

Scientific, Technical and Economic Committee for Fisheries (STECF) – Monitoring the Performance of the Common Fisheries Policy (STECF-Adhoc-26-01) Final report pending publication numbers for webpage release

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EWG-Adhoc-26-01 report:

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Abstract

Commission Decision of 25 February 2016 setting up a Scientific, Technical and Economic Committee for Fisheries, C(2016) 1084, OJ C 74, 26.2.2016, p. 4–10. The Commission may consult the group on any matter relating to marine and fisheries biology, fishing gear technology, fisheries economics, fisheries governance, ecosystem effects of fisheries, aquaculture or similar disciplines. This report deals with the monitoring of the performance of the Common Fisheries Policy.

1 SCIENTIFIC, TECHNICAL AND ECONOMIC COMMITTEE FOR FISHERIES (STECF) – Monitoring the Performance of the Common Fisheries Policy (STECF-Adhoc-26-01)

This advice was provided to the Commission on 20 March 2026.

1.1 Background provided by the Commission

Article 50 of the Common Fisheries Policy (CFP; Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013) stipulates: “The Commission shall report annually to the European Parliament and to the Council on the progress on achieving maximum sustainable yield and on the situation of fish stocks, as early as possible following the adoption of the yearly Council Regulation fixing the fishing opportunities available in Union waters and, in certain non-Union waters, to Union vessels.”

1.2 Request to the STECF

STECF is requested to report on progress in achieving MSY objectives in line with the Common Fisheries Policy.

1.3 STECF comments

To address the agreed Term of Reference, the STECF ad hoc Expert Working Group (STECF-Adhoc-26-01) was convened between January and March 2026 to compile available assessment outputs and conduct the extensive analysis required to prepare the annual Common Fisheries Policy (CFP) monitoring report. The expert group presented a comprehensive report (STECF-Adhoc-26-01) accompanied by several detailed annexes to PLEN 26-01 providing:

1. Design-based indicators by ecoregions for the MED&BS.
2. Numerical retrospective and historical performance analysis of model-based indicators.
3. Plots overlaying model-based indicator input data and outputs.
4. Design-based indicators expressed as percentages.

The supporting electronic annexes include:

1. CFP monitoring protocols (Gras et al., 2026) as agreed by STECF PLEN 25-03 (STECF 2025b)
2. URL links to electronic annexes referring to the reports and stock advice sheets underpinning the analysis.
3. R material for processing the data and producing indicators for the Northeast Atlantic (NEA).
4. R material for processing the data and producing indicators for the Mediterranean and Black Seas (MED&BS).
5. R material for computing the EUW indicators.

The report and electronic annexes are available on
<https://stecf.ec.europa.eu/document/3f68b367-a501-43a4-b638-9593da63ac5b>

STECF acknowledges that the report is clear and well laid out, comprehensively describing the analysis conducted by the experts and documenting the changes made to the approach since the previous report (STECF-Adhoc-25-01). STECF notes that the report duly follows the protocol agreed by PLEN 25-03 (STECF 2025b).

STECF further notes that this is the first year that the selectivity indicator (Vasilakopoulos et al., 2020; Mantopoulou Palouka et al., 2024) is reported, as suggested by PLEN 25-02 (STECF 2025a) and PLEN 25-03 (STECF 2025b). This indicator aims to monitor the “extent to which technical measures both at regional and Union level have contributed to achieving the objectives (...) and reaching the targets [of the Technical Measures Regulation]”. These objectives coincide with those of the CFP, with a particular focus on “optimizing exploitation patterns to provide protection for juveniles and spawning aggregations of marine biological resources”.

STECF observes that the CFP monitoring protocol defines three types of indicators based on individual stock assessments:

- design-based indicators: these indicators display the raw number of stocks that fulfil specified criteria (e.g. the yearly number of stocks below F_{MSY}), without applying any statistical model
- model-based indicators: these indicators are derived from a state-space model that averages the situation across stocks (e.g. the model-based indicator of F/F_{MSY} averages the F/F_{MSY} values across the different stocks considered).
- A selectivity indicator derived by estimating the median across all stocks for which a ratio F_{juv}/F_{adult} can be computed from stock assessment outputs.

The STECF-Adhoc-26-01 report sets out the results of the analyses separately for the NEA and the MED&BS (Sections 3 and 4, respectively). Based on these results, progress towards achieving MSY objectives is summarised below. In the report, “Northeast Atlantic” refers to stocks in FAO Area 27 inside and outside EU waters, and “Mediterranean & Black Seas” refers to stocks in FAO Area 37 inside EU waters. Additionally, at the request of Eurostat, an overview of all the stocks in European waters is also presented (Section 5 of the STECF-Adhoc-26-01 report).

For the NEA (FAO area 27), the most recently published ICES stock assessments carried out up to (and including) 2025 incorporating data up to 2024 were downloaded from the ICES website on 09 January 2026. For the MED&BS (FAO area 37), the information was extracted from the STECF Mediterranean Expert Working Group repositories comprising the most recently published assessments carried out up to 2025 with data up to 2024, and from the GFCM quantitative stock assessment online STAR files comprising the most recently published assessments carried out up to 2025 with data up to 2023 in most of the cases and up to 2024 in some cases. As in previous reports and due to the low number of stocks having F and B estimates for 2024, the MED&BS dataset was trimmed by a year compared to the NEA, i.e. the time series used for the analysis stops in 2023.

Methodological considerations

Performance perception revision

In recent years, STECF has noted growing instability in model-based indicators. This is due to factors like changes in sampling frame, modifications in the assessment models used for stocks in the dataset, and the addition of shared stocks that are less influenced by the CFP. There are now more stock assessments available, which include stocks with different

exploitation histories and with alternative assessment models, such as surplus production models (SPM, discussed in the next section).

STECF considers that, while monitoring the number of stocks for which stock assessments and estimated reference points are available is a relevant indicator of the coverage of the scientific advice, the systematic inclusions of new stocks in model-based and design-based indicators as soon as they meet the protocol criteria, might increase the instability of those indicators from one year to the next, and impair a consistent monitoring of the CFP performance.

STECF PLEN 25-03 requested two adjustments to the protocol and discussed their potential impact on the performance perception:

- use of the median instead of the geometric mean as aggregate function in model-based indicator: STECF considered that the median avoids any implicit assumption in the aggregation of stocks compared to the geometric mean and that the resulting indicators are less sensitive to lower values. In most cases, this has had a minor effect on trends, but some differences were still visible for a few indicators, yielding higher absolute values (e.g. F/F_{MSY} in NEA, B/B_{2003} in the MED&BS).
- standardisation of the biomass indicators: STECF requested JRC to standardise each stock biomass time series by its own mean before computing the indicator. This allowed to give similar weight to each stock in the aggregation (this was especially critical for category 3 stocks in which biomass is quantified with very different units). This has had more important effects for category 3 stocks and for the MED&BS (see STECF PLEN 25-03).

Scaling issues (shifts in absolute values) of model-based indicators

STECF PLEN 25-01 noted that the absolute values of model-based indicators (especially F/F_{MSY}) have varied across CFP monitoring exercises, as could be seen in the retrospective analysis of the STECF-Adhoc-26-01 report (annex 2). PLEN 25-01 also discussed the different issues that could cause this issue. These include the recent change in protocol (since 2025) and changes in the dataset. Both remain largely valid. STECF notes that the STECF-Adhoc-26-01 report in its Section 7 provides historical performance and a retrospective analysis (annex 2) that provide insights on those issues.

More importantly, PLEN 25-01 noted that, while the latest revision of the protocol already clarified that only quantitative assessments with tuning indices (survey indices or, if not available, CPUE time series) could be included in the analysis, excluding catch-only assessment methods (Gras et al., 2026), this still encompasses a large diversity of methods. STECF notes, for example, that there are conceptual differences in F_{MSY} estimates from age-structured models (ASM) and from surplus production models (SPM). In that sense, STECF-Adhoc-26-01 report includes a sensitivity analysis to study the integration of stocks assessed with SPM. The results indicate that while trends in model-based indicators remain similar, the inclusion of SPM leads to lower F/F_{MSY} values. STECF observes that it is currently not possible to conclude whether those differences arise from (1) effectively different status of the stocks assessed with SPM compared to stocks assessed with ASM and/or (2) inconsistencies in reference points arising from the two families of models. STECF notes that the second case would imply that the reference points arising from the two families of models would correspond to different precautionary levels. STECF considers that further work is needed to clarify this point. However, STECF notes that, despite those differences, F_{MSY} arising from both ASM and SPM can be used as a reference point, given that F/F_{MSY} quantifies the distance to the management target in both cases.

STECF considers thus that while temporal trends are robust, the absolute values are not. Therefore, results should then be interpreted with caution, especially when comparing the values of F/F_{MSY} and B/B_{2003} to specific thresholds (e.g. comparison to 1). STECF recalls that model-based indicators are averages of fishing mortality and biomass trends across stocks of very different sizes and landing volumes. Consequently, a small stock with low catches or biomass has the same weight in the model as a large stock. STECF also recalls that the CFP does not aim to achieve its MSY objectives on average (values that are monitored by model-based indicators) but to achieve these objectives for all stocks. Therefore, STECF considers that progress towards this objective is better monitored through design-based indicators.

Trends towards reaching the MSY objective in the Northeast Atlantic (NEA) and Mediterranean & Black Seas (MED&BS)

The overview below describes the trends in fishing pressure observed in the NEA and the MED&BS for the periods 2003 to 2024 and 2003 to 2023, respectively. It applies to the stocks with an analytical assessment (ASM and SPM) and with associated reference points included in the reference list (sampling frame) of stocks for these areas.

Overview of stock status with respect to reference points

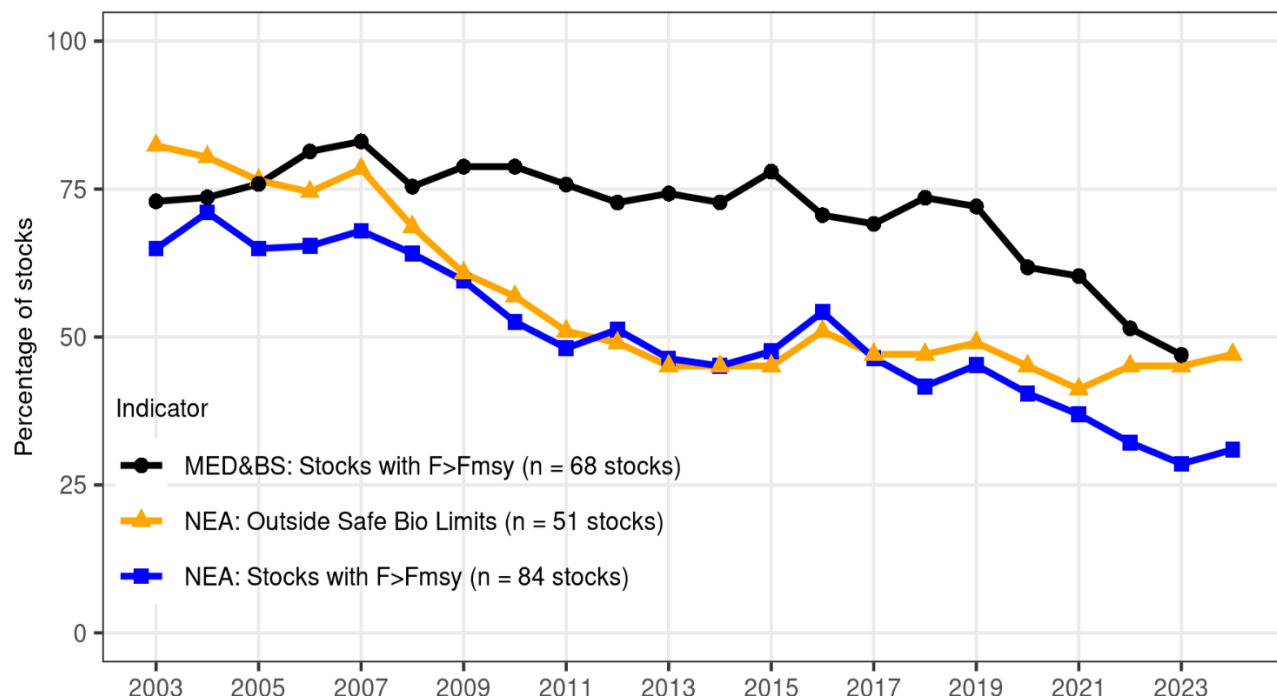
Northeast Atlantic (NEA)

The indicators provided in STECF-Adhoc-26-01 report show that in the NEA (both EU and non-EU waters), the status of stocks have significantly improved since 2003 (Figure A) but that some stocks are still exploited above F_{MSY} and that the proportion of overfished stocks increased in the most recent years.

Among the stocks included in the analysis (Table 1 in STECF-Adhoc-26-01 report), the proportion of stocks with $F > F_{MSY}$ (blue line in Figure A) has decreased from around 65% (2003) to 29% in 2023 and increased to 31% in 2024. The proportion of stocks outside safe biological limits (Figure A - $F > F_{PA}$ or $B < B_{PA}$, yellow line, Table 5 and 6 in the STECF-Adhoc-26-01 report), computed for 51 stocks for which both reference points were available, follows a similar decreasing trend: from 82% in 2003 to 41% in 2021. However, the proportion of stocks outside safe biological limits increased to 47% in 2024.

STECF observes a recent increase in both the trends of stocks outside safe biological limits and stocks with $F > F_{MSY}$ (Figure A). STECF further observes that among the 84 category 1 and 2 stocks in the dataset, 46 stocks have a biomass reference point ($MSY B_{trigger}$) that are still set at B_{PA} , which is likely to be substantially lower than the biomass needed to sustain fishing at F_{MSY} (Winker et al., in Press).

Figure A. Trends in stock status in the NEA (2003-2024) and in the MED&BS (2003-2023). Two calculated proportions (as percentage) are presented: blue and black lines show the the proportion of stocks with $F > F_{MSY}$ in NEA (out of a total of 84 stocks) and MED&BS (out of a total of 68 stocks), respectively. The yellow line in shows the proportion of stocks outside safe biological limits ($F > F_{PA}$ or $B < B_{PA}$) in NEA (out of a total of 51 stocks).



Source: Own elaborations based on ICES, STECF and GFCM data.

Overall, STECF observes that for the last known year (2024), of the 84 stocks considered, only 29% (24 stocks) were exploited below F_{MSY} and were considered be inside safe biological limits, suggesting that the objective in Art. 2.2 of the CFP¹ has not been met (Table A).

¹ In order to reach the objective of progressively restoring and maintaining populations of fish stocks above biomass levels capable of producing maximum sustainable yield, the maximum sustainable yield exploitation rate shall be achieved by 2015 where possible and, on a progressive, incremental basis at the latest by 2020 for all stocks.

Table A. Number of stocks with $F > F_{MSY}$, or $F \leq F_{MSY}$, and inside ($F \leq F_{PA}$ and $B \geq B_{PA}$) and outside ($F > F_{PA}$ or $B < B_{PA}$) safe biological limits (SBL) in 2024 in the NEA (both EU and non-EU waters). Unknown SBL refers to stocks whose status regarding SBL could not be assessed.

	Below F_{MSY}	Above F_{MSY}
Inside SBL	24	3
Outside SBL	11	13
Unknown SBL	23	10

Source: Own elaborations based on ICES data.

STECF observes that the situation for NEA conceals a diversity of situations among ecoregions. For example, STECF observes that the proportion of overexploited stocks in the Celtic Seas (Figure 4 of the STECF-Adhoc-26-01 report), and the proportions of stocks outside safe biological limits in the Bay of Biscay & Iberian and in the Celtic Seas ecoregions (Figure 6 of STECF-Adhoc-26-01 report) seem to have deteriorated in the last year(s).

Mediterranean & Black Seas

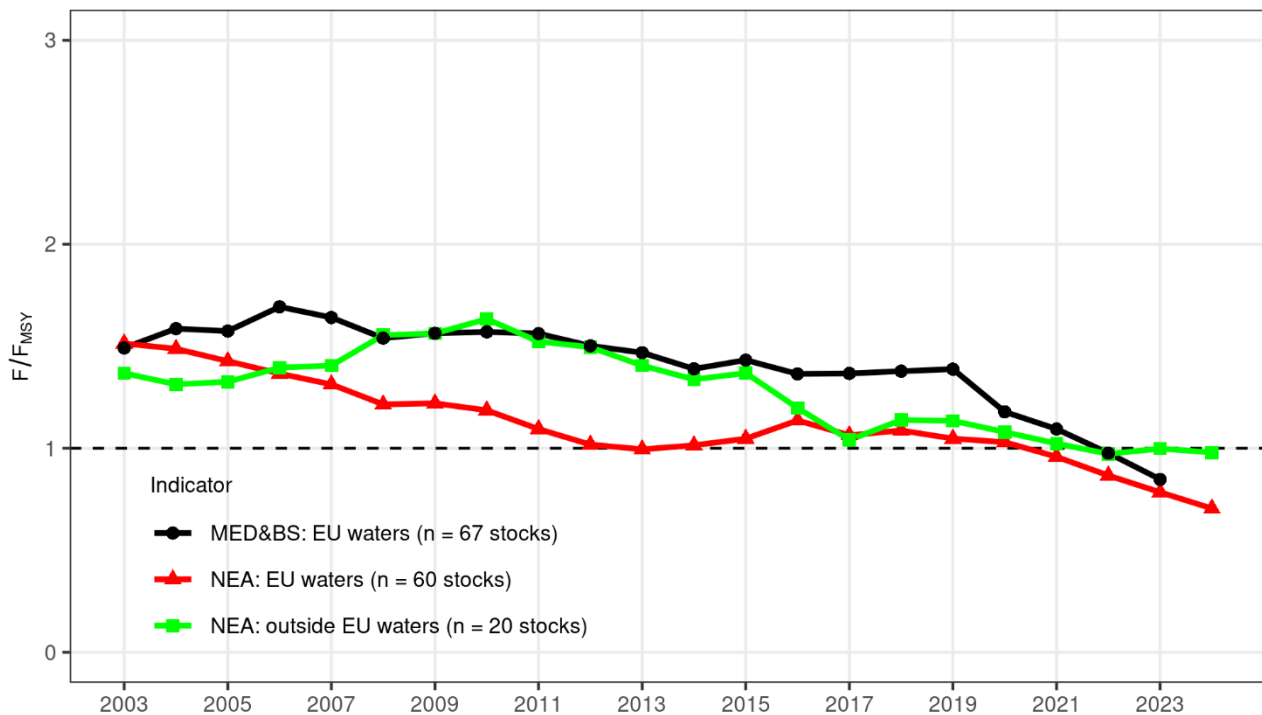
For the MED&BS, the number of stocks assessed and for which data are available has varied from year to year and assessment results for some stocks do not extend back to the earlier part of the time series.

STECF notes that Safe Biological Limit reference points are not available in the assessments performed for the Mediterranean stocks, so the analysis was restricted to comparisons to MSY . Among the stocks for which F_{MSY} was available (Table 21, in STECF-Adhoc-26-01 report), the proportion of overfished stocks has decreased from around 83% in 2007 to around 47% in 2023 (Figure A).

Overall trends in the fishing pressure: Ratio of F/F_{MSY}

As agreed during PLEN 23-03 (STECF, 2023), STECF-Adhoc-26-01 computed the trends in fishing pressure using a state-space model as implemented in the R package JARA (Winker, Pacoureau, and Sherley 2020), tailored to the needs of CFP monitoring. The model-based results for the NEA (inside and outside EU waters), MED&BS and for all EU waters are displayed in Figures 9, 12 and 24 of the STECF-Adhoc-26-01 report. Trends in the median values for F/F_{MSY} are summarised in Figure B over the time-series for the NEA inside and outside EU waters and for the MED&BS.

Figure B. Three model-based indicators F/F_{MSY} are presented: red line which represents 60 stocks with appropriate information in the NEA EU waters; green line for 20 stocks also located in the NEA but outside EU waters; and black line for the 67 stocks from the MED&BS.



Source: Own elaborations based on ICES, GFCM and STECF data.

Northeast Atlantic

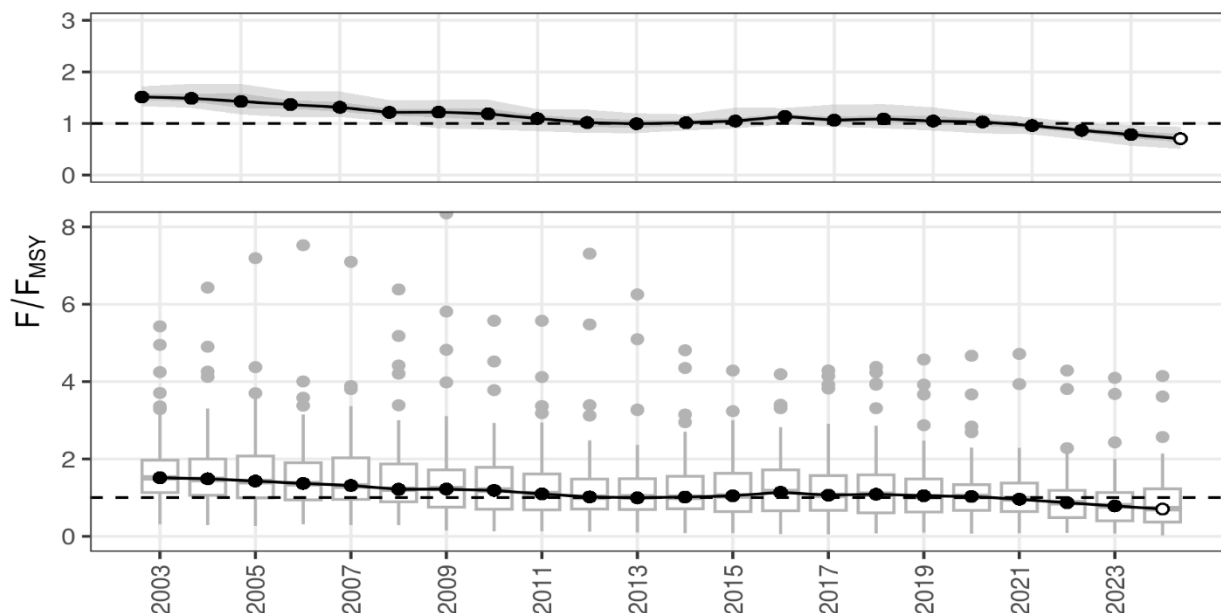
In the NEA within EU waters, the model-based indicator of fishing pressure (F/F_{MSY} , based on 60 stocks with appropriate information – Figure 9 in the STECF-Adhoc-26-01 report) shows a gradual downward trend over the period 2003-2024 (Figures B and C), suggesting an overall decrease of the fishing pressure. This is consistent with the observed trends in the raw data (Figure C). STECF notes that while the indicator (median) value is below 1 in the last year, some stocks still have a very high F/F_{MSY} value (Figure D), and that despite this overall decrease, the proportion of overfished stocks has increased this year.

STECF also observes that the change of the aggregate function (see “scaling issues section” above), has produced a revision of the historical trend compared to last year’s CFP monitoring exercise, with a less pronounced decline in F/F_{MSY} during the 2010s, or even stability, leading to higher values at the end of the period. This is clearly visible in the historical performance analysis (Figure 35 of the STECF-Adhoc-26-01 report). STECF notes that the resulting indicator is consistent with the median of the raw data per stock (Figure C).

STECF also observes a notable difference between the trends for stocks assessed with SPM and stocks assessed with ASM (Figure 11 of the STECF-Adhoc-26-01 report). However, STECF observes that the number of stocks assessed with SPM has decreased compared to last year. Also, the use of the median as an aggregate function reduces the influence of SPM assessments. As a result, these assessments have little influence on the final indicator (Figure 11 of the STECF-Adhoc-26-01 report).

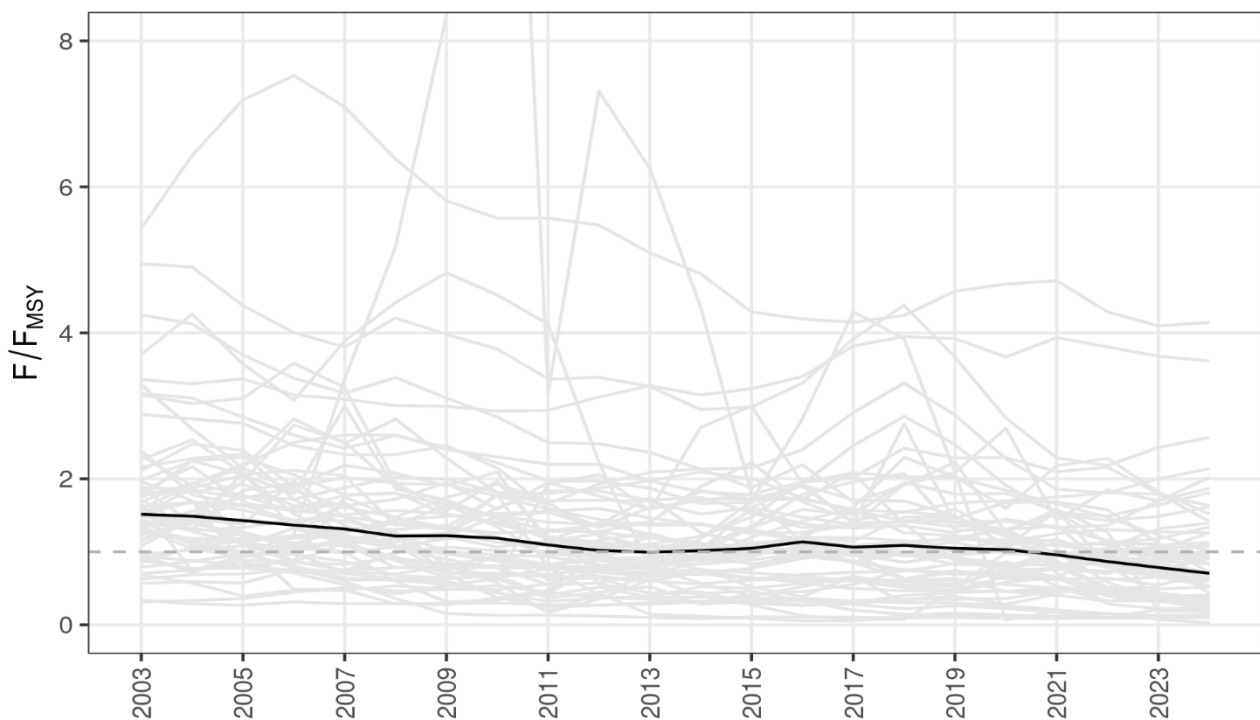
STECF also observes that, while the decreasing trend appears to be consistent among ecoregions (Figure 10 of the STECF-Adhoc-26-01 report), the absolute values are more heterogeneous, with the Greater North Sea ecoregion displaying higher fishing pressure.

Figure C. Trend in model-based F/F_{MSY} in the NEA EU waters (based on 60 stocks - top panel). The dark line and points stand for the model-based indicator (as in Figure B) and the grey ribbon for the associated 95% confidence interval. The bottom panel displays the model-based trend in F/F_{MSY} (solid black lines and dots) while the boxplots show the distribution of the observed data. The range of the y-axis on the bottom panel was restricted to [0-8] to better see the trends, however one stock in 2010 has a F/F_{MSY} greater than 15.



Source: Own elaborations based on ICES data.

Figure D. Observed trends in F/F_{MSY} for each stock in the NEA EU waters (60 stocks) as in Figure B. Each grey line corresponds to a single stock. The black line corresponds to the model-based indicator (Figure B). The range of the y-axis was restricted to [0-8] to better see the trends, however one stock in 2010 has a F/F_{MSY} greater than 15. The grey dashed line indicates the $F/F_{MSY}=1$ ratio.



Source: Own elaborations based on ICES data.

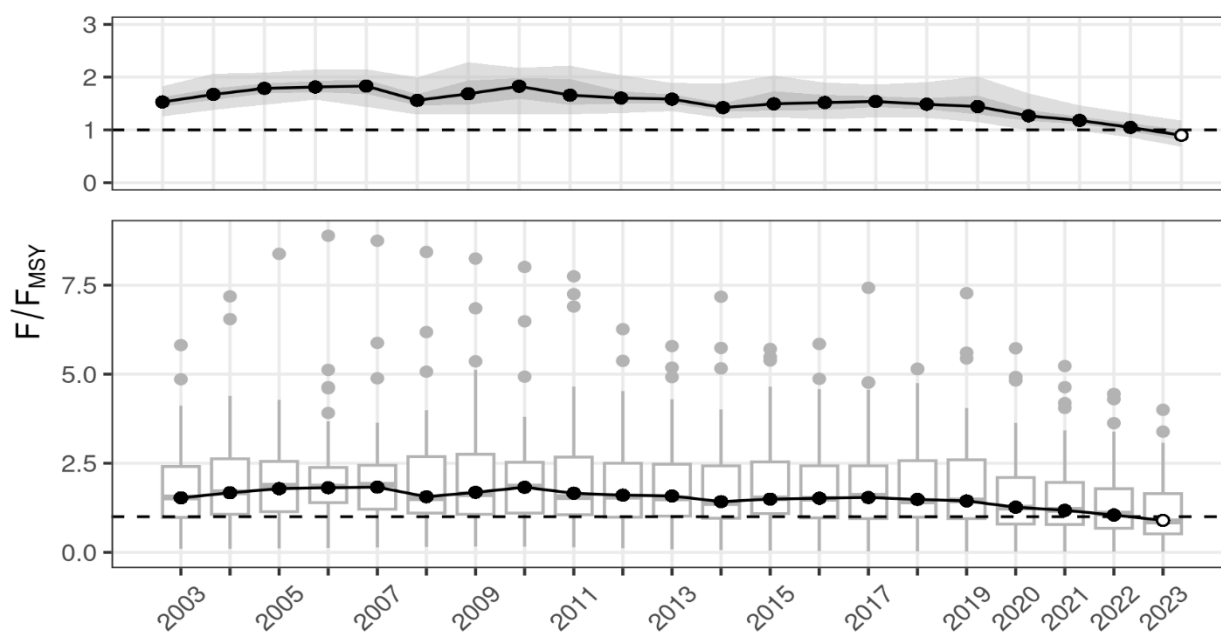
The same model-based indicator was computed by the STECF-Adhoc-26-01 expert group for an additional set of 20 stocks located in the NEA outside EU waters (Figure 2 in the STECF-Adhoc-26-01 report). A first decreasing phase occurred from 2010 to 2017, followed by a stable period since then (Figure B).

Mediterranean and Black Seas

The results presented show a decrease of F/F_{MSY} in the MED&BS since 2011 and a sharp decrease since 2019 (Figures B and E). STECF notes that many regulations have been implemented during the same period (Western Mediterranean Multiannual Management Plan - Regulation (EU) 2019/1022; GFCM/43/2019/5) or a few years after (GFCM recommendations (GFCM/44/2021/20, GFCM/45/2022/7, GFCM/45/2022/8, GFCM/45/2022/6, GFCM/45/2022/5, GFCM/45/2022/4), which have settled effort regimes, catch limits for some species, fishery restricted areas for demersal stocks and trawlers fisheries and were enforced by Regulation (EU) 2023/2124). These regulations might have contributed to this decrease of fishing mortality but they were likely enforced too late to be the sole driver of the decline in F since 2019. Meanwhile, STECF EWG 25-11 outlined a decrease of fishing effort in the trawler fleet that started before 2019 and could also have contributed to the decrease in fishing mortality. STECF is not in a position to completely explain the factors contributing to the decreasing trend in the indicator, however it is noted that the decrease in fishing mortality can also be observed in the raw stock assessment results (Figure E). Moreover, compared to last year, STECF observes that this decrease may

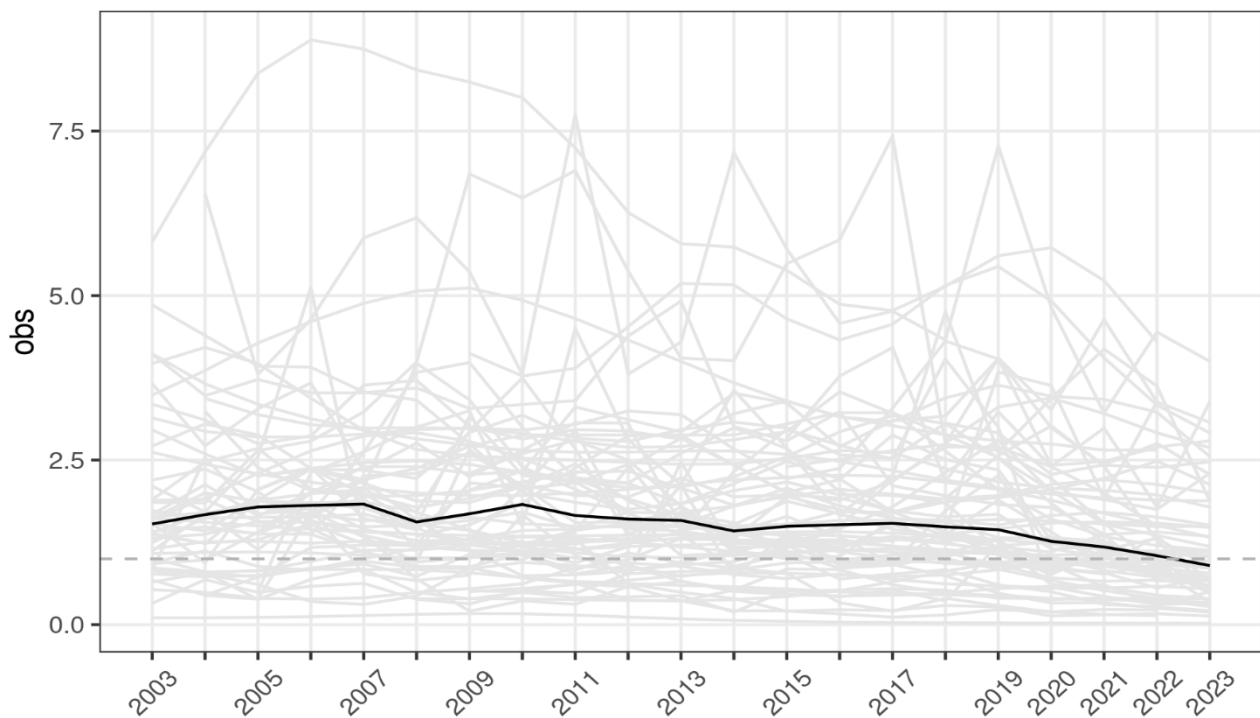
have led to an increase in biomass in recent years (see section “trends in biomass”). However, STECF notes that some stocks still have extremely high F/F_{MSY} values (Figure F).

Figure E. Trend in model-based F/F_{MSY} in the MED&BS (based on 67 stocks - top panel). The dark line and points stand for the model-based indicator and the grey ribbon for the associated 95% confidence interval (as in Figure B). The bottom panel displays the model-based trend in F/F_{MSY} (solid black lines and dots) while the boxplots show the distribution of the observed data.



Source: Own elaborations based on GFCM and STECF data.

Figure F Observed trends in F/F_{MSY} for each stock within the MED&BS. Each grey line corresponds to the result of one specific stock assessment. The black line corresponds to the model-based indicator (Figure B). The grey dashed line indicates the $F/F_{MSY}=1$ ratio.



Source: Own elaborations based on GFCM and STECF data.

STECF notes that the number of stocks considered in computing the indicator has varied over time, as some stocks have been added and others have been revised in terms of stock boundaries (e.g. covering more GSAs). The effect is especially visible in ecoregions where the number of stocks is limited (e.g. Black Sea, Figure 25 of the STECF-Adhoc-26-01 report).

As for the NEA, STECF observes that stocks assessed with SPM and ASM both display consistent trends, but with differences in absolute values. In the MED&BS, about one third of the stocks included in the indicator are assessed with SPM, therefore STECF considers that exploring further the cause of this scaling issue would be very relevant.

In conclusion, a decreasing trend in F/F_{MSY} seems to be taking place in the MED&BS. However, given the previously mentioned scaling issues, STECF considers that the order of magnitude as estimated by the STECF model-based indicator may be overly optimistic. Moreover, STECF highlights that many stocks still display extremely high F/F_{MSY} values (Figure B).

Trends in Biomass

The model-based results for the NEA (EU waters), the MED&BS and for data-limited stocks in the NEA (ICES “category 3” stocks) are provided in Figures 14, 26 and 16, respectively, of the STECF-Adhoc-26-01 report. Trends in the median values for biomass over time are summarised in Figure G below.

