparable.

Substantial differences were identified in the effort metrics reported through the FDI and AER data calls. For several fleet segments included in this analysis, some Member States did not report total days at sea within the FDI dataset, limiting the direct comparability of effort indicators between the two sources. Among the available effort variables, total kW fishing days exhibited the highest degree of consistency between the FDI and AER datasets. Nevertheless, for a number of smaller fleet segments, the level of agreement between the two data sources deteriorated over parts of the time series.

In contrast, strong consistency was observed for fleet capacity indicators, particularly the number of vessels reported under each data call (Figure 5.1.1). This provided some confidence that fleet segment level economic information could be merged for the purposes of this analysis. Consequently, the effort-share approach was based exclusively on the FDI data, while fleet segment level economic variables derived from the AER dataset were allocated according to the proportion of total kW fishing days represented by each effort share within the corresponding FDI fleet segment. This approach ensured consistency with the activity data reported through the FDI while retaining the economic information available from the AER.

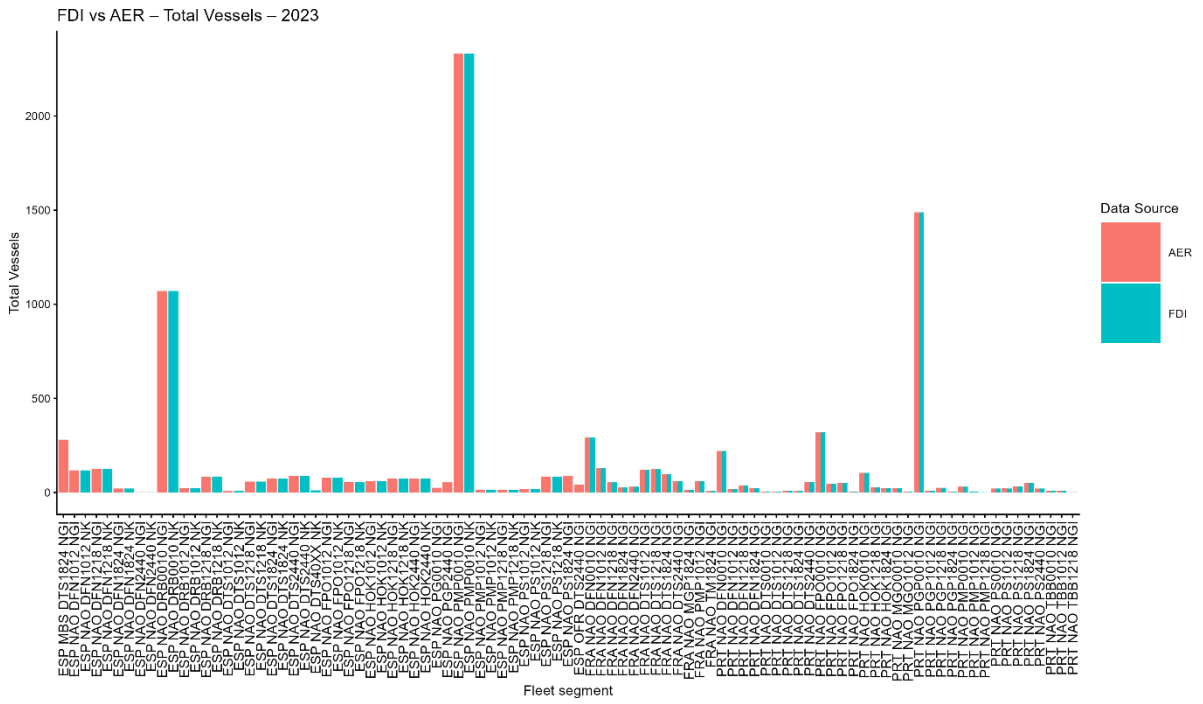

Figure 5.1.1 Summary of alignment in total number of vessels reported to FDI and AER data calls per fleets segment.

AER data was not available for 2024, so it was populated with an average of the previous 3 years (2021-2023) at the level of country_code, supra_reg, fishing_tech, vessel_length, geo_indicator, fs_name and variable_code. Cluster name was not included in aggregation as there appeared to be strong interannual variation.

To create the fleet data FDI effort was merged to FDI landings by country, area and year, with the total weight of landings in tonnes being used to partition effort to landings of species within a year, fleet segment and area.

Following the guidance of the SECFISH project (Bitetto et al., 2022), AER economic data was then merged with the FDI landings and effort by calculating the relative effort share of a species in an area, within a fleet segment and year, and partitioning the economic variables across the fleet based on this effort share f.

5.2 Scenarios

Five alternative TAC scenarios are explored in this ad hoc report (Table 5.2.1). Each scenario provides an alternative basis by which the TAC was selected. With the assumption that the fishing patterns of *Solea solea* in 2026 would be similar to those of the final available data year 2024.

An average of the last three years available data (2022 – 2024) was not advised by the ad hoc author as the fishing patterns in this time period do not match the current fishing patterns (2025-2026) where due a perception that the stock is current below biomass safeguards ($I_{trigger}$, Figure 5.2.1, ICES 2025). Despite an increase of in the biomass index in 2024, it has declined again in 2025 (Figure 5.2.3), which when combined with a continued decrease in

LPUE (Figure 5.2.2, ICES 2026a) may indicate that the biomass of commercially viable sole remains low, although changes in fishing behaviour, spatial distribution or catchability may also have contributed to the observed LPUE trend.

Member State specific impacts were assessed by assuming relative stability, i.e. proportion of TAC spit in 2026 would apply also in 2027 with Portugal taking 62% and Spain 38% (see section 6.2).

Table 5.2.1 Summary of scenario parameterisation.

Scenario	Estimation basis	Landings limit* (tonnes)	Source
Landings reported to June 2026	Landings reported by Member States under the Control Regulation up to June 2026. Figures were adjusted using ICES estimates of species composition for 2022–2024.	**165**	DG MARE
ICES advice	Annual catch advice issued by ICES for 2026 and 2027.	**190**	ICES advice (ICES, 2025a)
2025 landings	Landings reported by Member States under the Control Regulation for 2025. Figures were adjusted using ICES estimates of species composition for 2022–2024.	**270**	DG MARE
Reopening scenario 1 Q1–Q2 2026 plus Q4 2024	Landings reported by Member States up to June 2026, covering Q1 and Q2 of 2026, adjusted using ICES estimates of species composition for 2022–2024. Q4 landings were estimated using reported landings from Q4 2024, the latest year for which data were available (calculated in section 6.3).	**230**	DG MARE and FDI, Table A
Reopening scenario 2 Q1–Q2 2026 plus average Q4 landings	Landings reported by Member States up to June 2026, covering Q1 and Q2 of 2026, adjusted using ICES estimates of species composition for 2022–2024. Q4 landings were estimated using average reported Q4 landings for 2021–2023(calculated in section 6.3).	**223**	DG MARE and FDI, Table A

*Discards are considered negligible for this stock

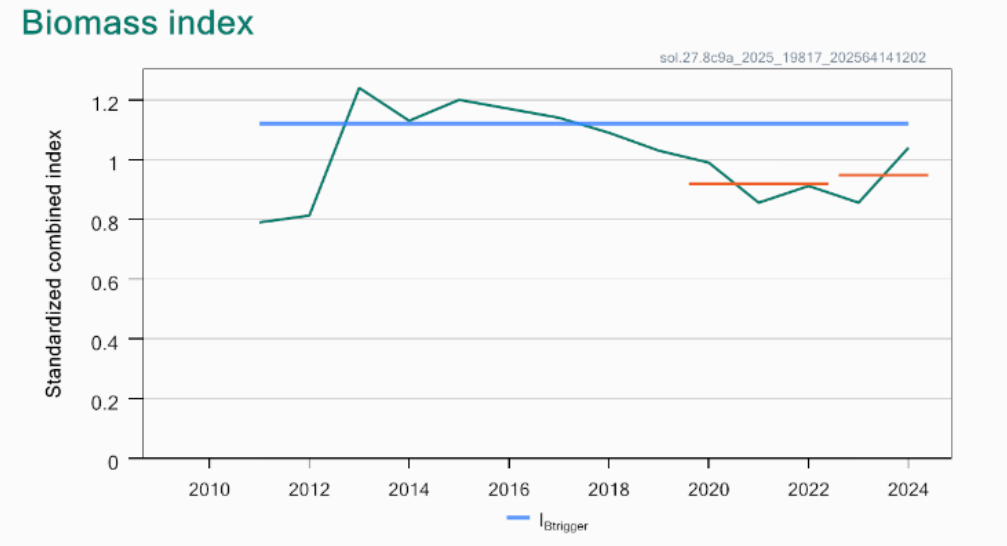

Figure 5.2.1 Sole (*Solea solea*) in divisions 8.c and 9.a. Summary of the stock assessment. Combined stock biomass index from commercial Portuguese LPUE and the quarter 4 Spanish North bottom trawl survey (shown by the green line). The horizontal orange lines indicate the average of the biomass index for 2020 to 2022 and for 2023 to 2024. Source ICES 2025b

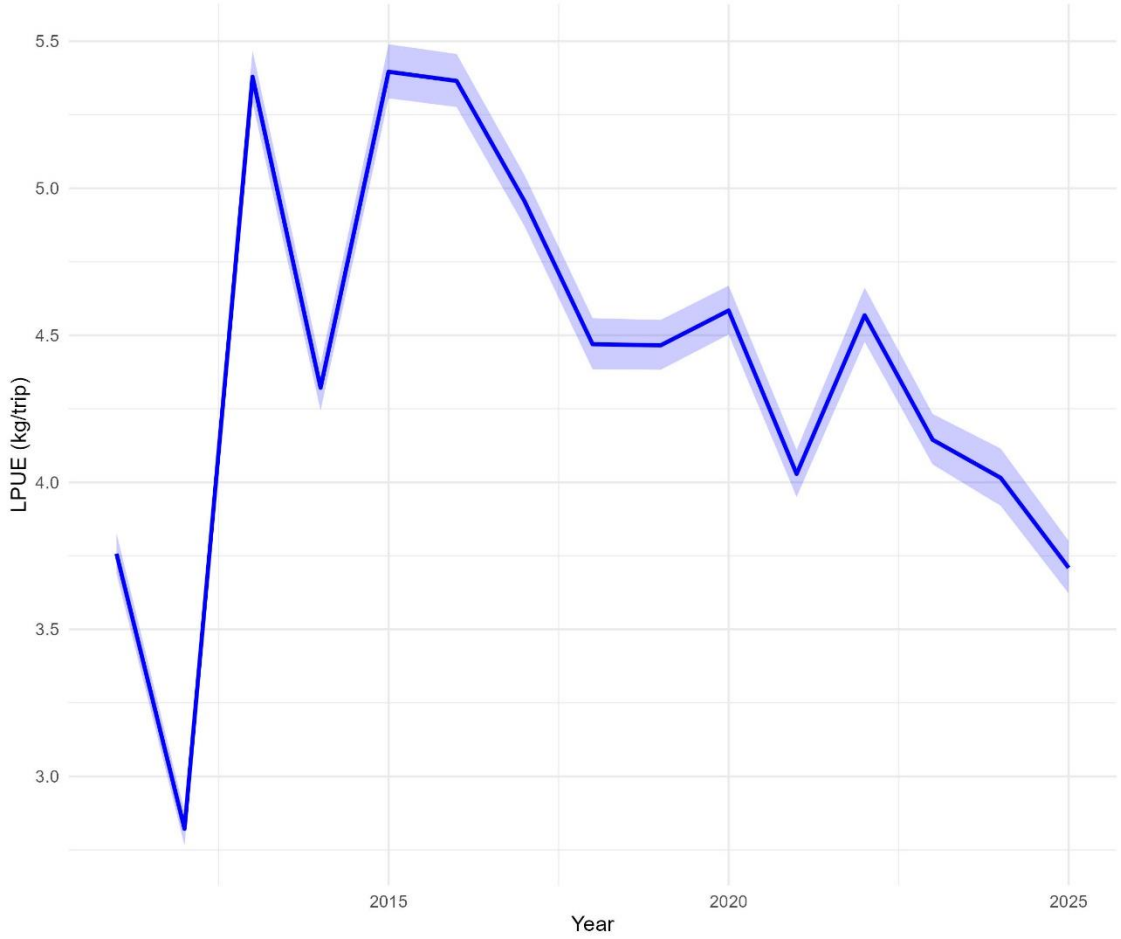

Figure 5.2.2 *Sole solea* in divisions 8c and 9a. Standardized commercial LPUE of the Portuguese polyvalent fleet in ICES Subdivision 9.a for the period 2011–2025. Source ICES 2026a