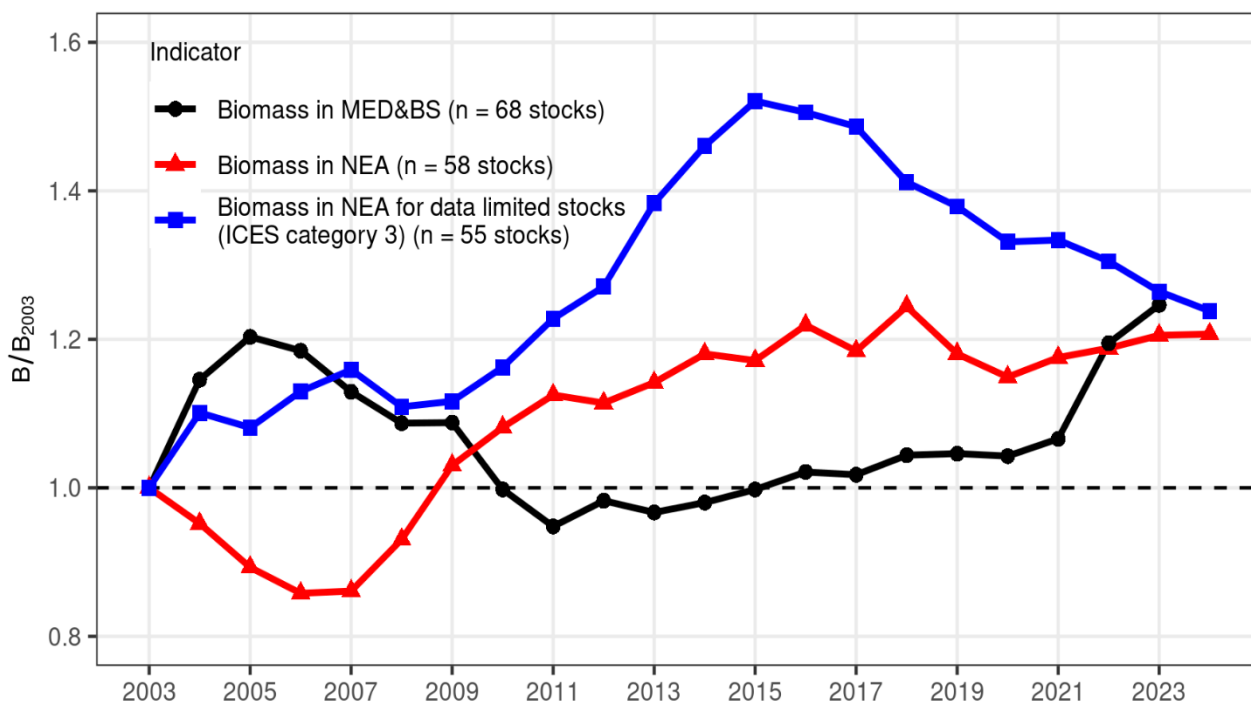
As explained in the “methodological considerations” section, in this year’s release of the CFP monitoring report, stock biomass time series have been standardised by their means before

applying the model, to ensure that each stock has the same weight in the aggregation. This has reduced the confidence intervals compared to previous years and produced smoother trends (see Figures 36 and 38 of the STECF-Adhoc-26-01 report).

The model-based indicator for the trend in biomass shows a general increase over time since 2007 in the NEA (EU waters only - Figures 14 of the STECF-Adhoc-26-01 report) for assessed stocks (ICES categories 1 and 2 stocks). However, STECF notes that this general increasing trend hides a diversity of situations among ecoregions and is largely resulting from a rapid increase in biomass in the Bay of Biscay & Iberia ecoregion and for widely distributed species. In comparison, there are signs of decline in the Baltic Sea and in the Celtic Seas (Figure 15 of the STECF-Adhoc-26-01 report). Furthermore, for data limited stocks from NEA (ICES category 3 stocks – Figure 16 of the STECF-Adhoc-26-01 report), STECF observes that after a stable period until 2012 and an increase till 2015, the recent trend suggests a decrease in biomass.

In the MED&BS, the change in the protocol (standardisation of stock biomass and change of the aggregate function) has led to a larger revision of the trend. STECF notes that the number of stocks included in the indicators varies over time, and care should be taken when analysing the indicator, especially at the beginning of the series. However, STECF observes that biomass seems to have been increasing since 2011, with a steeper increase since 2021. This steeper increase in recent years is consistent among almost all ecoregions, except in the Eastern Mediterranean where only four stocks are available (Figure 11 of the STECF-Adhoc-26-01 report).

Figure G. Trends in the model-based indicators of stock biomass scaled to 2003. Three indicators are presented: red line for the NEA EU waters (58 stocks - categories 1 and 2); black line for the MED&BS (68 stocks); and blue line for data-limited stocks in the NEA (ICES category 3, 55 stocks).



Source: Own elaborations based on ICES, GFCM and STECF data.

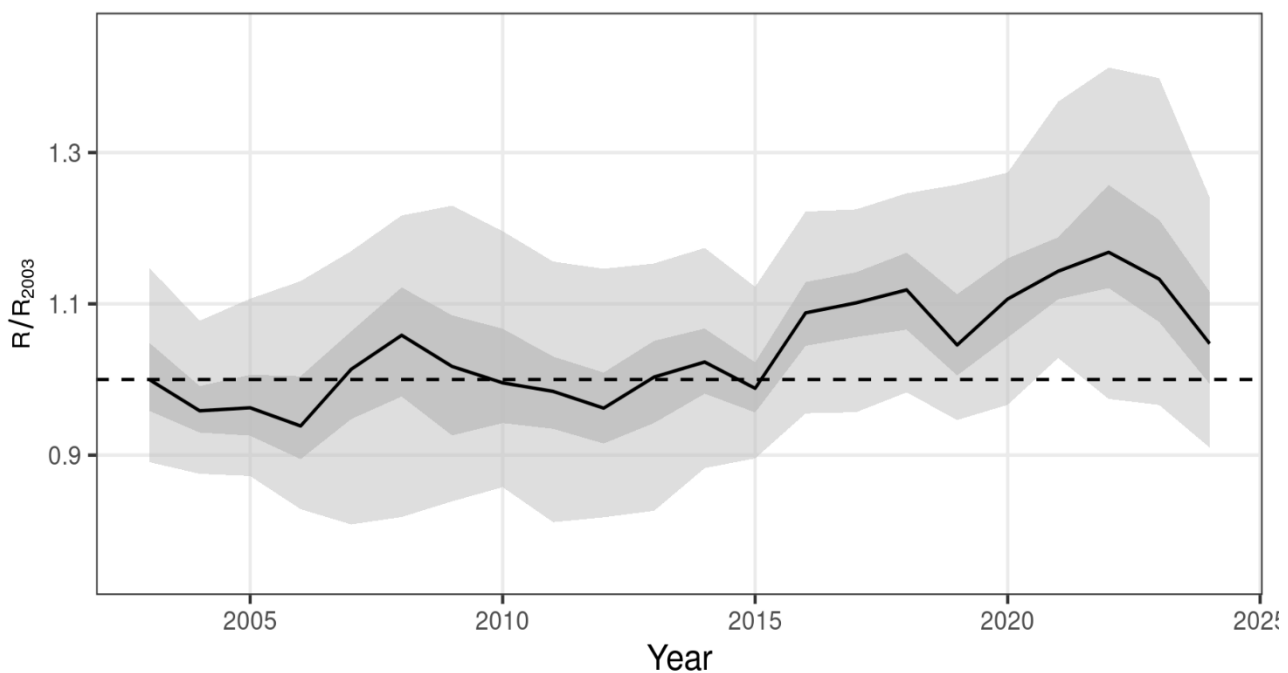
Trends in Recruitment

The model-based results for the trend in decadal recruitment in the NEA are given in Figure 17 in the STECF-Adhoc-26-01 report. This indicator aims to identify long-term trends of recruitment for all stocks and is calculated over a twenty-year moving average. For example, the decadal recruitment for 2019 for a single stock is the ratio between the average recruitment from 2010 to 2019 over the average recruitment from 2000 to 2009 (see Gras et al., 2026 for more details). In this regard, STECF notes that the absolute values of this indicator are not directly interpretable, and that only the direction of the trend can be meaningfully interpreted.

The model output values are presented in Figure H. The average decadal recruitment indicator in the NEA shows a decreasing trend until 2011, followed by an inversion, with the maximum reached in 2022. However, the indicator has declined over the last two years. Given the smoothing nature of this indicator, such a decrease may signal important changes in recent years. STECF notes, for example, that lower recruitments have been reported for various stocks (Moyano et al., 2023; Wright, Dobby, and Fox 2024; Livdāne et al., 2025; ICES 2025; Grandremy et al., 2026), and that environmental change might have affected stock productivity and consequently recruitment (Mildenberger et al., 2025; Ma et al., 2024). STECF notes that this recent decrease is visible across all ecoregions (Figure 18 of the STECF-Adhoc-26-01 report) and may have begun earlier in the Baltic Sea.

As in previous years, STECF suggests that the development of additional indicators (e.g. a smaller time window in the decadal recruitment) to detect short-term changes in recruitment would be valuable for identifying early signs of ecosystem change.

Figure H. Trend in model-based decadal recruitment indicator scaled to 2003 in the NEA area (based on 59 stocks).



Source: Own elaborations based on ICES data.

Trends in Selectivity

STECF observes that for the first time, selectivity indicators were added in the STECF-Adhoc-26-01 report. The analysis is carried out separately for the NEA, MED&BS and for the combined dataset as an additional EU Waters indicator.

As requested by PLEN 25-03, the indicator is based on the ratio of the average fishing mortality affecting juveniles over the average fishing mortality affecting adults for each stock. For those stocks, a value less than 1 indicates that juveniles are less impacted than adults and values above 1 indicates the opposite. Then, for each stock, F_{juv}/F_{adult} is standardised by its 2003 value, and the indicator is computed as the yearly median over the stocks. As such, the indicator informs on whether selectivity is better than in 2003 (value less than 1) or worse (value greater than 1), and whether this protection of juvenile fish is improving over time (decreasing trend of the indicator) or not.

It should be noted that, here and in the rest of the text, improvement or worsening of selectivity refers to the objective of further protection of juveniles promoted in the Technical Measures Regulation (TMR).

STECF notes that several data inputs are required to compute the selectivity indicators, in addition to the ones used to compute the design-based and model-based indicators described in this above sections. This includes the time-varying matrices of fishing mortality at age, and maturity at age. Those data were available for 29 stocks in the NEA (including category 1 and 2 from ICES), and 13 stocks in the MED&BS.

Given the limited number of stocks in the dataset, STECF suggests carrying out a leave-one-out analysis next year to check the sensitivity of the indicators to the different stocks.

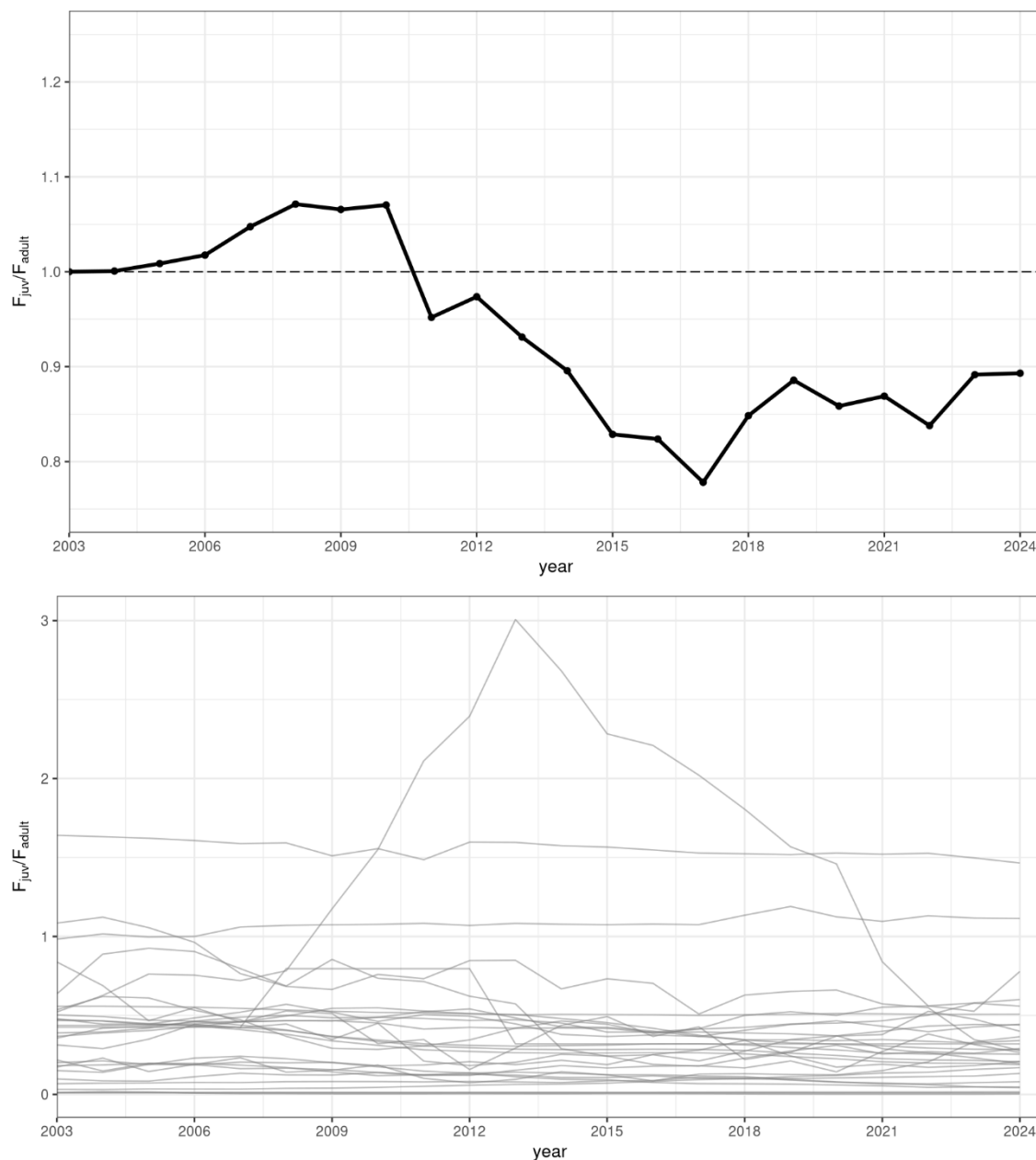
Northeast Atlantic waters (NEA)

The selectivity indicator suggests a deterioration of selectivity until 2010, followed by an improvement until 2017, and then a stable or slightly deteriorating trend since then (Figure I).

STECF observes that three stocks display very high F_{juv}/F_{adult} ratios, suggesting a very poor selectivity for those stocks: anf.27.3a46, whg.27.6a and mon.27.78abd.

STECF notes that this indicator is derived from the outputs of stock assessments, which are based on the best available scientific estimates of discarding patterns across fleets and stocks. These estimates inherently incorporate variability arising from several factors, including natural variation in haul composition, fisher behaviour and sampling programme execution. This variability is accounted for through standardized sample-raising procedures applied by national Member State experts and international stock assessor but can still affect the estimation of F_{juv} . STECF observes, for example, that the enforcement of the landing obligation might have had a temporary effect on the correct execution of the sampling program and consequently might have influenced the estimation of F_{juv} for some stocks and, therefore, the estimation of the indicator.

Figure I. Trend in selectivity indicator (top panel) scaled to 2003 in the NEA area (based on 29 stocks). For the indicator, a value less than 1 indicates that the selectivity has improved compared to 2003 and a decreasing trend indicates that selectivity is improving. Grey lines (bottom panel) correspond to the ratio $F_{\text{juv}}/F_{\text{adult}}$ for each stock included in the indicator. In the stock-specific plot, a value less than 1 indicates that juveniles are more protected than adults and a decreasing trend indicates that selectivity is improving.



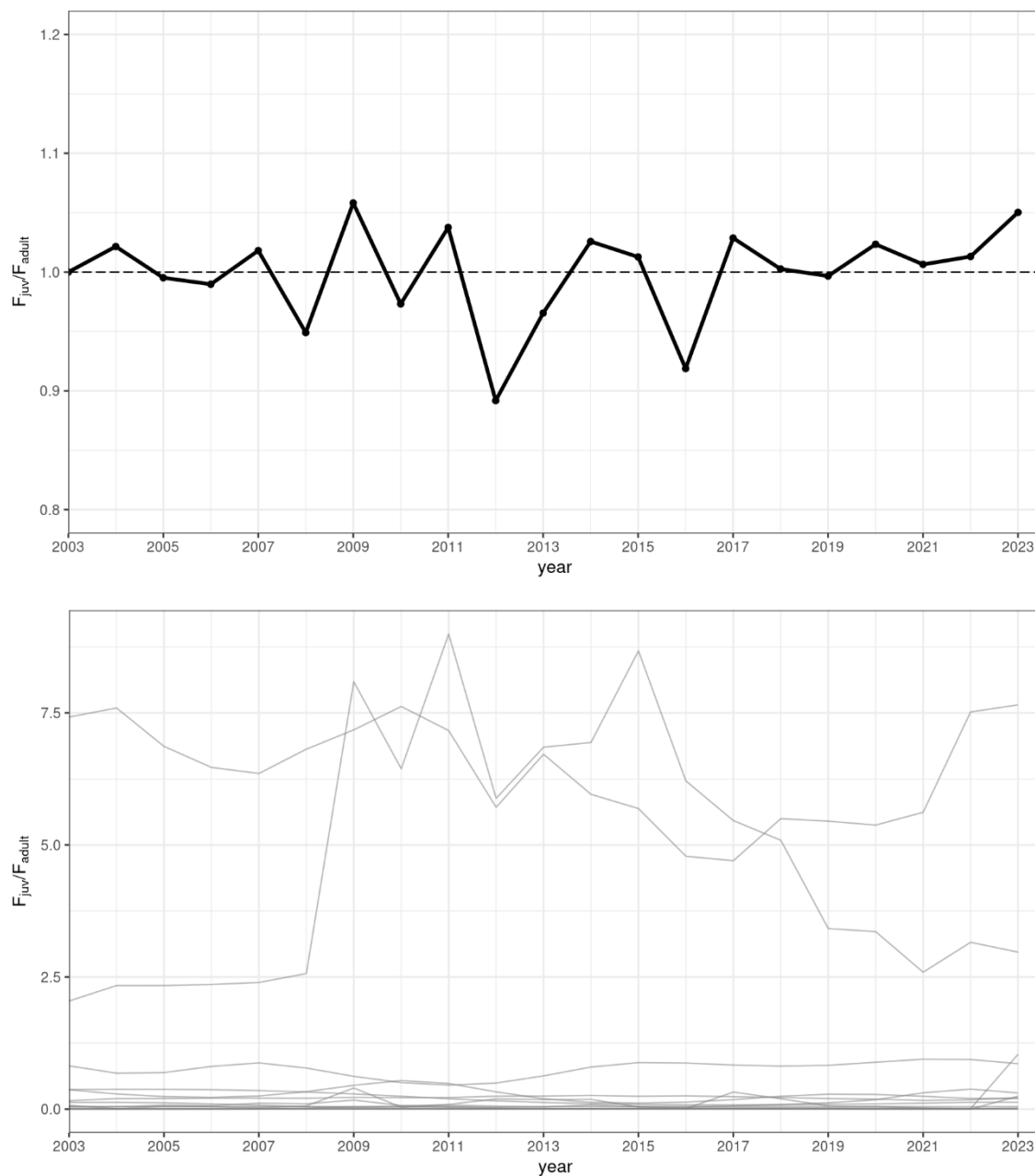
Source: Own elaboration based on ICES data.

Mediterranean and Black Seas (MED&BS)

The selectivity indicator does not show any improvement in the selectivity in the MED&BS area, and perhaps even a deterioration in the last years (Figure J). This deterioration in the last year is especially true for two stocks: red mullet in GSA 1 and red mullet in GSA 19, which had very low $F_{\text{juv}}/F_{\text{adult}}$ ratios over the period, and especially in 2003. Consequently, an increase in 2023, even of small magnitude, had important effects when standardising by the 2003 value. STECF observes that there are currently few stocks included in the selectivity indicator in the Mediterranean area (13 stocks), so that the indicator can be sensitive to changes in a few stocks.

STECF observes that two stocks display very high $F_{\text{juv}}/F_{\text{adult}}$ ratios, suggesting a very poor selectivity for those stocks: hake in the Strait of Sicily and hake in the Adriatic. However, STECF notes that, as reported in the STECF-Adhoc-26-01 report, those two stocks have complex stock assessment models with many age classes (26 for hake in the Strait of Sicily and 13 for hake in the Adriatic) and they assume dome-shaped selectivity. This results in a large number of older age classes having very small fishing mortalities and this has a large influence in the computation of F_{adult} .

Figure J. Trend in selectivity indicator (top panel) scaled to 2003 in the MED&BS area (based on 13 stocks). For the indicator, a value less than 1 indicates that the selectivity has improved compared to 2003 and a decreasing trend indicates that selectivity is improving. Grey lines (bottom panel) correspond to the ratio F_{juv}/F_{adult} for each stock included in the indicator. In the stock-specific plot, a value less than 1 indicates that juveniles are more protected than adults and a decreasing trend indicates that selectivity is improving.

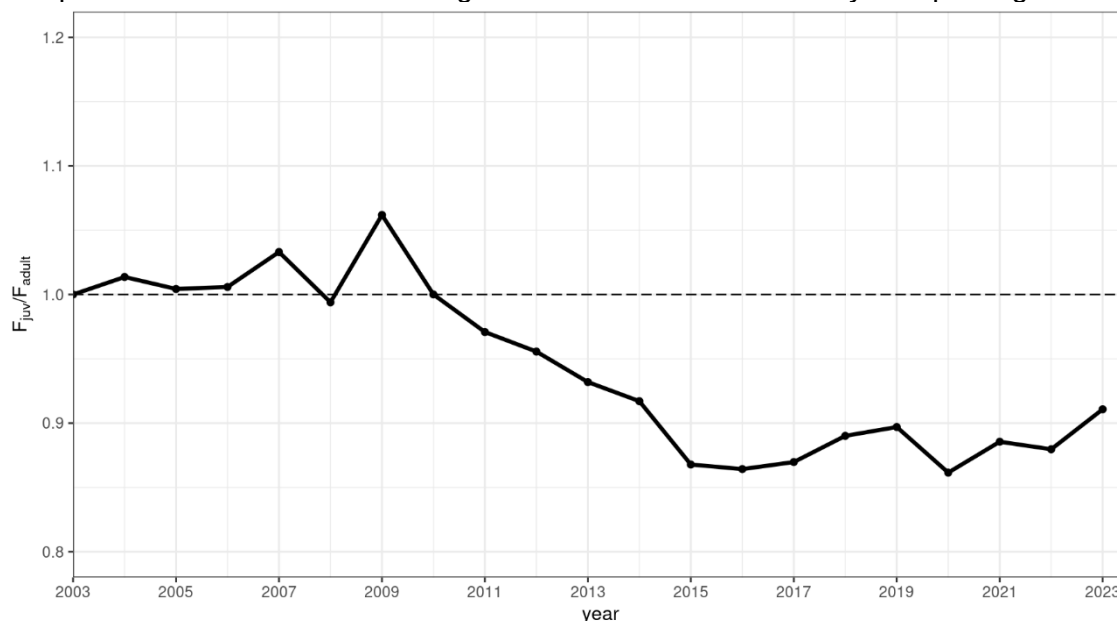


Source: Own elaboration based on GFCM and STECF data.

EU waters

The indicator was also applied to a combination of the two datasets (NEA and MED&BS), and the resulting indicator represents a compromise between the two previous ones. It indicates a slight overall improvement in selectivity from 2009 to 2015, followed by stabilisation or even a slight deterioration in recent years (Figure K).

Figure K. Trend in selectivity indicator scaled to 2003 in European waters (based on 13 stocks in the MED&BS and 29 in the NEA). A value less than 1 indicates that the selectivity has improved compared to 2003 and a decreasing trend indicates that selectivity is improving.



Source: own elaboration based on ICES, GFCM and STECF data.

Coverage of the scientific advice

Coverage of biological stocks by the CFP monitoring

The analyses of progress in achieving the MSY objective in the NEA includes all stocks with advice provided by ICES that are at least partially inside EU waters. According to the ICES database accessed for the analysis, ICES provided scientific advice for 255 biological stocks (247 last year) included in EU waters (at least partially). Of these, 147 stocks (58% - 49% last year) are data limited (ICES categories 3-6, Table B).

Table B. Total number of stocks assessed by ICES for different stock categories in different areas. Note that not all of these stocks are considered of EU relevance (Gras et al. 2023) Therefore, the numbers are higher than those used in the CFP monitoring analysis.

	ICES Stock Category						Total
	1	2	3	4	5	6	
Arctic Ocean	3	1	2	0	1	0	7
Azores	0	1	1	0	1	0	3
Baltic Sea	7	3	6	0	0	0	16
Bay of Biscay & Iberia	15	7	15	0	7	3	47
Celtic Seas	27	2	15	1	10	9	64
Greater North Sea	27	7	11	2	9	3	59
Iceland, Greenland and Faroes	21	1	4	0	2	1	29
Widely	8	1	8	0	3	10	30
Total	108	23	62	3	33	26	

Source: Own elaborations based on ICES data.

The present CFP monitoring analysis for the NEA is focused on stocks with a TAC and for which estimates of fishing mortality, biomass and reference points are available. As detailed in the STECF-Adhoc-26-01 report, not all indicators can be calculated for all stocks in all years. In the STECF-Adhoc-26-01 report, at least one design-based or model-based indicator could be computed for 84 stocks with analytical stock assessments (ICES categories 1 and 2 stocks), and 55 data-poor stocks (category 3) (Table 2 in the STECF-Adhoc-26-01 report). All together, these stocks represent a large share of catches. However, STECF notes that there is still a significant number of biological stocks in EU waters that are excluded from CFP monitoring analysis.

In the MED&BS, STECF notes that, despite the recent increase in the number of stocks available, there is still a need to increase the coverage of stocks in the CFP monitoring analysis to increase the representativeness of the indicator values.

Coverage of TAC regulation by scientific advice

STECF notes that 159 TACs (combination of species and fishing management zones) in the EU waters of the NEA are derived using the agreed sampling frame (Gras et al., 2026), and that this figure has slightly decreased compared to last year. STECF underlines that in many cases, the boundaries of the TAC management areas are not aligned with the biological limits of stocks used in ICES assessments. Therefore, the ad hoc group computed an indicator of advice coverage, where a TAC is covered by a stock assessment when at least one of its divisions matches the spatial distribution of a stock for which reference points have been estimated from an ICES full assessment. Based on this indicator, 53% of the 159 TACs are covered, at least partially, by stock assessments that provide estimates of F_{MSY} (or a proxy), 50% by stock assessments that have B_{PA} , and 16% are covered by stock assessments that provide estimates or proxies of $MSY B_{trigger}$ (Table 18 of the STECF-Adhoc-26-01 report).

STECF notes that, using this index of TAC coverage, some TACs can be considered as covered if they relate to: (i) part of a given management area, (ii) several assessments

contributing to a single TAC (e.g. Nephrops functional units in the North Sea) or (iii) a scientific advice that spatially overlaps or extends beyond the TAC area (e.g. whiting in the Bay of Biscay). Such an approach overestimates the spatial coverage of advice (i.e. the proportion of TACs based on a single and aligned assessment) and means that many TACs are still not covered by scientific advice based on F_{MSY} reference values.

1.4 STECF conclusions

STECF concludes that the analyses presented in the STECF-Adhoc-26-01 report complies with the agreed protocol and provides a comprehensive and informative overview of the performance towards achieving the MSY objectives of the CFP.

Regarding the progress made in the achievement of F_{MSY} in line with the CFP, STECF concludes that while the results indicate a reduction in overall fishing mortality in the NEA over the whole period, the results in 2024 suggest an increase in the number of overfished stocks as well as an increase in the number of stocks outside safe biological limits since 2021. Furthermore, this overall decline in the fishing pressure conceals a diversity of situations across ecoregions, and an even greater diversity at the stock level, with some stocks still being subject to very high levels of fishing pressure. STECF concludes that in the MED&BS fishing mortality has shown a declining trend since 2007, with a more pronounced decrease since 2019, and the decline in fishing mortality has contributed to a reduction of the number of overfished stocks.

Regarding biomass, STECF concludes that following a recovery that began in 2007, biomass in the NEA appears to be stable. STECF concludes that this stability conceals a diversity of situations, with a large increase in biomass in some areas and signs of decline in the Baltic Sea and the Celtic Seas. STECF concludes that there are signs of biomass recovery in the MED&BS.

STECF concludes that there are signs of declining recruitment in the NEA in recent years, particularly in the Baltic Sea.

STECF concludes that several stocks remain in a state of overfishing and/or outside safe biological limits in both the NEA and the MED&BS. Thus, it can be concluded that the CFP objective that aims to ensure that all stocks are above biomass levels capable of producing the MSY, has still not been achieved.

STECF acknowledges the recent increase in the number of stocks included in the analysis, however, STECF concludes that for many stocks, key reference points are yet to be defined. STECF therefore supports the ongoing work in ICES, GFCM and STECF EWGs to further increase the number of stocks with such key reference points. This is even more important since the coverage has slightly decreased compared to last year.

STECF concludes that the absolute values of model-based indicators have proved to be affected by several factors (“scaling issues”), including changes in the composition and structure of the dataset and minor adaptations to the protocol. STECF concludes that, while temporal trends are likely to be robust to these scaling issues, the absolute values of model-based indicators should be interpreted with caution.

STECF concludes that further work would be needed to better understand the scaling issues arising from the use of different assessment models (SPM vs ASM). Still, F_{MSY} arising from the two families are the management target, and that consequently, in both cases, F/F_{MSY} quantifies the distance to the management target.

STECF concludes that the modifications to the protocol (aggregate function and standardisation of biomass) requested by PLEN 25-03 have also affected the perspective on

trends. While maintaining stability in the protocol facilitates the uptake of the indicators by end-users, STECF acknowledges that occasional revisions of the protocol may be necessary to reflect scientific progress or to address specific methodological issues.

STECF concludes that the new selectivity indicator provides valuable information to monitor the progress towards the protection of juveniles. STECF concludes that this protection appears to have increased in earlier years in the NEA but is now stable or deteriorating. The situation seems to be stable or deteriorating in the MED&BS, though this increase seems to be driven mostly by two stocks. STECF concludes that effort should be made to increase the data availability and extend the coverage of the indicator.

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REPORT TO THE STECF

EXPERT WORKING GROUP ON MONITORING THE PERFORMANCE OF THE COMMON FISHERIES POLICY (EWG-ADHOC-26-01)

Virtual meeting, January-March 2026

This report does not necessarily reflect the view of the STECF and the European Commission and in no way anticipates the Commission's future policy in this area

1 Introduction

Article 50 of the EU Common Fisheries Policy (Regulation (EU) No 1380/2013) states:

“The Commission shall report annually to the European Parliament and to the Council on the progress of achieving maximum sustainable yield and on the situation of fish stocks, as early as possible following the adoption of the yearly Council Regulation fixing the fishing opportunities available in Union waters and, in certain non-Union waters, to Union vessels.” To fulfil its obligations to report to the European Parliament and the Council, each year, the European Commission requests the Scientific, Technical and Economic Committee for Fisheries (STECF) to compute a series of performance indicators and advise on the progress towards the provision of article 50.

In an attempt to make the process of computing each of the indicators consistent and transparent and to take account of issues identified and documented in previous CFP monitoring reports, a protocol (Gras et al., 2026) was adopted by the STECF (STECF, 2025a). In this protocol which is primarily based on Gras et al. (2023), (i) the modelling framework to compute the model-based indicators is based on a state-space model as implemented in the R package JARA (Winker et al., 2019) and (ii) the procedure to include Mediterranean stocks has been simplified to include all quantitative assessments available from GFCM and STECF. The main changes in the 2026 protocol are the use of the median as the mean estimator (instead of the geometric mean), the standardisation of the biomass model-based indicators and the addition of a new indicator to monitor the selectivity.

An ad hoc Expert Group comprising experts from the European Commission's Joint Research Centre (JRC) was convened from January to March 2026 to compute the performance indicator values according to the agreed protocol (Gras et al., 2026) and to report to the STECF plenary meeting scheduled for 09-13 March 2026.

1.1 Terms of Reference for the ad hoc EWG-26-01

The Expert Group is requested to report on progress in achieving MSY Objectives in line with CFP.

2 Data and Methods

2.1 Data sources

The data sources used are referring to waters of the EU in FAO areas 27 (North East Atlantic and adjacent seas) and 37 (Mediterranean and Black Seas). The Mediterranean Sea included FAO Geographical SubAreas (GSA) 1, 2, 5, 6, 7, 8, 9, 10, 11, 15, 16, 17, 18, 19, 20, 22, 23, 25, and 29. The northeast Atlantic included the ICES subareas “3”, “4”, (excluding Norwegian waters of division “4.a”), “6”, “7”, “8”, “9”, and “10”.

2.1.1 Stock assessment information

For the northeast Atlantic (NEA; FAO area 27), the information was downloaded from the ICES website (<https://standardgraphs.ices.dk/stockList.aspx>) on 09 January 2026, comprising the most recent published assessments carried out up to and including 2025. Thorough data quality checks, corrections and formatting were carried out by JRC experts to ensure the information downloaded was in agreement with the summary sheets published online (online Annex 1 and 2, <https://stecf.jrc.ec.europa.eu/reports/cfp-monitoring>). For the NEA (FAO area 27) 84 stocks were considered in the analysis for EU waters and 20 stocks for non-EU waters. The number of stocks included in each indicator varied according to the type of assessment and the requirements of each indicator.

For the Mediterranean region (FAO area 37) 68 stocks were considered adequate for the CFP monitoring exercise, the information was extracted from the STECF Mediterranean Expert Working Group repositories (<https://stecf.jrc.ec.europa.eu/reports/medbs>) comprising the most recent published assessments carried out up to 2025 and from GFCM stock assessment forms (<https://www.fao.org/gfcm/data/star/en/>) comprising the most recent published assessments carried out up to 2025.

The table reporting the URLs for the report or advice summary sheet for each stock is available online (online Annex 1, <https://stecf.jrc.ec.europa.eu/reports/cfp-monitoring>).

2.1.2 Management units information

For the NEA, management units are defined by Total Allowable Catches (TAC). These are annual fishing opportunities for a species or a group of species in a Fishing Management Zone (FMZ). The information regarding the TACs in 2016 was downloaded from the FIDES reporting system. Subsequently, this information was cleaned and processed to identify the FMZ of relevance to this work, as well as the ICES rectangles they span to (Gibin, 2017; Scott et al., 2017a; Scott et al., 2017b). This work was done once in 2017 and has not been updated since. Nevertheless, in 2026, all category 1 and 2 EU stocks that were dropped due to the absence of stock-specific TACs in 2017 were manually checked to assess whether in 2022-2024 there was a TAC in place, in which case they were added to the analysis and kept in this year's analysis. EU category 1 and 2 skate and ray stocks managed as a stock complex under a combined TAC were not included in the analysis.

2.2 Methods

The methods applied and the definition of the sampling frames followed the protocol (Gras et al., 2026; Gibin et al., 2017) agreed by STECF (2025a). The updated protocol is presented in electronic Annex 1 and the R code used to run the analysis can be found in electronic Annex 2 for the Northeast Atlantic and electronic Annex 3 for the Mediterranean and Black Seas.

2.3 Points to note

- Stocks assessed with biomass dynamic models do not provide a value for F_{PA} although they may provide a B_{PA} proxy ($0.5 \cdot B_{MSY}$). Consequently, these stocks cannot be used to compute Safe Biological Limits (SBL; Section 3.2.2)

- The state-space model (JARA) used to compute model-based indicators uses a shortened time series, starting in 2003, instead of the full time series of available data. This has the advantage of balancing the dataset by removing those years with only a low number of assessment estimates. It has the disadvantage of excluding data.
- Indicators of trends computed with JARA show the average of the process they represent, along with their uncertainty in terms of 50% and 95% confidence intervals. In the former case this corresponds to the range between 25% and 75% percentiles, and for the latter between 2.5% and 97.5% percentiles.
- The biomass indicator for stocks assessed with data-limited methods (ICES stock category 3) includes abundance, total biomass and spawning stock biomass indices, with a variety of measurement units. It also includes time series of abundance or biomass relative to their average or a reference point (such as B_{MSY}). As a result, the range of values between stocks in the input dataset is extremely variable.
- The data checks were conducted for stocks included in the assessment categories 1, 2 and 3. Stocks in assessment categories 4-6 were not checked.

2.4 Differences from the 2025 CFP Monitoring Report

2.4.1 *Northeast Atlantic and adjacent seas*

Compared to the dataset analysed in 2025, with relation to category 1 and 2 EU stocks

- 1 stock was added
 - sbr.27.10 was benchmarked in 2025 and upgraded from category 3 to 2
- 3 stocks were dropped
 - nep.fu.31 was downgraded from category 2 to 3.
 - had.27.7a was downgraded from category 1 to 5.
 - por.27.nea had a 2-year advice in 2022 that was rolled over for 2025-2026, the assessment is now too old to be included in the dataset.
- 2 stocks were merged into one stock labelled ple.27.21-32
 - ple.27.21-23
 - ple.27.24-32

With relation to category 3 EU stocks (in addition to the changes listed above)

- 1 stock was dropped
 - dab.27.22-32 was upgraded from category 3 to 2 but has no TAC so it was not included in the category 1-2 dataset.