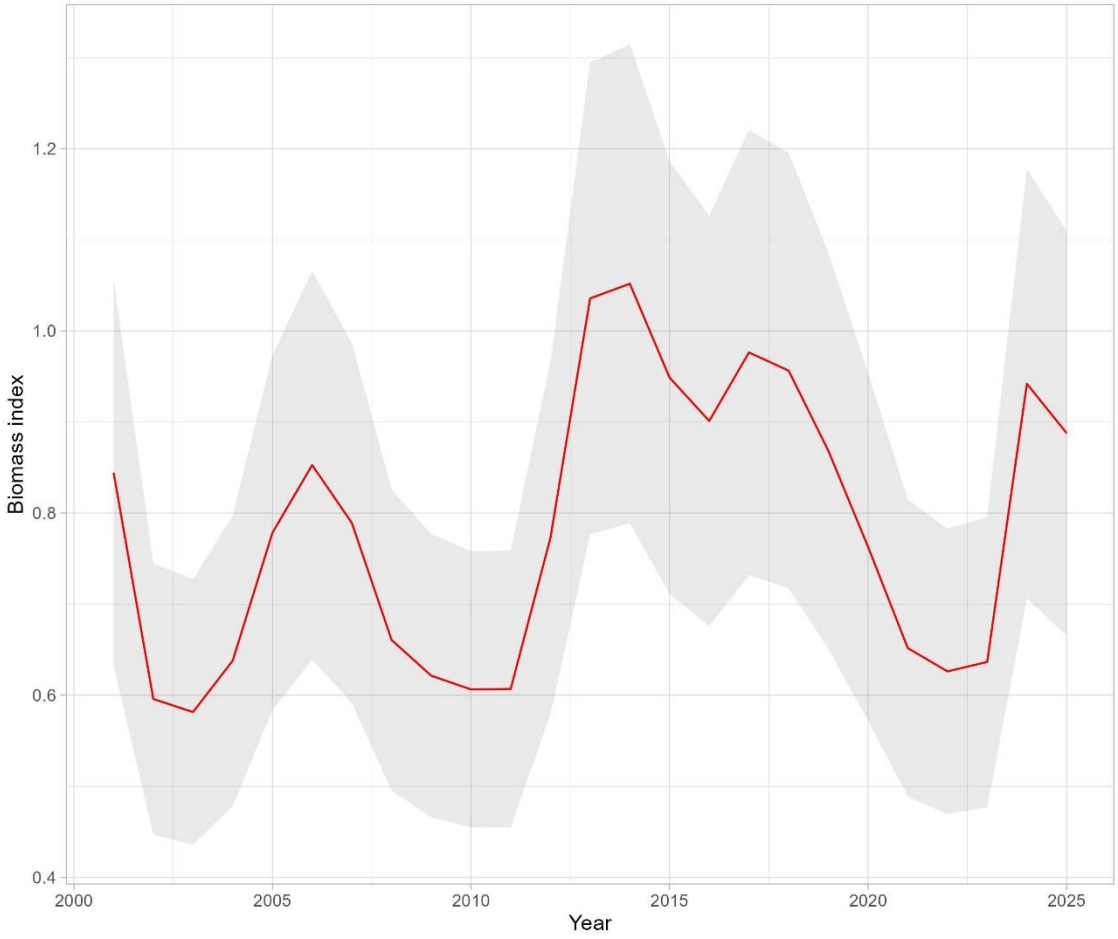

Figure 5.2.3 *Sole (S. solea) in divisions 8c and 9a. Temporal trend of the spatio-temporal biomass index (standardized) for the Spanish IBTS-Q4 bottom-trawl (G2784) survey for the period 2001-2026. Source ICES 2026a*

Table 5.2.2 Sole in divisions 8.c and 9.a. ICES advice, agreed total allowable catch (TAC), official landings, and ICES estimates of landings and discards. All weights are in tonnes. Source ICES 2025b

Year	ICES advice	Catches correspond to advice	Agreed TAC *	Total official landings *Solea* spp.**	ICES landings *Solea solea* ***	ICES discards of *Solea solea* ***
2000		-	2000	274		
2001		-	2000	225		
2002		-	2000	141		
2003		-	1600	247		
2004		-	1520	653		
2005		-	1216	58		
2006		-	-	179		
2007		-	1216	324		
2008		-	1216	401		
2009		-	1216	501	190	0
2010		-	1094	543	236	11
2011		-	1072	928	447	0
2012	No increase in catch	-	1072	759	354	0
2013	20% reduction in catches	-	1072	855	448	0
2014	Same catch value advised for 2013	-	1072	867	456	2

Year	ICES advice	Catches correspond to advice	Agreed TAC *	Total official landings *Solea* spp.**	ICES landings *Solea solea* ***	ICES discards of *Solea solea* ***
2015	Same catch value advised for 2013	-	1072	787	521	0
2016	Precautionary approach (same catch value advised for 2013)	-	1072	707	485	0
2017	Precautionary approach (same catch value advised for 2013)	-	1072	751	491	0
2018	Precautionary approach (≥20% reduction in catch relative to 2014–2016 average)	≤ 502	1072	698	430	0
2019	Precautionary approach (same catch value advised as 2018)	≤ 502	1072	745	399	0
2020	Precautionary approach	≤ 502	1072	864	430	0
2021	Precautionary approach (same catch value advice as 2020)	≤ 502	686	760	372	0
2022	Maximum sustainable yield (MSY) approach	≤ 320	652	654	301	0
2023	MSY approach	≤ 320	652	665^	303	0
2024	MSY approach	≤ 209	541	522^	285	0
2025	MSY approach	≤ 209	541			
2026	MSY approach	≤ 190				
2027	MSY approach	≤ 190				

* TAC set for *Solea* spp.
** Landings of *Solea solea*, *Solea senegalensis*, and *Pegusa lascaris*. ICES landings updated since 2011 (ICES, 2021).
*** For 2009–2010, no Portuguese landings and discards available.
^ Preliminary.

5.3 Economic performance indicators

The selected economic performance indicators are described below and represent relative changes in economic performance of the fleet segments. They adhere to the definition provided in the AER report (STECF 2025d). Calculations were performed using the following formulas.

5.3.1 Revenue (REV)

REV refers to the total income generated by fishing activities during the reference year, primarily from the sale of landed fish and seafood products, and may include other operating income directly related to fishing operations depending on the reporting framework used by Member States,

Defined in terms of variable names:

Revenue = Gross value of landings + Other income

Defined in terms of variable code:

Revenue = totlandginc + tototherinc

5.3.2 Gross profit (GP)

GP measures the difference between total revenue and operating costs, thus excluding capital costs. Gross profit is the appropriate indicator when the purpose of the analysis is to understand short-term performance, operational efficiency, or the behaviour of fishing fleets. It captures whether a fleet can cover its running costs and thus continue operating in the short term. This is particularly relevant in bioeconomic and fleet dynamics modelling, where the decision to go fishing is determined by the expected gross margin.

Defined in terms of variable names:

Gross Profit = Income from landings + other income – crew costs – unpaid labour - energy costs – repair and maintenance costs – other variable costs – other non-variable costs

Defined in terms of variable code:

Gross Profit = Totlandginc + tototherinc - totcrewwage - unpaidemp - totenercost – totrepcost - totvarcost – totnovarcost

5.3.3 Gross value added (GVA)

GVA complements other profitability measures by capturing not just net or gross profit, but the overall value generated by the fleet's activities, including labour and capital contributions. GVA represents the value generated by the fleet that can be distributed to labour and capital. A higher GVA indicates that the fleet is generating substantial economic value, contributing to employment and income in coastal communities. Unlike gross profit, which focuses on operational margins, or ROFTA, which measures capital efficiency, GVA captures the total value created and its distribution among stakeholders The calculation of the indicators, reported below, is aligned with the methodology used in the AER (STECF, 2025).

Defined in terms of variable names:

GVA = Income from landings + other income – energy costs – repair costs – other variable costs – other non-variable costs

Defined in terms of variable code:

GVA = Totlandginc + tototherinc – totenercost – totrepcost – totvarcost - totnovarcost

5.3.4 Net profit (NP)

Net Profit represents the amount of income remaining after all operating costs, labour costs, capital costs, depreciation, and financial costs have been deducted from revenue. It is the key indicator of the fleet's overall economic performance and viability.

Defined in terms of variable code:

NP = Gross Profit - depreciation costs- consumption of fixed capital -(assets*0.35)

Defined in terms of variable code:

NP = GP - totdepcost - (assets*0.35)

6 Results

6.1 Common sole fishery

Sole within the Atlantic is typically fished as part of a mixed demersal fishery, whose management is further complicated by the challenge of species identification. This issue was the subject of a recent special request to ICES and the subsequent Workshop on other soles in ICES Division 8c and 9a (WKOS) who explored the potential to provide scientific advice on Senegalese sole (*Solea senegalensis*) and sand sole (*Pegusa lascaris*), which are currently managed under a combined TAC with common sole (*Solea solea*) (ICES 2025a). The objectives of this workshop were to review the available knowledge and data, assess their suitability for stock assessment, consider which ICES advice categories might apply, and identify a pathway towards advice in the future. The workshop concluded that no immediate advice can be delivered due to species identification issues. While MSY advice cannot be provided for Senegalese sole (ICES 2026b) and sand sole (ICES 2026c) in 2026 (category 5 advice), WKOS outlined the key steps required to build a robust knowledge base. Implementing this roadmap will enable ICES to deliver MSY advice in the future and will improve the management of all sole species in Divisions 8c and 9a. ICES considers that management of the catches of all sole species (*Solea solea*, *Solea senegalensis*, and *Pegusa lascaris*) under a combined total allowable catch (TAC) prevents effective control of the single-species exploitation rates and could lead to the overexploitation of either species.

Given the identification challenges the following sole species are considered in the summary of this fishery: common sole, *Solea solea* (SOL); *Pegusa lascaris* (SOS); Senegalese sole, *Solea senegalensis* (OAL); sole identified only to genus level, *Solea* spp. (SOO). All four species codes of which occur in FDI data used to produce this analysis.

Although the true level to which common sole is caught as part of a mixed fishery or targeted can only be determined at the level of the haul (Dolder et al. 2018) the FDI data aggregated to the level of year * ICES Division * metier level 4 (gear + target assemblage) provide some insight into the level of mixing in these fisheries. Fishing activity for sole in Iberian waters has followed a broadly consistent downward trajectory (Figure 6.1.1) and can be primarily attributable to declining stock status and the corresponding reductions in Total Allowable Catch (TAC) driven by ICES catch advice (Figure 6.2.1). The sole fisheries are dominated by Portugal and Spain, with minor historical catches from France. In terms of gear type, the fishery is primarily conducted by two demersal targeting métiers: demersal targeting trammel netters (GTR_DEF) and set net (GTN_DEF)(Figure 6.1.2).

Trammel nets targeting demersal fisheries account for most sole landings. Within this mixed fishery sole is caught with the following species (Figure 6.1.3): CTC (*Sepia officinalis*); RJC (*Raja clavata*); JDV (Zeidae); ANK (Lophiidae); HKE (*Merluccius merluccius*); CRG (*Carcinus maenas*); SOL; (*Solea solea*); JOD; (*Zeus faber*); MON (*Lophius* spp.); BSS (*Dicentrarchus labrax*). With further changes in the dominance of sole species landed when considered by vessel length category (Figure 6.1.4).

While set nets targeting demersal fisheries catch sole along with the following species. Within this mixed fishery sole is caught with the following species (Figure 6.1.5): CTC (*Sepia officinalis);* OCC (*Octopus vulgaris*); VMA (*Scomber colias*); COE (*Conger conger*); BSS (*Dicentrarchus labrax*); BIB (*Trisopterus luscus*); RJC (*Raja clavata*); SWA (*Diplodus sargus*); MGR (*Lepidorhombus* spp); SBG (*Sparus aurata*). With further changes in the dominance of sole species landed when considered by vessel length category (Figure 6.1.6).