With relation to outside EU waters

- 2 stocks were added
 - cod.21.1.isc.1a-c was benchmarked in 2023, reference points were made available in 2024
 - cod.21.1.isc.1d-f was benchmarked in 2023, reference points were made available in 2024
- No stocks were dropped

As in previous years, non-EU stock pra.27.1-2 was excluded from the dataset to compute the indicator ' F/F_{MSY} outside EU waters' due to its high impact on the scale of the indicator.

2.4.2 *Mediterranean and Black Seas*

Compared to CFP monitoring 2025 (STECF, 2025b), five stocks were dropped from the analysis

- ANE_16 was assessed in 2022 and no update assessment has been published since then.
- EOI_18 was downgraded to qualitative assessment.
- MUT_11 (MUT_11.1_11.2) was assessed in 2022 and no update assessment has been published since then.
- MUT_25 was assessed in 2022 and no update assessment has been published since then.
- PIL_16 was assessed in 2022 and no update assessment has been published since then.

Three stocks changed

- ANE_9 changed into ANE_9_10, now including GSA 10.
- NEP_17_18 was split into four stocks, three stocks in Northern Adriatic Sea (GSA 17) and one in Southern Adriatic Sea.
- PIL_9 changed into PIL_9_10, now includes GSA 10.

Four stocks were added

- ANE_1 was upgraded from qualitative to quantitative assessment.
- MUR_22 was upgraded from qualitative to quantitative assessment.
- MUR_6 was assessed for the first time with a quantitative assessment.
- PIL_1 was upgraded from qualitative to quantitative assessment.

In this year's analysis PIL_7 was assessed using a 2-stage biomass model. For the model-based indicators and as in previous years, PIL_7 was included only in the biomass indicator as the stock assessment produces harvest rates and not F estimates.

2.4.3 *State-Space Modelling framework*

During the last 2025 STECF plenary (STECF, 2025a), a series of changes to the CFP Monitoring protocol have been agreed and led to the publication of a new protocol (Gras et al., 2026). The main changes are:

- The geometric mean that was used as a mean estimator in the model-based indicators was replaced by the median.
- The model-based indicators tracking trends in biomass now use as input data a biomass or an indicator of the biomass/abundance standardised by the stock-specific mean of the time series.
- The F/F_{MSY} indicator is also displayed with Surplus Production and Age Structured models segregated to highlight the influence of the former and the latter on the level of the indicator.

2.4.4 Selectivity indicator

As of CFP Monitoring exercise 2026 and according to the decision of STECF-PLN 25-03 (STECF, 2025a), the Expert Group is requested to compute a selectivity indicator (Fjuvenile/Fadult) for all available age-based assessments in the North East Atlantic (NEA) and the Mediterranean Sea (MED).

For the NEA, out of 90 stocks assessed with age-based models in Category 1 and 2, 33 were made available to the Expert Group, due to availability constraints. For the Mediterranean Sea, out of 45 stocks assessed with age-based models, 39 were made available to the Expert Group either through STECF's database or through GFCM SharePoint after close collaboration with GFCM secretariat and stock coordinators. The stocks were subsequently filtered; those with stable selectivity (no temporal trend in the selection pattern) or lacking immature individuals in the catch, were excluded from the analysis. The remaining dataset consisted of 29 stocks for the NEA and 14 stocks for the MED.

The selectivity indicator I_{SEL} , was calculated for these stocks for each sea basin separately and for EU waters combined. The aggregated trend for each sea basin is calculated as the median value of the stock's individual trajectory standardized with its value in 2003. The methodology is described in the updated CFP protocol (Gras et al., 2026).

3 Northeast Atlantic and adjacent seas (FAO region 27)

3.1 Number of stock assessments available to compute CFP performance indicators

The number of stock assessments with estimates of F/F_{MSY} for the years 2003-2024 for FAO region 27 are provided in Figure 1. The global values as well as the breakdown by Ecoregion are displayed in Table 1. The detailed time series for each category 1 and 2 stocks are presented in Figure 2. Three stocks were given a 2-year advice (rju.27.7de, bli.27.5b6712 and dgs.27.nea). As a result, no estimates of F/F_{MSY} were available for the year 2024 for these 3 stocks. One stock, por.27.nea, had its last 2-year advice published in 2022 which was then rolled over for an additional 2 years. The assessment is now too old to be included in the dataset.

The number of stocks in category 1 and 2 for which an F/F_{MSY} estimate was available increased from 77 to 81 for the time series considered (2003-2024). The highest number of F/F_{MSY} (84) estimates was recorded for the years 2017-2023 whereas the lowest (76) was recorded in 2004.

Although hom.27.4bc7d is a category 1 assessment and was benchmarked in 2024, it was excluded from the analysed dataset because no MSY reference points were estimated and no management plan was in place. The only available reference point was B_{PA} .

Among the EU category 1-2 stocks, 18 stocks listed below were excluded because they were not in the agreed sampling frame (absence of stock-specific TACs) (see section 2.1.2)

- rjc.27.8abd (category 2 – under combined skates and rays TAC)
- rjc.27.8c (category 2 – under combined skates and rays TAC)
- rjc.27.9a (category 2 – under combined skates and rays TAC)
- rjn.27.678abd (category 2 – under combined skates and rays TAC)
- rjc.27.3a47d (category 2 – under combined skates and rays TAC)
- rjm.27.3a47d (category 2 – under combined skates and rays TAC)
- rjh.27.4bc7d (category 2 – under combined skates and rays TAC)
- rjn.27.9a (category 2 – under combined skates and rays TAC)
- bss.27.4bc7ad-h (category 1 – no TAC)
- bss.27.8ab (category 1 – no TAC)
- bzq.27.2628 (category 2 – no TAC)
- dab.27.22-32 (category 2 – no TAC)
- fle.27.2223 (category 2 – no TAC)
- her.27.1-24a514a (category 1 – no TAC)
- pil.27.8abd (category 1 – no TAC)
- pil.27.8c9a (category 1 – no TAC)
- por.27.nea (category 2 – roll over advice)
- tur.27.3a (category 2 – no TAC)

Stocks bli.27.3a47de, lez.27.6b, nep.fu.25, nep.fu.2627, nep.fu.32, rju.27.7de, sbr.27.10, aru.27.123a4 (non EU Waters) and cod.27.coastS (non EU Waters) were assessed with a SPiCT model. Stock lez.27.4a6a was assessed with a Bayesian Production Model. All these stocks were included in the framework of category 1 and 2 assessments. These models provide estimates of F/F_{MSY} and B/B_{MSY} that were used to assess exploitation status (F compared to F_{MSY}) and their exploitation and biomass status (i.e. $F \leq F_{MSY}$ and $B \geq B_{MSY}$). Since B_{PA} is defined as a fraction of B_{MSY} or not at all, and B_{MSY} is not reported as an absolute value, these stocks were not taken into account in the SBL indicator. Following the protocol,

these stocks were included in the F/F_{MSY} model-based indicator but not in the B/B_{2003} model-based indicator.

The number of stocks for which SBL information was available was 51.

Stocks her.27.25-2932 and pra.27.3a4a were assessed as a category 1 assessment using a length-based assessment providing as output of the assessment a time series of $SSB/MSY_{trigger}$. As a result these stocks were not included in the B/B_{2003} indicator. For pra.27.3a4a, since B_{PA} is defined as a fraction of B_{MSY} or not at all, and B_{MSY} is not reported as an absolute value, these stocks are not included in the SBL indicator.

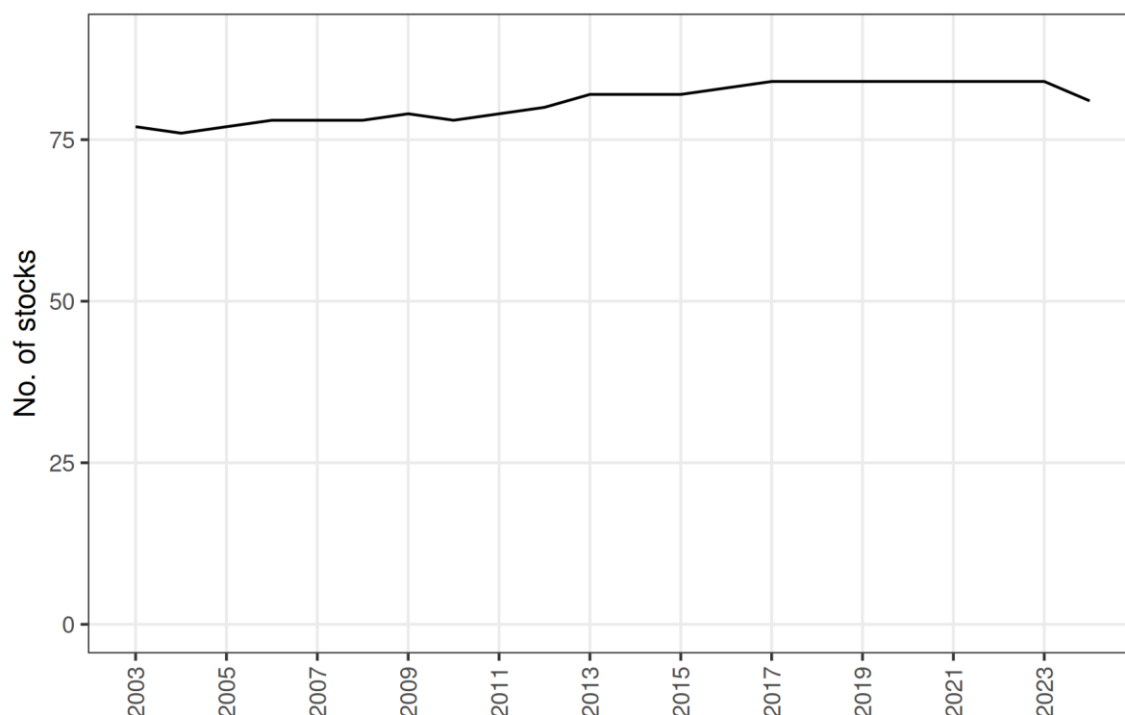
There are 6 EU stocks managed through the MSY approach with a $B_{escapement}$ strategy. In the cases of stocks san.sa.1r, san.sa.2r, san.sa.3r, san.sa.4, spr.27.3a4, ICES set $MSY_{B_{escapement}}$ at B_{PA} . In the case of nop.27.3a4, which is also managed under the MSY approach with an escapement strategy, a probabilistic method is used to set the catches such as $C_{y+1} = C | (P[SSB < B_{lim}] = 0.05)$. B_{lim} and F_{cap} are both estimated and B_{PA} is derived such as $B_{PA} = B_{lim} \cdot \exp(\sigma \cdot 1.645)$. $MSY_{B_{escapement}}$ is not defined.

The management of ane.27.8 is set according to the adopted plan that stipulates that a harvest control rule with 2 biomass trigger points is used. For this stock, ICES report B_{lim} , B_{PA} and the two trigger points as SSB_{mgt} reference points. This stock was included in the analysis considering an escapement strategy using the higher trigger point as $MSY_{B_{escapement}}$.

Out of the 77 stocks with MSY reference points, 46 stocks have $MSY_{trigger}$ set at B_{PA} levels, 24 stocks do not have a B_{PA} defined, 43 stocks have $B_{PA} = B_{lim} \cdot \exp(\sigma \cdot 1.645)$.

To keep consistency with the new ICES definition, widely distributed stocks are referred to as "Widely" in the figures and tables of this section, and not anymore as "Northeast Atlantic" as in past reports.

Figure 1. Number of stocks in the NE Atlantic for which estimates of F/F_{MSY} are available by year.



Source: Own elaborations based on ICES data.

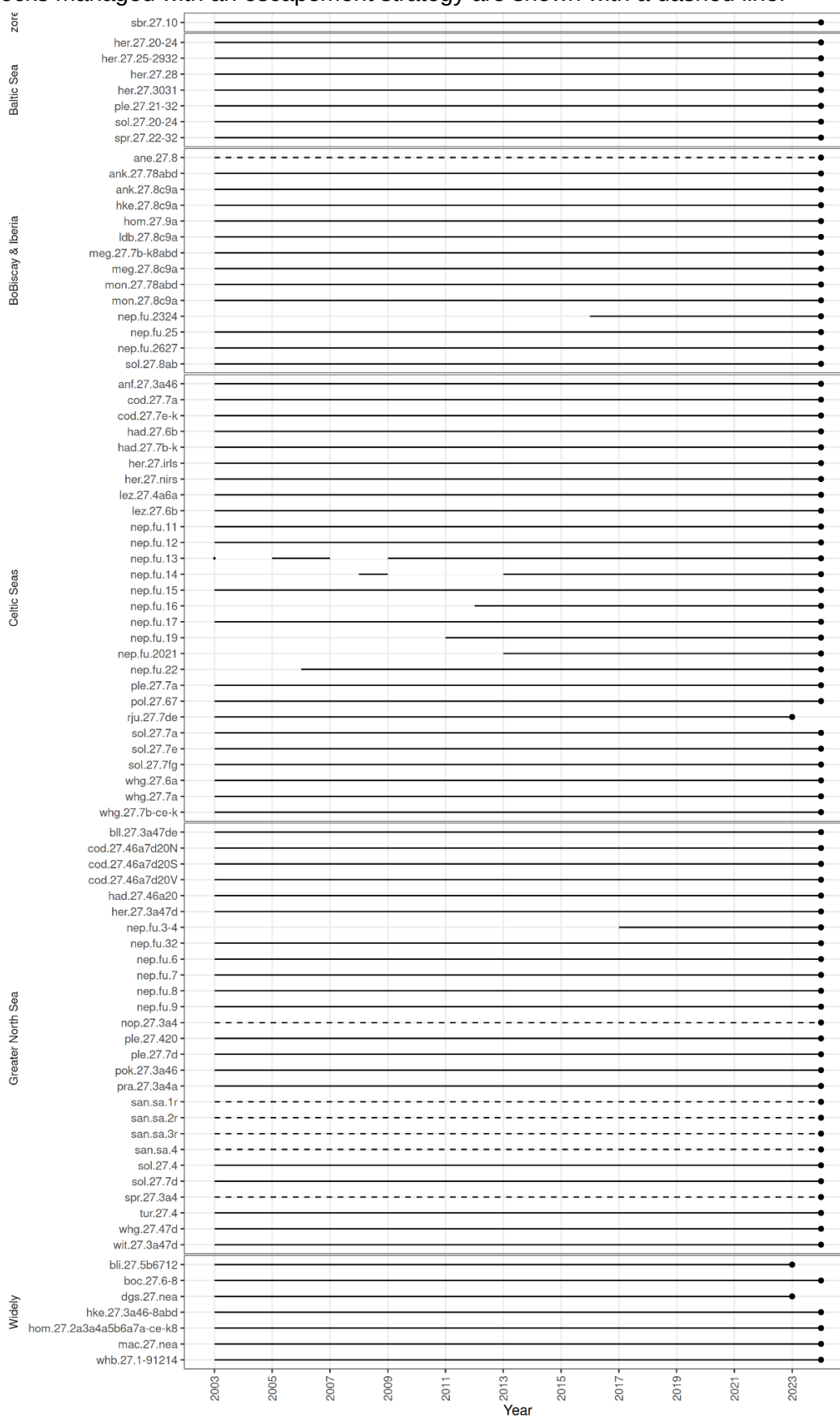
Table 1. Number of stocks in the ICES area for which estimates of F/F_{MSY} are available by ecoregion and year.

EcoRegion	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
ALL	77	76	77	78	78	78	79	78	79	80	82
Azores	1	1	1	1	1	1	1	1	1	1	1
Baltic Sea	7	7	7	7	7	7	7	7	7	7	7
BoB & Iberia	13	13	13	13	13	13	13	13	13	13	13
Celtic Seas	23	22	23	24	24	24	25	24	25	26	28
G. North Sea	26	26	26	26	26	26	26	26	26	26	26
Widely	7	7	7	7	7	7	7	7	7	7	7

EcoRegion	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
ALL	82	82	83	84	84	84	84	84	84	84	81
Azores	1	1	1	1	1	1	1	1	1	1	1
Baltic Sea	7	7	7	7	7	7	7	7	7	7	7
BoB & Iberia	13	13	14	14	14	14	14	14	14	14	14
Celtic Seas	28	28	28	28	28	28	28	28	28	28	27
G. North Sea	26	26	26	27	27	27	27	27	27	27	27
Widely	7	7	7	7	7	7	7	7	7	7	5

Source: Own elaborations based on ICES data.

Figure 2. Time series of stock assessment results in the NE Atlantic for which estimates of F/F_{MSY} are available by year. Blank records indicate that no estimate was available for the stock in that year. Stocks managed with an escapement strategy are shown with a dashed line.



Source: Own elaborations based on ICES data.

Table 2. Indicators computed for each stock.

FishStock	Year	above/below Fmsy	in/out SBL	in/out CFP	F/Fmsy trends	Biomass trends	Decadal recruitment trends	Biomass data category 3 trends
ane.27.8	2024	X				X		
ane.27.9aS	2024							X
ane.27.9aW	2024							X
anf.27.3a46	2024	X	X	X	X	X	X	
ank.27.78abd	2024	X	X		X	X	X	
ank.27.8c9a	2024	X	X		X	X	X	
aru.27.6b7-1012	2023							X
bli.27.5b6712	2023	X	X		X	X	X	
bll.27.22-32	2024							X
bll.27.3a47de	2024	X		X	X			
boc.27.6-8	2024	X	X		X	X	X	
bsf.27.nea	2024							X
bwp.27.2729-32	2023							X
bzq.27.2425	2023							X
cod.27.21	2024							X
cod.27.22-24	2024							X
cod.27.24-32	2023							X
cod.27.46a7d20N	2024	X	X		X	X	X	
cod.27.46a7d20S	2024	X	X		X	X	X	
cod.27.46a7d20V	2024	X	X		X	X	X	
cod.27.7a	2024	X	X		X	X	X	
cod.27.7e-k	2024	X	X		X	X	X	
dab.27.3a4	2024							X
dgs.27.nea	2023	X	X	X		X	X	
fle.27.3a4	2024							X
gfb.27.nea	2023							X

FishStock	Year	above/below Fmsy	in/out SBL	in/out CFP	F/Fmsy trends	Biomass trends	Decadal recruitment trends	Biomass data category 3 trends
gug.27.3a47d	2024							X
gur.27.3-8	2024							X
had.27.46a20	2024	X	X		X	X	X	
had.27.6b	2024	X	X	X	X	X	X	
had.27.7b-k	2024	X	X		X	X	X	
her.27.20-24	2024	X	X		X	X	X	
her.27.25-2932	2024	X		X	X		X	
her.27.28	2024	X	X		X	X	X	
her.27.3031	2024	X	X	X	X	X	X	
her.27.3a47d	2024	X	X	X	X	X	X	
her.27.6aN	2024							X
her.27.6aS7bc	2024							X
her.27.irls	2024	X	X		X	X	X	
her.27.nirs	2024	X	X		X	X	X	
hke.27.3a46-8abd	2024	X	X		X	X	X	
hke.27.8c9a	2024	X	X		X	X	X	
hom.27.2a3a4a5b6a7a-ce-k8	2024	X	X		X	X	X	
hom.27.9a	2024	X	X		X	X	X	
ldb.27.8c9a	2024	X	X		X	X	X	
lem.27.3a47d	2024							X
lez.27.4a6a	2024	X		X	X			
lez.27.6b	2024	X		X	X			
lin.27.346-91214	2024							X
mac.27.nea	2024	X	X		X	X	X	
meg.27.7b-k8abd	2024	X	X		X	X	X	
meg.27.8c9a	2024	X	X		X	X	X	
mon.27.78abd	2024	X	X		X	X	X	

FishStock	Year	above/below Fmsy	in/out SBL	in/out CFP	F/Fmsy trends	Biomass trends	Decadal recruitment trends	Biomass data category 3 trends
mon.27.8c9a	2024	X	X		X	X	X	
mur.27.3a47d	2024							X
nep.fu.11	2024	X		X				
nep.fu.12	2024	X		X				
nep.fu.13	2024	X		X				
nep.fu.14	2024	X		X				
nep.fu.15	2024	X		X				
nep.fu.16	2024	X						
nep.fu.17	2024	X		X				
nep.fu.19	2024	X		X				
nep.fu.2021	2024	X		X				
nep.fu.22	2024	X		X				
nep.fu.2324	2024	X						
nep.fu.25	2024	X		X	X			
nep.fu.2627	2024	X		X	X			
nep.fu.2829	2024							X
nep.fu.3-4	2024	X						
nep.fu.30	2024							X
nep.fu.31	2024							X
nep.fu.32	2024	X		X	X			
nep.fu.6	2024	X		X				
nep.fu.7	2024	X		X				
nep.fu.8	2024	X		X				
nep.fu.9	2024	X		X				
nop.27.3a4	2024	X				X	X	
pil.27.7	2024							X
ple.27.21-32	2024	X	X		X	X	X	

FishStock	Year	above/below Fmsy	in/out SBL	in/out CFP	F/Fmsy trends	Biomass trends	Decadal recruitment trends	Biomass data category 3 trends
ple.27.420	2024	X	X		X	X	X	
ple.27.7a	2024	X	X	X	X	X	X	
ple.27.7d	2024	X	X		X	X	X	
ple.27.7e	2024							X
ple.27.7fg	2023							X
ple.27.7h-k	2023							X
pok.27.3a46	2024	X	X		X	X	X	
pol.27.67	2024	X	X		X	X	X	
pol.27.89a	2024							X
pra.27.3a4a	2024	X		X	X		X	
raj.27.1012	2024							X
rjc.27.6	2023							X
rjc.27.7afg	2023							X
rje.27.7fg	2023							X
rjh.27.9a	2023							X
rjm.27.67bj	2023							X
rjm.27.7ae-h	2023							X
rjm.27.8	2023							X
rjn.27.3a4	2024							X
rjn.27.8c	2023							X
rjr.27.23a4	2022							X
rju.27.7de	2023	X		X	X			
rng.27.3a	2024							X
san.sa.1r	2024	X				X	X	
san.sa.2r	2024	X				X	X	
san.sa.3r	2024	X				X	X	
san.sa.4	2024	X				X	X	

FishStock	Year	above/below Fmsy	in/out SBL	in/out CFP	F/Fmsy trends	Biomass trends	Decadal recruitment trends	Biomass data category 3 trends
sbr.27.10	2024	X		X	X			
sbr.27.9	2023							X
sdv.27.nea	2024							X
sho.27.67	2022							X
sho.27.89a	2024							X
sol.27.20-24	2024	X	X		X	X	X	
sol.27.4	2024	X	X		X	X	X	
sol.27.7a	2024	X	X		X	X	X	
sol.27.7d	2024	X	X		X	X	X	
sol.27.7e	2024	X	X		X	X	X	
sol.27.7fg	2024	X	X		X	X	X	
sol.27.8ab	2024	X	X		X	X	X	
sol.27.8c9a	2024							X
spr.27.22-32	2024	X	X		X	X	X	
spr.27.3a4	2024	X				X	X	
spr.27.7de	2024							X
syc.27.3a47d	2024							X
syc.27.67a-ce-j	2024							X
syc.27.8abd	2024							X
syc.27.8c9a	2024							X
syt.27.67	2024							X
tur.27.22-32	2023							X
tur.27.4	2024	X	X		X	X	X	
usk.27.3a45b6a7-912b	2024							X
whb.27.1-91214	2024	X	X		X	X	X	
whg.27.3a	2023							X
whg.27.47d	2024	X	X		X	X	X	

FishStock	Year	above/below Fmsy	in/out SBL	in/out CFP	F/Fmsy trends	Biomass trends	Decadal recruitment trends	Biomass data category 3 trends
whg.27.6a	2024	X	X		X	X	X	
whg.27.7a	2024	X	X		X	X	X	
whg.27.7b-ce-k	2024	X	X		X	X	X	
whg.27.89a	2024							X
wit.27.3a47d	2024	X	X		X	X	X	
Totals		84	51	29	60	58	59	55

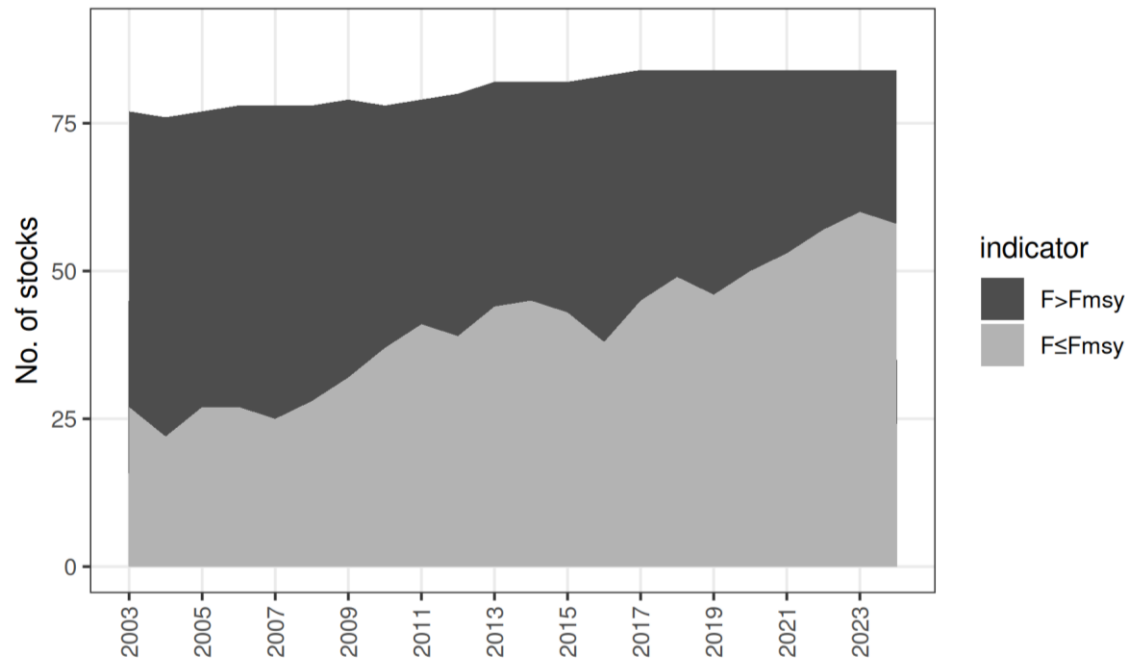
Source: Own elaborations based on ICES data.

3.2 Indicators of management performance

The first set of indicators (Figure 3 to Figure 8 and Table 3 to Table 8) represent the number of stocks with relation to specific thresholds. The second set of indicators (Figure 9 to Figure 18 and Table 9 to Table 16) depicts time trends of indicators computed using a state-space model as implemented in the JARA package (Winker et al., 2019, Gras et al., 2023, Gras et al, 2026). Most indicators have a global and a regional depiction (indicators 1-8 and 10).

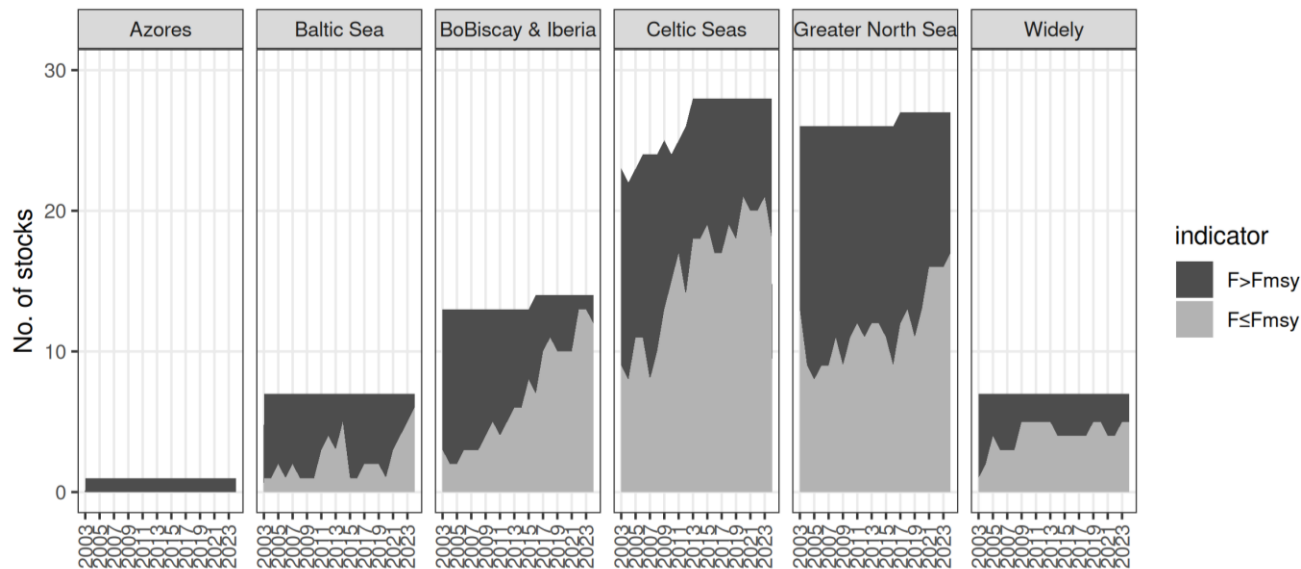
3.2.1 Number of stocks by year where fishing mortality is above/below F_{MSY}

Figure 3. Number of stocks by year for which fishing mortality (F) was above/below F_{MSY} (NEA11-2).



Source: Own elaborations based on ICES data.

Figure 4. Number of stocks by ecoregion for which fishing mortality (F) was above/below F_{MSY} (NEA11-2b).



Source: Own elaborations based on ICES data.

Table 3. Number of stocks by ecoregion for which fishing mortality (F) exceeded F_{MSY} (NEAI1).

EcoRegion	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
ALL	50	54	50	51	53	50	47	41	38	41	38
Azores	1	1	1	1	1	1	1	1	1	1	1
Baltic Sea	6	6	5	6	5	6	6	6	4	3	4
BoB & Iberia	10	11	11	10	10	10	9	8	9	8	7
Celtic Seas	14	14	12	13	16	14	12	9	8	12	10
G. North Sea	13	17	18	17	17	15	17	15	14	15	14
Widely	6	5	3	4	4	4	2	2	2	2	2

EcoRegion	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
ALL	37	39	45	39	35	38	34	31	27	24	26
Azores	1	1	1	1	1	1	1	1	1	1	1
Baltic Sea	2	6	6	5	5	5	6	4	3	2	1
BoB & Iberia	7	5	7	4	3	4	4	4	1	1	2
Celtic Seas	10	9	11	11	9	10	7	8	8	7	10
G. North Sea	14	15	17	15	14	16	14	11	11	11	10
Widely	3	3	3	3	3	2	2	3	3	2	2

Source: Own elaborations based on ICES data.

Table 4. Number of stocks by ecoregion for which fishing mortality (F) did not exceed F_{MSY} (NEAI2).

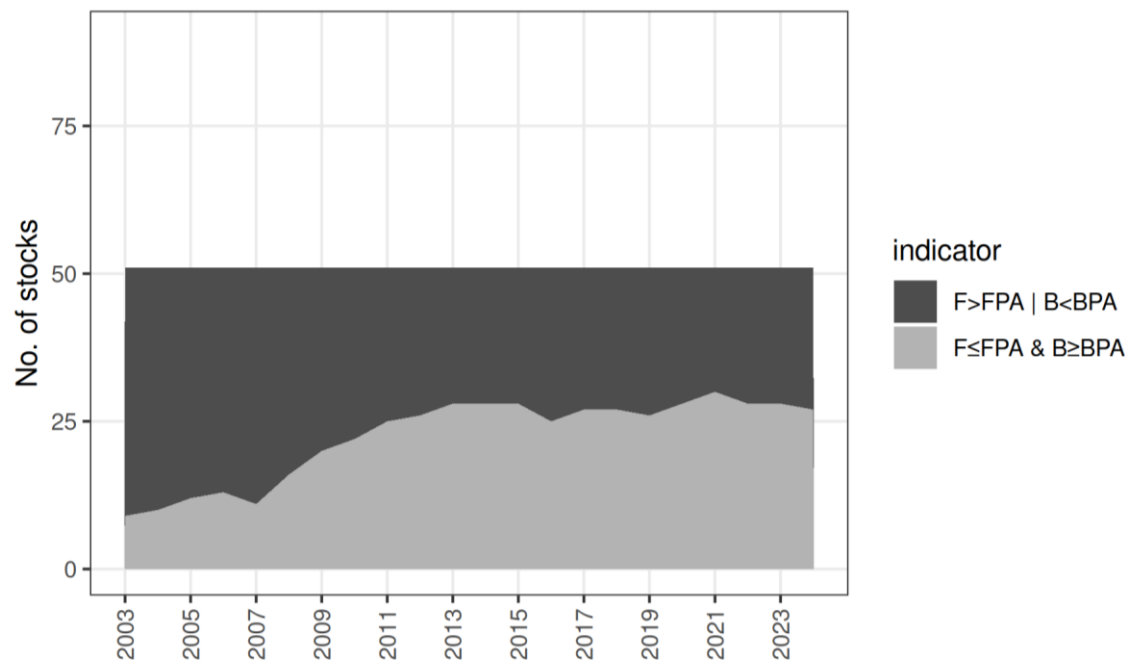
EcoRegion	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
ALL	27	22	27	27	25	28	32	37	41	39	44
Azores	0	0	0	0	0	0	0	0	0	0	0
Baltic Sea	1	1	2	1	2	1	1	1	3	4	3
BoB & Iberia	3	2	2	3	3	3	4	5	4	5	6
Celtic Seas	9	8	11	11	8	10	13	15	17	14	18
G. North Sea	13	9	8	9	9	11	9	11	12	11	12
Widely	1	2	4	3	3	3	5	5	5	5	5

EcoRegion	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
ALL	45	43	38	45	49	46	50	53	57	60	58
Azores	0	0	0	0	0	0	0	0	0	0	0
Baltic Sea	5	1	1	2	2	2	1	3	4	5	6
BoB & Iberia	6	8	7	10	11	10	10	10	13	13	12
Celtic Seas	18	19	17	17	19	18	21	20	20	21	18
G. North Sea	12	11	9	12	13	11	13	16	16	16	17
Widely	4	4	4	4	4	5	5	4	4	5	5

Source: Own elaborations based on ICES data.

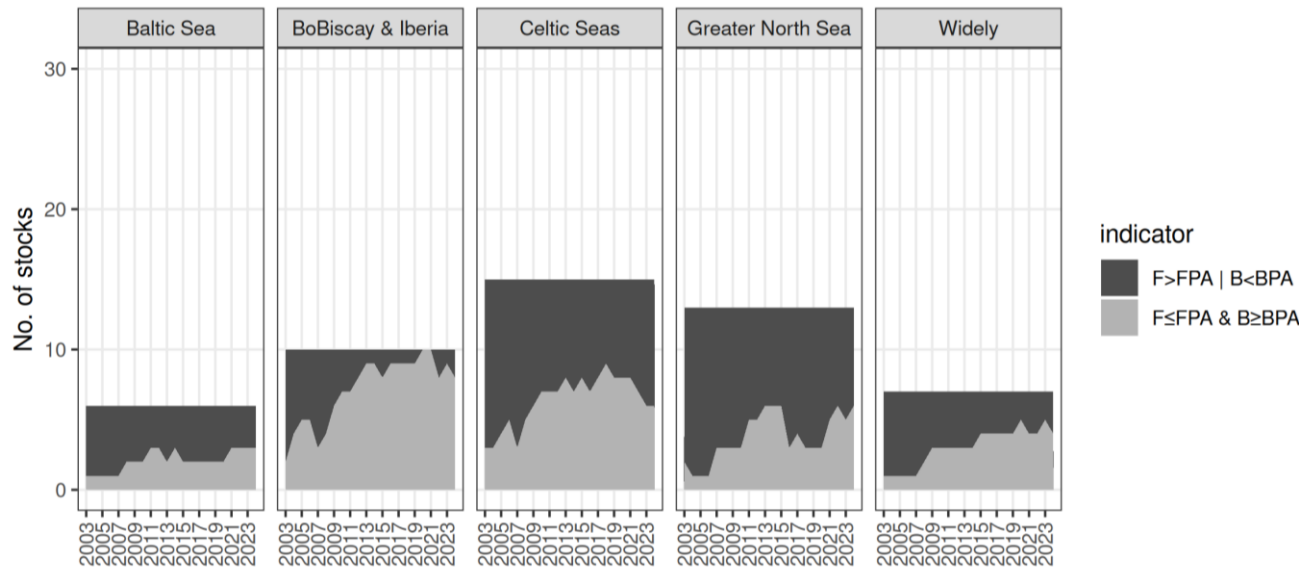
3.2.2 Number of stocks outside or inside safe biological limits

Figure 5. Number of stocks outside/inside safe biological limits by year (NEAI3-4).