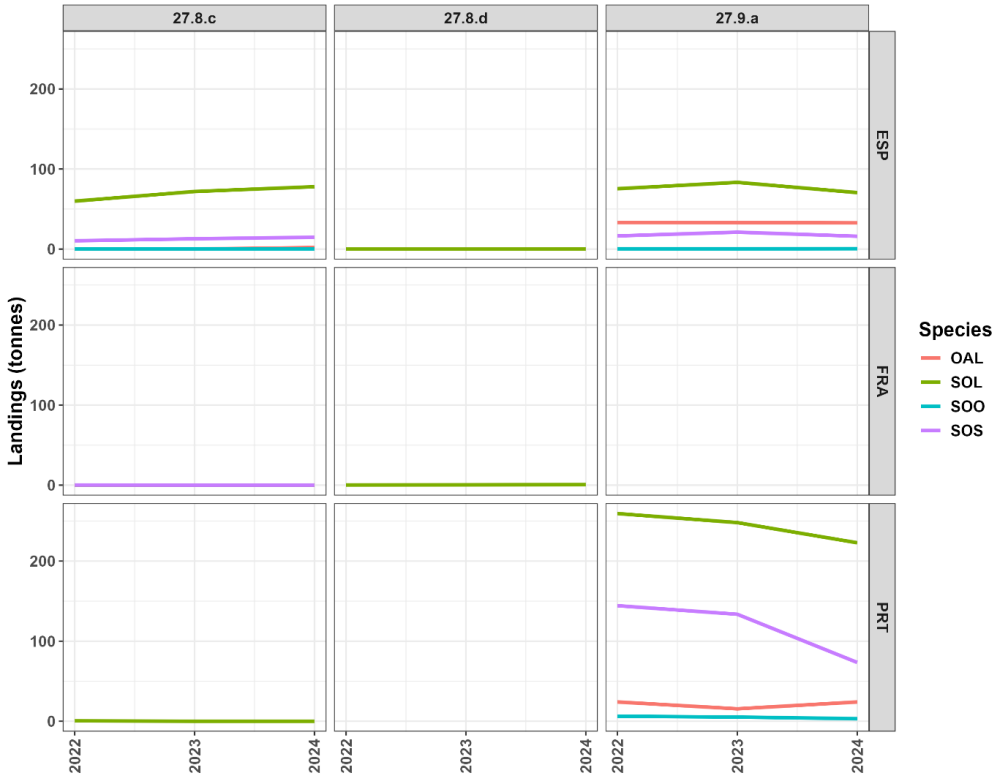

Figure 6.1.1 Trends in landings of sole species in Iberian waters over last 3 available data year (2022 – 2024).

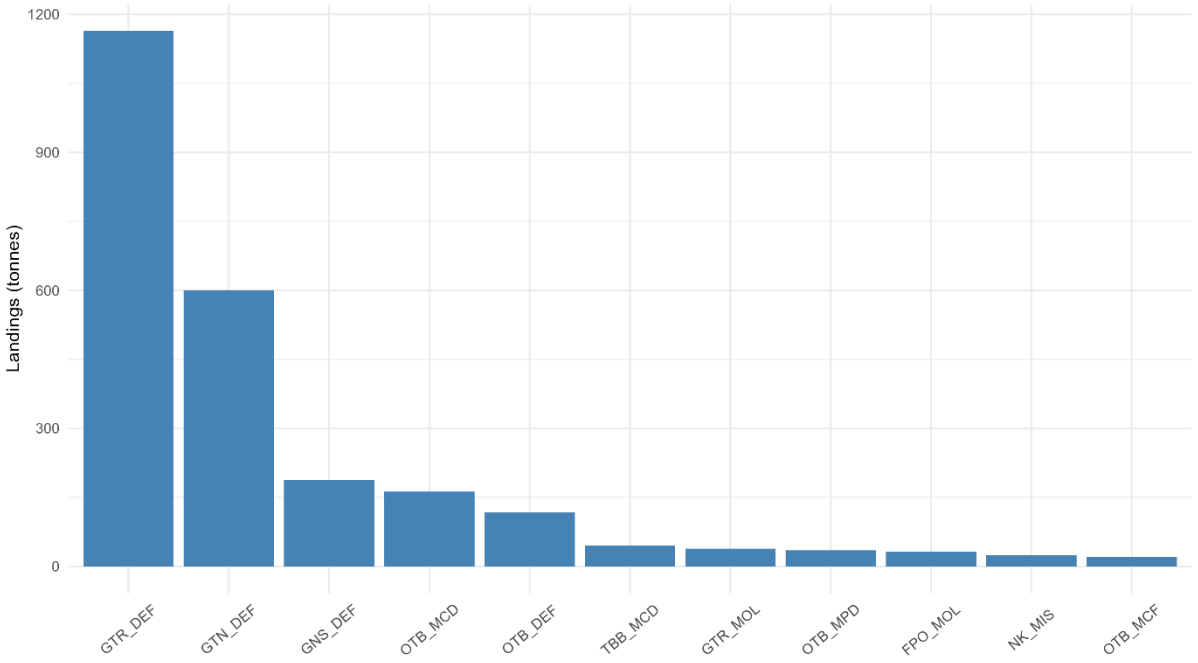

Figure 6.1.2 Summary of métiers (gear and target assemblage) landing sole species within Iberian waters, from 2022 – 2024, reported to FDI (STECF 2025a)

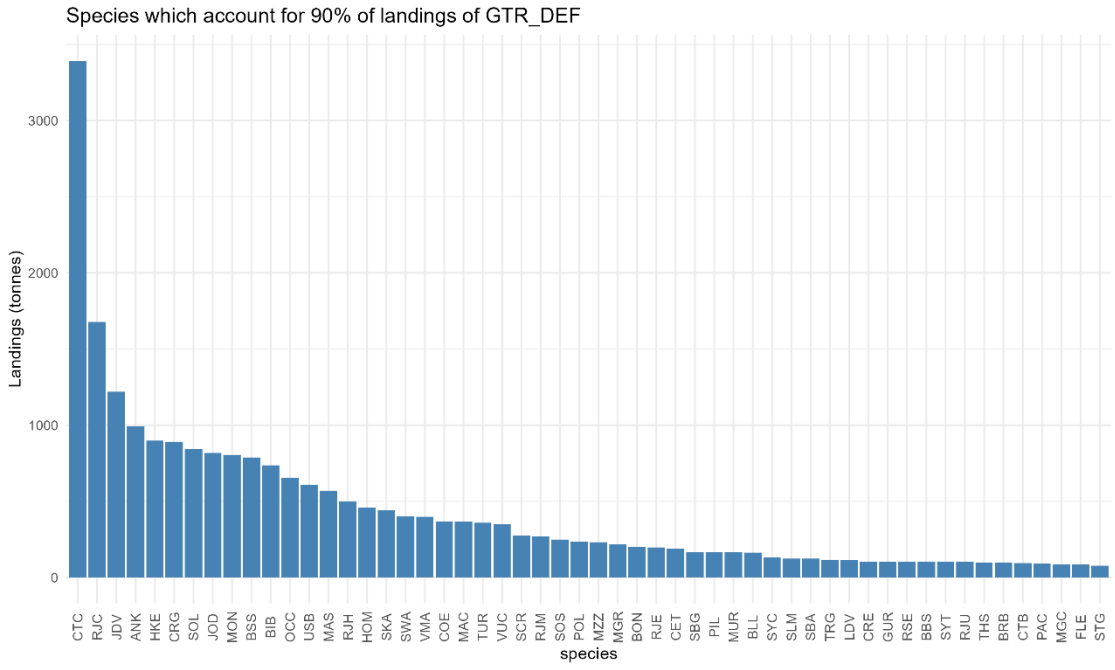

Figure 6.1.3 Summary of total landings by species for demersal targeting trammel net fisheries (GTR_DEF) in Iberian waters (2021-2024). Source FDI data (STECF 2025).

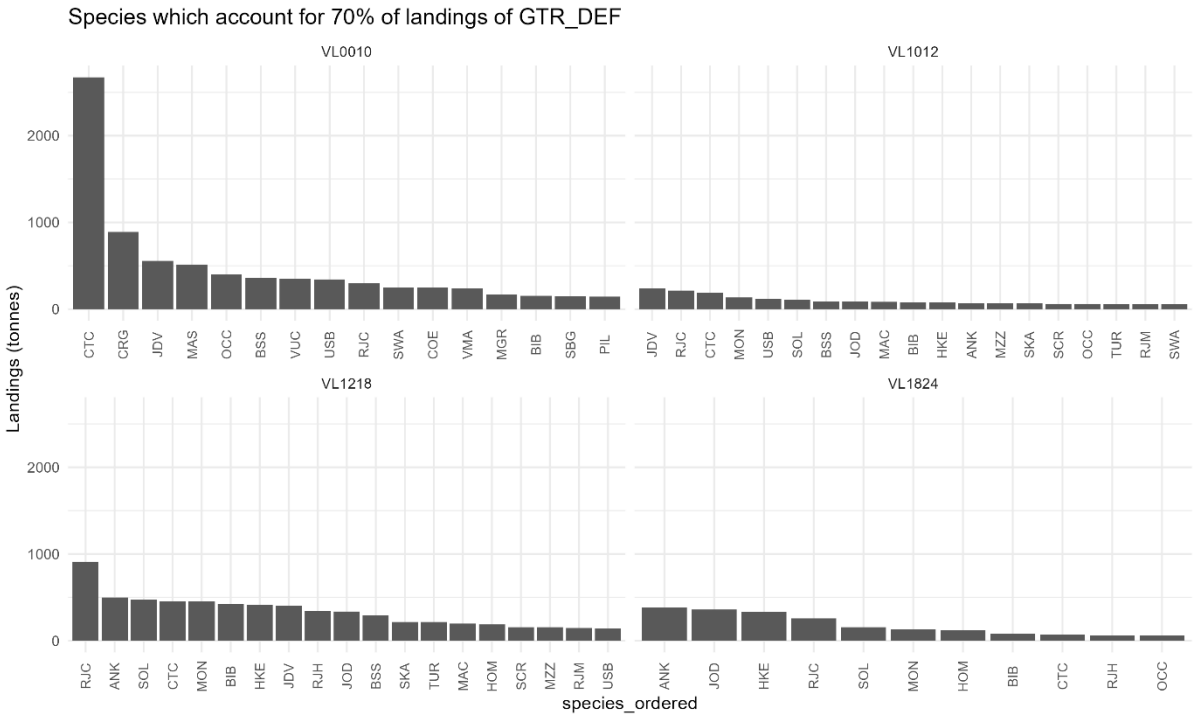

Figure 6.1.4 Summary of total landings by species for demersal targeting trammel net fisheries (GTR_DEF) in Iberian waters (2021-2024), disaggregated by vessel length. Source FDI data (STECF 2025).

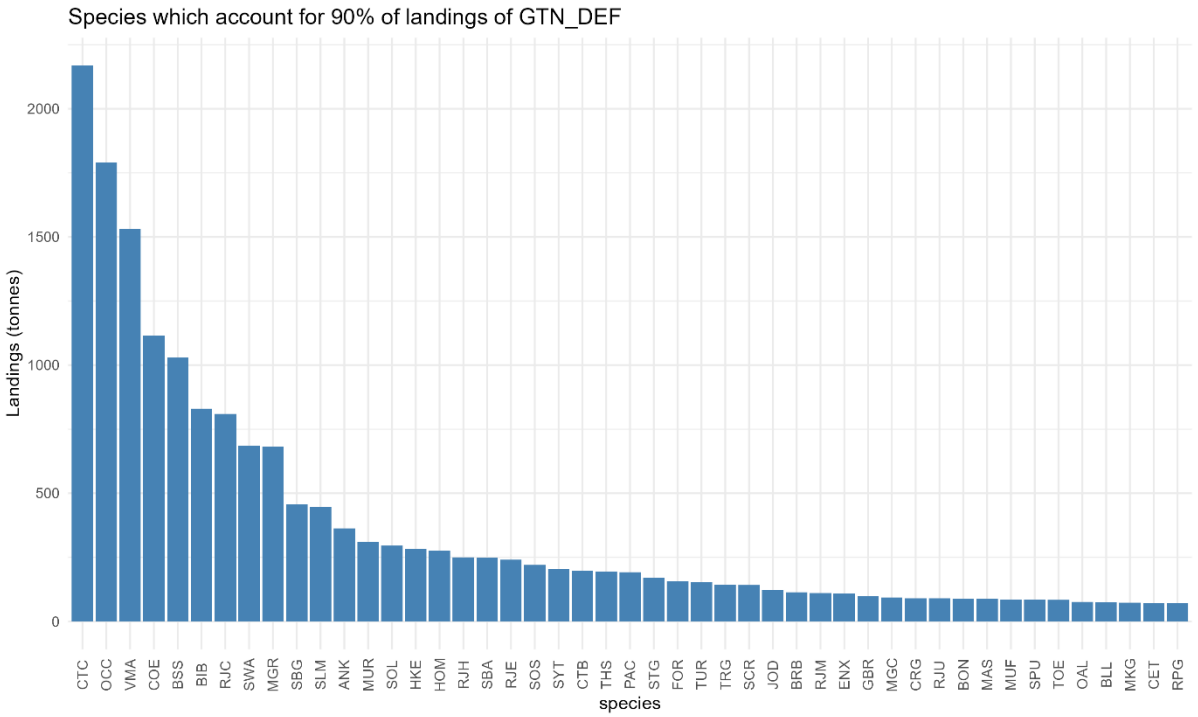

Figure 6.1.5 Summary of total landings by species for demersal targeting set net fisheries (GTN_DEF) in Iberian waters (2021-2024). Source FDI data (STECF 2025)

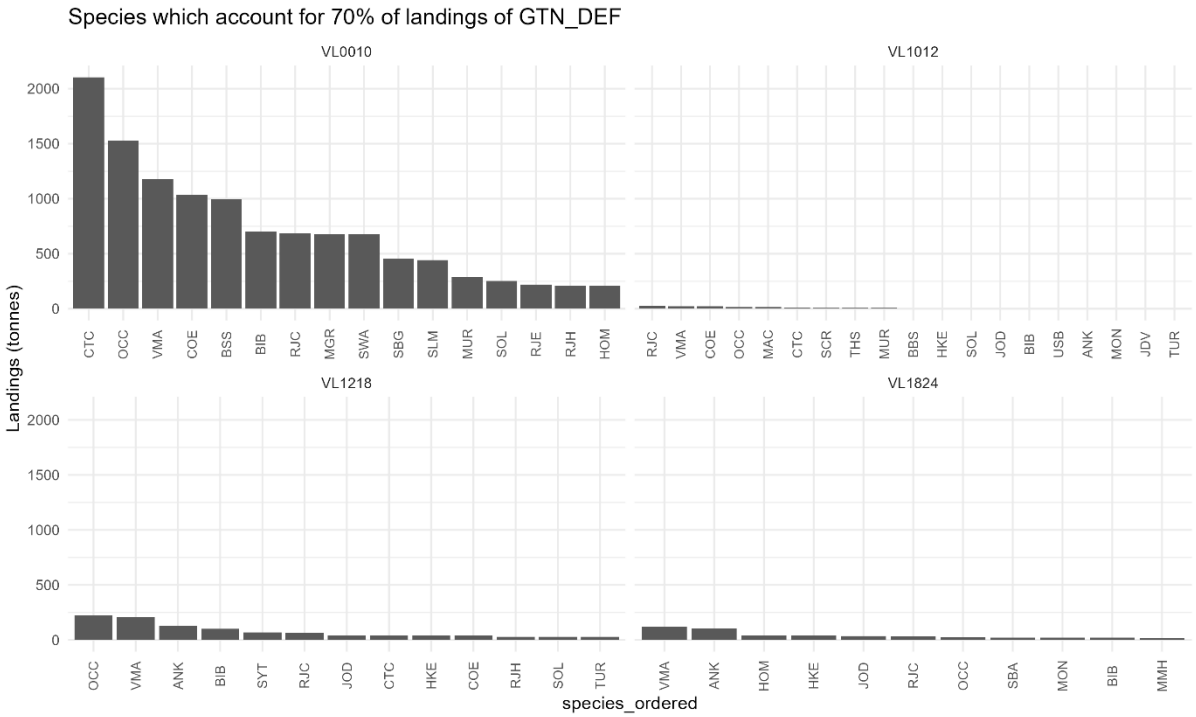

Figure 6.1.6 Summary of total landings by species for demersal targeting set net fisheries (GTN_DEF) in Iberian waters (2021-2024), disaggregated by vessel length. Source FDI data (STECF 2025).

6.2 Management measures

The challenge of sole species identification is particularly evident for fisheries within the Iberian waters (ICES divisions 27.8.c, 27.8.d, 27.8.e, 27.9 and 27.10; and Union waters of CECAF 34.1.1, where there are two sole TACs covering this group of species (SOO/8CDE34 and SOL/8CDE34) which had to close the fishery on the 19th of June in 2026 due to restrictive TAC.

SOO/8CDE34[1] is a TAC that covers three species of sole in this area; common sole (Solea solea) and two other sole species. While SOL/8CDE34[2] is a sub-TAC unallocated to the concerned Member States.

Table 23

Species:	Sole *Solea* spp.	Zone:	8c, 8d, 8e, 9 and 10; Union waters of CECAF 34.1.1 (SOO/8CDE34)
Year	**Each 2026 and 2027**		
Spain	185	Precautionary TAC	
Portugal	307		
Union	492 (1)		
TAC	492 (1)		

(1) Within the limits of these quotas, no more than the following quantity of common sole (*Solea solea*) shall be taken (SOL/8CDE34): 190

[1] https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52025PC0662
[2] https://eur-lex.europa.eu/eli/reg/2026/249/oj/eng

There is only partial alignment with the ICES advice and the TAC management unit. Once stock, Sole (*Solea solea*) in divisions 8.c and 9.a (Cantabrian Sea and Atlantic Iberian waters)(sol.27.8c9a) overlaps with this management unit. Therefore, TAC area covers the advice area / stock distribution and adjacent areas (in which catches may also occur). ICES advice for sol.27.8c9a was issues in 2025 for two years (2026 and 2027) using the ICES framework for category 3 stocks was applied (rfb rule to provide MSY advice, Method 2.1 (ICES, 2025a). A combined stock biomass index (commercial Portuguese LPUE and quarter four Spanish North bottom trawl survey) was considered as index of stock development (ICES 2025 c).

ICES considers that management of the catches of all sole species (*Solea solea, Solea senegalensis*, and *Pegusa lascaris*) under a combined TAC prevents effective control of the single-species exploitation rates and could lead to the overexploitation of either species. Common sole (*Solea solea*) accounts for 49% of the catches within subdivisions 8.c and 9.a in the last three years (ICES 2025a). The risk to this management is further complicated by the fact that mean length-based mortality (length-based spawning potential ratio) indicate that this stock is being exploited close to the MSY level which means the impact of uncertainty of impact and exploitation pattern is increased (Figure 1.1)(ICES, 2025b).

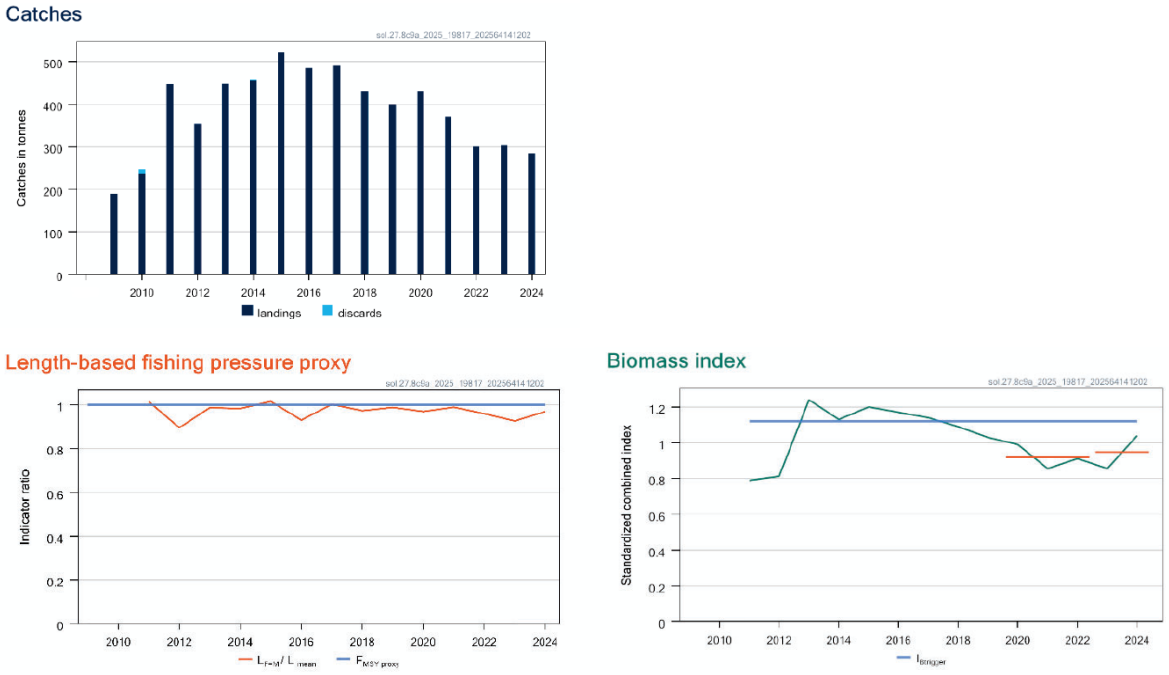

Figure 6.2.1 Sole (*Solea solea*) in divisions 8.c and 9.a. Summary of the stock assessment. Top left: catches (Portuguese catches 2011–2024, Spanish and France catches 2009–2024). Bottom left: fishing pressure proxy (inverse f, LF = M/Lmean) from the length-based indicator (LBI) method is used for the evaluation of the exploitation status. The proxy fishing pressure is less than that corresponding to the FMSY proxy when the value is lower than 1 (shown by the horizontal blue line). Bottom right: combined stock biomass index from commercial Portuguese LPUE and the quarter 4 Spanish North bottom trawl survey (shown by the green line). The horizontal orange lines indicate the average of the biomass index for 2020 to 2022 and for 2023 to 2024. (Source ICES 2025b)

The issue of species misidentification was captured in ICES workshop and a special request in 2026 also specifically warned that managing common sole, Senegalese sole and sand sole

under a combined TAC. The 190-tonne sub-TAC is therefore best understood as a mechanism to transpose the common-sole ICES advice into the existing combined TAC structure without immediately replacing SOO/8CDE34 with three separate TACs. Consequently, the legal clause controls the total quantity of common sole counted under the broad TAC, but it does not fully resolve the mismatch between the ICES stock-assessment area and the EU quota-management area.

The SOL/8CDE34 provision is a binding species-specific "of which" ceiling of 190 tonnes for common sole, located in the footnote to Table 23 of Annex IA to Regulation (EU) 2026/249. It has applied since 1 January 2026 and applies separately in 2026 and 2027. Which applies to ICES advice of no more than 190 tonnes for common sole in 8.c and 9.a. The ICES evidence strongly supports the common-sole sub-TAC, but does not provide equivalent quantitative support for the remaining 302 tonnes potentially available for other soles (ICES 2025).

Iberian common sole (*Solea solea*) in ICES divisions 8c and 9a is included in the Western Waters Multiannual Plan under Article 1(1)(36) of Regulation (EU) 2019/472[3]. The applicable minimum conservation reference size is 24 cm, as specified for *Solea* spp. in Annex VII, Part A, of Regulation (EU) 2019/1241[4]. There are other regulations regarding the mesh size for trammel and trawl nets, fishing grounds and vessels size[5]. Sole is under the Landing Obligation in divisions 8.a, 8.b, 8.d, and 8.e (all bottom-trawls, mesh sizes between 70 mm and 100 mm, all beam trawls, mesh sizes between 70 mm and 100 mm and all trammel and gillnets, mesh size larger or equal to 100 mm) and in Division 9.a (all trammel nets and gillnets, mesh size larger or equal to 100 mm) since 2013[6]. In Portugal, all sole catches from all gears and mesh sizes are under the Landing Obligation which according to ICES is considered more restrictive than required by European regulations (ICES 2026a).

6.3 Quota to reopen in 2026

In order to determine the quota required to reopen the sole fishery for the final quarter of 2026 the following scenarios were applied based on:

- Assuming Q4 2026 landings and associated effort would be the same as those in Q4 2025
- Assuming Q4 2026 landings and associated effort would be the same as the average Q4 fishing activity over the last 3 years (2022-2024)

As the last available data year for fishing landings and effort data in the FDI is 2024 this was used as the reference year for 2025 and an average of the last 3 years was (2022-2024). Therefore, assuming that the 2025, 2026 fishing patterns are similar to those in 2024 a total of 65 tonnes would be required to reopen the sole fishery in Q4. While, assuming the fishing

[3] https://eur-lex.europa.eu/eli/reg/2019/472/2019-08-14/eng
[4] https://eur-lex.europa.eu/eli/reg/2019/1241/oj/eng
[5] https://eur-lex.europa.eu/eli/reg_del/2020/2015/oj
[6] https://eur-lex.europa.eu/eli/reg/2013/1380/oj

patterns in 2026 are an average of the last 3 available data years (2022-2024) then 58 tonnes would be required to reopen the fishery in Q4 of 2026 (Table 6.3.1).

The highest landings per quarter are consistently taken in Q1, followed by Q2, Q4 and finally Q3. Therefore, the closure in 2026 was implanted in the quarter with historically the lowest landings taken annually over last 3 years.

Table 6.3.1 summary of the *Solea solea* landings estimated from FDI landing (STECF 2025a)

Year	Q1	Q2	Q3	Q4	Total Landings (tonnes)
2022	116	81	41	57	295
2023	123	87	40	51	301
2024	119	63	38	65	285
Average 2022-2024	120	77	40	58	295

6.4 Potential closure quarter of fishery

As the ICES advice is set the same for 2026 and 2027 and the TAC matched the ICES advice in 2026 it is assumed that the pattern for 2027 is the same. Therefore, based on the 2024 landings pattern of fleets catching Iberian common sole and assumed TAC split in 2026 the TAC scenarios for SOL/8CDE34 could potentially close the fishery at the end of different quarters based on an overall cumulative uptake of quota (Table 6.4.1 & Figure 6.4.1 top) or MS specific cumulative update separately for Portugal (Table 6.4.1 & Figure 6.4.1 middle) and Spain (Table 6.4.1 & Figure 6.4.1 bottom).