Source: Own elaborations based on ICES data.

Figure 6. Number of stocks outside/inside safe biological limits by ecoregion (NEAI3-4b).



Source: Own elaborations based on ICES data.

Table 5. Number of stocks outside safe biological limits by ecoregion (NEAI3).

EcoRegion	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
ALL	42	41	39	38	40	35	31	29	26	25	23
Azores	0	0	0	0	0	0	0	0	0	0	0
Baltic Sea	5	5	5	5	5	4	4	4	3	3	4
BoB & Iberia	8	6	5	5	7	6	4	3	3	2	1
Celtic Seas	12	12	11	10	12	10	9	8	8	8	7
G. North Sea	11	12	12	12	10	10	10	10	8	8	7
Widely	6	6	6	6	6	5	4	4	4	4	4

EcoRegion	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
ALL	23	23	26	24	24	25	23	21	23	23	24
Azores	0	0	0	0	0	0	0	0	0	0	0
Baltic Sea	3	4	4	4	4	4	4	3	3	3	3
BoB & Iberia	1	2	1	1	1	1	0	0	2	1	2
Celtic Seas	8	7	8	7	6	7	7	7	8	9	9
G. North Sea	7	7	10	9	10	10	10	8	7	8	7
Widely	4	3	3	3	3	3	2	3	3	2	3

Source: Own elaborations based on ICES data.

Table 6. Number of stocks inside safe biological limits by ecoregion (NEAI4).

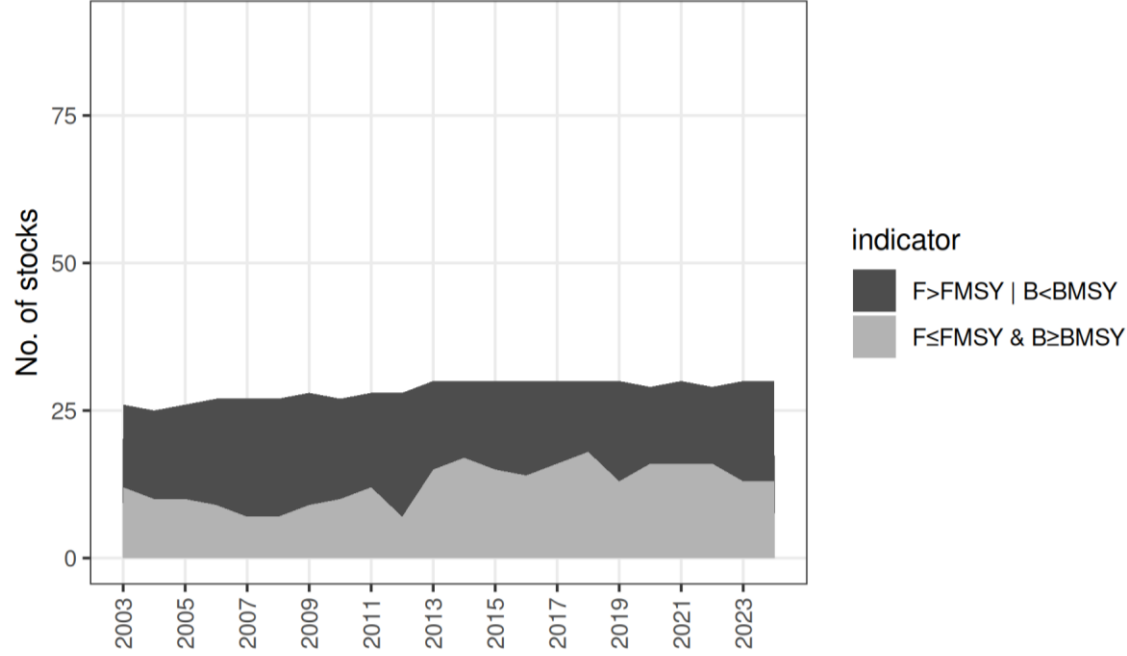
EcoRegion	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
ALL	9	10	12	13	11	16	20	22	25	26	28
Azores	0	0	0	0	0	0	0	0	0	0	0
Baltic Sea	1	1	1	1	1	2	2	2	3	3	2
BoB & Iberia	2	4	5	5	3	4	6	7	7	8	9
Celtic Seas	3	3	4	5	3	5	6	7	7	7	8
G. North Sea	2	1	1	1	3	3	3	3	5	5	6
Widely	1	1	1	1	1	2	3	3	3	3	3

EcoRegion	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
ALL	28	28	25	27	27	26	28	30	28	28	27
Azores	0	0	0	0	0	0	0	0	0	0	0
Baltic Sea	3	2	2	2	2	2	2	3	3	3	3
BoB & Iberia	9	8	9	9	9	9	10	10	8	9	8
Celtic Seas	7	8	7	8	9	8	8	8	7	6	6
G. North Sea	6	6	3	4	3	3	3	5	6	5	6
Widely	3	4	4	4	4	4	5	4	4	5	4

Source: Own elaborations based on ICES data.

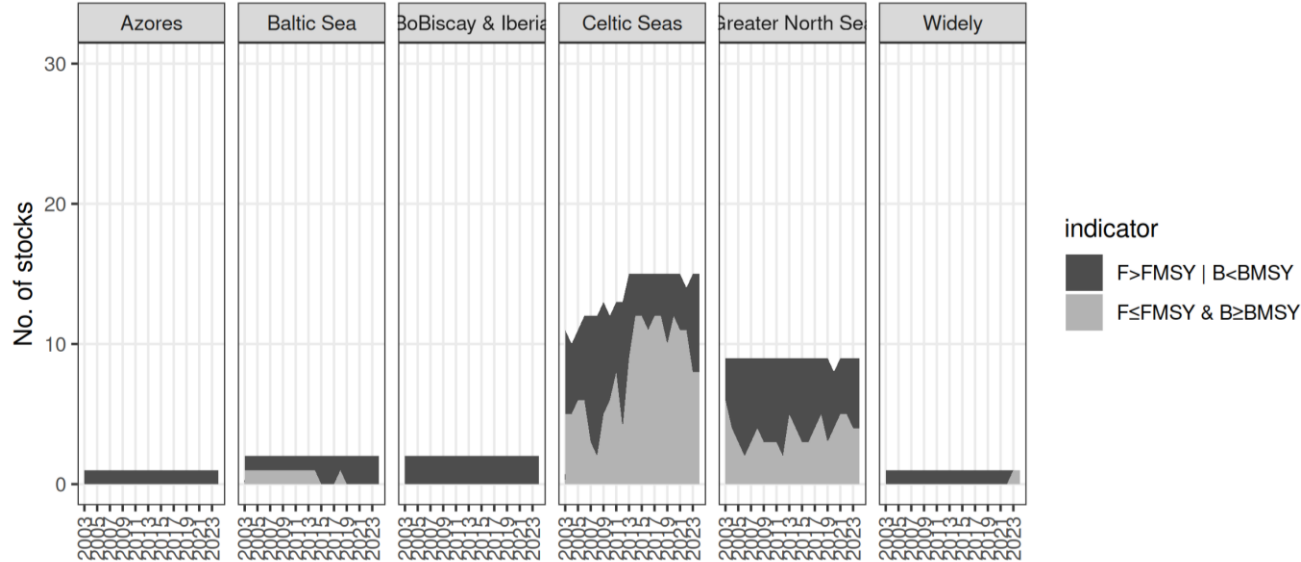
3.2.3 Number of stocks with $F > F_{MSY}$ or $SSB < B_{MSY}$ and number of stocks with $F \leq F_{MSY}$ and $SSB \geq B_{MSY}$

Figure 7. Number of stocks with $F > F_{MSY}$ or $SSB < B_{MSY}$ and number of stocks with $F \leq F_{MSY}$ and $SSB \geq B_{MSY}$ (NEAI5-6).



Source: Own elaborations based on ICES data.

Figure 8. Number of stocks with $F > F_{MSY}$ or $SSB < B_{MSY}$ and number of stocks with $F \leq F_{MSY}$ and $SSB \geq B_{MSY}$ by ecoregion (NEAI5-6b).



Source: Own elaborations based on ICES data.

Table 7. Number of stocks with $F > F_{MSY}$ or $SSB < B_{MSY}$ by ecoregion (NEAI5).

EcoRegion	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
ALL	14	15	16	18	20	20	19	17	16	21	15
Azores	1	1	1	1	1	1	1	1	1	1	1
Baltic Sea	1	1	1	1	1	1	1	1	1	1	1
BoB & Iberia	2	2	2	2	2	2	2	2	2	2	2
Celtic Seas	6	5	5	6	9	10	8	6	5	9	6
G. North Sea	3	5	6	7	6	5	6	6	6	7	4
Widely	1	1	1	1	1	1	1	1	1	1	1

EcoRegion	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
ALL	13	15	16	14	12	17	13	14	13	17	17
Azores	1	1	1	1	1	1	1	1	1	1	1
Baltic Sea	1	2	2	2	1	2	2	2	2	2	2
BoB & Iberia	2	2	2	2	2	2	2	2	2	2	2
Celtic Seas	3	3	4	3	3	5	3	4	3	7	7
G. North Sea	5	6	6	5	4	6	4	4	4	5	5
Widely	1	1	1	1	1	1	1	1	1	0	0

Source: Own elaborations based on ICES data.

Table 8. Number of stocks with $F \leq F_{MSY}$ and $SSB \geq B_{MSY}$ by ecoregion (NEAI6).

EcoRegion	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
ALL	12	10	10	9	7	7	9	10	12	7	15
Azores	0	0	0	0	0	0	0	0	0	0	0
Baltic Sea	1	1	1	1	1	1	1	1	1	1	1
BoB & Iberia	0	0	0	0	0	0	0	0	0	0	0
Celtic Seas	5	5	6	6	3	2	5	6	8	4	9
G. North Sea	6	4	3	2	3	4	3	3	3	2	5
Widely	0	0	0	0	0	0	0	0	0	0	0

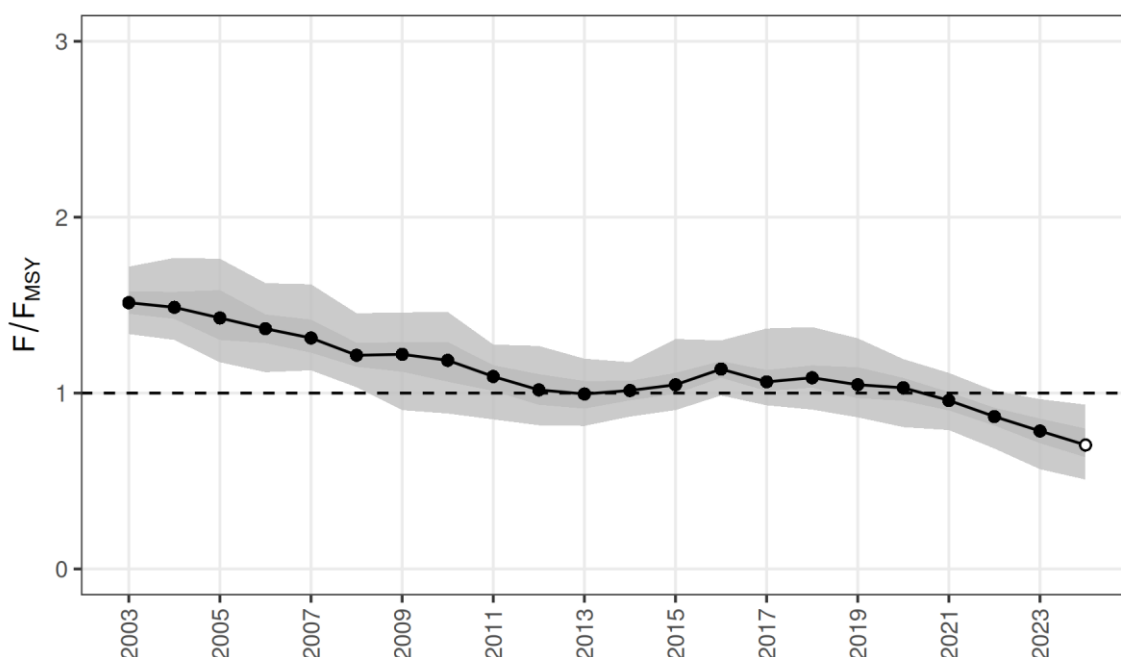
EcoRegion	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
ALL	17	15	14	16	18	13	16	16	16	13	13
Azores	0	0	0	0	0	0	0	0	0	0	0
Baltic Sea	1	0	0	0	1	0	0	0	0	0	0
BoB & Iberia	0	0	0	0	0	0	0	0	0	0	0
Celtic Seas	12	12	11	12	12	10	12	11	11	8	8
G. North Sea	4	3	3	4	5	3	4	5	5	4	4
Widely	0	0	0	0	0	0	0	0	0	1	1

Source: Own elaborations based on ICES data.

3.2.4 Trend in F/F_{MSY}

The ratio F/F_{MSY} has decreased over the years 2003-2024 from 1.51 to 0.70 (Figure 9 and Table 9). A first decreasing phase happened from 2003 to 2013 to reach 0.99. That was followed by an increase of the indicator until 2016 (1.14). From 2016 to 2024 the indicator decreased to reach the lowest value of the time series in 2024 (0.70). Over the years 2020-2024, the decrease was linear. Figure 11 shows the same model run for each model type, Age-Structured Models (ASM) and Surplus Production Models (SPM) to show the difference of indicator between the two types of assessments

Figure 9. Trend in F/F_{MSY} (based on 60 stocks). Dark grey area shows the 50% confidence interval whereas the light grey shows the 95% confidence interval (NEA17). The white dots indicate that a one year forecast was used for at least one stock. The dashed line displayed at 1 does not represent a management target for the CFP.



Source: Own elaborations based on ICES data.

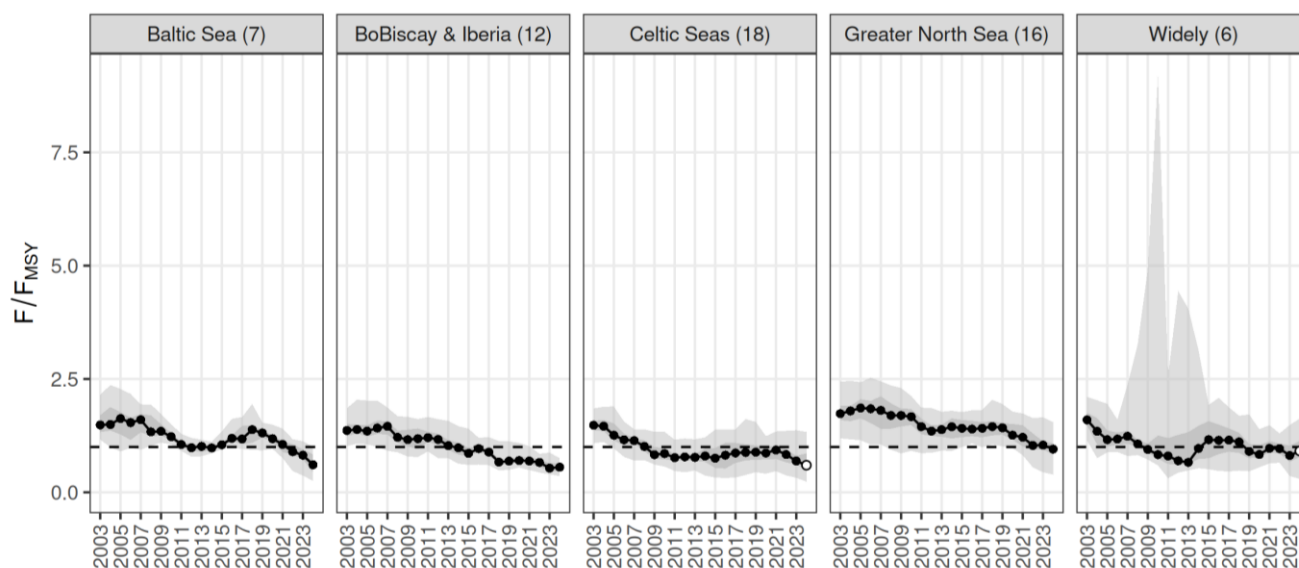
Table 9. Percentiles for F/F_{MSY} by year (NEA17).

Percentiles	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2.5%	1.34	1.30	1.18	1.12	1.13	1.03	0.90	0.88	0.85	0.82	0.81
25%	1.45	1.42	1.30	1.28	1.23	1.15	1.12	1.06	1.01	0.93	0.91
50%	1.51	1.49	1.43	1.37	1.31	1.21	1.22	1.19	1.09	1.02	0.99
75%	1.58	1.58	1.58	1.45	1.42	1.29	1.29	1.29	1.16	1.11	1.07
97.5%	1.72	1.77	1.76	1.63	1.62	1.45	1.46	1.46	1.28	1.27	1.20

Percentiles	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
2.5%	0.87	0.90	0.99	0.93	0.91	0.86	0.81	0.79	0.68	0.57	0.51
25%	0.96	1.00	1.09	1.01	1.03	0.97	0.96	0.90	0.82	0.72	0.64
50%	1.01	1.05	1.14	1.06	1.09	1.05	1.03	0.96	0.87	0.78	0.70
75%	1.07	1.11	1.18	1.13	1.16	1.15	1.09	1.01	0.92	0.85	0.80
97.5%	1.18	1.31	1.30	1.37	1.38	1.31	1.19	1.11	1.01	0.97	0.93

Source: Own elaborations based on ICES data.

Figure 10. Trend in F/F_{MSY} by ecoregion. The number of stocks in each ecoregion are shown between parentheses (NEAI7b). The white dots indicate that a one year forecast was used for at least one stock. The dashed line displayed at 1 does not represent a management target for the CFP.



Source: Own elaborations based on ICES data.

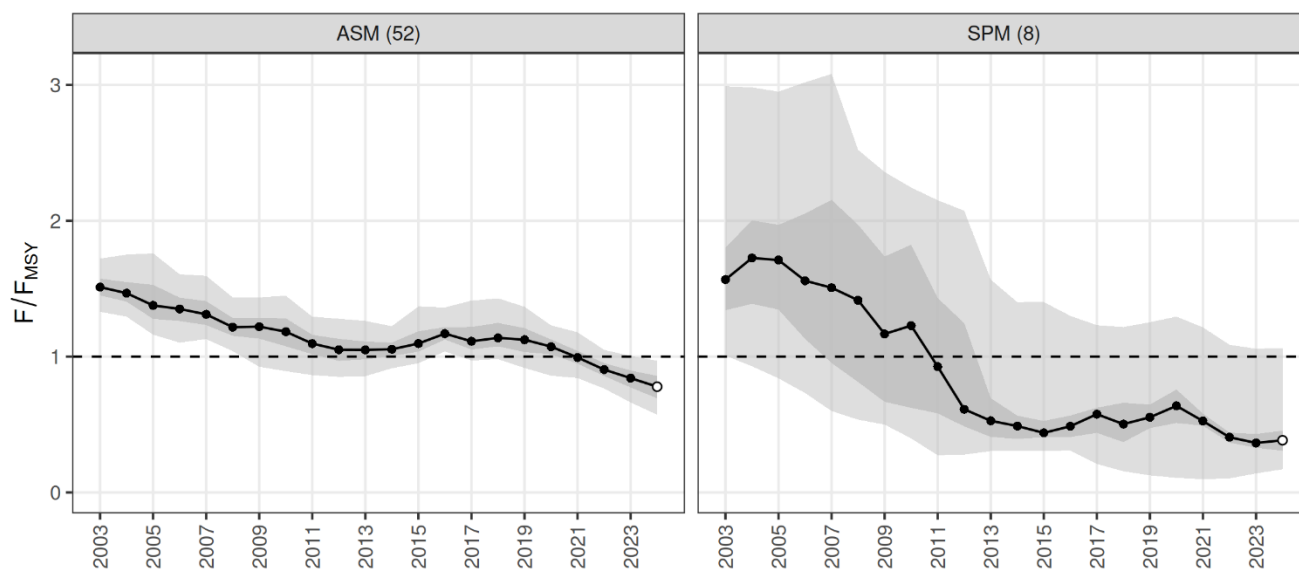
Table 10. Trend in F/F_{MSY} by ecoregion (NEAI7b).

EcoRegion	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Baltic Sea	1.49	1.50	1.63	1.54	1.60	1.33	1.35	1.23	1.06	0.98	1.01
BoB & Iberia	1.36	1.39	1.35	1.42	1.46	1.21	1.16	1.18	1.21	1.17	1.03
Celtic Seas	1.48	1.46	1.26	1.16	1.14	1.01	0.83	0.86	0.76	0.78	0.77
G. North Sea	1.73	1.79	1.86	1.84	1.81	1.70	1.70	1.67	1.45	1.35	1.38
Widely	1.60	1.35	1.16	1.18	1.24	1.07	0.94	0.83	0.80	0.70	0.66

EcoRegion	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Baltic Sea	0.98	1.05	1.19	1.18	1.38	1.31	1.18	1.06	0.89	0.82	0.61
BoB & Iberia	0.98	0.86	0.96	0.89	0.67	0.69	0.70	0.69	0.66	0.53	0.56
Celtic Seas	0.80	0.75	0.82	0.87	0.88	0.89	0.87	0.93	0.83	0.69	0.60
G. North Sea	1.45	1.41	1.39	1.41	1.45	1.42	1.26	1.21	1.03	1.04	0.95
Widely	0.97	1.16	1.15	1.15	1.11	0.90	0.84	0.97	0.96	0.81	0.91

Source: Own elaborations based on ICES data.

Figure 11. Trend in F/F_{MSY} for Aged-Structured Models (ASM) and Surplus Production Models and (SPM). The number of stocks assessed with each model type is shown in the parenthesis. The white dots indicate that a one year forecast was used for at least one stock. The dashed line displayed at 1 does not represent a management target for the CFP.

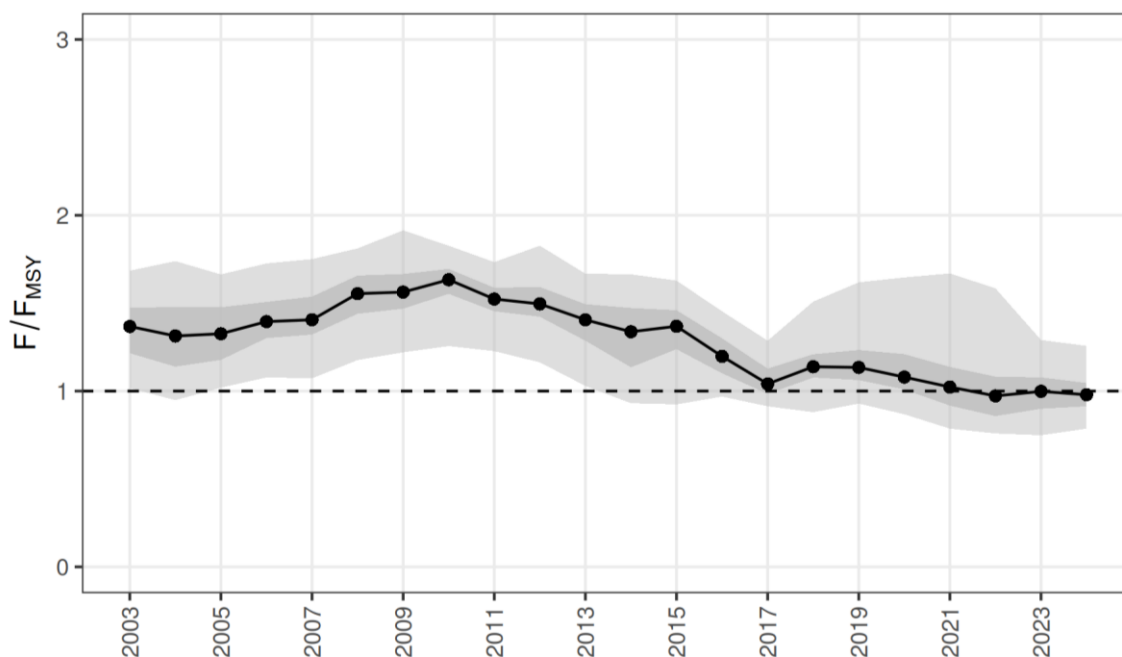


Source: Own elaborations based on ICES data.

3.2.5 Trend in F/F_{MSY} for stocks outside EU waters

The model used in section 3.2.4 was also used with data derived from stocks assessed by ICES and spanning across areas that fall primarily outside EU waters in FAO region 27 (Figure 12 and Table 11). The analysis was based on 20 stocks for which individual F/F_{MSY} trajectories are presented in Figure 13. Throughout the time series, the ratio exhibited an overall decreasing trend from 1.37 to 0.98 despite some periods of increase (2003-2010). The ratio was >1 throughout the time series except in 2022 (0.97) and 2024 (0.98). The confidence interval of the indicator overlapped with 1 in 2004 and from 2014 to the end of the time series.

Figure 12. Trend in F/F_{MSY} for stocks outside EU waters (based on 20 stocks). Dark grey zone shows the 50% confidence interval whereas the light grey zone shows the 95% confidence interval (NEAI7out). The dashed line displayed at 1 does not represent a management target for the CFP.



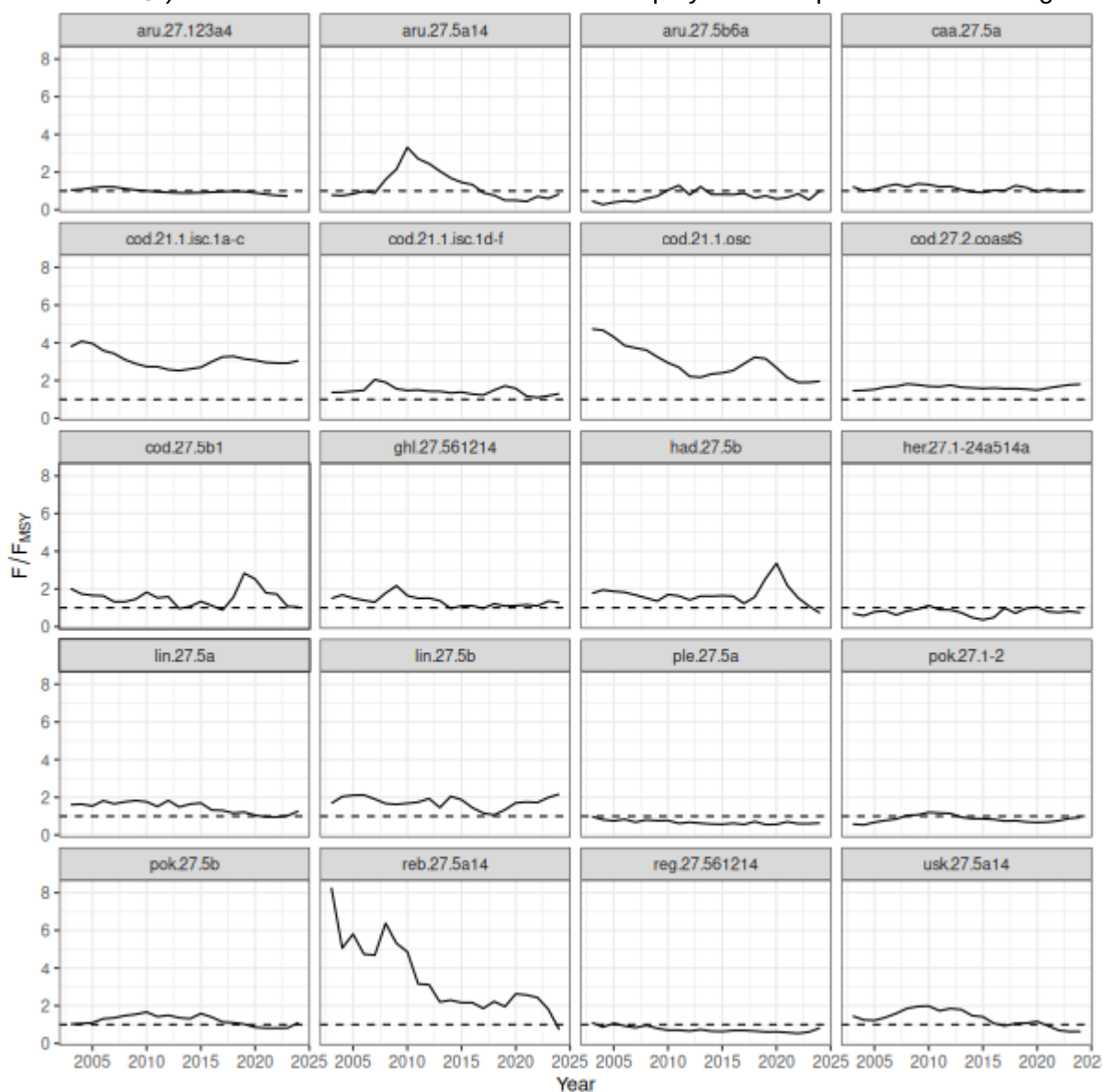
Source: Own elaborations based on ICES data.

Table 11. Percentiles for F/F_{MSY} for stocks outside EU waters (NEAI7out).

Percentiles	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2.5%	1.02	0.95	1.02	1.08	1.07	1.18	1.22	1.26	1.23	1.16	1.03
25%	1.22	1.14	1.18	1.30	1.32	1.44	1.47	1.55	1.45	1.42	1.29
50%	1.37	1.31	1.33	1.40	1.41	1.55	1.56	1.63	1.52	1.50	1.41
75%	1.47	1.48	1.48	1.51	1.54	1.66	1.67	1.69	1.59	1.59	1.49
97.5%	1.68	1.74	1.66	1.73	1.75	1.81	1.91	1.83	1.73	1.83	1.67
Percentiles	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
2.5%	0.93	0.92	0.97	0.91	0.88	0.93	0.87	0.79	0.76	0.75	0.79
25%	1.14	1.24	1.10	0.98	1.08	1.06	1.01	0.92	0.86	0.90	0.91
50%	1.34	1.37	1.20	1.04	1.14	1.13	1.08	1.02	0.97	1.00	0.98
75%	1.47	1.46	1.30	1.13	1.21	1.23	1.21	1.14	1.08	1.08	1.05
97.5%	1.66	1.63	1.45	1.29	1.51	1.62	1.65	1.67	1.58	1.29	1.26

Source: Own elaborations based on ICES data.

Figure 13. Trend in F/F_{MSY} of single stocks from outside EU waters. The dashed line is set at 1 (i.e. where $F=F_{MSY}$). For individual stock the dashed line displayed at 1 represents the management target.

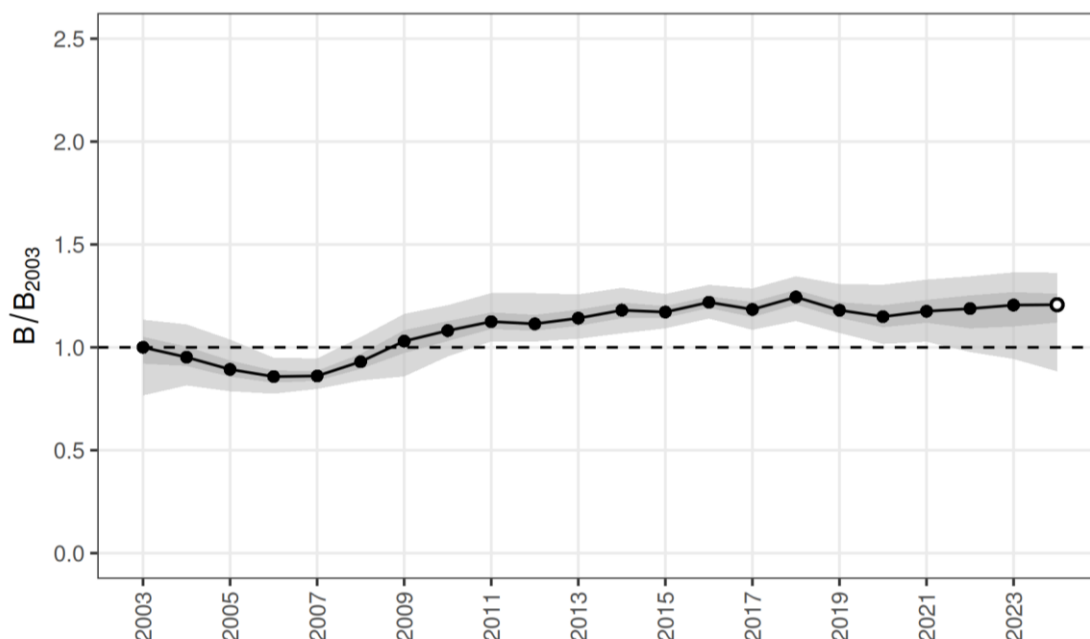


Source: Own elaborations based on ICES data.

3.2.6 Trend in SSB (relative to SSB in 2003)

It is to be noted that in this indicator the individual trajectories that are modelled by the state-space model are not anymore absolute biomass but biomass standardised by the average biomass over the available period (see Gras et al., 2026 for additional details). This is the origin of the reduction of the confidence interval compared to B/B_{2003} published in previous years. Over the studied period 2003-2024, the biomass increased by 21% (Figure 14 and Table 12). However, a first decreasing phase is observed until 2007 (0.86) followed by a generally increasing trend of the biomass up until the end of the time series with a maximum reached in 2024 (1.21). The ratio reached values >1 from 2009 to the end of the time series.

Figure 14. Trend in SSB relative to 2003 (based on 58 stocks). Dark grey zone shows the 50% confidence interval whereas the light grey zone shows the 95% confidence interval (NEA18). The white dot indicates that a one year forecast was used for at least one stock. The dashed line displayed at 1 does not represent a management target for the CFP.



Source: Own elaborations based on ICES data.

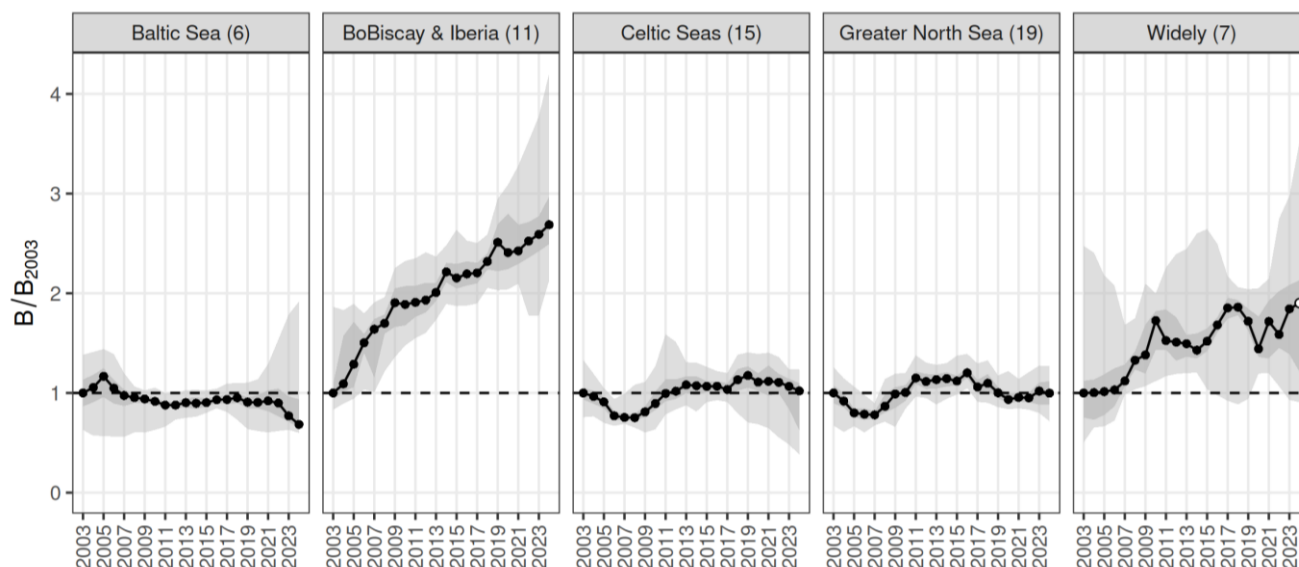
Table 12. Percentiles for SSB relative to 2003.

Percentiles	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2.5%	0.77	0.81	0.79	0.77	0.80	0.84	0.86	0.96	1.03	1.03	1.04
25%	0.92	0.91	0.86	0.83	0.84	0.90	0.97	1.03	1.09	1.08	1.10
50%	1.00	0.95	0.89	0.86	0.86	0.93	1.03	1.08	1.13	1.11	1.14
75%	1.05	1.00	0.94	0.89	0.89	0.97	1.08	1.13	1.17	1.16	1.18
97.5%	1.13	1.11	1.04	0.95	0.95	1.05	1.16	1.20	1.26	1.26	1.26

Percentiles	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
2.5%	1.07	1.09	1.14	1.09	1.13	1.07	1.02	1.03	0.98	0.94	0.88
25%	1.14	1.14	1.19	1.15	1.21	1.14	1.10	1.12	1.09	1.10	1.12
50%	1.18	1.17	1.22	1.18	1.24	1.18	1.15	1.18	1.19	1.21	1.21
75%	1.22	1.20	1.25	1.22	1.28	1.22	1.20	1.23	1.25	1.27	1.26
97.5%	1.29	1.26	1.30	1.29	1.35	1.31	1.30	1.33	1.34	1.36	1.36

Source: Own elaborations based on ICES data.