Based on the landings pattern in 2024 if TAC was set to the landings of SOL taken by fleets up until June of this year it would result in the closure of the fleet in Q2 (prior to 30th June) in 2027 for all MSs. If TAC was set to ICES advice the 2027 fishery is projected to close fully in Q3 (prior to 30th September), but likely sooner for Spain in Q2 (prior to 30th June) indicating a more restrictive TAC. However, this scenario is unrealistic as the quota matches that of 2026 and was exhausted by June. If TAC was set to the landings total tonnage taken in 2025 then all fleets are estimated to remain open until Q4 of 2027, closing prior to the 31st of December. Under both reopening scenarios all fisheries would close prior to the end of Q4, with the Spanish fishery potentially closing earlier prior to the end of Q3.

Overall, the analysis indicates that all scenarios examined could result in quota exhaustion before the end of 2027 for all MSs. However, the ad hoc author does not consider this a meaningful scenario as the fishing patterns for common sole during this time period were significantly different to now due to a decrease in biomass and resulting decrease in advice and subsequent restrictive TAC. Therefore, this scenario cannot be compared to current fishing patterns. The estimated timing of closures differs between Portugal and Spain because of differences in their assumed quota allocations and seasonal landings patterns. In particular, the Spanish allocation is projected to be exhausted earlier than the Portuguese allocation under a number of scenarios.

These results should be interpreted with caution as the projections assume that the quarterly distribution of landings in 2027 will follow the pattern observed in 2024 and that the TAC allocation between Portugal and Spain will remain unchanged. The analysis does not account for potential changes in fishing effort, fleet behaviour, spatial or seasonal fishing patterns, catch rates, market conditions, quota transfers or swaps, management measures, or the availability of alternative fishing opportunities.

Table 6.4.1 Estimated quarter of fishery closure based on the TAC limit set per scenario, assuming the fishing pattern (landings and effort) of 2026 and 2027 are the same as that of 2024.

	Total TAC		Portugal		Spain	
Scenario	TAC limit (tonnes)	Estimated closure in 2026 & 2027	TAC limit (tonnes)	Estimated closure in 2026 & 2027	TAC limit (tonnes)	Estimated closure in 2026 & 2027
Landings by June 2026	165	Q2 (prior to 30th June)	102	Q3 (prior to 30th Sep)	63	Q2 (prior to 30th June)
ICES advice	190	Q3 (prior to 30th Sep)	118	Q3 (prior to 30th Sep)	72	Q2 (prior to 30th June)
Landings 2025	270	Q4 (prior to 31st Dec)	167	Q4 (prior to 31st Dec)	103	Q4 (prior to 31st Dec)
Reopening scenario 1	230	Q4 (prior to 31st Dec)	143	Q4 (prior to 31st Dec)	87	Q3 (prior to 30th Sep)
Reopening scenario 2	223	Q4 (prior to 31st Dec)	138	Q4 (prior to 31st Dec)	85	Q3 (prior to 30th Sep)

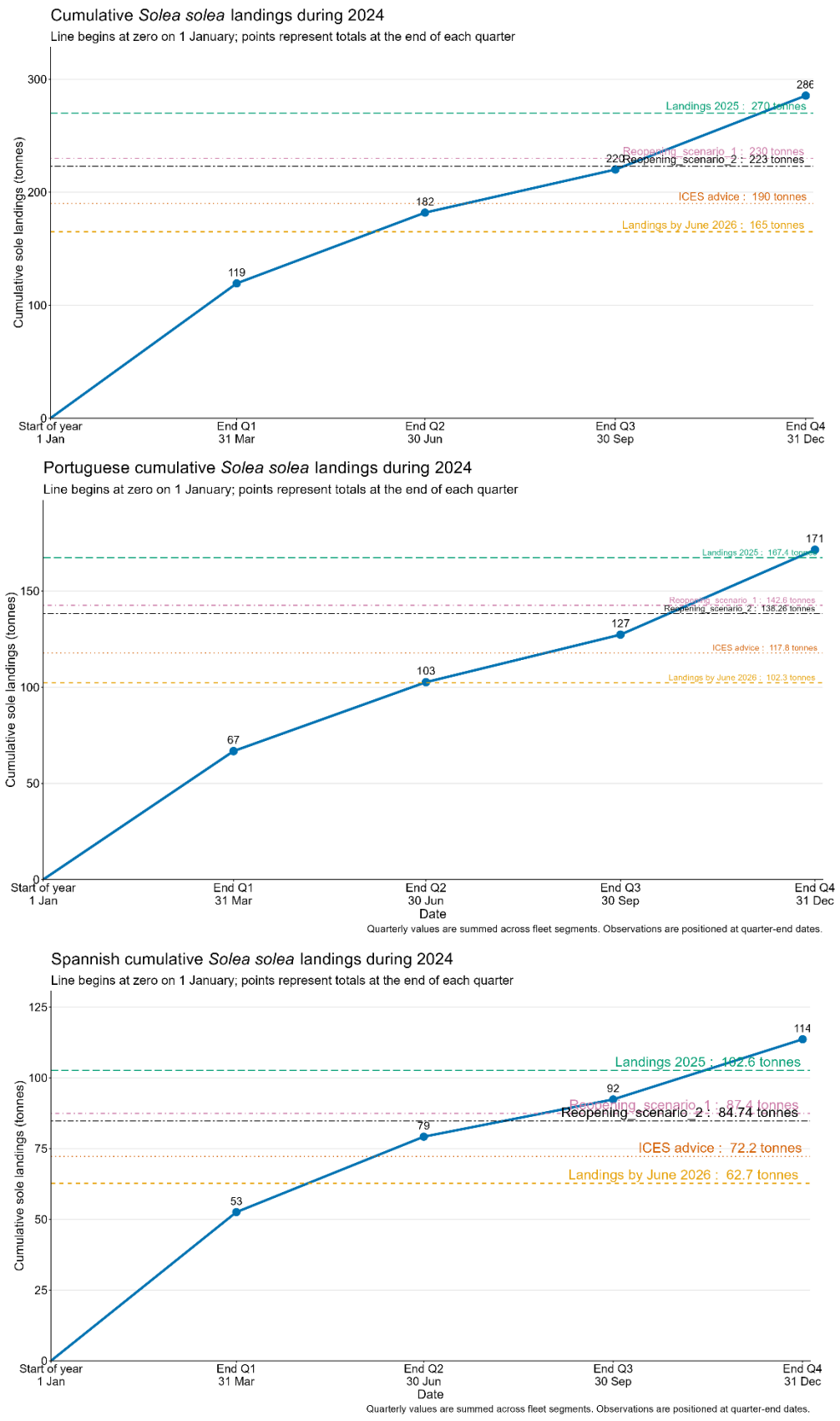

Figure 6.4.1 Cumulative common sole (*Solea solea*) landings by quarter for the final year of available FDI landings data (2024) for all MS (top), Portugal (middle) and Spain (bottom). Scenario catch limits are highlighted along the horizonal lines.

6.5 Potential economic impacted

The outcomes of the five TAC scenarios suggest that higher catch-limit scenarios generally reduce economic losses, but the results are not consistent across fleet segments. Profitability indicators (net profit, gross profit and gross value added) are substantially more sensitive than revenue, reflecting the mixed strategies of fleet segments and resulting landings, with some fleets having limited ability to absorb fixed and capital costs. As sole is a valued bycatch species, and for many of these fleets not a directed target, the increase in revenue may be associated with the increases in other species caught during the reference period (2021 – 2023).

6.5.1 Total impact per scenario

Table 6.5.2 summarises the average economic impact of all fleets impacted by retractions to sole quota the outcomes of scenarios (Table 6.5.2). Overall revenue increases under each of the scenarios, while all other economic indicators indicate decline. This divergence suggests that revenue alone is an inadequate measure of impact because the affected fleets may continue to bear operating, labour and capital costs even where some income is maintained through other species.

Table 6.5.1 ICES advice scenario. Summary of variation of economic indicators revenue (REV), gross value added (GVA), Gross Profits (GP) and net profit (NP) under five TAC scenarios for 2027 relative to base case (average 2021 – 2023).

Scenario	Revenue %	NP %	GVA %	GP %
ICES advice	12.4	-58.5	-102.9	-66.8
Landings 2025	13.4	-28.2	-60.4	-33.4
Landings by June 2026	11.5	-83.4	-138.3	-94.2
Reopening scenario 1	12.4	-58.5	-102.9	-66.8
Reopening scenario 2	13.4	-28.2	-60.4	-33.4

6.5.2 ICES advice scenario

The TAC limit of this scenario corresponds to the ICES advice for common sole and is set to 190 tonnes (Table 6.5.2). Revenue does not consistently decline, but NP, GVA and GP fall in every segment. This divergence suggests that revenue alone is an inadequate measure of impact because the affected fleets may continue to bear operating, labour and capital costs even where some income is maintained through other species.

Assuming all fishing activity for the fleet segment stops when quota for SOL is exhausted a number of fishing opportunities for other species potentially caught as part of a mixed fishery may also be lost (Table 6.5.3). The species and their reported value varies significantly between fleet segments.

Table 6.5.2 ICES advice scenario. Summary of variation of economic indicators revenue (REV), gross value added (GVA), Gross Profits (GP) and net profit (NP) under five TAC scenarios for 2027 relative to base case (average 2021 – 2023).

Fleet Segment	Total landing (tonnes)	Total *Solea solea* landings (tonnes)	Revenue %	NP %	GVA %	GP %
ESP NAO DFN1218 NGI	4014.07	39.34	16.16	-58	-71.52	-57.3
ESP NAO PMP0010 NGI	7912.97	34.42	-24.8	-43.92	-52.31	-43.3
PRT NAO DFN1218 NGI	1711.81	26.63	20.37	-60.88	-96.43	-69.19
PRT NAO DFN1824 NGI	1388.65	16.4	9.6	-76.76	-106.15	-85.55
PRT NAO DTS2440 NGI	14971.31	11.23	-16.15	-36.95	-39.53	-38.03
PRT NAO FPO1218 NGI	1525.67	16.41	31.2	-39.8	-63.57	-46.15
PRT NAO PGP0010 NGI	10302.91	48.23	20.94	-79.79	-266.04	-105.56
PRT NAO PGP1218 NGI	878.87	15.96	41.67	-75.09	-127.71	-88.94

Table 6.5.3 ICES advice scenario. Summary of the value in Euros per species (FAO codes) lost per fleet segment based on the estimated closure in 2027 relative to base case (average 2021 – 2023).

Fleet Segment	Species (value lost due to closures in Euros)
ESP NAO DFN1218 NGI	SWX (4,847,120); HKE (1,675,611); ALB (1,208,850); JDV (934,005); MON (476,952); MUR (331,243); LBE (267,691); JOD (265,684); BON (224,147); SOL (215,998)
ESP NAO PMP0010 NGI	OCC (6,568,410); EQK (4,150,739); PCB (3,831,956); BSS (2,406,171); JDV (2,272,645); URM (1,871,621); LIO (1,397,590); CPR (1,215,315); ELE (790,660); SWA (707,328)
PRT NAO DFN1218 NGI	ANK (1,010,048); JOD (812,186); OCC (697,064); SOL (212,353); RJC (207,506); TUR (179,747); HKE (176,639); BIB (143,041); SLO (119,459); THS (98,343)
PRT NAO DFN1824 NGI	JOD (965,567); ANK (519,563); HKE (301,533); OCC (259,919); HOM (259,509); MON (119,705); RJC (116,525); SOL (108,854); TUR (68,426); SLO (44,126)
PRT NAO DTS2440 NGI	DPS (3,714,533); SQI (3,006,878); HOM (2,675,514); SQR (2,382,638); WHB (2,288,519); HKE (751,624); SSH (639,166); NEP (628,410); ARA (512,423); OCC (373,803)
PRT NAO FPO1218 NGI	OCC (3,842,551); NEP (230,122); BIB (163,624); JOD (154,689); COE (126,909); SOL (106,356); TUR (104,154); LBE (82,713); RJC (75,631); SLO (71,268)
PRT NAO PGP0010 NGI	COC (7,840,237); OCC (3,203,490); BSS (2,972,329); VUC (2,083,986); MGR (1,088,848); SBG (1,045,802); CTC (986,073); MUR (748,710); SWA (586,502); COE (510,476)
PRT NAO PGP1218 NGI	OCC (1,108,501); JOD (201,024); BIB (143,192); WRF (96,747); SOL (86,574); COE (83,462); TUR (81,253); MZZ (66,690); NEP (65,507); RJC (61,100)

6.5.3 2025 landings scenario

The TAC limit of this scenario is set to the total landings of common sole take in 2025, 270 tonnes (Table 6.5.4). This scenario results in a slightly better economic outcomes than the ICES advice scenario. The improvements are most visible in profitability indicators, although they are unevenly distributed across fleets. For example, the Portuguese demersal-trawl segment PRT NAO DTS2440 NGI records positive NP, GVA and GP changes, whereas PRT NAO PGP0010 NGI continues to show very substantial reductions. The scenario therefore alleviates but does not eliminate potential negative economic effects associated with sole acting as a limiting species.