Figure 15. Trend in SSB relative to 2003 by ecoregion. The number of stocks in each ecoregion are shown between parentheses (NEAI8b). The white dot indicates that a one year forecast was used for at least one stock. The dashed line displayed at 1 does not represent a management target for the CFP.



Source: Own elaborations based on ICES data.

Table 13. SSB relative to 2003 by ecoregion.

EcoRegion	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Baltic Sea	1.00	1.05	1.17	1.05	0.97	0.95	0.94	0.92	0.88	0.88	0.90
BoB & Iberia	1.00	1.09	1.29	1.50	1.64	1.70	1.91	1.89	1.91	1.93	2.01
Celtic Seas	1.00	0.96	0.91	0.77	0.75	0.75	0.81	0.89	1.00	1.02	1.08
G. North Sea	1.00	0.92	0.80	0.79	0.78	0.87	0.99	1.00	1.15	1.12	1.13
Widely	1.00	1.00	1.01	1.03	1.12	1.33	1.38	1.73	1.53	1.51	1.49

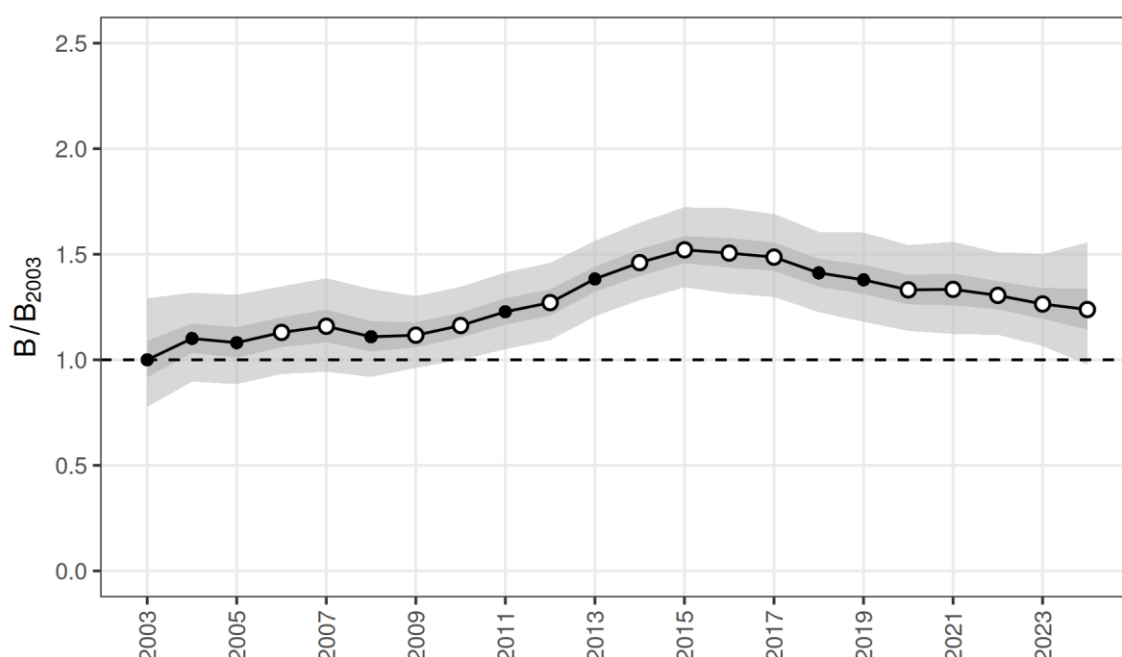
EcoRegion	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Baltic Sea	0.90	0.90	0.93	0.93	0.95	0.91	0.90	0.92	0.90	0.77	0.68
BoB & Iberia	2.22	2.15	2.19	2.20	2.32	2.51	2.41	2.43	2.52	2.59	2.69
Celtic Seas	1.07	1.07	1.07	1.03	1.13	1.18	1.11	1.12	1.11	1.07	1.02
G. North Sea	1.14	1.12	1.20	1.06	1.10	1.00	0.93	0.96	0.95	1.02	1.00
Widely	1.43	1.52	1.68	1.85	1.86	1.72	1.44	1.72	1.59	1.84	1.90

Source: Own elaborations based on ICES data.

3.2.7 Trend in standardised stock size relative to stock size in 2003 for data-limited stocks

The ratio B/B_{2003} for category 3 stocks inside EU waters (Figure 16 and Table 14) first slowly increased from 2003 to 2009 (1.12). Over the period 2009-2015 the increase was steeper to reach the maximum of the time series (1.52). From 2015 to 2024, the indicator decreased to reach 1.24 at the end of the time series. The confidence interval overlapped with 1 from 2003-2009 and in 2024. This indicator should be interpreted with caution since the input data is a mix of various units that are barely comparable although standardized the mean of the available data. A number of 1-year forecasts have been done due to missing values in the time series.

Figure 16. Trend in biomass or abundance indices relative to 2003 for data limited stocks (ICES category 3; based on 55 stocks). Dark grey zone shows the 50% confidence interval whereas the light grey zone shows the 95% confidence interval (NEAI12). The white dots indicate that a one-year forecast was used for at least one stock. The dashed line displayed at 1 does not represent a management target for the CFP.



Source: Own elaborations based on ICES data.

Table 14. Percentiles for biomass or abundance indices relative to 2003 for ICES category 3 stocks.

Percentiles	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2.5%	0.78	0.90	0.89	0.93	0.94	0.92	0.96	1.00	1.05	1.09	1.21
25%	0.92	1.03	1.01	1.06	1.08	1.04	1.06	1.11	1.17	1.21	1.32
50%	1.00	1.10	1.08	1.13	1.16	1.11	1.12	1.16	1.23	1.27	1.38
75%	1.09	1.17	1.16	1.20	1.24	1.18	1.18	1.22	1.29	1.33	1.44
97.5%	1.29	1.32	1.31	1.35	1.39	1.34	1.30	1.35	1.41	1.46	1.56

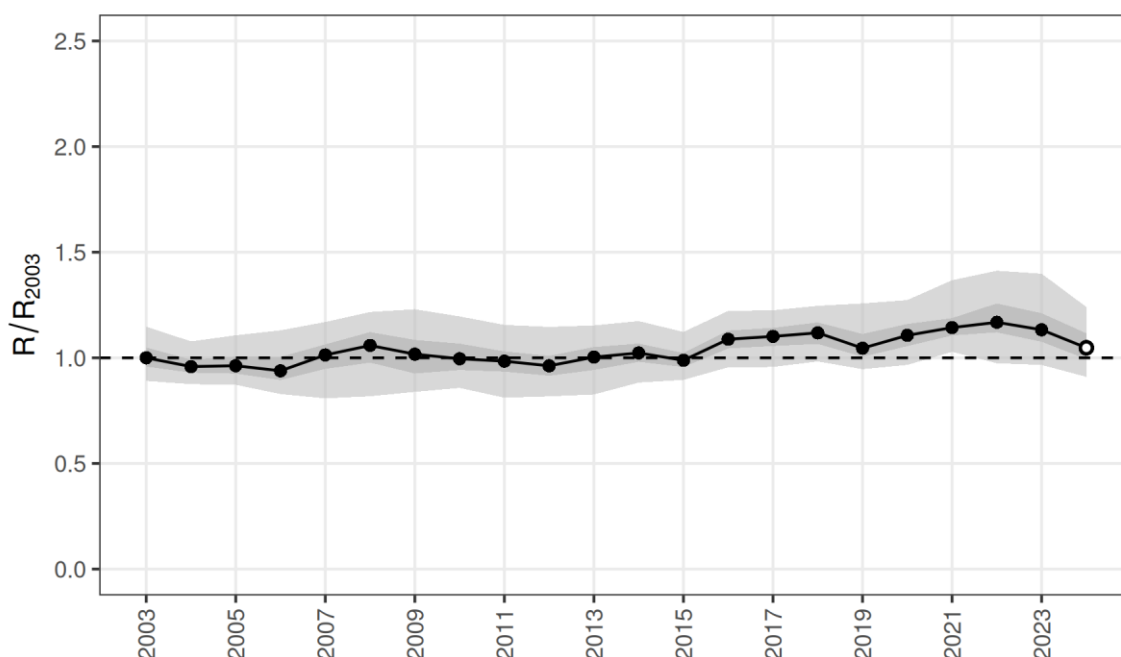
Percentiles	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
2.5%	1.28	1.34	1.31	1.30	1.23	1.18	1.14	1.12	1.12	1.07	0.98
25%	1.40	1.46	1.44	1.42	1.35	1.31	1.26	1.26	1.24	1.19	1.14
50%	1.46	1.52	1.51	1.49	1.41	1.38	1.33	1.33	1.31	1.26	1.24
75%	1.52	1.59	1.58	1.56	1.48	1.45	1.40	1.41	1.37	1.34	1.34
97.5%	1.65	1.72	1.72	1.69	1.61	1.60	1.54	1.56	1.51	1.50	1.56

Source: Own elaborations based on ICES data.

3.2.8 Trend in recruitment relatively to recruitment 2003

The estimated average decadal recruitment for category 1 and 2 stocks (Figure 17 and Table 15) does not show any positive or negative trend over the modelled period. The point estimated in 2024 is 1.05. The confidence interval of the indicator overlaps with 1 throughout the studied period except in 2021. It should be noted that several category 1 and 2 stocks were omitted due to them being assessed using biomass dynamic models. This trend might reflect an increase in stock production although the characteristic of the indicator, a decadal ratio, makes it difficult to interpret.

Figure 17. Trend in decadal recruitment scaled to 2003 (based on 59 stocks). Dark grey zone shows the 50% confidence interval whereas the light grey zone shows the 95% confidence interval (NEAI10). The white dot indicates that a one year forecast was used for at least one stock. The dashed line displayed at 1 does not represent a management target for the CFP.



Source: Own elaborations based on ICES data.

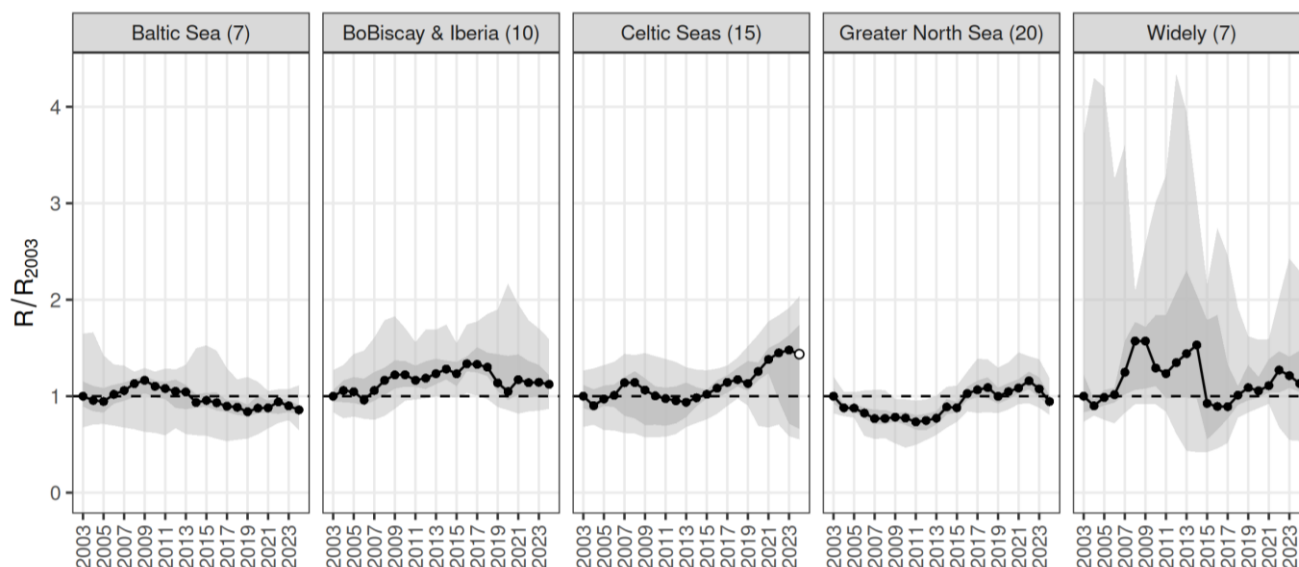
Table 15. Percentiles for decadal recruitment scaled to 2003.

Percentiles	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2.5%	0.89	0.88	0.87	0.83	0.81	0.82	0.84	0.86	0.81	0.82	0.83
25%	0.96	0.93	0.93	0.89	0.95	0.98	0.93	0.94	0.93	0.92	0.94
50%	1.00	0.96	0.96	0.94	1.01	1.06	1.02	1.00	0.98	0.96	1.00
75%	1.05	0.99	1.01	1.00	1.06	1.12	1.08	1.07	1.03	1.01	1.05
97.5%	1.15	1.08	1.11	1.13	1.17	1.22	1.23	1.20	1.16	1.15	1.15

Percentiles	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
2.5%	0.88	0.90	0.96	0.96	0.98	0.95	0.97	1.03	0.97	0.97	0.91
25%	0.98	0.96	1.04	1.06	1.07	1.01	1.06	1.11	1.12	1.08	0.99
50%	1.02	0.99	1.09	1.10	1.12	1.05	1.11	1.14	1.17	1.13	1.05
75%	1.07	1.02	1.13	1.14	1.17	1.11	1.16	1.19	1.26	1.21	1.12
97.5%	1.17	1.12	1.22	1.22	1.25	1.26	1.27	1.37	1.41	1.40	1.24

Source: Own elaborations based on ICES data.

Figure 18. Trend in decadal recruitment scaled to 2003 by ecoregion. The number of stocks in each ecoregion are shown between brackets (NEAI10b). The white dot indicates that a one year forecast was used for at least one stock. The dashed line displayed at 1 does not represent a management target for the CFP.



Source: Own elaborations based on ICES data.

Table 16. Decadal recruitment scaled to 2003 by ecoregion.

EcoRegion	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Baltic Sea	1.00	0.96	0.94	1.02	1.06	1.13	1.16	1.10	1.08	1.05	1.04
BoB & Iberia	1.00	1.06	1.05	0.96	1.06	1.16	1.22	1.22	1.16	1.19	1.23
Celtic Seas	1.00	0.90	0.97	1.01	1.14	1.14	1.06	1.00	0.98	0.95	0.94
G. North Sea	1.00	0.88	0.88	0.82	0.77	0.77	0.78	0.77	0.73	0.75	0.77
Widely	1.00	0.90	0.99	1.02	1.25	1.57	1.57	1.29	1.23	1.35	1.44

EcoRegion	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Baltic Sea	0.93	0.96	0.93	0.90	0.89	0.84	0.88	0.88	0.94	0.90	0.86
BoB & Iberia	1.28	1.23	1.34	1.33	1.30	1.14	1.05	1.17	1.14	1.14	1.12
Celtic Seas	0.98	1.02	1.08	1.14	1.17	1.13	1.26	1.38	1.45	1.48	1.44
G. North Sea	0.89	0.88	1.03	1.07	1.09	1.00	1.05	1.08	1.16	1.08	0.94
Widely	1.53	0.93	0.89	0.89	1.01	1.09	1.06	1.11	1.27	1.21	1.13

Source: Own elaborations based on ICES data.

3.3 Indicators of advice coverage

The indicator of advice coverage provides the number of stocks for which the reference points F_{MSY} , F_{PA} , $MSYB_{trigger}$, and B_{PA} are available (Table 17). It also provides the number of TACs that are set by the European Commission.

Table 17. Coverage of TACs by scientific advice (ICES category 1 and 2).

	No of stocks	No of TACs	No of TACs based on stock assessment	Fraction of TACs based on Stock Assessments
F_{MSY}	84	159	84	53%
$MSYB_{trigger}$	35	159	26	16%
F_{PA}	49	159	67	43%
B_{PA}	64	159	78	50%

Source: Own elaborations based on ICES data.

4 Mediterranean and Black Sea

Between 2003 and 2015 the number of available stock assessment increased from 44 to 68. In 2022, 66 stock assessments were available. This number dropped to 60 in 2023 and to 16 in 2024 (Figure 19 and Figure 20) due to the 3-year advice cycle in GFCM. As for the Northeast Atlantic, this year's analyses for the Mediterranean and Black Sea were conducted using the updated protocol to monitor the performance of the CFP (Gras et al., 2026). The overall increase in number of stock assessment outputs is also due to the quantitative information made publicly available by GFCM through the STAR files (<https://www.fao.org/gfcm/data/star>). The high variability in stock assessment outputs at the start of the time series makes the interpretation of the indicators challenging. With such differences in the number of stocks assessed in the early part of the time series, the trends in the indicators and the trend in the number of stocks available are confounded. It is to be noted that in the Black Sea ecoregion, some stocks like MUT_29, SPR_29 and WHG_29, have new assessments with shorter time series than previous years.

The number of stock assessments used to compute indicators in the Mediterranean and Black Sea basin were 68 for F/F_{MSY} and B/B_{2003} for the design based indicators and 67 and 68 for F/F_{MSY} and B/B_{2003} for the model based indicators respectively (Table 18).

Table 18. Stocks used for F/F_{MSY} and B/B_{2003} indicators.

F/F_{MSY} (model-based)					
ANE_1	ANE_17_18	ANE_22	ANE_29	ANE_5	ANE_6
ANE_7	ANE_9_10	ARA_1_2	ARA_18_19_20	ARA_5	ARA_6_7
ARS_12_13_14_15_16_21.1_21.2	ARS_18_19_20	ARS_8_9_10_11	CTC_17	DGS_29	DPS_1
DPS_12_13_14_15_16	DPS_17_18_19_20	DPS_5_6_7	DPS_8_9_10_11	HKE_1_5_6_7	HKE_12_13_14_15_16
HKE_17_18	HKE_19	HKE_20	HKE_22	HKE_8_9_10_11	MTS_17
MUR_15_16	MUR_22	MUR_5	MUR_6	MUT_1	MUT_10
MUT_15	MUT_16	MUT_17_18	MUT_19	MUT_20	MUT_22
MUT_29	MUT_6	MUT_7	MUT_9	NEP_11	NEP_15_16
NEP_18	NEP_5	NEP_6	NEP_9	NEPC_17	NEPNE_17
NEPNW_17	PIL_1	PIL_17_18	PIL_22	PIL_6	PIL_9_10
RPW_29	SBR_1_3	SOL_17	SPR_29	TUR_29	WHB_6
WHG_29					
B/B_{2003}					
ANE_1	ANE_17_18	ANE_22	ANE_29	ANE_5	ANE_6
ANE_7	ANE_9_10	ARA_1_2	ARA_18_19_20	ARA_5	ARA_6_7
ARS_12_13_14_15_16_21.1_21.2	ARS_18_19_20	ARS_8_9_10_11	CTC_17	DGS_29	DPS_1
DPS_12_13_14_15_16	DPS_17_18_19_20	DPS_5_6_7	DPS_8_9_10_11	HKE_1_5_6_7	HKE_12_13_14_15_16
HKE_17_18	HKE_19	HKE_20	HKE_22	HKE_8_9_10_11	MTS_17
MUR_15_16	MUR_22	MUR_5	MUR_6	MUT_1	MUT_10
MUT_15	MUT_16	MUT_17_18	MUT_19	MUT_20	MUT_22
MUT_29	MUT_6	MUT_7	MUT_9	NEP_11	NEP_15_16
NEP_18	NEP_5	NEP_6	NEP_9	NEPC_17	NEPNE_17
NEPNW_17	PIL_1	PIL_17_18	PIL_22	PIL_6	PIL_7

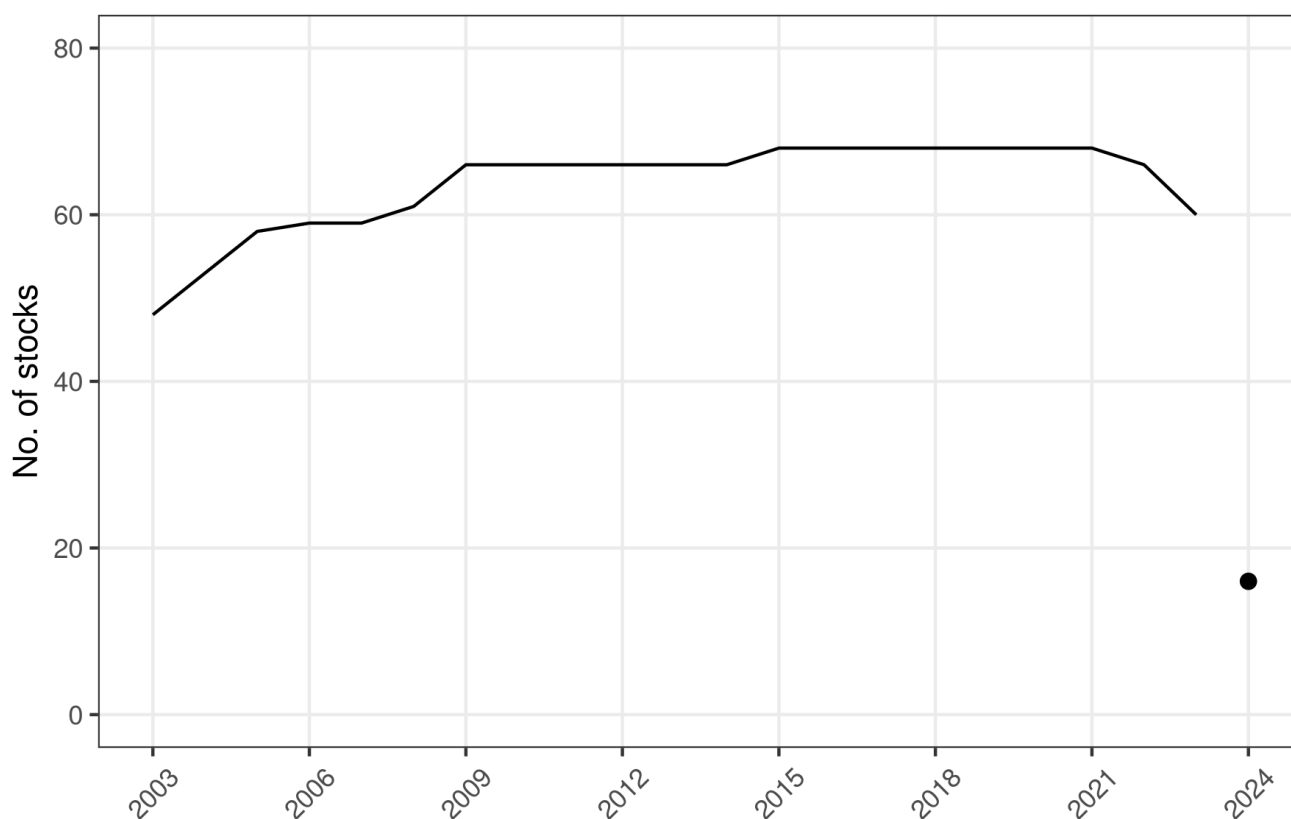
PIL_9_10	RPW_29	SBR_1_3	SOL_17	SPR_29	TUR_29
WHB_6	WHG_29				

Source: own elaborations based on GFCM and STECF data.

Over the years 2009-2023, the number of available stock assessment outputs is more stable with only two time series starting in 2015. The state-space model as implemented in the JARA package without back cast provided some estimates of the variance associated with the analysis. The indicator values are presented in Figure 23 to Figure 31, and Table 22 to Table 25. The number of stock assessment outputs available for the Mediterranean and Black Seas is displayed in Figure 19.

Due to the reduced number of stock assessment outputs available for 2024, the indicator presented in Figure 19 was plotted as a continuous line from 2003 to 2023 and 2024 is depicted as a separate point to indicate the reduced number of endorsed stock assessments for that year.

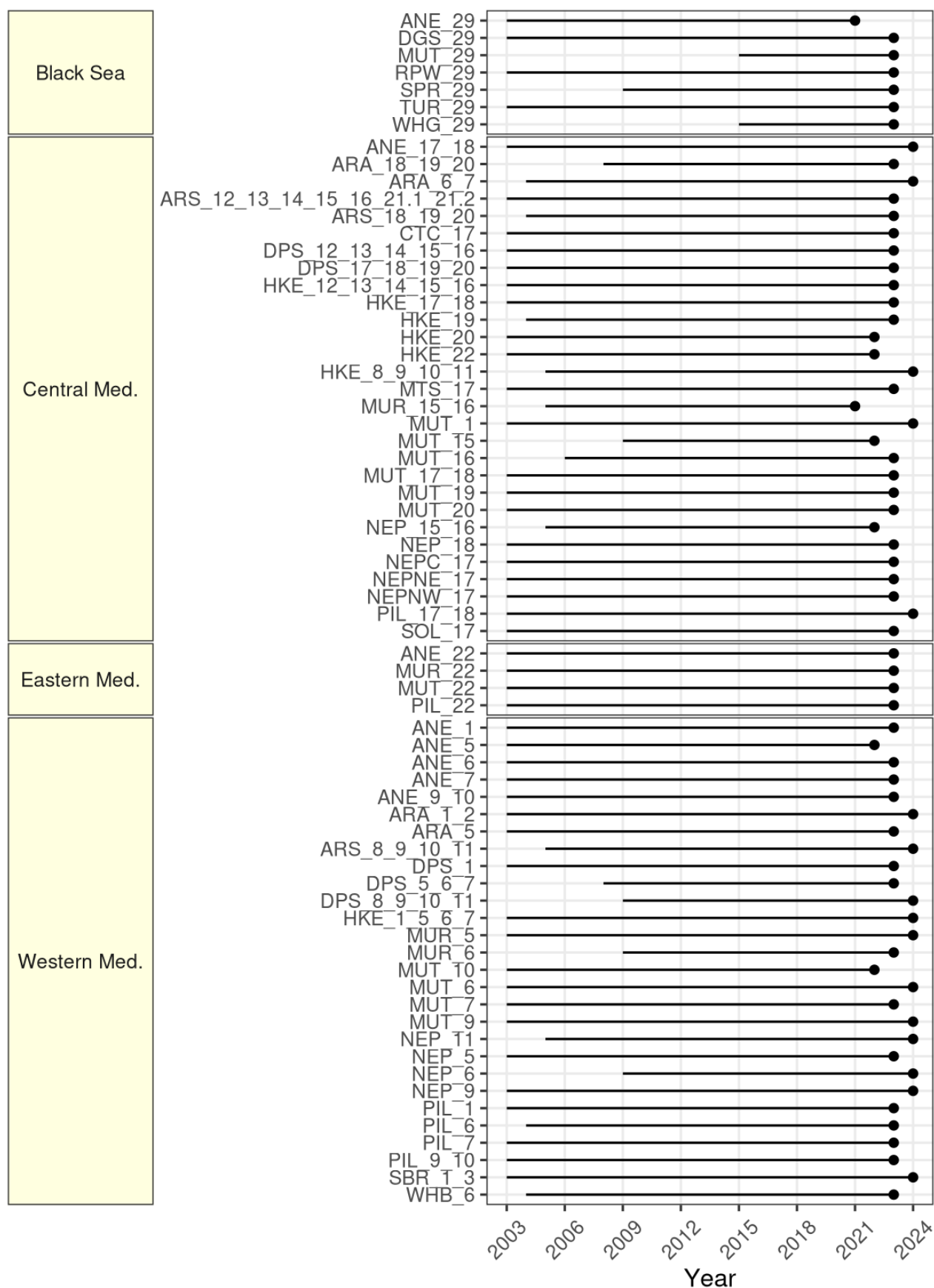
Figure 19. Number of stock assessments available in the Mediterranean and Black Sea.



Source: own elaborations based on GFCM and STECF data.

As in the last two CFP monitoring reports (STECF, 2024 and 2025b), for the model based indicators, the Sardine in GSA 7 (PIL_7) stock is used only for the biomass indicator calculation as the stock was assessed using a two-stage biomass model which provides only harvest rates and no F estimates.

Figure 20. Time-series of stock assessments available from both STECF and GFCM for computation of CFP monitoring indicators for the Mediterranean and Black Seas.



Source: own elaborations based on STECF and GFCM data.

Table 19. Stocks by EcoRegion used in the CFP monitoring analysis.

EcoRegion	Final Data Year	Stock	Updated	Source	New Stock
Black Sea	2021	ANE_29	2023	GFCM	No
Black Sea	2023	DGS_29	2024	GFCM	No
Black Sea	2023	MUT_29	2024	GFCM	No
Black Sea	2023	RPW_29	2024	GFCM	No
Black Sea	2023	SPR_29	2024	GFCM	No
Black Sea	2023	TUR_29	2024	GFCM	No
Black Sea	2023	WHG_29	2024	GFCM	No
Central Med.	2024	ANE_17_18	2025	GFCM	No
Central Med.	2023	ARA_18_19_20	2024	GFCM	No
Central Med.	2024	ARA_6_7	2025	STECF	No
Central Med.	2023	ARS_12_13_14_15_16_21.1_21.2	2024	GFCM	No
Central Med.	2023	ARS_18_19_20	2024	GFCM	No
Central Med.	2023	CTC_17	2024	GFCM	No
Central Med.	2023	DPS_12_13_14_15_16	2024	GFCM	No
Central Med.	2023	DPS_17_18_19_20	2024	GFCM	No
Central Med.	2023	HKE_12_13_14_15_16	2024	GFCM	No
Central Med.	2023	HKE_17_18	2024	GFCM	No
Central Med.	2023	HKE_19	2024	GFCM	No
Central Med.	2022	HKE_20	2023	STECF	No
Central Med.	2022	HKE_22	2023	STECF	No
Central Med.	2024	HKE_8_9_10_11	2025	STECF	No
Central Med.	2023	MTS_17	2024	GFCM	No
Central Med.	2021	MUR_15_16	2023	STECF	No
Central Med.	2024	MUT_1	2025	STECF	No
Central Med.	2022	MUT_15	2023	GFCM	No
Central Med.	2023	MUT_16	2024	GFCM	No
Central Med.	2023	MUT_17_18	2024	GFCM	No
Central Med.	2023	MUT_19	2024	GFCM	No
Central Med.	2023	MUT_20	2024	GFCM	No
Central Med.	2022	NEP_15_16	2023	STECF	No
Central Med.	2023	NEP_18	2025	GFCM	Yes
Central Med.	2023	NEP_17_C	2025	GFCM	Yes
Central Med.	2023	NEP_17_W	2025	GFCM	Yes
Central Med.	2023	NEP_17_E	2025	GFCM	Yes
Central Med.	2024	PIL_17_18	2025	GFCM	No
Central Med.	2023	SOL_17	2024	GFCM	No
Eastern Med.	2023	ANE_22	2024	GFCM	No
Eastern Med.	2023	MUR_22	2024	GFCM	Yes
Eastern Med.	2023	MUT_22	2024	GFCM	No
Eastern Med.	2023	PIL_22	2024	GFCM	No
Western Med.	2023	ANE_1	2024	GFCM	Yes
Western Med.	2022	ANE_5	2023	GFCM	No
Western Med.	2023	ANE_6	2024	GFCM	No
Western Med.	2023	ANE_7	2024	GFCM	No
Western Med.	2023	ANE_9_10	2024	GFCM	Yes

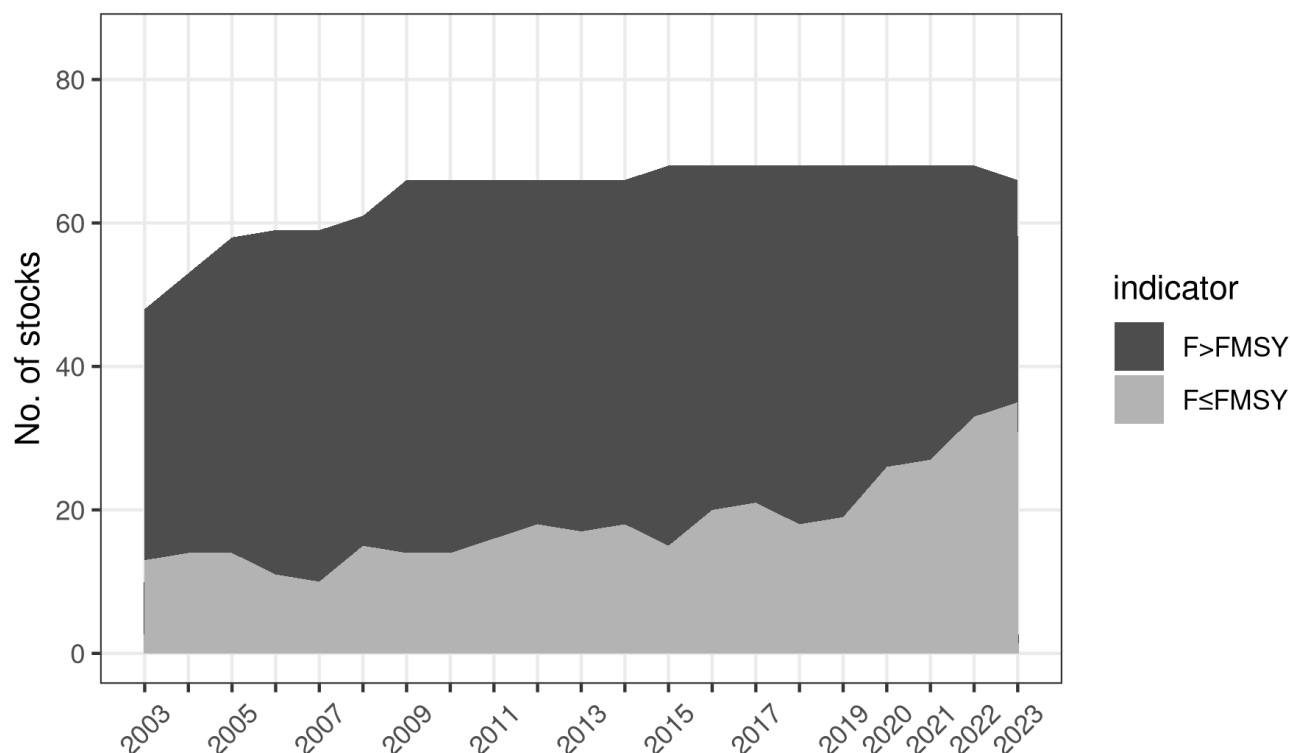
Western Med.	2024	ARA_1_2	2025	STECF	No
Western Med.	2023	ARA_5	2024	GFCM	No
Western Med.	2024	ARS_8_9_10_11	2025	STECF	No
Western Med.	2023	DPS_1	2024	STECF	No
Western Med.	2023	DPS_5_6_7	2024	STECF	No
Western Med.	2024	DPS_8_9_10_11	2025	STECF	No
Western Med.	2024	HKE_1_5_6_7	2025	STECF	No
Western Med.	2024	MUR_5	2025	STECF	No
Western Med.	2023	MUR_6	2024	GFCM	Yes
Western Med.	2022	MUT_10	2023	GFCM	No
Western Med.	2024	MUT_6	2025	STECF	No
Western Med.	2023	MUT_7	2024	GFCM	No
Western Med.	2024	MUT_9	2025	STECF	No
Western Med.	2024	NEP_11	2025	STECF	No
Western Med.	2023	NEP_5	2024	GFCM	No
Western Med.	2024	NEP_6	2025	STECF	No
Western Med.	2024	NEP_9	2025	STECF	No
Western Med.	2023	PIL_1	2024	GFCM	Yes
Western Med.	2023	PIL_6	2024	GFCM	No
Western Med.	2023	PIL_7	2024	GFCM	No
Western Med.	2023	PIL_9_10	2024	GFCM	Yes
Western Med.	2024	SBR_1_3	2025	GFCM	No
Western Med.	2023	WHB_6	2024	GFCM	No

Source: STECF and GFCM data.

4.2 Indicators of management performance

4.2.1 Number of stocks by year where fishing mortality is above/below F_{MSY}

Figure 21. Number of stocks by year for which fishing mortality (F) was above/below F_{MSY} (MEDI1-2).



Source: own elaborations based on GFCM and STECF data.

Table 20. Number of stocks for which fishing mortality exceeded and did not exceed F_{MSY} .

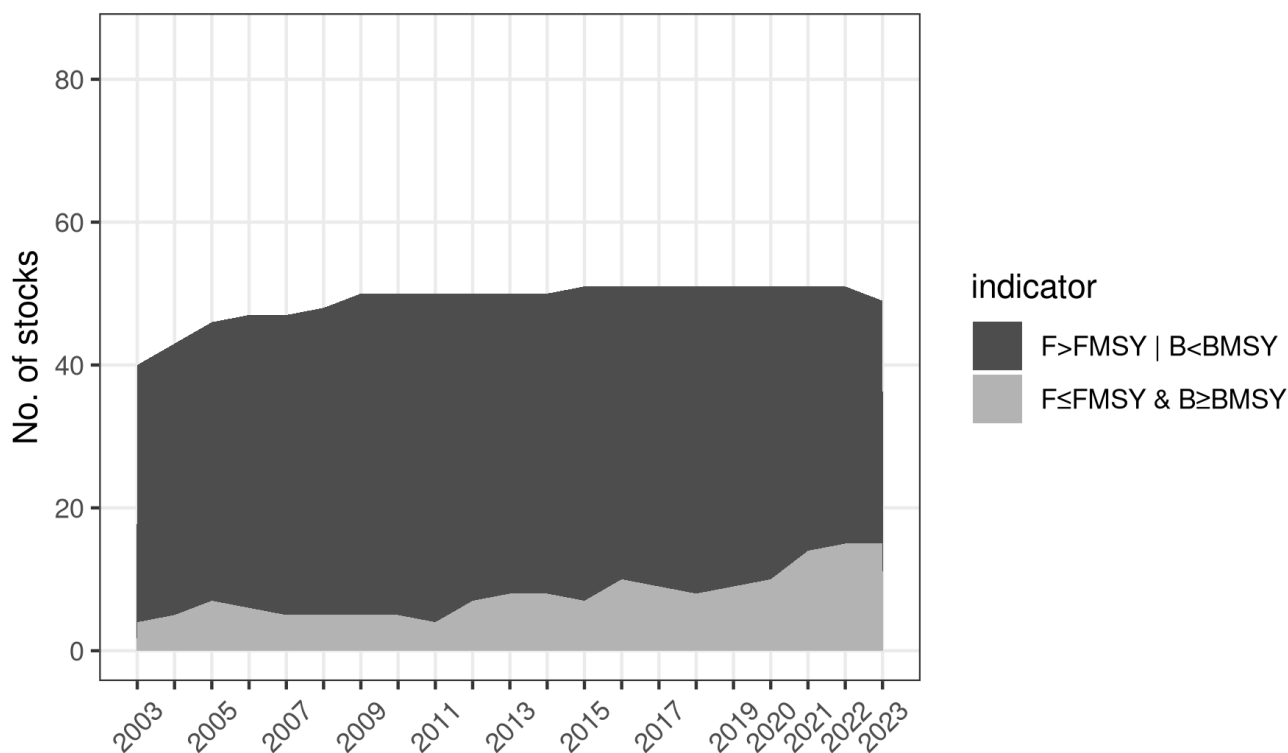
Status	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
$F > F_{MSY}$	35	39	44	48	49	46	52	52	50	48	49
$F \leq F_{MSY}$	13	14	14	11	10	15	14	14	16	18	17

Percentiles	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$F > F_{MSY}$	48	53	48	47	50	49	42	41	35	31	-
$F \leq F_{MSY}$	18	15	20	21	18	19	26	27	33	35	-

Source: own elaborations based on GFCM and STECF data.

4.2.2 Number of stocks with $F > F_{MSY}$ or $B < B_{MSY}$ and number of stocks with $F \leq F_{MSY}$ and $B \geq B_{MSY}$

Figure 22. Number of stocks with $F > F_{MSY}$ or $B < B_{MSY}$ and number of stocks with $F \leq F_{MSY}$ and $B \geq B_{MSY}$ in the Mediterranean and Black Seas (MEDI5-6).



Source: own elaborations based on GFCM and STECF data.

Table 21. Number of stocks with $F > F_{MSY}$ or $B < B_{MSY}$ and number of stocks with $F \leq F_{MSY}$ and $B \geq B_{MSY}$.

Status	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
$F > F_{MSY}$ or $B < B_{MSY}$	36	38	39	41	42	43	45	45	46	43	42
$F \leq F_{MSY}$ and $B \geq B_{MSY}$	4	5	7	6	5	5	5	5	4	7	8

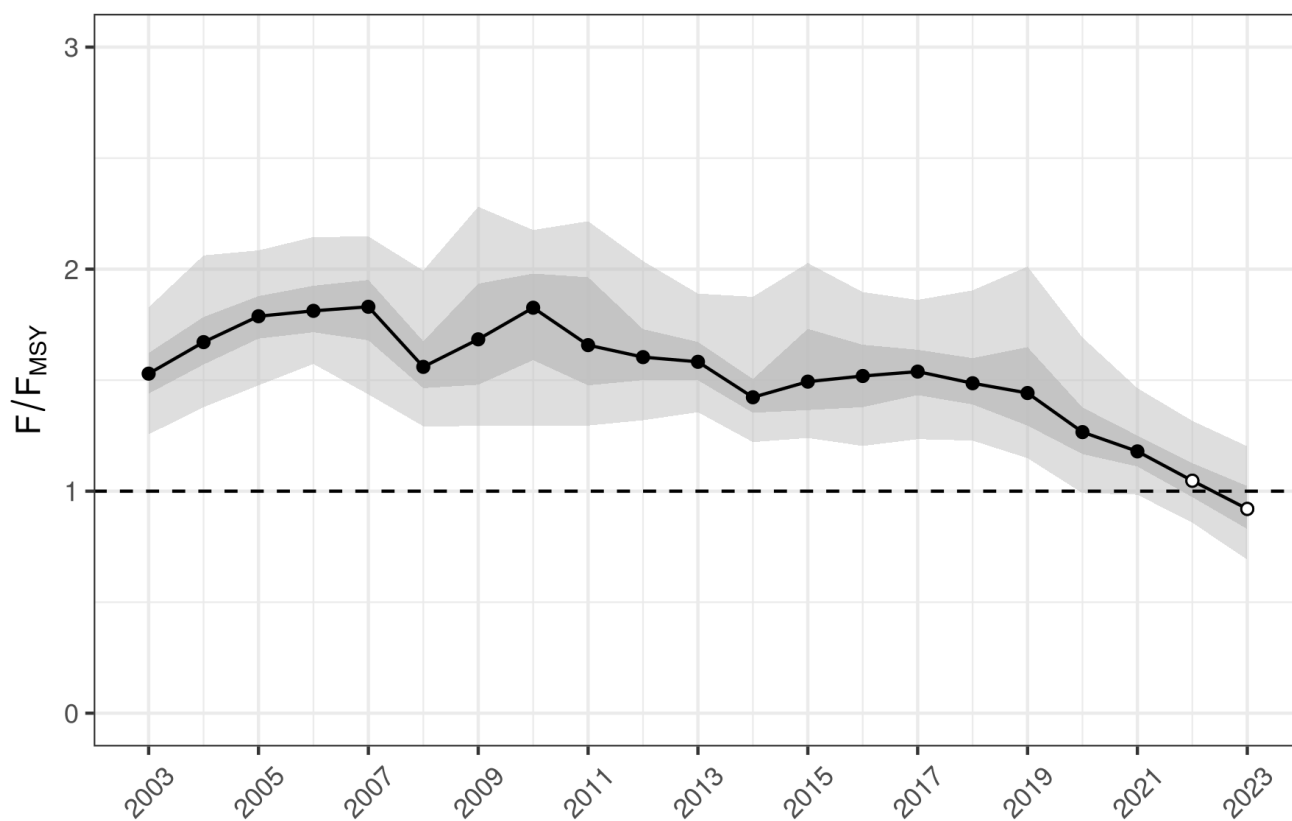
Percentiles	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$F > F_{MSY}$ or $B < B_{MSY}$	42	44	41	42	43	42	41	37	36	34	-
$F \leq F_{MSY}$ and $B \geq B_{MSY}$	8	7	10	9	8	9	10	14	15	16	-

Source: own elaborations based on GFCM and STECF data.

4.2.4 *Trend in F/F_{MSY}*

This indicator was computed using a state-space model as implemented in the R package JARA (Winker et al, 2019; and see Gras et al., 2026 for additional details on the settings). Model outputs for F/F_{MSY} are displayed in Figure 23 and Table 22. The middle point value increased from 1.53 to 1.83 over the years 2003-2007. In 2008, it dropped to 1.56 to reach again 1.83 in 2010. From 2011 to the end of the time series, the F/F_{MSY} estimates have decreased to reach 0.92. It is to be noted that although the middle point of this indicator reaches levels <1 , the upper level of the confidence interval remains >1 . The declining trend has been steeper in the last four years (2019-2023), with F/F_{MSY} decreasing from 1.44 to 0.92. Regional indicators (Table 23) also show a reduction in exploitation rates from 2019 to 2023 across all ecoregions. The trend observed this year in the Black Sea exhibits greater volatility than in previous years. This is likely driven by two factors: the change of the computation of the joint indicator from a geometric mean to median, which reduces the smoothing and to the fact that three of the seven assessed stocks rely on shorter time series. For two of these stocks, the data series begins in 2015 rather than 2003, while a third stock has data only from 2009 onwards (see Figure 24 for details).

Figure 23. Trend in F/F_{MSY} (based on 67 stocks). Dark grey zone shows the 50% confidence interval; the light grey zone shows the 95% confidence interval. The white dot indicates that a one year forecast was used for at least one stock. The dashed line displayed at 1 does not represent a management target for the CFP.



Source: own elaborations based on GFCM and STECF data.

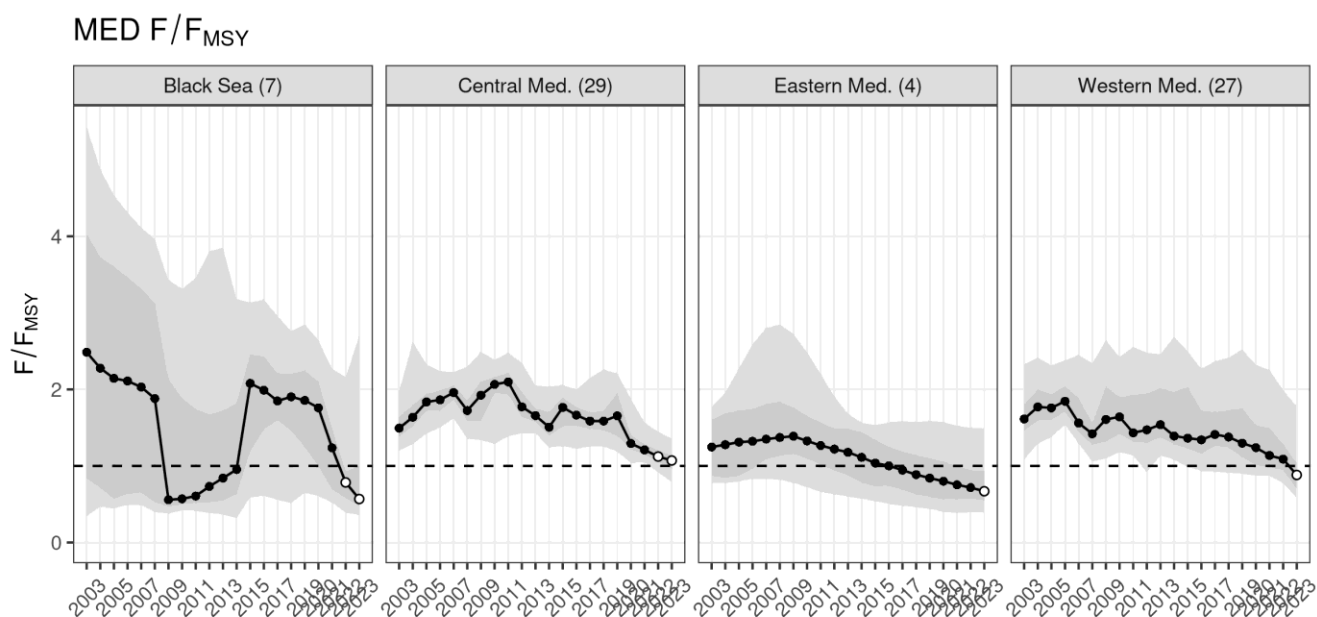
Table 22. Percentiles for F/F_{MSY} .

Percentiles	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2.5%	1.26	1.38	1.48	1.57	1.44	1.29	1.29	1.29	1.30	1.32	1.36
25%	1.44	1.57	1.69	1.72	1.68	1.46	1.48	1.59	1.48	1.50	1.50
50%	1.53	1.67	1.79	1.81	1.83	1.56	1.68	1.83	1.66	1.60	1.58
75%	1.62	1.78	1.88	1.93	1.95	1.67	1.93	1.98	1.96	1.73	1.67
97.5%	1.83	2.06	2.08	2.14	2.15	1.99	2.28	2.18	2.22	2.04	1.89

Percentiles	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
2.5%	1.22	1.24	1.20	1.23	1.23	1.15	0.99	0.98	0.86	0.69	-
25%	1.35	1.37	1.38	1.43	1.39	1.30	1.17	1.11	0.97	0.83	-
50%	1.42	1.49	1.52	1.54	1.49	1.44	1.27	1.18	1.05	0.92	-
75%	1.50	1.73	1.66	1.64	1.60	1.65	1.38	1.25	1.13	1.02	-
97.5%	1.88	2.03	1.90	1.86	1.90	2.01	1.69	1.46	1.32	1.20	-

Source: own elaborations based on GFCM and STECF data.

Figure 24. Trend in F/F_{MSY} by ecoregion. The number of stocks in each ecoregion are shown between parentheses. The dashed line displayed at 1 does not represent a management target for the CFP.



Source: own elaborations based on GFCM and STECF data.

Table 23. F/F_{MSY} by ecoregion.

EcoRegion	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Black Sea	2.49	2.28	2.14	2.11	2.03	1.88	0.56	0.57	0.61	0.73	0.84
Central Med.	1.49	1.64	1.84	1.86	1.96	1.72	1.92	2.06	2.10	1.77	1.66
Eastern Med.	1.25	1.28	1.31	1.32	1.35	1.37	1.39	1.33	1.27	1.22	1.18
Western Med.	1.61	1.77	1.76	1.84	1.56	1.42	1.61	1.64	1.43	1.47	1.54

EcoRegion	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Black Sea	0.95	2.08	1.99	1.85	1.90	1.86	1.76	1.24	0.78	0.57	-
Central Med.	1.51	1.76	1.66	1.59	1.59	1.65	1.29	1.21	1.12	1.07	-
Eastern Med.	1.11	1.04	1.00	0.94	0.89	0.84	0.80	0.75	0.72	0.67	-
Western Med.	1.39	1.36	1.34	1.41	1.38	1.30	1.24	1.14	1.09	0.88	-

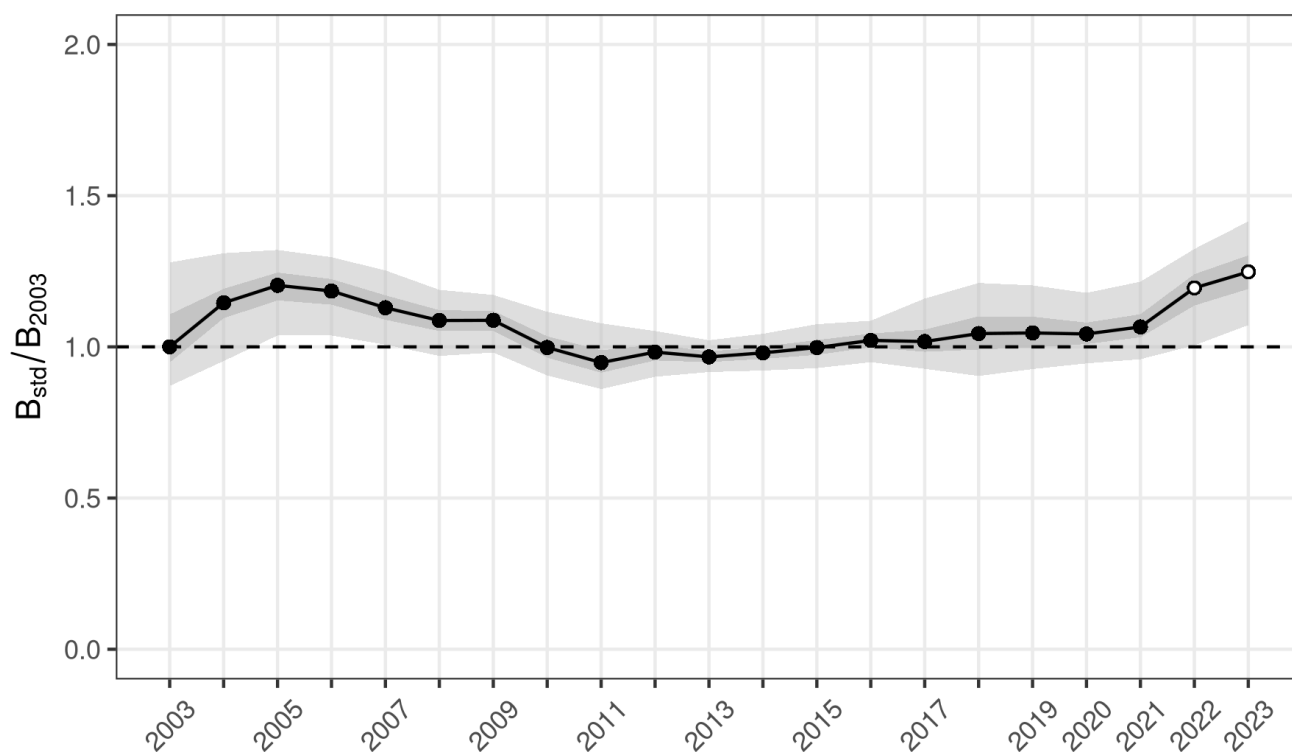
Source: own elaborations based on GFCM and STECF data.

4.2.5 *Trend in Standardized biomass (relative to Standardized biomass in 2003)*

This indicator was also computed using a state-space model as implemented in JARA (Winker et al., 2019; see also Gras et al., 2026 for additional details on the settings used). The biomass estimate exhibits an initial increase peaking in 2005 (1.20), followed by a decline until 2011. This decreasing trend is likely due to the inclusion of stocks having both small SSB estimates and time series starting in 2009 (see Figure 20 for details). From 2009 to 2019, the modeled ratio B_{std}/B_{2003} is relatively stable, while since 2020 shows an increasing trend from 1.04 to 1.25 in 2023, which is the maximum value across the time series (Figure 25 and Table 24).

The trends estimated by ecoregion (Figure 26 and Table 25) vary across regions. In the Black Sea, the indicator remains relatively stable and around 1 for the first period of the time series, until 2008. In 2009, the introduction of SPR_29 drives the indicator up to 1.14, and the next year to 1.19 which is the peak of the time series; subsequently, a decline is observed until 2018 where the indicator reaches a value of 0.74. In 2015 MUT_29 and WHG_29 were introduced and the indicator follows an increasing trend until the end of the time series being above 1 for the years 2022 and 2023. The Central Mediterranean remains below the reference level for the greater part of the time series (2007 - 2021); exhibiting a declining trend until 2014 where the indicator reaches its lowest point of 0.78; from 2015 onward the indicator increases, reaching a value of 1.07 in 2023. For the Eastern Mediterranean, the indicator remained constantly above the base line, with an exception of 3 years (2010-2012), followed by a substantial increase until its peak in 2019. Over the remaining years, the indicator exhibited high levels with a value of 1.41 in 2023. Meanwhile in the Western Mediterranean, the indicator remained constantly above the reference level, peaking in 2005 and 2017, with its final value in 2023 of 1.27 being among the highest ones.

Figure 25. Trend in SSB relative to 2003 (based on 68 stocks). Dark grey zone shows the 50% confidence interval; the light grey zone shows the 95% confidence interval. The white dot indicates that a one year forecast was used for at least one stock. The dashed line displayed at 1 does not represent a management target for the CFP.



Source: own elaborations based on GFCM and STECF data.

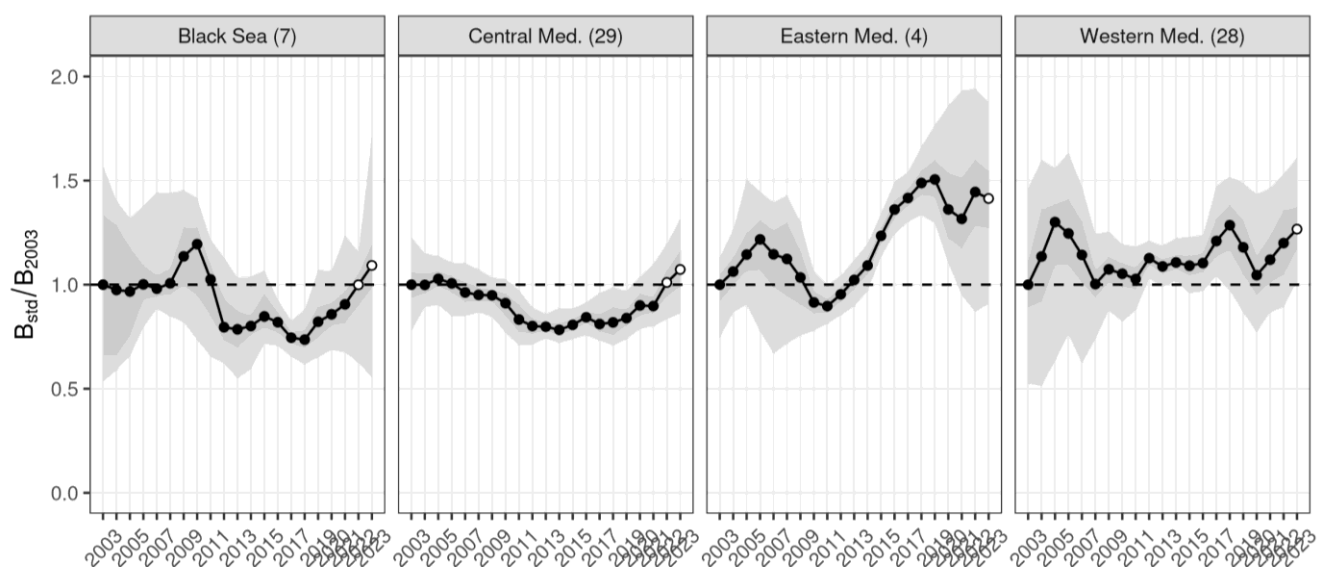
Table 24. Percentiles for SSB relative to 2003.

Percentiles	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2.5%	0.87	0.95	1.04	1.04	1.01	0.97	0.98	0.91	0.86	0.90	0.92
25%	0.95	1.09	1.15	1.14	1.09	1.05	1.05	0.96	0.91	0.96	0.95
50%	1.00	1.15	1.20	1.18	1.13	1.09	1.09	1.00	0.95	0.98	0.97
75%	1.11	1.19	1.25	1.22	1.17	1.12	1.12	1.03	0.99	1.01	0.98
97.5%	1.28	1.31	1.32	1.30	1.25	1.19	1.17	1.12	1.08	1.05	1.02

Percentiles	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
2.5%	0.92	0.93	0.95	0.93	0.90	0.93	0.95	0.96	1.01	1.07	-
25%	0.96	0.97	1.00	0.98	0.99	1.00	1.01	1.03	1.14	1.19	-
50%	0.98	1.00	1.02	1.02	1.04	1.05	1.04	1.07	1.19	1.25	-
75%	1.00	1.02	1.04	1.06	1.10	1.10	1.08	1.11	1.24	1.30	-
97.5%	1.04	1.07	1.09	1.16	1.21	1.20	1.18	1.22	1.32	1.41	-

Source: own elaborations based on GFCM and STECF data.

Figure 26. Trend in SSB relative to 2003 by ecoregion. The number of stocks in each ecoregion are shown in parentheses. The dashed line displayed at 1 does not represent a management target for the CFP.



Source: own elaborations based on GFCM and STECF data.

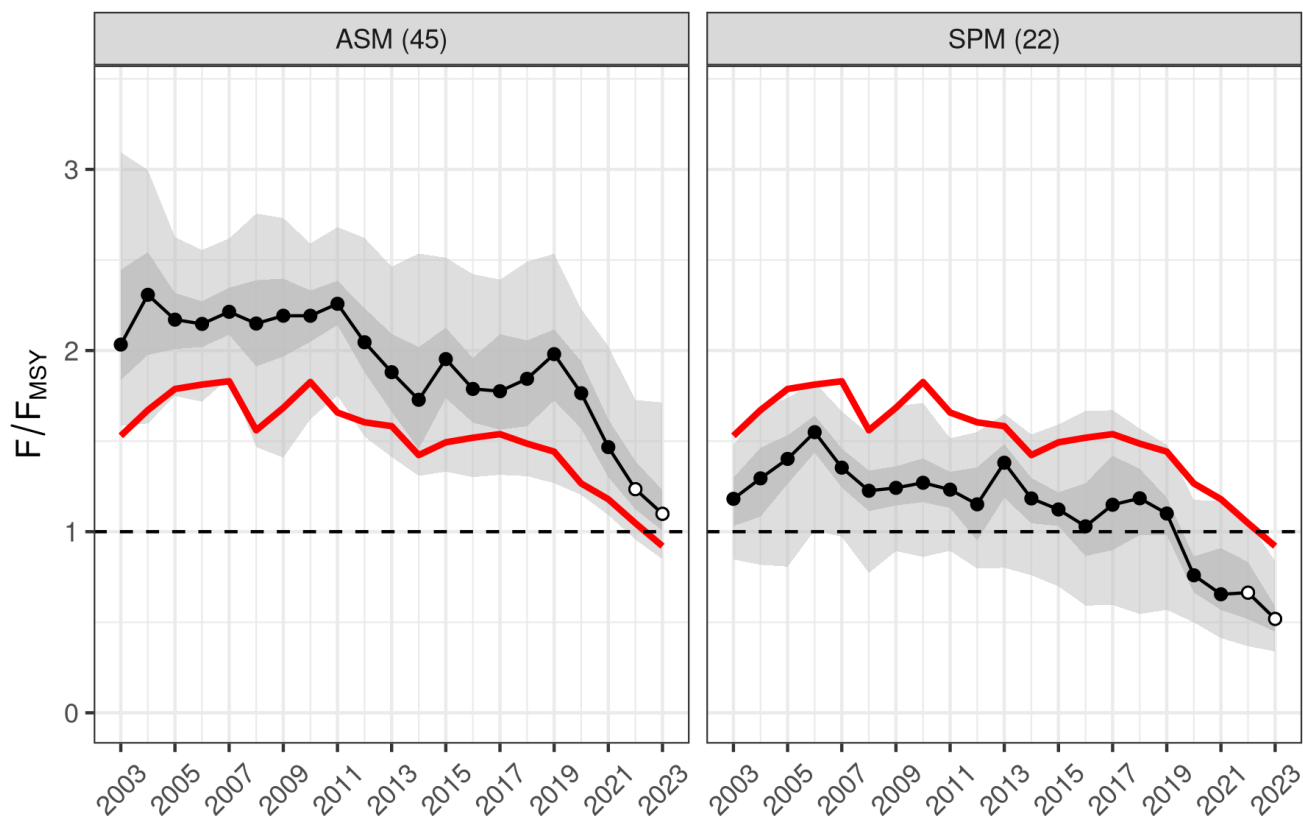
Table 25. SSB relative to 2003 by ecoregion.

EcoRegion	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Black Sea	1.00	0.97	0.97	1.00	0.98	1.01	1.14	1.19	1.03	0.80	0.79
Central Med.	1.00	1.00	1.03	1.01	0.96	0.95	0.95	0.91	0.83	0.80	0.80
Eastern Med.	1.00	1.06	1.14	1.22	1.15	1.12	1.03	0.91	0.90	0.95	1.02
Western Med.	1.00	1.14	1.30	1.25	1.14	1.00	1.07	1.05	1.03	1.13	1.09

EcoRegion	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Black Sea	0.80	0.85	0.82	0.75	0.74	0.82	0.86	0.91	1.00	1.09	-
Central Med.	0.78	0.81	0.84	0.81	0.82	0.84	0.90	0.90	1.01	1.07	-
Eastern Med.	1.09	1.23	1.36	1.42	1.49	1.51	1.36	1.32	1.45	1.41	-
Western Med.	1.11	1.09	1.10	1.21	1.29	1.18	1.05	1.12	1.20	1.27	-

Source: own elaborations based on GFCM and STECF data.

Figure 27. Trend in F/F_{MSY} for Aged-Structured Models (ASM) and Surplus Production Models and (SPM). The number of stocks assessed with each model type is shown in the parenthesis. The white dots indicate that a one year forecast was used for at least one stock. The red line represents the aggregated trend across all stocks. The dashed line displayed at 1 does not represent a management target for the CFP.



Source: own elaborations based on GFCM and STECF data.

3.3.1 Trend in Selectivity for the NEA stocks

Overall, the NEA selectivity indicator showed a decreasing trend with a reduction of the F_{juv}/F_{adu} by 11%. However, over the period 2003-2010 the indicator has slightly increased to reach its maximum estimate at 1.07. It then followed a decreasing trend to its minimum value reached in 2017 (0.78). from 2017 to 2024 it increased to reach 0.89. It is to be noted that whg.27.6a exhibited relatively high ratio values in the middle of the time series peaking at 3.

Figure 28. Median trend of selectivity indicator ISEL (black line) for NEA stocks. The grey lines represent the indicator of each stock (unstandardized). Dashed black line is the reference line at 1.

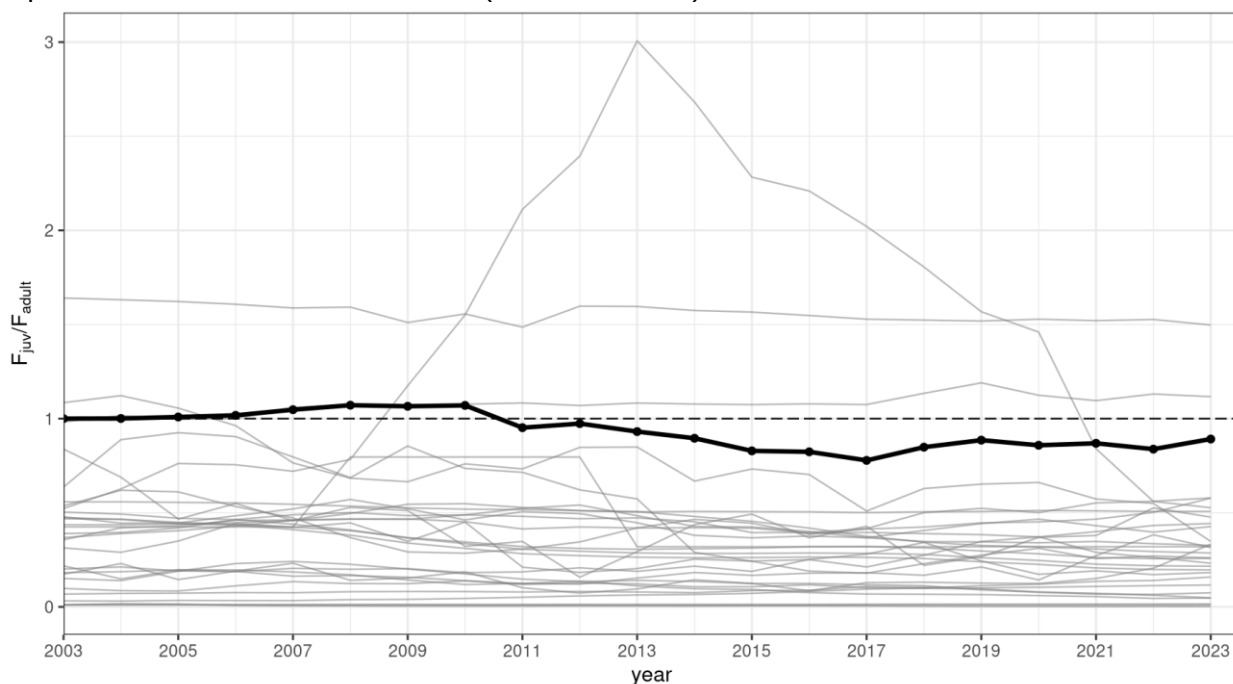


Table 26. Median values of the selectivity indicator for the NEA rescaled to the point estimate 2003.

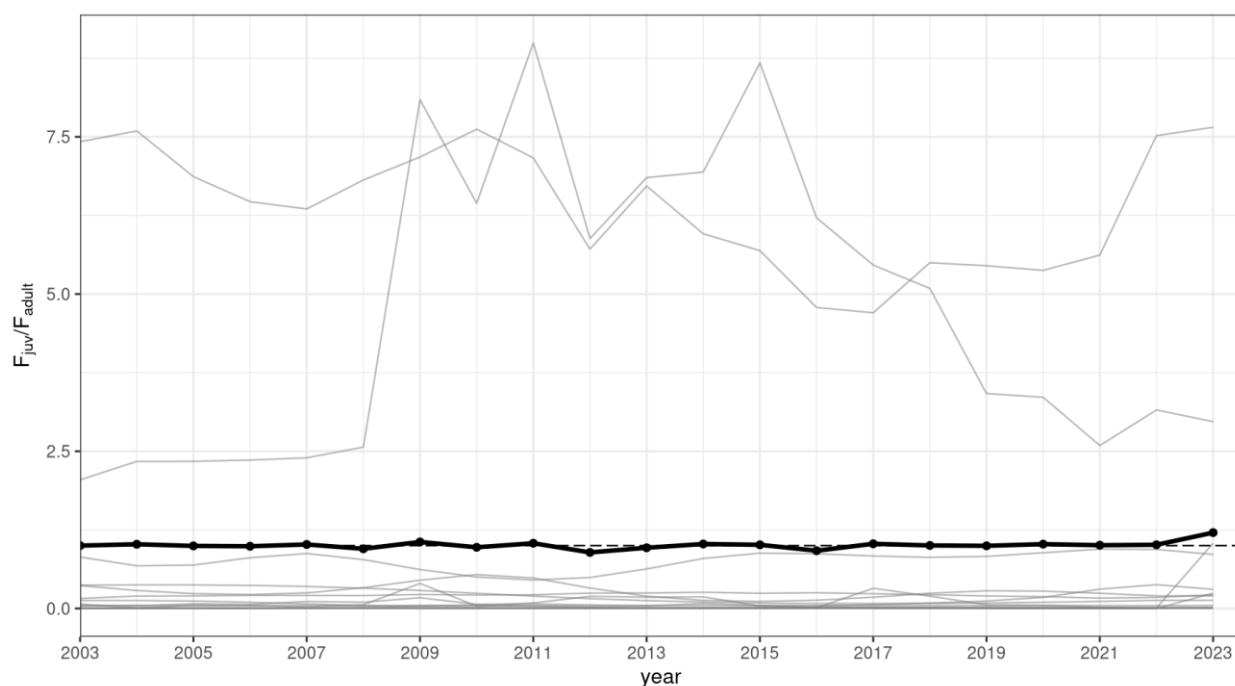
Region	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
NEA	1.000	1.001	1.009	1.018	1.047	1.071	1.066	1.070	0.952	0.974	0.931

Regions	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
NEA	0.896	0.829	0.824	0.778	0.848	0.886	0.858	0.869	0.838	0.892	0.893

4.2.6 Trend in Selectivity

The MED trend remains stable and close to 1 with the last data point driven mainly by Blackspot seabream in Alboran Sea (SBR_1_3). Hake in the Strait of Sicily (HKE_12_13_14_15_16) and Hake in the Adriatic Sea (HKE_17_18) have a very high ratio of $F_{\text{juvenile}}/F_{\text{adult}}$ due to the underlying assumptions of the stock assessment. These assessments assume a dome shape selectivity, mainly targeting juvenile hake while the assessment assumes the larger individuals are almost not affected by the fishery.

Figure 29. Median trend of selectivity indicator ISEL (dashed blue line) for MED stocks. The grey lines represent the indicator of each stock (unstandardized). Dashed black line is the reference line at 1.



Source: own elaborations based on GFCM and STECF data.