Assuming all fishing activity for the fleet segment stops when quota for SOL is exhausted a number of fishing opportunities for other species potentially caught as part of a mixed fishery may also be lost (Table 6.5.5). The species and their reported value varies significantly between fleet segments.

Table 6.5.4 Landings 2025 scenario. Summary of variation of economic indicators revenue (REV), gross value added (GVA), Gross Profits (GP) and net profit (NP) under five TAC scenarios for 2027 relative to base case (average 2021 – 2023).

Fleet Segment	Total landing (tonnes)	Total *Solea solea* landings (tonnes)	Revenue %	NP %	GVA %	GP %
ESP NAO DFN1218 NGI	4014.07	39.34	18.95	-5.77	-12.57	-2.16
ESP NAO PMP0010 NGI	7912.97	34.42	-23.74	-29.3	-35.81	-28.09
PRT NAO DFN1218 NGI	1711.81	26.63	21.26	-27.99	-49.62	-33.01
PRT NAO DFN1824 NGI	1388.65	16.4	10.69	-46.37	-65.63	-52.07
PRT NAO DTS2440 NGI	14971.31	11.23	-14.88	8.43	11.07	9.81
PRT NAO FPO1218 NGI	1525.67	16.41	31.72	-12.42	-27.71	-16.49
PRT NAO PGP0010 NGI	10302.91	48.23	21.01	-57.14	-201.75	-76.9
PRT NAO PGP1218 NGI	878.87	15.96	42.21	-56.27	-101.13	-68.22

Table 6.5.5 Landings 2025 scenario. Summary of the value in Euros per species (FAO codes) lost per fleet segment based on the estimated closure in 2027 relative to base case (average 2021 – 2023).

Fleet Segment	Species (value lost due to closures in Euros)
ESP NAO DFN1218 NGI	JDV (929,803); HKE (620,540); MON (202,197); SOL (175,384); MUR (152,469); LBE (134,557); BON (132,140); CTC (103,936); BSS (95,041); JOD (93,974)
ESP NAO PMP0010 NGI	OCC (4,601,333); JDV (2,253,915); URM (1,871,621); BSS (1,673,771); PCB (1,576,268); EQK (1,576,146); CPR (903,815); LIO (585,802); VUC (422,927); SWA (250,205)

PRT NAO DFN1218 NGI	OCC (513,157); ANK (482,189); JOD (284,804); SOL (171,935); TUR (114,017); RJC (111,953); BIB (93,387); CTC (86,378); HKE (77,491); THS (60,670)
PRT NAO DFN1824 NGI	JOD (412,357); ANK (243,494); OCC (182,595); HKE (111,746); HOM (97,824); SOL (95,159); RJC (68,827); CTC (38,535); MON (35,286); TUR (31,326)
PRT NAO DTS2440 NGI	DPS (2,355,780); SQR (1,918,327); SQI (1,223,036); HOM (958,653); WHB (904,038); HKE (322,249); OCC (214,494); SSH (196,970); MAC (147,541); NEP (139,319)
PRT NAO FPO1218 NGI	OCC (2,435,693); NEP (119,515); BIB (113,208); SOL (73,374); COE (71,344); CTC (53,037); JOD (49,413); RJC (29,880); TUR (23,522); MUR (22,463)
PRT NAO PGP0010 NGI	COC (6,687,733); OCC (1,946,880); VUC (1,787,034); BSS (1,434,005); SBG (597,233); CTC (432,604); MGR (425,963); MUR (353,404); SWA (341,460); SQR (228,419)
PRT NAO PGP1218 NGI	OCC (753,695); BIB (112,987); SOL (70,296); JOD (58,527); WRF (53,912); CTC (48,751); COE (39,798); MZZ (39,050); TUR (32,540); RPG (29,333)

6.5.4 Landings by June 2026 scenario

The TAC limit of this scenario is set to the total landings of *Solea solea* taken by June 2026 when the fishery closed, 165 tonnes (Table 6.4.3). This scenario reports the largest economic losses of the five scenarios. All fleet segments show strongly negative profitability effects, and the reductions exceeding 100% for some GVA, GP and NP estimates indicate movement from positive baseline performance into negative economic outcomes. The usually extreme loss of the full baseline margin followed by an additional negative result is being driven by the strong trends in landings, effort and economic variables report for these fleets (Annex 2). The inconsistent data associated with this fleet is indicative of a small-scale fleet with highly mixed catches whose reported data is often impacted by confidentiality.

Assuming all fishing activity for the fleet segment stops when quota for SOL is exhausted a number of fishing opportunities for other species potentially caught as part of a mixed fishery may also be lost (Table 6.5.7). The species and their reported value varies significantly between fleet segments.

Table 6.5.6 Landings by June 2026 scenario. Summary of variation of economic indicators revenue (REV), gross value added (GVA), Gross Profits (GP) and net profit (NP) under five TAC scenarios for 2027 relative to base case (average 2021 – 2023).

Fleet Segment	Total landing (tonnes)	Total Solea solea landings (tonnes)	Revenue %	NP %	GVA %	GP %
ESP NAO DFN1218 NGI	4014.07	39.34	14.16	-95.3	-113.62	-96.69
ESP NAO PMP0010 NGI	7912.97	34.42	-26.92	-73.16	-85.32	-73.71
PRT NAO DFN1218 NGI	1711.81	26.63	19.92	-77.33	-119.83	-87.28
PRT NAO DFN1824 NGI	1388.65	16.4	9.06	-91.95	-126.4	-102.29
PRT NAO DTS2440 NGI	14971.31	11.23	-17.1	-70.99	-77.47	-73.91

PRT NAO FPO1218 NGI	1525.67	16.41	30.67	-67.19	-99.43	-75.81
PRT NAO PGP0010 NGI	10302.91	48.23	20.88	-102.45	-330.34	-134.22
PRT NAO PGP1218 NGI	878.87	15.96	41.14	-93.9	-154.29	-109.66

Table 6.5.7 Landings by June 2026 scenario. Summary of the value in Euros per species (FAO codes) lost per fleet segment based on the estimated closure in 2027 relative to base case (average 2021 – 2023).

Fleet Segment	Species (value lost due to closures in Euros)
ESP NAO DFN1218 NGI	SWX (4,847,120); HKE (3,477,846); ALB (1,582,662); JDV (1,091,287); MON (839,195); TUR (506,184); MUR (431,917); BON (423,195); SOL (366,672); JOD (350,244)
ESP NAO PMP0010 NGI	OCC (8,015,909); EQK (6,072,251); PCB (5,425,195); URM (3,189,810); BSS (2,697,112); JDV (2,651,588); CTC (1,836,255); LIO (1,429,198); CPR (1,233,972); ELE (1,152,592)
PRT NAO DFN1218 NGI	ANK (1,657,591); JOD (1,148,878); OCC (889,708); TUR (337,476); HKE (301,369); SOL (281,668); RJC (258,455); MON (203,601); THS (181,827); BIB (165,473)
PRT NAO DFN1824 NGI	JOD (1,341,890); ANK (857,055); HKE (541,434); OCC (333,157); HOM (328,075); MON (230,247); TUR (225,678); SOL (152,031); RJC (146,752); WRF (102,749)
PRT NAO DTS2440 NGI	HOM (5,529,929); DPS (4,892,202); WHB (3,479,980); SQI (3,018,749); SQR (2,463,019); MAC (1,700,736); ARA (1,351,566); HKE (1,231,154); NEP (1,161,741); SSH (708,583)
PRT NAO FPO1218 NGI	OCC (4,971,315); NEP (271,301); TUR (251,546); BIB (201,941); JOD (175,737); COE (162,730); SOL (155,911); CTC (118,358); RJC (96,766); LBE (86,518)
PRT NAO PGP0010 NGI	COC (8,731,228); OCC (4,680,840); CTC (4,425,703); BSS (3,902,630); VUC (2,979,840); MGR (2,287,899); SBG (1,305,371); MUR (1,027,120); SWA (878,276); COE (723,643)
PRT NAO PGP1218 NGI	OCC (1,428,546); JOD (250,659); TUR (189,155); BIB (164,097); SOL (126,407); HKE (126,398); WRF (110,196); MZZ (102,734); COE (98,926); NEP (83,996)

6.5.5 Reopening scenario 1

The TAC limit of this scenario is set to the total landings taken by the end of quarter 3 in 2024, 220 tonnes (Table 6.4.4). The outcomes of this scenario are the same as the previous scenario as both scenarios result in the closure of similar quarters for all fleets.

Assuming all fishing activity for the fleet segment stops when quota for SOL is exhausted a number of fishing opportunities for other species potentially caught as part of a mixed fishery may also be lost (Table 6.5.9). The species and their reported value varies significantly between fleet segments.

Table 6.5.8 Reopening scenario 1. Summary of variation of economic indicators revenue (REV), gross value added (GVA), Gross Profits (GP) and net profit (NP) under five TAC scenarios for 2027 relative to base case (average 2021 – 2023).

Fleet Segment	Total landing (tonnes)	Total *Solea solea* landings (tonnes)	Revenue %	NP %	GVA %	GP %

ESP NAO DFN1218 NGI	4014.07	39.34	16.16	-57.89	-86.8	-71.52
ESP NAO PMP0010 NGI	7912.97	34.42	-24.8	-44.53	-67.62	-52.31
PRT NAO DFN1218 NGI	1711.81	26.63	20.37	-60.36	-81.8	-96.43
PRT NAO DFN1824 NGI	1388.65	16.4	9.6	-76.34	-91.84	-106.15
PRT NAO DTS2440 NGI	14971.31	11.23	-16.15	-36.88	-58.97	-39.53
PRT NAO FPO1218 NGI	1525.67	16.41	31.2	-39.46	-62.63	-63.57
PRT NAO PGP0010 NGI	10302.91	48.23	20.94	-78.31	-87.28	-266.04
PRT NAO PGP1218 NGI	878.87	15.96	41.67	-74.32	-91.51	-127.71

Table 6.5.9 Reopening scenario 1. Summary of the value in Euros per species (FAO codes) lost per fleet segment based on the estimated closure in 2027 relative to base case (average 2021 – 2023).

Fleet Segment	Species (value lost due to closures in Euros)
ESP NAO DFN1218 NGI	SWX (4,847,120); HKE (1,675,611); ALB (1,208,850); JDV (934,005); MON (476,952); MUR (331,243); LBE (267,691); JOD (265,684); BON (224,147); SOL (215,998)
ESP NAO PMP0010 NGI	OCC (6,568,410); EQK (4,150,739); PCB (3,831,956); BSS (2,406,171); JDV (2,272,645); URM (1,871,621); LIO (1,397,590); CPR (1,215,315); ELE (790,660); SWA (707,328)
PRT NAO DFN1218 NGI	ANK (1,010,048); JOD (812,186); OCC (697,064); SOL (212,353); RJC (207,506); TUR (179,747); HKE (176,639); BIB (143,041); SLO (119,459); THS (98,343)
PRT NAO DFN1824 NGI	JOD (965,567); ANK (519,563); HKE (301,533); OCC (259,919); HOM (259,509); MON (119,705); RJC (116,525); SOL (108,854); TUR (68,426); SLO (44,126)
PRT NAO DTS2440 NGI	DPS (3,714,533); SQI (3,006,878); HOM (2,675,514); SQR (2,382,638); WHB (2,288,519); HKE (751,624); SSH (639,166); NEP (628,410); ARA (512,423); OCC (373,803)
PRT NAO FPO1218 NGI	OCC (3,842,551); NEP (230,122); BIB (163,624); JOD (154,689); COE (126,909); SOL (106,356); TUR (104,154); LBE (82,713); RJC (75,631); SLO (71,268)
PRT NAO PGP0010 NGI	COC (7,840,237); OCC (3,203,490); BSS (2,972,329); VUC (2,083,986); MGR (1,088,848); SBG (1,045,802); CTC (986,073); MUR (748,710); SWA (586,502); COE (510,476)
PRT NAO PGP1218 NGI	OCC (1,108,501); JOD (201,024); BIB (143,192); WRF (96,747); SOL (86,574); COE (83,462); TUR (81,253); MZZ (66,690); NEP (65,507); RJC (61,100)

6.5.6 Reopening scenario 2

The TAC limit of this scenario is set to landings of *Solea solea* taken by the end of quarter 3 over last three years (2022-2024), 223 tonnes

Table 6.5.10). This scenario shows the strongest aggregate economic performance. It produces positive NP, GVA and GP changes in some fleet segments and reduces losses in most others. Nevertheless, the benefits are highly uneven. Several Portuguese passive-gear segments remain economically worse off, particularly PRT NAO PGP0010 NGI and PRT

NAO PGP1218 NGI. However, this scenario is considered unrealistic by the ad hoc author as the 2022 to 2024 average landings do not reflect the lower biomass, reduced advice and changed fishing prevailing in 2025 and 2026. In particular there has been a downward trend in landings per unit effort (LPUE) of sole the Portuguese commercial fleet index for this stock since 2022 (Figure 6.5.1, ICES 2026a).