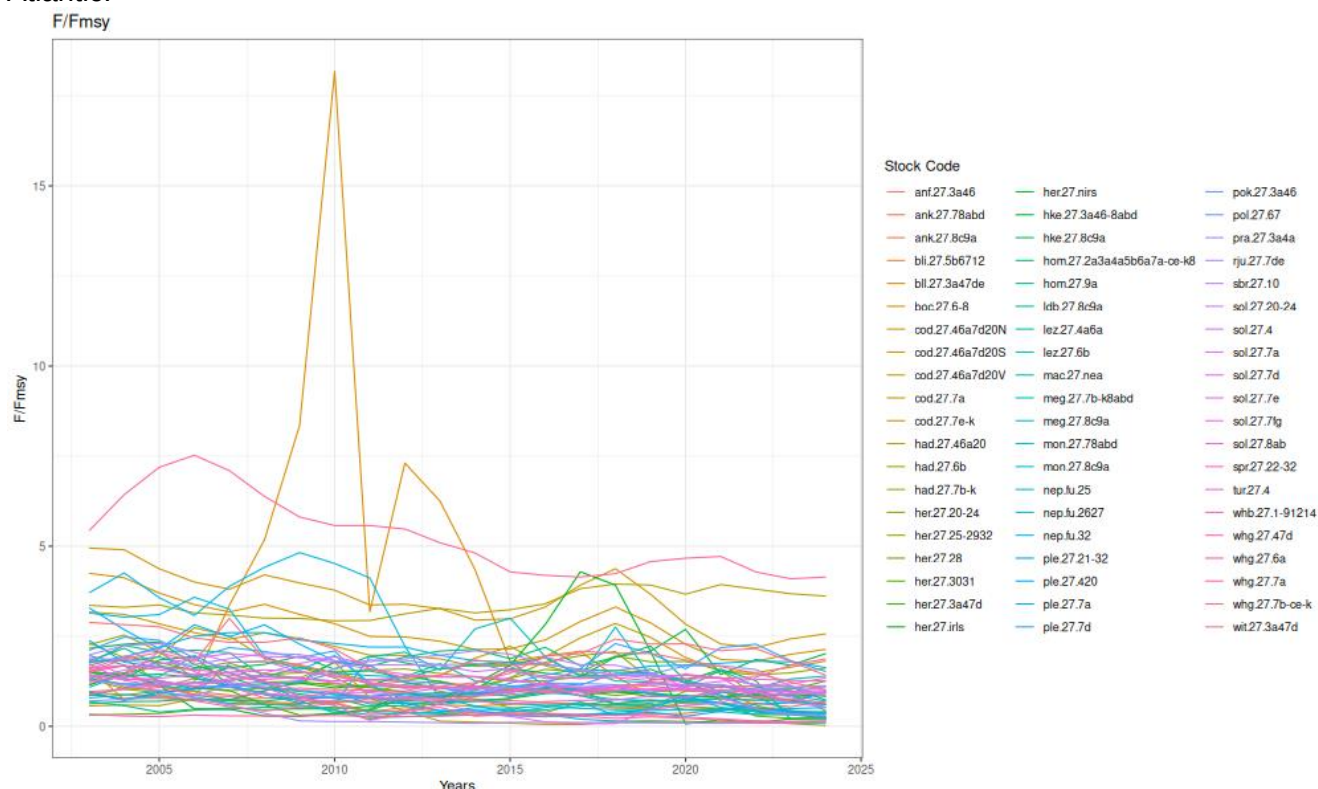
Table 27. Median values of the selectivity indicator for the MED stocks combined.

Regions	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
MED	1.000	1.022	0.995	0.990	1.018	0.949	1.058	0.973	1.038	0.892	0.966
Regions	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
MED	1.026	1.013	0.919	1.029	1.003	0.997	1.023	1.006	1.013	1.207	-

5 European Union Waters

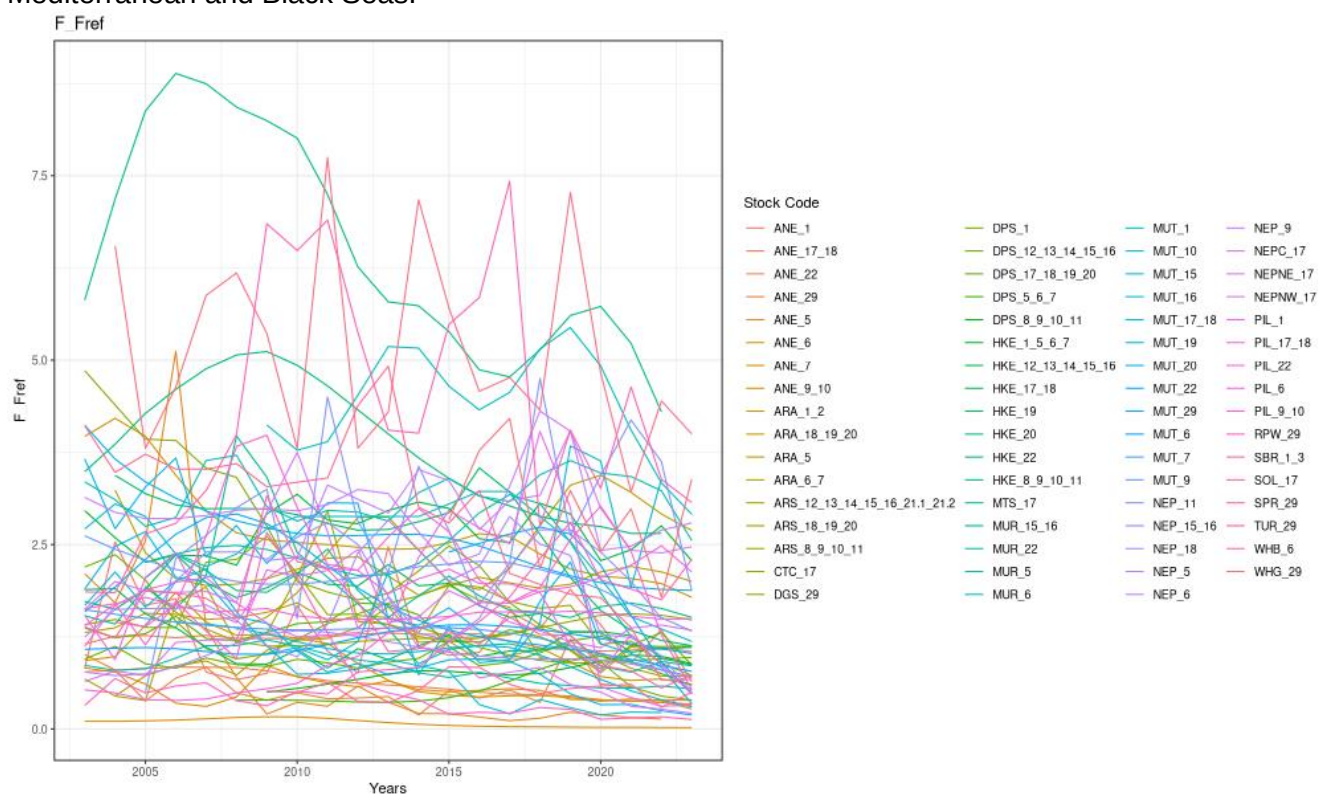
Since 2021, STECF has been requested to provide two indicators of performance for the CFP at European level (STECF, 2021a). The same model as in the individual areas was applied to the Northeast Atlantic and the Mediterranean and Black Seas combined to provide estimates of F/F_{MSY} and B/B_{2003} (indicators 7 and 8 of the protocol). This year and following the request from the STECF (STECF, 2025a), an indicator of selectivity at EU level has been included in this section. For the purpose of deriving these indicators, the Northeast Atlantic and the Mediterranean and Black Seas datasets were pooled together and used as input data (Figure 30, Figure 31, Figure 32 and Figure 33). The time window was reduced by one year (2003-2023) in comparison to the Northeast Atlantic analysis as the Mediterranean and Black Seas dataset stops in 2023.

Figure 30. Individual trajectories of all stocks used to estimate the F/F_{MSY} indicator for the Northeast Atlantic.



Source: own elaborations based on ICES data.

Figure 31. Individual trajectories of all stocks used to estimate the F/F_{MSY} indicator for the Mediterranean and Black Seas.



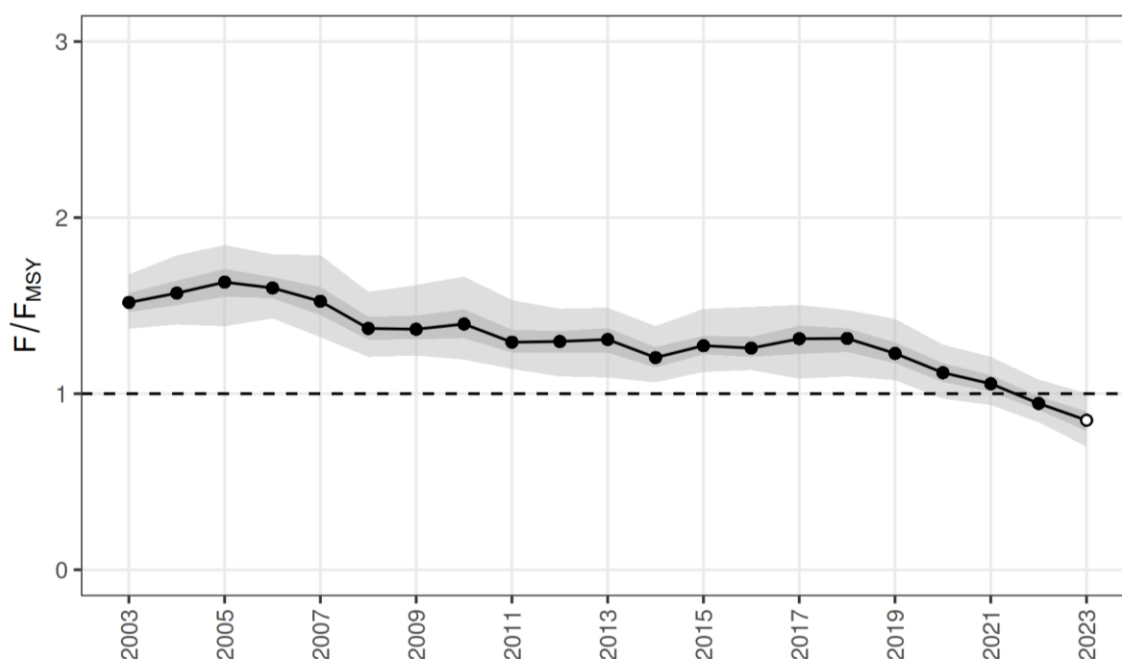
Source: own elaborations based on GFCM and STECF data.

5.1 Indicators of management performance

5.1.1 Trend in F/F_{MSY}

Trends in F/F_{MSY} in EU Waters (FAO 27 and 37) exhibited a decreasing trend from 2003 to 2023 (Figure 32) from 1.52 to 0.85 (Table 28). From 2003 to 2018, although there is a general decreasing trend to reach 1.31, the trajectory exhibited variable trends (decreasing, stable or increasing). Over the period 2018-2023, the indicator decreased linearly to reach 0.85. The confidence interval was >1 from 2003-2019 and overlapping with 1 for the rest of the studied period.

Figure 32. Trends in F/F_{MSY} (based on 127 stocks, 60 from the Northeast Atlantic and 67 from the Mediterranean and Black Seas). The dark grey zone shows the 50% confidence interval; the light grey zone shows the 95% confidence interval. The white dot indicates that a one year forecast was used for at least one stock.



Source: own elaborations based on ICES, GFCM and STECF data.

Table 28. Percentiles of F/F_{MSY} by year.

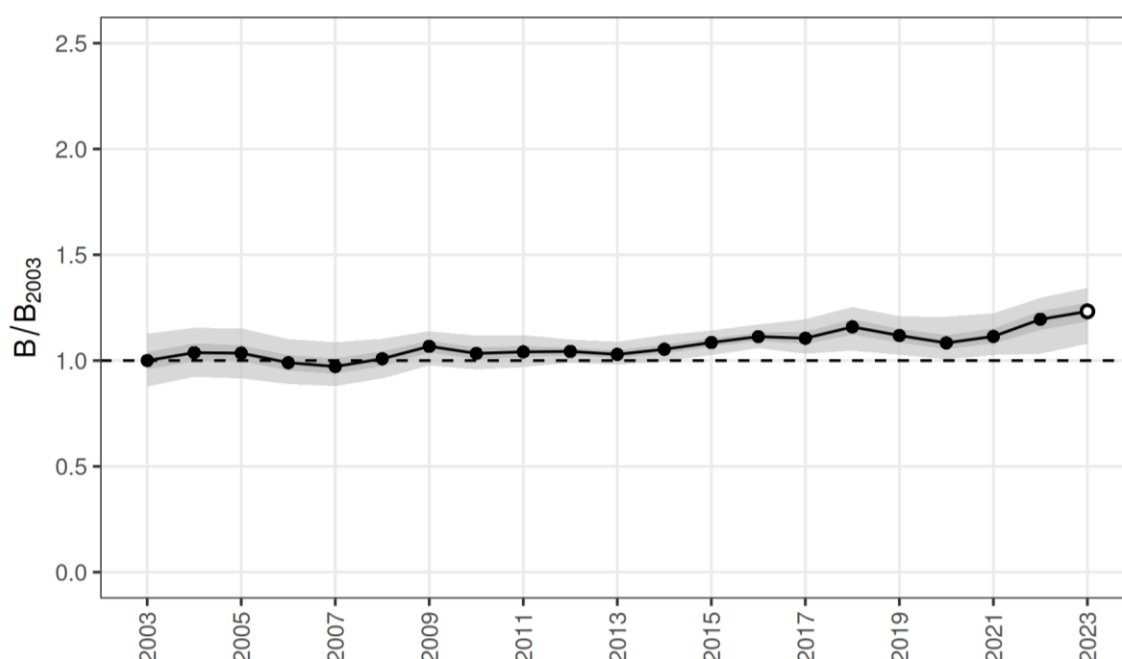
Percentiles	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2.5%	1.37	1.39	1.38	1.43	1.32	1.21	1.22	1.19	1.14	1.10	1.09
25%	1.46	1.50	1.55	1.54	1.45	1.31	1.31	1.32	1.23	1.23	1.23
50%	1.52	1.57	1.63	1.60	1.52	1.37	1.37	1.40	1.29	1.30	1.31
75%	1.57	1.64	1.71	1.66	1.61	1.44	1.44	1.48	1.36	1.36	1.37
97.5%	1.68	1.79	1.84	1.79	1.79	1.58	1.62	1.67	1.53	1.48	1.49
Percentiles	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
2.5%	1.06	1.12	1.13	1.09	1.10	1.08	0.97	0.94	0.84	0.70	-
25%	1.15	1.22	1.21	1.23	1.24	1.17	1.07	1.01	0.91	0.79	-
50%	1.21	1.27	1.26	1.31	1.31	1.23	1.12	1.06	0.94	0.85	-
75%	1.26	1.33	1.32	1.39	1.37	1.29	1.17	1.11	0.99	0.90	-
97.5%	1.38	1.48	1.49	1.50	1.47	1.42	1.28	1.21	1.08	1.00	-

Source: own elaborations based on ICES, GFCM and STECF data.

5.1.2 Trend in biomass

The trend in B/B_{2003} was modelled using as input data the category 1 and 2 stock assessment of the NEA as well as the Mediterranean and Black Sea assessments for which an absolute estimation of the biomass was available. Both datasets were pooled together before running the model. The ratio B/B_{2003} remained stable around 1 over the first 10 years of the studied period and then increased to reach 1.23 in 2023 (Figure 33 and Table 29). The confidence interval was above 1 from 2014-2023.

Figure 33. Trends in B/B_{2003} (based on 126 stocks, 58 from the Northeast Atlantic and 68 from the Mediterranean and Black Seas). The dark grey zone shows the 50% confidence interval; the light grey zone shows the 95% confidence interval. The white dot indicates that a one-year forecast was used for at least one stock.



Source: own elaborations based on ICES, GFCM and STECF data.

Table 29. Percentiles of SSB relative to 2003.

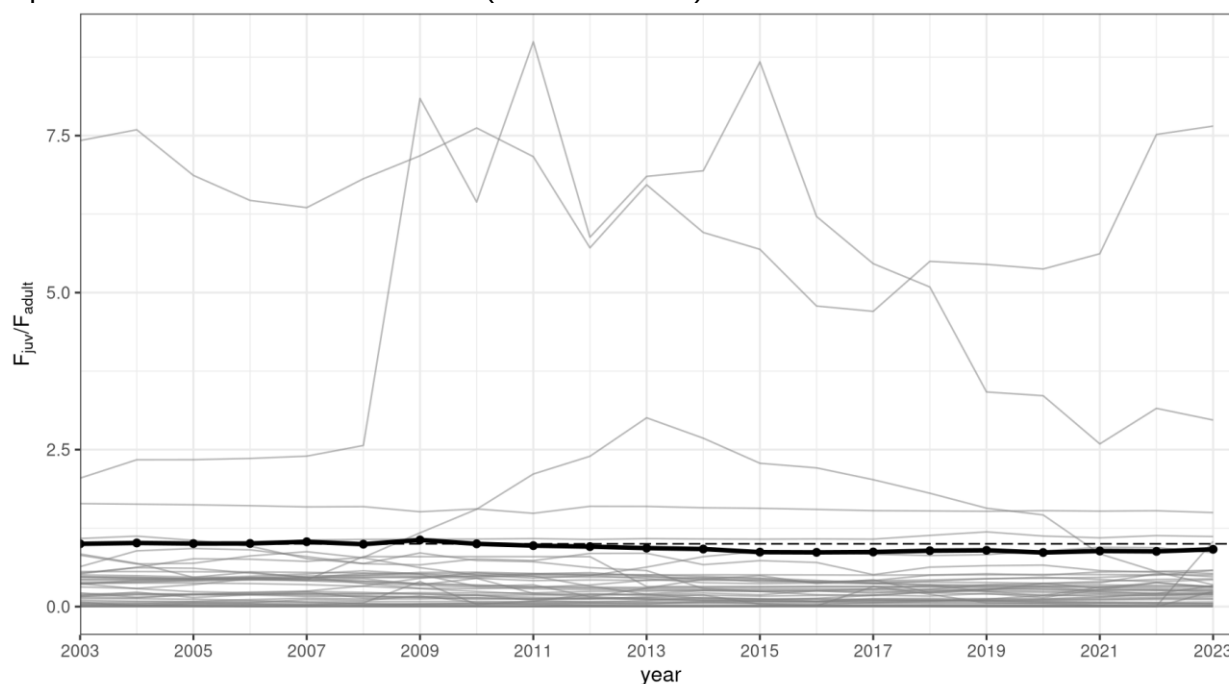
Percentiles	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
2.5%	0.88	0.92	0.92	0.89	0.88	0.92	0.98	0.96	0.97	0.99	0.98
25%	0.96	1.00	1.00	0.95	0.94	0.97	1.04	1.01	1.01	1.03	1.01
50%	1.00	1.04	1.04	0.99	0.97	1.01	1.07	1.03	1.04	1.04	1.03
75%	1.04	1.08	1.07	1.03	1.01	1.04	1.09	1.06	1.07	1.06	1.05
97.5%	1.13	1.15	1.15	1.10	1.09	1.10	1.14	1.12	1.12	1.10	1.09
Percentiles	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
2.5%	1.00	1.03	1.06	1.03	1.05	1.03	1.01	1.03	1.03	1.08	-
25%	1.03	1.07	1.09	1.08	1.12	1.09	1.05	1.08	1.14	1.19	-
50%	1.05	1.09	1.11	1.11	1.16	1.12	1.08	1.11	1.19	1.23	-
75%	1.08	1.10	1.13	1.14	1.19	1.15	1.12	1.15	1.23	1.27	-
97.5%	1.12	1.14	1.17	1.19	1.25	1.21	1.21	1.22	1.30	1.34	-

Source: own elaborations based on ICES, GFCM and STECF data.

5.1.3 Trend in selectivity

Overall, the selectivity indicator for EU Waters exhibited a decreasing trend over the studied period reaching the final value of 0.91 in 2023. In a first period (2003-2009), the indicator increased by 3% and then decreased until 2023 with a minimum estimate reached in 2020 (0.86).

Figure 34. Median trend of selectivity indicator I_{SEL} (dashed blue line) for EU stocks. The grey lines represent the indicator of each stock (unstandardized). Dashed black line is the reference line at 1.



Source: own elaborations based on ICES, GFCM and STECF data.

Table 30. Median values of the selectivity indicator for the EUW rescaled to the point estimate 2003.

Region	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
EU waters	1.000	1.014	1.004	1.006	1.033	0.994	1.062	1.000	0.971	0.956	0.932

Region	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
EU waters	0.917	0.868	0.864	0.870	0.890	0.897	0.862	0.886	0.880	0.913	-

6 Status across all stocks

Table 31. Stock status for all stocks in the analysis. Columns refer to ecoregion, last year for which the estimate was obtained, stock code description, value for F/F_{MSY} ratio (F ind), if F is lower than F_{MSY} (F Status), if the stock is inside safe biological limits (SBL) (for both indicators F_{PA} and B_{PA}), and if the stock has F below F_{MSY} and SSB above B_{MSY} ($F \leq F_{MSY}$ and $B \geq B_{MSY}$). Stocks managed under escapement strategies do not have an estimate of F/F_{MSY} , their F status is calculated as $MSYB_{escapement}$ over the stock size. Symbol 'Y' stands for 'Yes', 'N' for No and '-' stands for unknown due to missing information.

Region	EcoRegion	Year	Stock	Description	F ind	F status	SBL	CFP
FAO27	Azores	2024	sbr.27.10	Blackspot seabream (<i>Pagellus bogaraveo</i>) in Subarea 10 (Azores grounds)	1.13	N	-	N
FAO27	Baltic Sea	2024	her.27.20-24	Herring (<i>Clupea harengus</i>) in subdivisions 20-24; spring spawners (Skagerrak, Kattegat, western Baltic)	0.23	Y	N	-
FAO27	Baltic Sea	2024	her.27.25-2932	Herring (<i>Clupea harengus</i>) in subdivisions 25-29 and 32. excluding the Gulf of Riga (central Baltic Sea)	0.43	Y	-	N
FAO27	Baltic Sea	2024	her.27.28	Herring (<i>Clupea harengus</i>) in Subdivision 28.1 (Gulf of Riga)	0.83	Y	Y	-
FAO27	Baltic Sea	2024	her.27.3031	Herring (<i>Clupea harengus</i>) in subdivisions 30 and 31 (Gulf of Bothnia)	0.60	Y	Y	N
FAO27	Baltic Sea	2024	ple.27.21-32	Plaice (<i>Pleuronectes platessa</i>) in subdivisions 21-32 (Baltic Sea)	0.27	Y	Y	-
FAO27	Baltic Sea	2024	sol.27.20-24	Sole (<i>Solea solea</i>) in subdivisions 20-24 (Skagerrak. Kattegat, western Baltic Sea)	0.96	Y	N	-
FAO27	Baltic Sea	2024	spr.27.22-32	Sprat (<i>Sprattus sprattus</i>) in subdivisions 22-32 (Baltic Sea)	1.34	N	N	-
FAO27	BoBiscay & Iberia	2024	ane.27.8	Anchovy (<i>Engraulis encrasicolus</i>) in Subarea 8 (Bay of Biscay)	-	Y	-	-
FAO27	BoBiscay & Iberia	2024	ank.27.78abd	Black-bellied anglerfish (<i>Lophius budegassa</i>) in Subarea 7 and in divisions 8.a, 8.b, and 8.d (Celtic Seas, Bay of Biscay)	0.71	Y	Y	-

FAO27	BoBiscay & Iberia	2024	ank.27.8c9a	Black-bellied anglerfish (<i>Lophius budegassa</i>) in divisions 8.c and 9.a (Cantabrian Sea, Atlantic Iberian waters)	1.12	N	N	-
FAO27	BoBiscay & Iberia	2024	hke.27.8c9a	Hake (<i>Merluccius merluccius</i>) in divisions 8.c and 9.a; Southern stock (Cantabrian Sea and Atlantic Iberian waters)	0.72	Y	Y	-
FAO27	BoBiscay & Iberia	2024	hom.27.9a	Horse mackerel (<i>Trachurus trachurus</i>) in Division 9.a (Atlantic Iberian waters)	0.37	Y	Y	-
FAO27	BoBiscay & Iberia	2024	ldb.27.8c9a	Four-spot megrim (<i>Lepidorhombus boschii</i>) in divisions 8.c and 9.a (southern Bay of Biscay and Atlantic Iberian waters East)	0.37	Y	Y	-
FAO27	BoBiscay & Iberia	2024	meg.27.7b-k8abd	Megrim (<i>Lepidorhombus whiffiagonis</i>) in divisions 7.b-k, 8.a, 8.b, and 8.d (west and southwest of Ireland, Bay of Biscay)	0.71	Y	Y	-
FAO27	BoBiscay & Iberia	2024	meg.27.8c9a	Megrim (<i>Lepidorhombus whiffiagonis</i>) in divisions 8.c and 9.a (Cantabrian Sea and Atlantic Iberian waters)	0.24	Y	Y	-
FAO27	BoBiscay & Iberia	2024	mon.27.78abd	White anglerfish (<i>Lophius piscatorius</i>) in Subarea 7 and in divisions 8.a, 8.b, and 8.d (Celtic Seas, Bay of Biscay)	0.60	Y	Y	-
FAO27	BoBiscay & Iberia	2024	mon.27.8c9a	White anglerfish (<i>Lophius piscatorius</i>) in divisions 8.c and 9.a (Cantabrian Sea and Atlantic Iberian waters)	0.40	Y	Y	-
FAO27	BoBiscay & Iberia	2024	nep.fu.2324	Norway lobster (<i>Nephrops norvegicus</i>) in divisions 8.a and 8.b. functional units 23 and 24 (northern and central Bay of Biscay)	1.10	N	-	-
FAO27	BoBiscay & Iberia	2024	nep.fu.25	Norway lobster (<i>Nephrops norvegicus</i>) in Division 8.c. Functional Unit 25 (southern Bay of Biscay, northern Galicia)	0.095	Y	-	N
FAO27	BoBiscay & Iberia	2024	nep.fu.2627	Norway lobster (<i>Nephrops norvegicus</i>) in Division 9.a. functional units 26 and 27 (Atlantic Iberian waters East. western Galicia, northern Portugal)	0.52	Y	-	N
FAO27	BoBiscay & Iberia	2024	sol.27.8ab	Sole (<i>Solea solea</i>) in divisions 8.a and 8.b (northern and central Bay of Biscay)	0.93	Y	N	-
FAO27	Celtic Seas	2024	anf.27.3a46	Anglerfish (<i>Lophius budegassa</i> . <i>Lophius piscatorius</i>) in subareas 4 and 6 and in Division	0.63	Y	Y	Y

				3.a (North Sea. Rockall and West of Scotland, Skagerrak, Kattegat)				
FAO27	Celtic Seas	202 4	cod.27.7a	Cod (<i>Gadus morhua</i>) in Division 7.a (Irish Sea)	0.02 6	Y	N	-
FAO27	Celtic Seas	202 4	cod.27.7e-k	Cod (<i>Gadus morhua</i>) in divisions 7.e-k (western English Channel and southern Celtic Seas)	3.61	N	N	-
FAO27	Celtic Seas	202 4	had.27.6b	Haddock (<i>Melanogrammus aeglefinus</i>) in Division 6.b (Rockall)	0.21	Y	Y	Y
FAO27	Celtic Seas	202 4	had.27.7b-k	Haddock (<i>Melanogrammus aeglefinus</i>) in divisions 7.b-k (southern Celtic Seas and English Channel)	1.62	N	Y	-
FAO27	Celtic Seas	202 4	her.27.irls	Herring (<i>Clupea harengus</i>) in divisions 7.a (south of 52°30'N), 7.g, 7.h, 7.j, and 7.k (Irish Sea, Celtic Sea, and southwest of Ireland)	0.22	Y	N	-
FAO27	Celtic Seas	202 4	her.27.nirs	Herring (<i>Clupea harengus</i>) in Division 7.a North of 52°30'N (Irish Sea)	2.02	N	N	-
FAO27	Celtic Seas	202 4	lez.27.4a6a	Megrim (<i>Lepidorhombus spp.</i>) in divisions 4.a and 6.a (northern North Sea, West of Scotland)	0.23	Y	-	Y
FAO27	Celtic Seas	202 4	lez.27.6b	Megrim (<i>Lepidorhombus spp.</i>) in Division 6.b (Rockall)	0.40	Y	-	Y
FAO27	Celtic Seas	202 4	nep.fu.11	Norway lobster (<i>Nephrops norvegicus</i>) in Division 6.a, Functional Unit 11 (West of Scotland, North Minch)	0.95	Y	-	Y
FAO27	Celtic Seas	202 4	nep.fu.12	Norway lobster (<i>Nephrops norvegicus</i>) in Division 6.a, Functional Unit 12 (West of Scotland, South Minch)	0.54	Y	-	Y
FAO27	Celtic Seas	202 4	nep.fu.13	Norway lobster (<i>Nephrops norvegicus</i>) in Division 6.a, Functional Unit 13 (West of Scotland, Firth of Clyde. Sound of Jura)	1.04	N	-	N
FAO27	Celtic Seas	202 4	nep.fu.14	Norway lobster (<i>Nephrops norvegicus</i>) in Division 7.a. Functional Unit 14 (Irish Sea. East)	0.51	Y	-	N
FAO27	Celtic Seas	202 4	nep.fu.15	Norway lobster (<i>Nephrops norvegicus</i>) in Division 7.a, Functional Unit 15 (Irish Sea, West)	0.84	Y	-	Y
FAO27	Celtic Seas	202 4	nep.fu.16	Norway lobster (<i>Nephrops norvegicus</i>) in divisions 7.b, 7.c, 7.j, and 7.k, Functional Unit 16 (west and southwest of Ireland, Porcupine Bank)	1.20	N	-	-

FAO27	Celtic Seas	202 4	nep.fu.17	Norway lobster (<i>Nephrops norvegicus</i>) in Division 7.b, Functional Unit 17 (west of Ireland, Aran grounds)	0.39	Y	-	N
FAO27	Celtic Seas	202 4	nep.fu.19	Norway lobster (<i>Nephrops norvegicus</i>) in divisions 7.a, 7.g, and 7.j, Functional Unit 19 (Irish Sea, Celtic Sea, eastern part of southwest of Ireland)	0.50	Y	-	N
FAO27	Celtic Seas	202 4	nep.fu.2021	Norway lobster (<i>Nephrops norvegicus</i>) in divisions 7.g and 7.h, Functional Units 20 and 21 (Celtic Sea)	1.64	N	-	N
FAO27	Celtic Seas	202 4	nep.fu.22	Norway lobster (<i>Nephrops norvegicus</i>) in divisions 7.f and 7.g, Functional Unit 22 (Celtic Sea, Bristol Channel)	1.03	N	-	N
FAO27	Celtic Seas	202 4	ple.27.7a	Plaice (<i>Pleuronectes platessa</i>) in Division 7.a (Irish Sea)	0.97	Y	N	N
FAO27	Celtic Seas	202 4	pol.27.67	Pollack (<i>Pollachius pollachius</i>) in subareas 6 and 7 (Celtic Seas. English Channel)	0.52	Y	N	-
FAO27	Celtic Seas	202 3	rju.27.7de	Undulate ray (<i>Raja undulata</i>) in divisions 7.d and 7.e (English Channel)	0.13	Y	-	Y
FAO27	Celtic Seas	202 4	sol.27.7a	Sole (<i>Solea solea</i>) in Division 7.a (Irish Sea)	0.53	Y	Y	-
FAO27	Celtic Seas	202 4	sol.27.7e	Sole (<i>Solea solea</i>) in Division 7.e (western English Channel)	0.99 9	Y	Y	-
FAO27	Celtic Seas	202 4	sol.27.7fg	Sole (<i>Solea solea</i>) in divisions 7.f and 7.g (Bristol Channel, Celtic Sea)	1.26	N	Y	-
FAO27	Celtic Seas	202 4	whg.27.6a	Whiting (<i>Merlangius merlangus</i>) in Division 6.a (West of Scotland)	0.14	Y	N	-
FAO27	Celtic Seas	202 4	whg.27.7a	Whiting (<i>Merlangius merlangus</i>) in Division 7.a (Irish Sea)	4.14	N	N	-
FAO27	Celtic Seas	202 4	whg.27.7b-ce-k	Whiting (<i>Merlangius merlangus</i>) in divisions 7.b, 7.c, and 7.e-k (southern Celtic Seas. eastern English Channel)	1.42	N	N	-
FAO27	Greater North Sea	202 4	bll.27.3a47de	Brill (<i>Scophthalmus rhombus</i>) in Subarea 4 and in divisions 3.a, 7.d, and 7.e (North Sea. Skagerrak, Kattegat, English Channel)	0.38	Y	-	Y

FAO27	Greater North Sea	202 4	cod.27.46a7d20N	Cod (<i>Gadus morhua</i>) in Subarea 4. in divisions 6.a and 7.d. and in Subdivision 20 (North Sea. West of Scotland. eastern English Channel. Skagerrak)	2.14	N	Y	-
FAO27	Greater North Sea	202 4	cod.27.46a7d20S	Cod (<i>Gadus morhua</i>) in Subarea 4. in divisions 6.a and 7.d. and in Subdivision 20 (North Sea, West of Scotland, eastern English Channel, Skagerrak)	2.57	N	N	-
FAO27	Greater North Sea	202 4	cod.27.46a7d20V	Cod (<i>Gadus morhua</i>) in Subarea 4, in divisions 6.a and 7.d, and in Subdivision 20 (North Sea, West of Scotland, eastern English Channel, Skagerrak)	1.81	N	N	-
FAO27	Greater North Sea	202 4	had.27.46a20	Haddock (<i>Melanogrammus aeglefinus</i>) in Subarea 4, in Division 6.a, and in Subdivision 20 (North Sea, West of Scotland, Skagerrak)	0.36	Y	Y	-
FAO27	Greater North Sea	202 4	her.27.3a47d	Herring (<i>Clupea harengus</i>) in Subarea 4 and in divisions 3.a and 7.d; autumn spawners (North Sea, Skagerrak, Kattegat, eastern English Channel)	1.26	N	N	N
FAO27	Greater North Sea	202 4	nep.fu.3-4	Norway lobster (<i>Nephrops norvegicus</i>) in Division 3.a, functional units 3 and 4 (Skagerrak, Kattegat)	0.69	Y	-	-
FAO27	Greater North Sea	202 4	nep.fu.32	Norway lobster (<i>Nephrops norvegicus</i>) in Division 4.a, Functional Unit 32 (northern North Sea, Norway Deep)	1.63	N	-	N
FAO27	Greater North Sea	202 4	nep.fu.6	Norway lobster (<i>Nephrops norvegicus</i>) in Division 4.b, Functional Unit 6 (central North Sea, Farn Deeps)	1.37	N	-	N
FAO27	Greater North Sea	202 4	nep.fu.7	Norway lobster (<i>Nephrops norvegicus</i>) in Division 4.a, Functional Unit 7 (northern North Sea, Fladen Ground)	0.59	Y	-	Y
FAO27	Greater North Sea	202 4	nep.fu.8	Norway lobster (<i>Nephrops norvegicus</i>) in Division 4.b, Functional Unit 8 (central North Sea, Firth of Forth)	0.78	Y	-	Y
FAO27	Greater North Sea	202 4	nep.fu.9	Norway lobster (<i>Nephrops norvegicus</i>) in Division 4.a, Functional Unit 9 (central North Sea, Moray Firth)	0.81	Y	-	Y

FAO27	Greater North Sea	202 4	nop.27.3a4	Norway pout (<i>Trisopterus esmarkii</i>) in Subarea 4 and in Division 3.a (North Sea, Skagerrak, Kattegat)	-	Y	-	-
FAO27	Greater North Sea	202 4	ple.27.420	Plaice (<i>Pleuronectes platessa</i>) in Subarea 4 (North Sea) and in Subdivision 20 (Skagerrak)	0.32	Y	Y	-
FAO27	Greater North Sea	202 4	ple.27.7d	Plaice (<i>Pleuronectes platessa</i>) in Division 7.d (eastern English Channel)	1.52	N	N	N
FAO27	Greater North Sea	202 4	pok.27.3a46	Saithe (<i>Pollachius virens</i>) in subareas 4 and 6 and in Division 3.a (North Sea, Rockall and West of Scotland, Skagerrak, Kattegat)	1.07	N	N	-
FAO27	Greater North Sea	202 4	pra.27.3a4a	Northern shrimp (<i>Pandalus borealis</i>) in divisions 3.a and 4.a East (Skagerrak, Kattegat, northern North Sea in the Norwegian Deep)	0.82	Y	-	N
FAO27	Greater North Sea	202 4	san.sa.1r	Sandeel (<i>Ammodytes spp.</i>) in divisions 4.b and 4.c, Sandeel Area 1r (central and southern North Sea. Dogger Bank)	-	Y	-	-
FAO27	Greater North Sea	202 4	san.sa.2r	Sandeel (<i>Ammodytes spp.</i>) in divisions 4.b and 4.c and in Subdivision 20, Sandeel Area 2r (Skagerrak, central and southern North Sea)	-	Y	-	-
FAO27	Greater North Sea	202 4	san.sa.3r	Sandeel (<i>Ammodytes spp.</i>) in divisions 4.a and 4.b and in Subdivision 20, Sandeel Area 3r (Skagerrak, northern and central North Sea)	-	N	-	-
FAO27	Greater North Sea	202 4	san.sa.4	Sandeel (<i>Ammodytes spp.</i>) in divisions 4.a and 4.b. Sandeel Area 4 (northern and central North Sea)	-	Y	-	-
FAO27	Greater North Sea	202 4	sol.27.4	Sole (<i>Solea solea</i>) in Subarea 4 (North Sea)	0.31	Y	Y	-
FAO27	Greater North Sea	202 4	sol.27.7d	Sole (<i>Solea solea</i>) in Division 7.d (eastern English Channel)	0.90	Y	N	-
FAO27	Greater North Sea	202 4	spr.27.3a4	Sprat (<i>Sprattus sprattus</i>) in Division 3.a and Subarea 4 (Skagerrak, Kattegat, North Sea)	-	N	-	-
FAO27	Greater North Sea	202 4	tur.27.4	Turbot (<i>Scophthalmus maximus</i>) in Subarea 4 (North Sea)	0.66	Y	N	-
FAO27	Greater North Sea	202 4	whg.27.47d	Whiting (<i>Merlangius merlangus</i>) in Subarea 4 and in Division 7.d (North Sea, eastern English Channel)	0.13	Y	Y	-