Table 6.5.10 Reopening scenario 2. Summary of variation of economic indicators revenue (REV), gross value added (GVA), Gross Profits (GP) and net profit (NP) under five TAC scenarios for 2027 relative to base case (average 2021 – 2023).

Fleet Segment	**Total landing (tonnes)**	**Total *Solea solea* landings (tonnes)**	**Revenue %**	**NP %**	**GVA %**	**GP %**
ESP NAO DFN1218 NGI	4014.07	39.34	18.95	-6.29	-47.18	-12.57
ESP NAO PMP0010 NGI	7912.97	34.42	-23.74	-30.23	-51.63	-35.81
PRT NAO DFN1218 NGI	1711.81	26.63	21.26	-27.66	-49.43	-49.62
PRT NAO DFN1824 NGI	1388.65	16.4	10.69	-46.08	-67.34	-65.63
PRT NAO DTS2440 NGI	14971.31	11.23	-14.88	8.33	13.98	11.07
PRT NAO FPO1218 NGI	1525.67	16.41	31.72	-12.2	-26.76	-27.71
PRT NAO PGP0010 NGI	10302.91	48.23	21.01	-55.99	-71.37	-201.75
PRT NAO PGP1218 NGI	878.87	15.96	42.21	-55.64	-80.89	-101.13

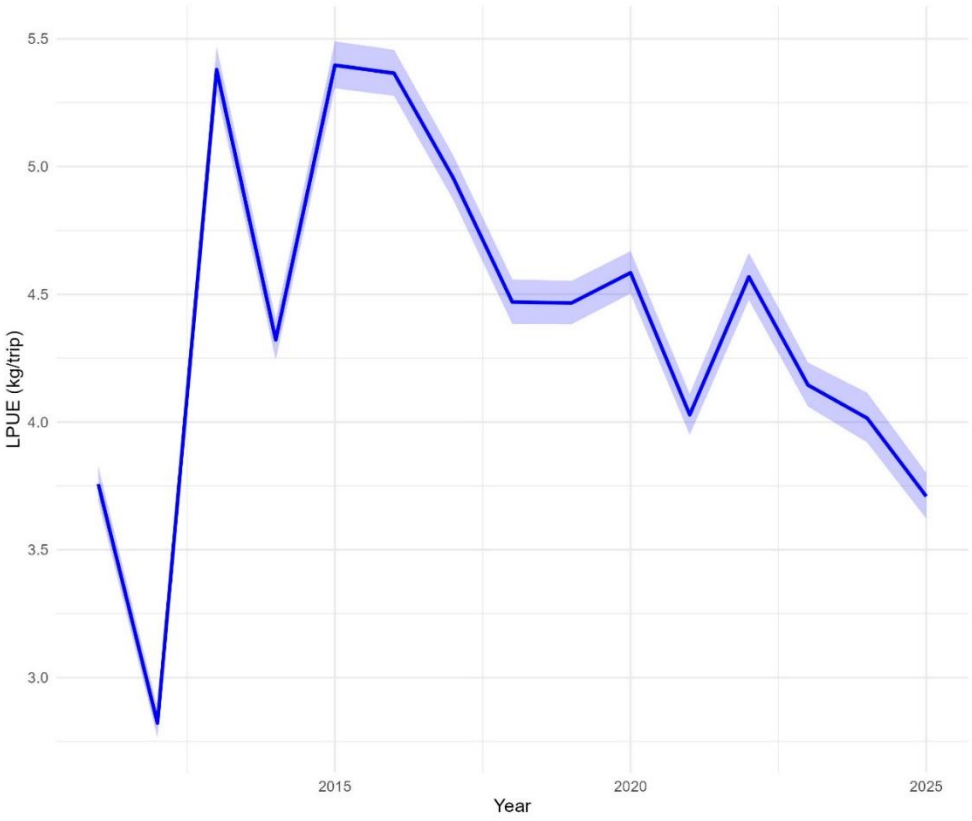

Figure 6.5.1 *Sole solea* in divisions 8c and 9a. Standardized commercial LPUE of the Portuguese polyvalent fleet in ICES Subdivision 9.a for the period 2011–2025. Source ICES 2026

.

6.5.7 Cross scenario summary of all economic indicators

To facilitate the impact of scenario a summary table of each economic indicator is provided in the tables below: revenue (Table 6.5.11), gross profit (Table 6.5.12), gross value added (Table 6.5.13) and net profit (Table 6.5.14).

Table 6.5.11 Summary of scenario TAC restrictions on revenue (REV) per scenario for 2027 relative to base economic case (average 2021 – 2023).

Fleet Segment	Total landing (tonnes)	Total *Solea solea* landings (tonnes)	ICES advice	Landings 2025	Landings by June 2026	Reopening Scenario 1	Reopening Scenario 2
ESP NAO DFN1218 NGI	4014.07	39.34	16.16	18.95	14.16	16.16	18.95
ESP NAO PMP0010 NGI	7912.97	34.42	-24.8	-23.74	-26.92	-24.8	-23.74
PRT NAO DFN1218 NGI	1711.81	26.63	20.37	21.26	19.92	20.37	21.26
PRT NAO DFN1824 NGI	1388.65	16.4	9.6	10.69	9.06	9.6	10.69
PRT NAO DTS2440 NGI	14971.31	11.23	-16.15	-14.88	-17.1	-16.15	-14.88
PRT NAO FPO1218 NGI	1525.67	16.41	31.2	31.72	30.67	31.2	31.72
PRT NAO PGP0010 NGI	10302.91	48.23	20.94	21.01	20.88	20.94	21.01
PRT NAO PGP1218 NGI	878.87	15.96	41.67	42.21	41.14	41.67	42.21

Table 6.5.12 Summary of scenario TAC restrictions on gross profits (GP) per scenario for 2027 relative to base economic case (average 2021 – 2023).

Fleet Segment	Total landing (tonnes)	Total *Solea solea* landings (tonnes)	ICES advice	Landings 2025	Landings by June 2026	Reopening Scenario 1	Reopening Scenario 2
ESP NAO DFN1218 NGI	4014.07	39.34	-57.3	-2.16	-96.69	-57.3	-2.16
ESP NAO PMP0010 NGI	7912.97	34.42	-43.3	-28.09	-73.71	-43.3	-28.09
PRT NAO DFN1218 NGI	1711.81	26.63	-69.19	-33.01	-87.28	-69.19	-33.01
PRT NAO DFN1824 NGI	1388.65	16.4	-85.55	-52.07	-102.29	-85.55	-52.07
PRT NAO DTS2440 NGI	14971.31	11.23	-38.03	9.81	-73.91	-38.03	9.81

PRT NAO FPO1218 NGI	1525.67	16.41	-46.15	-16.49	-75.81	-46.15	-16.49
PRT NAO PGP0010 NGI	10302.91	48.23	-105.56	-76.9	-134.22	-105.56	-76.9
PRT NAO PGP1218 NGI	878.87	15.96	-88.94	-68.22	-109.66	-88.94	-68.22

Table 6.5.13 Summary of scenario TAC restrictions on gross value added (GVA) per scenario for 2027 relative to base economic case (average 2021 – 2023).

Fleet Segment	Total landing (tonnes)	Total *Solea solea* landings (tonnes)	ICES advice	Landings 2025	Landings by June 2026	Reopening Scenario 1	Reopening Scenario 2
ESP NAO DFN1218 NGI	4014.07	39.34	-71.52	-12.57	-113.62	-71.52	-12.57
ESP NAO PMP0010 NGI	7912.97	34.42	-52.31	-35.81	-85.32	-52.31	-35.81
PRT NAO DFN1218 NGI	1711.81	26.63	-96.43	-49.62	-119.83	-96.43	-49.62
PRT NAO DFN1824 NGI	1388.65	16.4	-106.15	-65.63	-126.4	-106.15	-65.63
PRT NAO DTS2440 NGI	14971.31	11.23	-39.53	11.07	-77.47	-39.53	11.07
PRT NAO FPO1218 NGI	1525.67	16.41	-63.57	-27.71	-99.43	-63.57	-27.71
PRT NAO PGP0010 NGI	10302.91	48.23	-266.04	-201.75	-330.34	-266.04	-201.75
PRT NAO PGP1218 NGI	878.87	15.96	-127.71	-101.13	-154.29	-127.71	-101.13

Table 6.5.14 Summary of scenario TAC restrictions on net profit (NP) per scenario for 2027 relative to base economic case (average 2021 – 2023).

Fleet Segment	Total landing (tonnes)	Total *Solea solea* landings (tonnes)	ICES advice	Landings 2025	Landings by June 2026	Reopening Scenario 1	Reopening Scenario 2
ESP NAO DFN1218 NGI	4014.07	39.34	-57.89	-6.29	-94.75	-57.89	-6.29
ESP NAO PMP0010 NGI	7912.97	34.42	-44.53	-30.23	-73.12	-44.53	-30.23
PRT NAO DFN1218 NGI	1711.81	26.63	-60.36	-27.66	-76.71	-60.36	-27.66
PRT NAO DFN1824 NGI	1388.65	16.4	-76.34	-46.08	-91.47	-76.34	-46.08
PRT NAO DTS2440 NGI	14971.31	11.23	-36.88	8.33	-70.79	-36.88	8.33

PRT NAO FPO1218 NGI	1525.67	16.41	-39.46	-12.2	-66.71	-39.46	-12.2
PRT NAO PGP0010 NGI	10302.91	48.23	-78.31	-55.99	-100.62	-78.31	-55.99
PRT NAO PGP1218 NGI	878.87	15.96	-74.32	-55.64	-93	-74.32	-55.64

6.6 Future consideration

The analysis is subject to important limitations arising from the timeliness, resolution and consistency of the available data. The most recent FDI data available for the assessment relate to 2024. Consequently, the analysis could not account directly for fishing patterns, fleet behaviour or catch rates in 2025. Similarly, AER data were available only up to 2023, meaning that the economic performance of the relevant fleets in 2024 and 2025 could not be observed. Assumptions were therefore required to estimate recent fishing activity and economic performance. These assumptions may not fully reflect the current operating conditions of the fleets and introduce uncertainty into the estimated closure dates and economic impacts.

Fleets may have already adjusted their activity in response to reduced fishing opportunities and lower TACs. Such adjustments could include changes in fishing location, timing, métier, effort allocation, catch composition or targeting behaviour. Reductions in sole catches may also reflect declining stock availability, rather than behavioural adaptation alone. The relative contribution of these factors cannot be determined from the available aggregated data. If fleets have already adapted successfully to reduced sole availability, estimates based on earlier fishing patterns could overestimate the additional TAC required to avoid the premature closure of mixed fisheries.

Species identification and reporting represent a further major source of uncertainty. The species split applied in this economic assessment was based on the common-sole proportions reported through scientific catch information. These proportions do not necessarily correspond directly to the species composition recorded in FDI landings data, and used for the summary of sole fishery in section 6.1, which are derived from fisheries reporting systems and may contain records reported as *Solea solea*, other sole species or *Solea* spp. The application of a common species split to FDI data is therefore an analytical assumption rather than a validated reallocation of catches. This limits the precision of estimates of common-sole landings, quota uptake, closure timing and fleet-level dependence on the stock.

The temporal aggregation of the available FDI data also constrains the analysis. Quarterly data can identify the broad period in which quota exhaustion may occur, but they cannot provide a reliable estimate of the actual closure month or date. Monthly, or preferably finer-scale, information on landings and effort would allow cumulative quota uptake to be modelled more precisely. It would also support a more robust assessment of seasonality, changes in fleet behaviour following management measures, and the quantity of additional quota that might be required to maintain fishing activity until a specified date.

Finally, interpretation of the economic results is affected by gaps, confidentiality restrictions and clustering in the AER data. For some fleet segments, confidentiality procedures result in data being combined across segments or reporting categories. This can obscure differences in economic performance and reduce the ability to isolate the fleets most dependent on common sole or most exposed to a choke situation. The economic projections should therefore be

interpreted as indicative fleet-segment estimates rather than precise predictions of realised impacts.

Future assessments would benefit from:

- access with more recent FDI and AER data, including provisional or nowcast estimates where validated final data are not yet available;
- monthly landings, effort and quota-uptake data by Member State, fleet segment and métier;
- improved alignment between scientific estimates of species composition and the species codes used in FDI and control data;
- sensitivity analyses using alternative common-sole species splits, catch rates and seasonal fishing patterns;
- explicit modelling of behavioural responses, including changes in effort, targeting, métier and spatial allocation;
- greater availability of disaggregated economic data for the fleets most exposed to common-sole quota exhaustion;

7 Conclusions

This assessment confirms that Iberian common sole is caught within mixed demersal fisheries and that exhaustion of the common sole quota may result in lost fishing opportunities for other commercially important species.

The ICES advice scenario, set to a limit of 190 tonnes provides the most biologically safe reference point for the setting of common sole in divisions 8.c and 9.a. This scenario indicates that this limit could lead to quota exhaustion before year-end and generate substantial reductions in gross value added, gross profit and net profit for some Spanish and Portuguese fleet segments. Higher catch-limit scenarios generally delay closure and moderate these economic effects, but the benefits are unevenly distributed, and this assessment does not evaluate whether such catch levels would be consistent with the scientific advice or the objectives of the Western Waters multiannual plan. Accordingly, the analysis does not support the selection of a preferred TAC scenario.

The results must be interpreted with a high degree of caution**.** The closure projections rely on 2024 fishing patterns, while the economic estimates draw on AER data available only up to 2023. They cannot fully account for subsequent changes in stock availability, catchability, fleet behaviour, effort allocation, market conditions, quota management or opportunities to redirect activity towards other fisheries. Quarterly aggregation also permits only an approximate identification of closure timing. In addition, confidentiality-related clustering and gaps in the AER data limit the reliability of estimates for individual fleet segments, particularly where percentage changes are derived from small or unstable baseline values.

Most importantly, uncertainty surrounding the identification and reporting of common sole, Senegalese sole, sand sole and catches recorded as *Solea* spp. directly affects estimates of common-sole landings, fleet dependence, quota uptake and economic impact. The species split applied to the FDI data is an analytical assumption derived from scientific catch information and has not been validated as directly representative of the underlying FDI records. The mismatch between the ICES stock-assessment area and the wider EU quota-management area introduces a further source of uncertainty.

These limitations are sufficiently material that the scenario results should be regarded as indicative of the possible direction and relative scale of impacts, rather than as precise forecasts or a basis for determining a specific TAC level**.** More recent and temporally disaggregated landings, effort, quota-uptake and economic data, together with improved species identification and sensitivity testing, are required before robust conclusions can be drawn on the additional quota that would be needed to prevent an early closure of the mixed fisheries

References

Bitetto I, Malvarosa L, Berkenhagen J, Spedicato MT, Sabatella E, Doring R (2022). Reconciling the economic and biological fishery data gathered through the European Data Collection Framework: A new R-tool. PLoS ONE 17(3): e0264334. https://doi.org/10.1371/journal.pone.0264334

Dolder, P.J., Thorson, J.T. & Minto, C. Spatial separation of catches in highly mixed fisheries. *Sci Rep* **8**, 13886 (2018). https://doi.org/10.1038/s41598-018-31881-w

ICES 2025a. Workshop on other soles in ICES Divisions 8c and 9a (WKOS). ICES Scientific Reports. Report. https://doi.org/10.17895/ices.pub.30286864.v1

ICES. 2025b. Sole (*Solea solea*) in divisions 8.c and 9.a (Cantabrian Sea and Atlantic Iberian waters). *In* Report of the ICES Advisory Committee, 2025. ICES Advice 2025, sol.27.8c9a. https://doi.org/10.17895/ices.advice.27202890

ICES. 2026a. Working Group for the Bay of Biscay and Iberian Waters Ecoregion (WGBIE) 2026 Report. ICES Scientific Reports. Report. https://doi.org/10.17895/ices.pub.32790321.v1

ICES. 2026b. Senegalese sole (*Solea senegalensis*) in divisions 8.c and 9.a (Cantabrian Sea and Atlantic Iberian waters). ICES Advice: Recurrent Advice. Report. https://doi.org/10.17895/ices.advice.31999314.v1

ICES. 2026c. Sand sole (*Pegusa lascaris*) in divisions 8.c and 9.a (Cantabrian Sea and Atlantic Iberian waters). ICES Advice: Recurrent Advice. Report. https://doi.org/10.17895/ices.advice.31999332.v1

STECF. 2025a. *Evaluation of Fisheries Dependent Information (FDI) for EU Fleets (STECF 25-10).* Publications Office of the European Union, Luxembourg. JRC145076. https://stecf.ec.europa.eu/document/download/9009315a-c9ad-4d00-9f1e-648b469638d9_en

STECF. 2025b. *Fisheries Dependent Information (FDI) Methodology (STECF 25-05).* Publications Office of the European Union, Luxembourg. JRC145149. https://stecf.ec.europa.eu/document/download/72de3c0e-0196-4f32-9cfb-03b81006b712_en

STECF. 2025c. *EU Fleet Economic Performance: Annual Economic Report data dissemination and metadata.* Scientific, Technical and Economic Committee for Fisheries, European Commission. https://stecf.jrc.ec.europa.eu/documents/d/stecf/stecf_25-07_data

ICES. 2026d. Sand sole *(Pegusa lascaris*) in divisions 8.c and 9.a (Cantabrian Sea and Atlantic Iberian waters). ICES Advice: Recurrent Advice. Report. https://doi.org/10.17895/ices.advice.31999332.v1

STECF. 2025d. *The 2025 Annual Economic Report on the EU Fishing Fleet (STECF 25-03 and 25-07).* Publications Office of the European Union, Luxembourg. JRC144396. doi:10.2760/4088152. https://stecf.ec.europa.eu/document/download/7fd9a9cf-ca4c-40e8-8a75-24b8c8faffd3_en

STECF. 2026. EWG 26-05 Annual Economic Report on the EU Fishing Fleet II. https://stecf.ec.europa.eu/meetings-calendar/meetings-past-future/ewg-26-05-2026-06-08_en

Annex 1 Summary of data alignment

The plots supplied in the zip folder provide a summary of the alignment between the AER and FDI data sources for the fleets catching sole stocks in Iberian waters.

Annex 2 Summary economic indicator trends

The plots supplied in the zip folder provide a summary of the trends in economic indicators within each scenario for the fleets who caught 5 tonnes or more of common sole over the last 4 years of FDI data (2021- 2024). The majority of these indicators would be set to zero in 2024 for the fleet segments impacted, the trends economic data in historical reference years (2021 – 2023) present strong interannual variability for these fleets. This variability could not be justified by trends in sole catches alone but provides insight into the local variability, and highlights fleets an economic indicator for which data was unavailable in some years.

Annex 3 Code to conduct analysis

The two R scripts supplied in this zip folder can be used to run the full analysis, data QC and estimations of closure and impact.

List of figures

Figure 5.1.1 Summary of alignment in total number of vessels reported to FDI and AER data calls per fleets segment. 8
Figure 5.2.1 Sole (Solea solea) in divisions 8.c and 9.a. Summary of the stock assessment. Combined stock biomass index from commercial Portuguese LPUE and the quarter 4 Spanish North bottom trawl survey (shown by the green line). The horizontal orange lines indicate the average of the biomass index for 2020 to 2022 and for 2023 to 2024. Source ICES 2025b.. 10
Figure 5.2.2 Sole solea in divisions 8c and 9a. Standardized commercial LPUE of the Portuguese polyvalent fleet in ICES Subdivision 9.a for the period 2011–2025. Source ICES 2026a 10
Figure 5.2.3 Sole (S. solea) in divisions 8c and 9a. Temporal trend of the spatio-temporal biomass index (standardized) for the Spanish IBTS-Q4 bottom-trawl (G2784) survey for the period 2001-2026. Source ICES 2026a..... 11
Figure 6.1.1 Trends in landings of sole species in Iberian waters over last 3 available data year (2022 – 2024). 15
Figure 6.1.2 Summary of métiers (gear and target assemblage) landing sole species within Iberian waters, from 2022 – 2024, reported to FDI (STECF 2025a)..... 16
Figure 6.1.3 Summary of total landings by species for demersal targeting trammel net fisheries (GTR_DEF) in Iberian waters (2021-2024). Source FDI data (STECF 2025). 16
Figure 6.1.4 Summary of total landings by species for demersal targeting trammel net fisheries (GTR_DEF) in Iberian waters (2021-2024), disaggregated by vessel length. Source FDI data (STECF 2025)..... 17
Figure 6.1.5 Summary of total landings by species for demersal targeting set net fisheries (GTN_DEF) in Iberian waters (2021-2024). Source FDI data (STECF 2025) 17
Figure 6.1.6 Summary of total landings by species for demersal targeting set net fisheries (GTN_DEF) in Iberian waters (2021-2024), disaggregated by vessel length. Source FDI data (STECF 2025). 18
Figure 6.2.1 Sole (Solea solea) in divisions 8.c and 9.a. Summary of the stock assessment. Top left: catches (Portuguese catches 2011–2024, Spanish and France catches 2009–2024). Bottom left: fishing pressure proxy (inverse f, LF = M/Lmean) from the length-based indicator (LBI) method is used for the evaluation of the exploitation status. The proxy fishing pressure is less than that corresponding to the FMSY proxy when the value is lower than 1 (shown by the horizontal blue line). Bottom right: combined stock biomass index from commercial Portuguese LPUE and the quarter 4 Spanish North bottom trawl survey (shown by the green line). The horizontal orange lines indicate the average of the biomass index for 2020 to 2022 and for 2023 to 2024. (Source ICES 2025b)..... 19
Figure 6.4.1 Cumulative common sole (Solea solea) landings by quarter for the final year of available FDI landings data (2024) for all MS (top), Portugal (middle) and Spain (bottom). Scenario catch limits are highlighted along the horizonal lines..... 24

Figure 6.5.1 Sole solea in divisions 8c and 9a. Standardized commercial LPUE of the Portuguese polyvalent fleet in ICES Subdivision 9.a for the period 2011–2025. Source ICES 2026 32

List of tables

Table 4.1.1 Catches (in tonnes) of Sole solea reported to InterCatch (ICES catch) and total Solea spp reported to FDI, from 2021–2025 (ICES 2026a, STECF 2025 a) 6
Table 5.2.1 Summary of scenario parameterisation. 9
Table 5.2.2 Sole in divisions 8.c and 9.a. ICES advice, agreed total allowable catch (TAC), official landings, and ICES estimates of landings and discards. All weights are in tonnes. Source ICES 2025b 11
Table 6.3.1 summary of the Solea solea landings estimated from FDI landing (STECF 2025a) 21
Table 6.4.1 Estimated quarter of fishery closure based on the TAC limit set per scenario, assuming the fishing pattern (landings and effort) of 2026 and 2027 are the same as that of 2024. 23
Table 6.5.1 ICES advice scenario. Summary of variation of economic indicators revenue (REV), gross value added (GVA), Gross Profits (GP) and net profit (NP) under five TAC scenarios for 2027 relative to base case (average 2021 – 2023). 25
Table 6.5.2 ICES advice scenario. Summary of variation of economic indicators revenue (REV), gross value added (GVA), Gross Profits (GP) and net profit (NP) under five TAC scenarios for 2027 relative to base case (average 2021 – 2023). 26
Table 6.5.3 ICES advice scenario. Summary of the value in Euros per species (FAO codes) lost per fleet segment based on the estimated closure in 2027 relative to base case (average 2021 – 2023). 26
Table 6.5.4 Landings 2025 scenario. Summary of variation of economic indicators revenue (REV), gross value added (GVA), Gross Profits (GP) and net profit (NP) under five TAC scenarios for 2027 relative to base case (average 2021 – 2023). 27
Table 6.5.5 Landings 2025 scenario. Summary of the value in Euros per species (FAO codes) lost per fleet segment based on the estimated closure in 2027 relative to base case (average 2021 – 2023). 27
Table 6.5.6 Landings by June 2026 scenario. Summary of variation of economic indicators revenue (REV), gross value added (GVA), Gross Profits (GP) and net profit (NP) under five TAC scenarios for 2027 relative to base case (average 2021 – 2023). 28
Table 6.5.7 Landings by June 2026 scenario. Summary of the value in Euros per species (FAO codes) lost per fleet segment based on the estimated closure in 2027 relative to base case (average 2021 – 2023). 29
Table 6.5.8 Reopening scenario 1. Summary of variation of economic indicators revenue (REV), gross value added (GVA), Gross Profits (GP) and net profit (NP) under five TAC scenarios for 2027 relative to base case (average 2021 – 2023). 29
Table 6.5.9 Landings by end of Q 3 2024 scenario. Summary of the value in Euros per species (FAO codes) lost per fleet segment based on the estimated closure in 2027 relative to base case (average 2021 – 2023). 30
Table 6.5.10 Average landings by Q 3 over last 3 years scenario. Summary of variation of economic indicators revenue (REV), gross value added (GVA), Gross Profits (GP) and net profit (NP) under five TAC scenarios for 2027 relative to base case (average 2021 – 2023). 31

Table 6.5.11 Summary of scenario TAC restrictions on revenue (REV) per scenario for 2027 relative to base economic case (average 2021 – 2023)..... 33
Table 6.5.12 Summary of scenario TAC restrictions on gross profits (GP) per scenario for 2027 relative to base economic case (average 2021 – 2023)..... 33
Table 6.5.13 Summary of scenario TAC restrictions on gross value added (GVA) per scenario for 2027 relative to base economic case (average 2021 – 2023)..... 34
Table 6.5.14 Summary of scenario TAC restrictions on net profit (NP) per scenario for 2027 relative to base economic case (average 2021 – 2023)..... 34