FAO27	Greater North Sea	2024	wit.27.3a47d	Witch (<i>Glyptocephalus cynoglossus</i>) in Subarea 4 and in divisions 3.a and 7.d (North Sea, Skagerrak, Kattegat, eastern English Channel)	1	Y	Y	-
FAO27	Widely	2023	bli.27.5b6712	Blue ling (<i>Molva dypterygia</i>) in subareas 6, 7, and 12 and in Division 5.b (Celtic Seas, western Hatton Bank, and Faroes grounds)	0.51	Y	Y	-
FAO27	Widely	2024	boc.27.6-8	Boarfish (<i>Capros aper</i>) in subareas 6-8 (Celtic Seas, English Channel, Bay of Biscay)	0.96	Y	Y	-
FAO27	Widely	2023	dgs.27.nea	Spurdog (<i>Squalus acanthias</i>) in subareas 1-10, 12, and 14 (Northeast Atlantic and adjacent waters)	0.21	Y	Y	Y
FAO27	Widely	2024	hke.27.3a46-8abd	Hake (<i>Merluccius merluccius</i>) in subareas 4, 6, and 7 and in divisions 3.a, 8.a, 8.b, and 8.d; Northern stock (Greater North Sea, Celtic Seas, northern Bay of Biscay)	0.83	Y	Y	-
FAO27	Widely	2024	hom.27.2a3a4a5b6a7a-ce-k8	Horse mackerel (<i>Trachurus trachurus</i>) in Subarea 8 and divisions 2.a, 3.a, 4.a, 5.b, 6.a, 7.a-c, and 7.e-k (Northeast Atlantic and adjacent waters)	0.18	Y	N	-
FAO27	Widely	2024	mac.27.nea	Mackerel (<i>Scomber scombrus</i>) in subareas 1-8 and 14 and in divisions 9.a, 12.a, and 12.b (Northeast Atlantic and adjacent waters)	1.39	N	N	-
FAO27	Widely	2024	whb.27.1-91214	Blue whiting (<i>Micromesistius poutassou</i>) in subareas 1-9, 12, and 14 (Northeast Atlantic and adjacent waters)	1.87	N	N	-
FAO37	Black Sea	2023	DGS_29	Piked dogfish in GSA(s) 29	0.39	Y	-	-
FAO37	Black Sea	2023	MUT_29	Red mullet in GSA(s) 29	0.48	Y	-	-
FAO37	Black Sea	2023	RPW_29	Papa whelk in GSA(s) 29	2.3	N	-	-
FAO37	Black Sea	2023	SPR_29	European sprat in GSA(s) 29	0.50	Y	-	-
FAO37	Black Sea	2023	TUR_29	Turbot in GSA(s) 29	0.67	Y	-	-
FAO37	Black Sea	2023	WHG_29	Whiting in GSA(s) 29	3.39	N	-	-

FAO37	Central Med.	202 4	ANE_17_18	European anchovy in GSA(s) 17_18	1.04	N	-	-
FAO37	Central Med.	202 3	ARA_18_19_20	Blue and red shrimp in GSA(s) 18_19_20	2.69	N	-	-
FAO37	Central Med.	202 4	ARA_6_7	Blue and red shrimp in GSA(s) 6_7	2	N	-	-
FAO37	Central Med.	202 3	ARS_12_13_14_15_16_21.1_21.2	Giant red shrimp in GSA(s) 12_13_14_15_16_21.1_21.2	1.12	N	-	-
FAO37	Central Med.	202 3	ARS_18_19_20	Giant red shrimp in GSA(s) 18_19_20	0.71	Y	-	-
FAO37	Central Med.	202 3	CTC_17	Common cuttlefish in GSA(s) 17	0.72	Y	-	-
FAO37	Central Med.	202 3	DPS_12_13_14_15_16	Deep-water rose shrimp in GSA(s) 12_13_14_15_16	0.87	Y	-	-
FAO37	Central Med.	202 3	DPS_17_18_19_20	Deep-water rose shrimp in GSA(s) 17_18_19_20	1.13	N	-	-
FAO37	Central Med.	202 3	HKE_12_13_14_15_16	European hake in GSA(s) 12_13_14_15_16	0.87	Y	-	-
FAO37	Central Med.	202 3	HKE_17_18	European hake in GSA(s) 17_18	1.11	N	-	-
FAO37	Central Med.	202 3	HKE_19	European hake in GSA(s) 19	1.13	N	-	-
FAO37	Central Med.	202 2	HKE_20	European hake in GSA(s) 20	2.65	N	-	-
FAO37	Central Med.	202 2	HKE_22	European hake in GSA(s) 22	4.30	N	-	-
FAO37	Central Med.	202 4	HKE_8_9_10_11	European hake in GSA(s) 8_9_10_11	1.20	N	-	-
FAO37	Central Med.	202 3	MTS_17	Spottail mantis squillid in GSA(s) 17	0.86	Y	-	-
FAO37	Central Med.	202 4	MUT_1	Red mullet in GSA(s) 1	1.36	N	-	-
FAO37	Central Med.	202 2	MUT_15	Red mullet in GSA(s) 15	3.39	N	-	-
FAO37	Central Med.	202 3	MUT_16	Red mullet in GSA(s) 16	0.30	Y	-	-

FAO37	Central Med.	202 3	MUT_17_18	Red mullet in GSA(s) 17_18	0.19	Y	-	-
FAO37	Central Med.	202 3	MUT_19	Red mullet in GSA(s) 19	0.34	Y	-	-
FAO37	Central Med.	202 3	MUT_20	Red mullet in GSA(s) 20	1.88	N	-	-
FAO37	Central Med.	202 2	NEP_15_16	Norway lobster in GSA(s) 15_16	1.5	N	-	-
FAO37	Central Med.	202 3	NEP_18	Norway lobster in GSA(s) 18	0.5	Y	-	-
FAO37	Central Med.	202 3	NEPC_17	Norway lobster in GSA(s) 17	0.21	Y	-	-
FAO37	Central Med.	202 3	NEPNE_17	Norway lobster in GSA(s) 17	1.34	N	-	-
FAO37	Central Med.	202 3	NEPNW_17	Norway lobster in GSA(s) 17	0.32	Y	-	-
FAO37	Central Med.	202 4	PIL_17_18	European pilchard(=Sardine) in GSA(s) 17_18	1.82	N	-	-
FAO37	Central Med.	202 3	SOL_17	Common sole in GSA(s) 17	0.73	Y	-	-
FAO37	Eastern Med.	202 3	ANE_22	European anchovy in GSA(s) 22	0.39	Y	-	-
FAO37	Eastern Med.	202 3	MUR_22	Surmullet in GSA(s) 22	0.54	Y	-	-
FAO37	Eastern Med.	202 3	MUT_22	Red mullet in GSA(s) 22	0.78	Y	-	-
FAO37	Eastern Med.	202 3	PIL_22	European pilchard(=Sardine) in GSA(s) 22	1.49	N	-	-
FAO37	Western Med.	202 3	ANE_1	European anchovy in GSA(s) 1	0.64	Y	-	-
FAO37	Western Med.	202 2	ANE_5	European anchovy in GSA(s) 5	0.14	Y	-	-
FAO37	Western Med.	202 3	ANE_6	European anchovy in GSA(s) 6	0.34	Y	-	-
FAO37	Western Med.	202 3	ANE_7	European anchovy in GSA(s) 7	0.01 9	Y	-	-

FAO37	Western Med.	2023	ANE_9_10	European anchovy in GSA(s) 9_10	0.27	Y	-	-
FAO37	Western Med.	2024	ARA_1_2	Blue and red shrimp in GSA(s) 1_2	1.50	N	-	-
FAO37	Western Med.	2023	ARA_5	Blue and red shrimp in GSA(s) 5	0.60	Y	-	-
FAO37	Western Med.	2024	ARS_8_9_10_11	Giant red shrimp in GSA(s) 8_9_10_11	1.37	N	-	-
FAO37	Western Med.	2023	DPS_1	Deep-water rose shrimp in GSA(s) 1	0.97	Y	-	-
FAO37	Western Med.	2023	DPS_5_6_7	Deep-water rose shrimp in GSA(s) 5_6_7	0.59	Y	-	-
FAO37	Western Med.	2024	DPS_8_9_10_11	Deep-water rose shrimp in GSA(s) 8_9_10_11	0.76	Y	-	-
FAO37	Western Med.	2024	HKE_1_5_6_7	European hake in GSA(s) 1_5_6_7	1.56	N	-	-
FAO37	Western Med.	2024	MUR_5	Surmullet in GSA(s) 5	1.69	N	-	-
FAO37	Western Med.	2023	MUR_6	Surmullet in GSA(s) 6	2.91	N	-	-
FAO37	Western Med.	2022	MUT_10	Red mullet in GSA(s) 10	0.22	Y	-	-
FAO37	Western Med.	2024	MUT_6	Red mullet in GSA(s) 6	0.97	Y	-	-
FAO37	Western Med.	2023	MUT_7	Red mullet in GSA(s) 7	0.71	Y	-	-
FAO37	Western Med.	2024	MUT_9	Red mullet in GSA(s) 9	1.16	N	-	-
FAO37	Western Med.	2024	NEP_11	Norway lobster in GSA(s) 11	2.75	N	-	-
FAO37	Western Med.	2023	NEP_5	Norway lobster in GSA(s) 5	0.70	Y	-	-
FAO37	Western Med.	2024	NEP_6	Norway lobster in GSA(s) 6	2.89	N	-	-
FAO37	Western Med.	2024	NEP_9	Norway lobster in GSA(s) 9	2.37	N	-	-

FAO37	Western Med.	2023	PIL_1	European pilchard(=Sardine) in GSA(s) 1	0.47	Y	-	-
FAO37	Western Med.	2023	PIL_6	European pilchard(=Sardine) in GSA(s) 6	0.53	Y	-	-
FAO37	Western Med.	2023	PIL_7	European pilchard(=Sardine) in GSA(s) 7	0.003	Y	-	-
FAO37	Western Med.	2023	PIL_9_10	European pilchard(=Sardine) in GSA(s) 9_10	0.13	Y	-	-
FAO37	Western Med.	2024	SBR_1_3	Blackspot(=red) seabream in GSA(s) 1_3	2	N	-	-
FAO37	Western Med.	2023	WHB_6	Blue whiting(=Poutassou) in GSA(s) 6	4	N	-	-

Source: own elaborations based on ICES, GFCM and STECF data.

7 Historical Trends

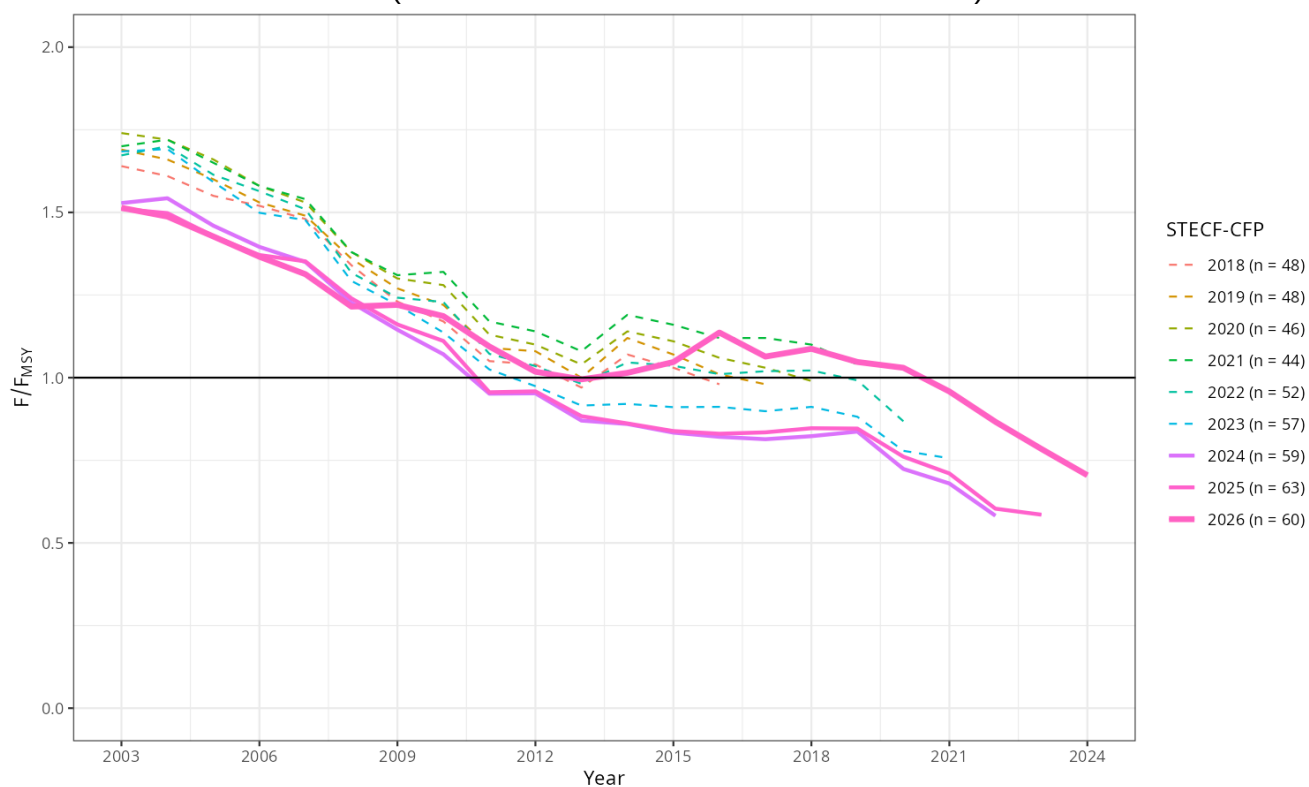
As the number of stocks under consideration changes every year due to the availability of stock assessments, historical retrospectives of both modelled indicators (F/F_{MSY} and B/B_{2003}) for both sea basins were presented (Figure 35-Figure 38). The indicators were grouped by FAO region. The input data were the modelled F and B indicators computed each year for the purpose of monitoring the CFP performance since 2018. It is important to note that the figures display a historical performance analysis (as opposed to a numerical retrospective), i.e. the trend observed in every modelling exercise since 2018 and not running the same model by peeling off one year of data at the end of the time series. Trajectories prior to 2024 were estimated using the GLMM approach as it was the standard up until 2023. From 2024 onwards the model-based indicators are computed using a state-space model as implemented in the JARA package (Winker et al., 2019). It should also be noted that in 2026, the state-space model was run using the median as a mean estimator instead of the geometric mean that was used in 2024 and 2025, while for the biomass indicator, the input data were standardized by the mean of the available time series (Gras et al., 2016)

The fishing pressure exhibited a decreasing trend over the period 2003-2024 (Figure 35). The results obtained by the CFP monitoring for the F/F_{MSY} indicators computed from 2018 to 2021 showed a regular upward revision of the time series. That pattern seems to have changed over the following three years (CFP monitoring 2022-2024) with a downward revision of the estimates. The trajectories of F/F_{MSY} in 2024 and 2025 have been very close. This could be due to the increase of SPM based assessments in category 1-2 stocks (STECF, 2023b, Annex 5). In 2026 the level was higher than in the years 2024-2025. This could be due to the use of the median as mean estimator and to the reduction of the number of SPM-based assessments in the input data used for this indicator. The biomass indicator B/B_{2003} exhibited an increasing trend over the studied period. A downward revision pattern of the indicator appears in Figure 36 for the indicators computed from 2018-2025. In this year's report, the indicator was upper than last year. This is most likely due to the change of the mean estimator.

In the first years when the F/F_{MSY} indicator was computed for the Mediterranean and Black Seas, no clear trend were observed (Figure 37). This has changed since 2023, when a clear decreasing trend appeared. This trend is still visible. Regarding the historical performance of the indicator, the level of the time series have been revised to lower values every year until 2025. In 2025 and 2026, the levels of the indicator remained close. The retrospective of the biomass indicator (B/B_{2003}) does not show any obvious pattern over the years 2018-2023 (Figure 38). However, the indicator shows an important instability from year to year for the period 2017-2023. In 2024-2025, the indicator showed similar trajectories. The change of mean estimator as well as the use of standardised biomass input data series has changed the perception of the indicator at the start of the time series with an increase of the biomass followed by a decrease up until 2011 whereas in the previous 2 years that period was characterised by a decrease of the biomass. Over the period 2011-2023, the trend of the indicator is comparable to the last 2 years but the level is higher.

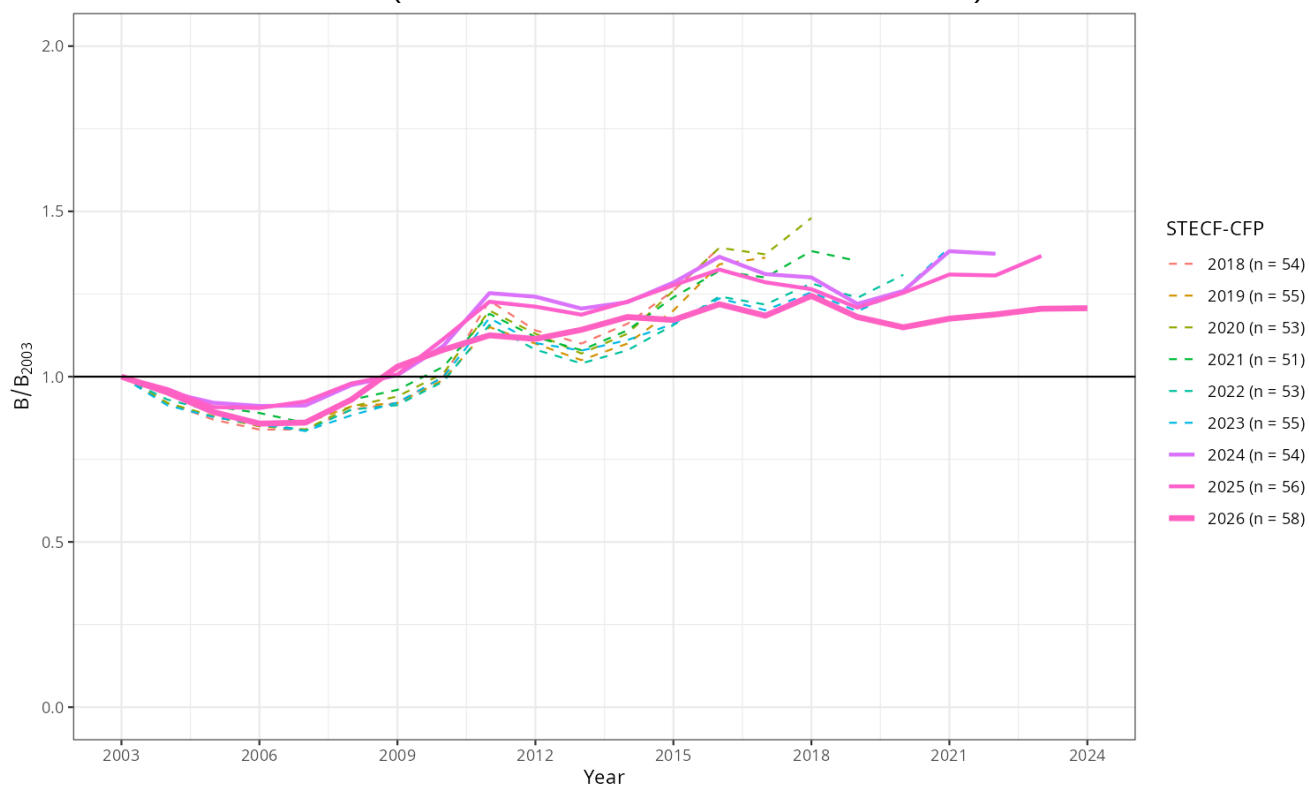
In this year's report the model-based indicators were less smooth compared to the previous two years. This is most likely due to the use of the median as a mean estimator instead of the geometric mean. This feature has been observed every time the two estimators were compared.

Figure 35. Historical retrospective reported in STECF CFP monitoring reports since 2017 for F/F_{MSY} in the Northeast Atlantic Area (dashed lines = GLMM and solid line = JARA).



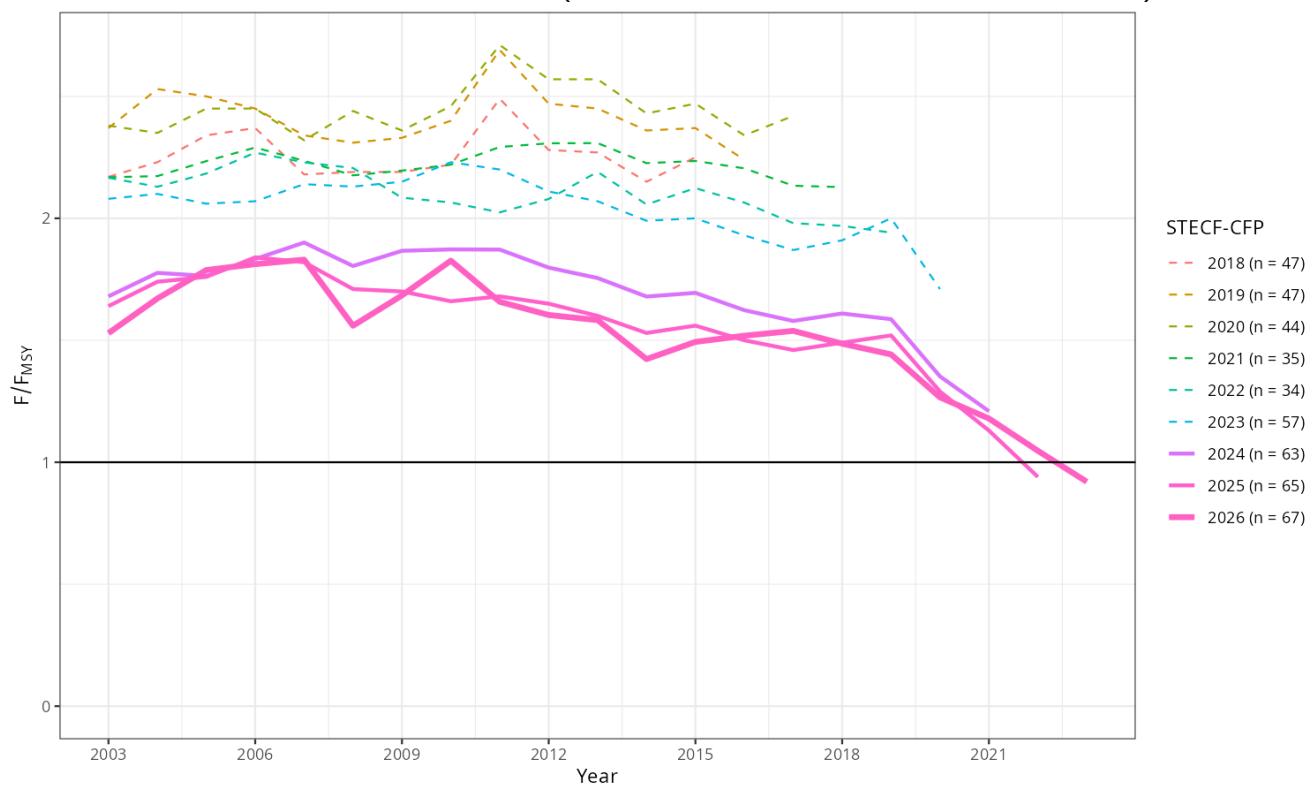
Source: own elaborations based on ICES data.

Figure 36. Historical retrospective reported in STECF CFP monitoring reports since 2017 for B/B_{2003} in the Northeast Atlantic Area (dashed lines = GLMM and solid line = JARA).



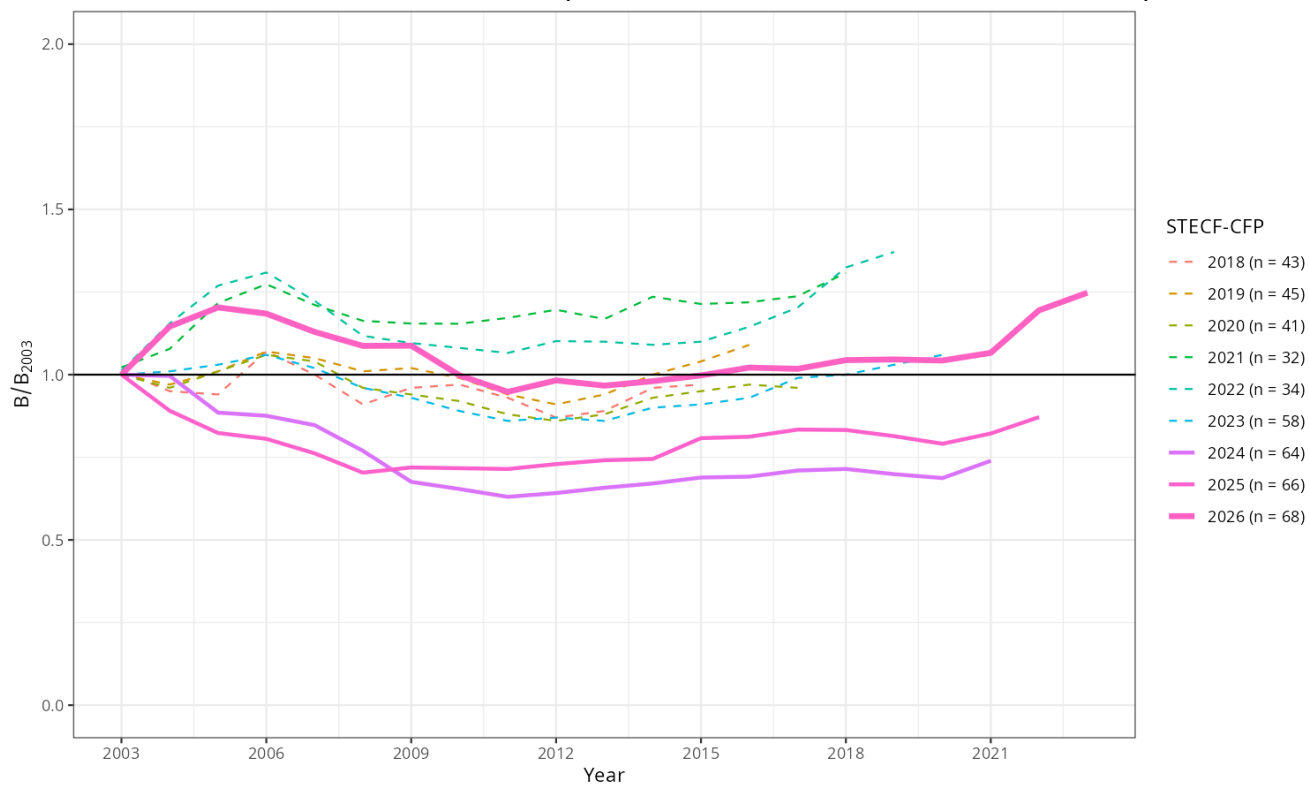
Source: own elaborations based on ICES data.

Figure 37. Historical retrospective reported in STECF CFP monitoring reports since 2017 for F/F_{MSY} in the Mediterranean and Black Seas Area (dashed lines = GLMM and solid line = JARA).



Source: own elaborations based on GFCM and STECF data.

Figure 38. Historical retrospective reported in STECF CFP monitoring reports since 2017 for B/B_{2003} in the Mediterranean and Black Seas Area (dashed lines = GLMM and solid line = JARA).



Source: own elaborations based on ICES, GFCM and STECF data.

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- EWG-24-Adhoc-01 – Annex 4: Model-based indicators input data and outputs
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Electronic annexes are published on <https://stecf.ec.europa.eu/document/3f68b367-a501-43a4-b638-9593da63ac5b>

- EWG-24-Adhoc-01 – eAnnex 1: CFP monitoring protocol (Gras et al., 2026) as agreed by STECF PLEN 25-03 (STECF, 2025a)
- EWG-24-Adhoc-01 – eAnnex 2: URL links to electronic annexes referring to the reports and stock advice sheets underpinning the analysis
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- EWG-24-Adhoc-01 – eAnnex 5: R code for computing all the European waters' indicators

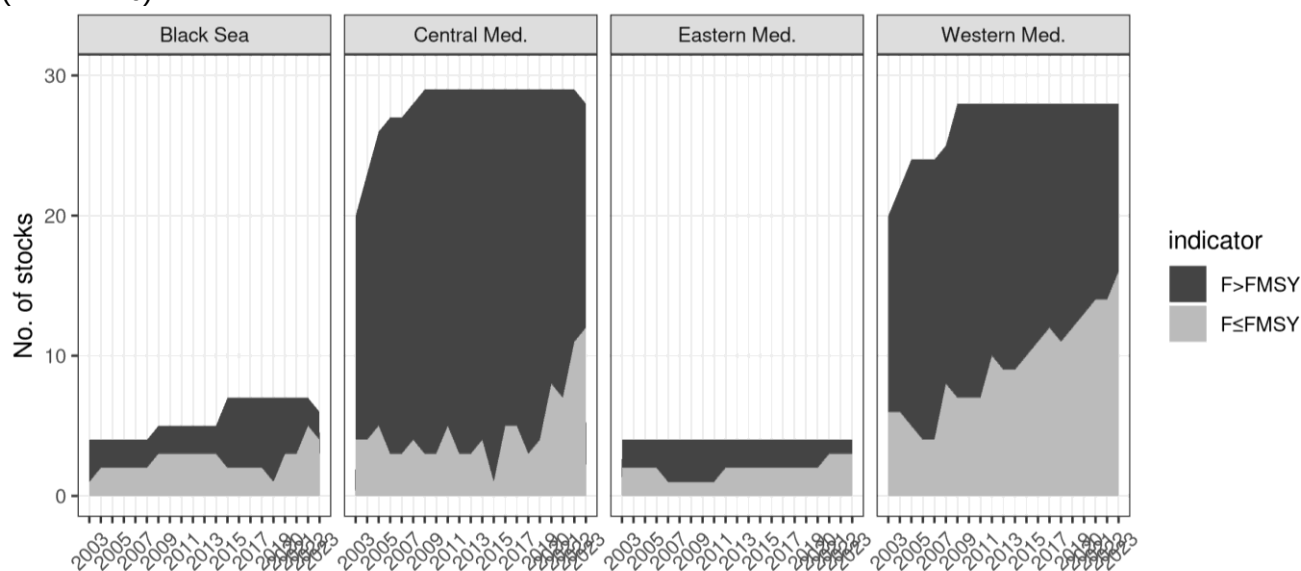
13 Annex 1 – Design-based indicators by ecoregion for the Mediterranean and Black Seas

Since 2023 (STECF, 2023b), B_{MSY} reference points were made available for Mediterranean and Black Seas stocks. It is now possible to produce two design based indicators in relation to the MSY approach.

13.1 Number of stocks by year where fish mortality is above/below F_{MSY}

One is presenting the number of stocks for which F is compared to F_{MSY} (Figure 39). The values used to present the figures are also tabulated (Table 32 and Table 33). This indicator shows that the number of stocks for which $F \leq F_{MSY}$ ranges from 10 to 16 in the period 2003-2019. From 2020 to 2022 that number increased to 29.

Figure 39. Number of stocks by ecoregion for which fishing mortality (F) was above/below F_{MSY} (MEDI1-2b).



Source: own elaborations based on GFCM and STECF data.

Table 32. Number of stocks by ecoregion for which fishing mortality (F) exceeded F_{MSY} (MEDI1).

EcoRegion	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Black Sea	3	2	2	2	2	2	2	2	2	2	2
Central Med.	16	19	21	24	24	24	26	26	24	26	26
Eastern Med.	2	2	2	2	3	3	3	3	3	2	2
Western Med.	14	16	19	20	20	17	21	21	21	18	19

EcoRegion	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Black Sea	2	5	5	5	5	6	4	4	2	2	-
Central Med.	25	28	24	24	26	25	21	22	18	16	-
Eastern Med.	2	2	2	2	2	2	2	1	1	1	-
Western Med.	19	18	17	16	17	16	15	14	14	12	-

Source: own elaborations based on GFCM and STECF data.

Table 33. Number of stocks by ecoregion for which fishing mortality (F) did not exceed F_{MSY} (MEDI2).

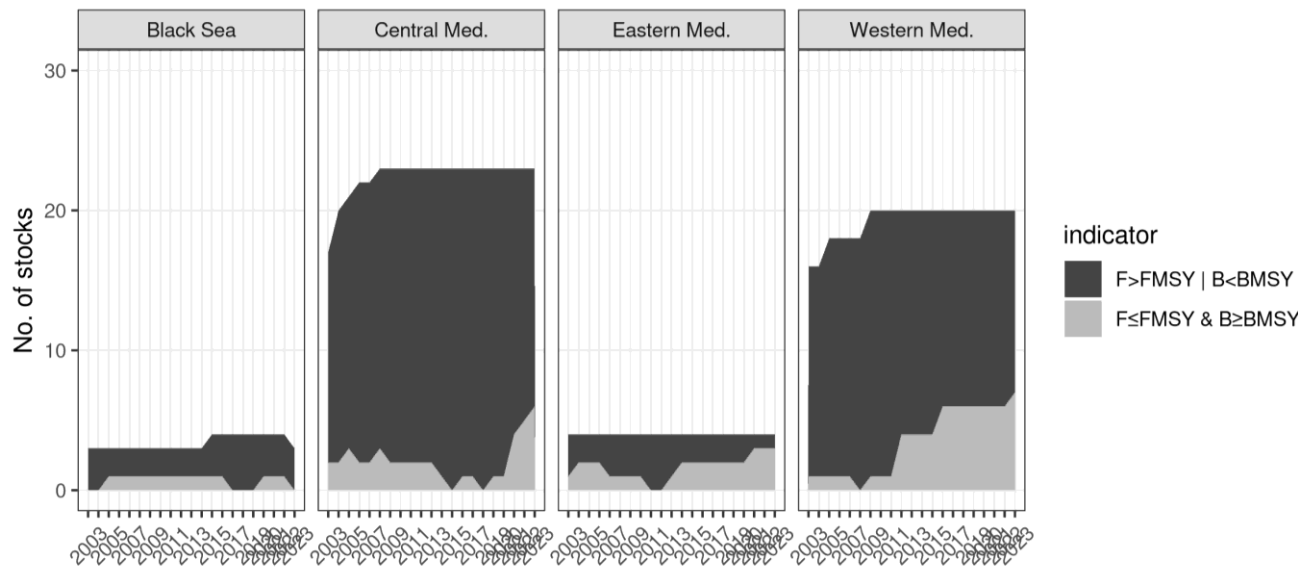
EcoRegion	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Black Sea	1	2	2	2	2	2	3	3	3	3	3
Central Med.	4	4	5	3	3	4	3	3	5	3	3
Eastern Med.	2	2	2	2	1	1	1	1	1	2	2
Western Med.	6	6	5	4	4	8	7	7	7	10	9

EcoRegion	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Black Sea	3	2	2	2	2	1	3	3	5	4	-
Central Med.	4	1	5	5	3	4	8	7	11	12	-
Eastern Med.	2	2	2	2	2	2	2	3	3	3	-
Western Med.	9	10	11	12	11	12	13	14	14	16	-

Source: own elaborations based on GFCM and STECF data.

13.2 Number of stocks with $F > F_{MSY}$ or $SSB < B_{MSY}$ and number of stocks with $F \leq F_{MSY}$ and $SSB \geq B_{MSY}$

Figure 40. Number of stocks with $F > F_{MSY}$ or $B < B_{MSY}$ and number of stocks with $F \leq F_{MSY}$ and $B \geq B_{MSY}$ in the Mediterranean and Black Seas (MEDI5-6).



Source: own elaborations based on GFCM and STECF data.

Table 34. Number of stocks with $F > F_{MSY}$ or $B < B_{MSY}$ for the Mediterranean and Black Sea ecoregion (MEDI5).

EcoRegion	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Black Sea	3	3	2	2	2	2	2	2	2	2	2
Central Med.	15	18	18	20	20	20	21	21	21	21	21
Eastern Med.	3	2	2	2	3	3	3	3	4	4	3
Western Med.	15	15	17	17	17	18	19	19	19	16	16

EcoRegion	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Black Sea	2	3	3	4	4	4	3	3	3	3	-
Central Med.	22	23	22	22	23	22	22	19	18	17	-
Eastern Med.	2	2	2	2	2	2	2	1	1	1	-
Western Med.	16	16	14	14	14	14	14	14	14	13	-

Source: own elaborations based on, GFCM and STECF data.

Table 35. Number of stocks with $F \leq F_{MSY}$ or $B \geq B_{MSY}$ for the Mediterranean and Black Sea ecoregion (MEDI6).

EcoRegion	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Black Sea	0	0	1	1	1	1	1	1	1	1	1
Central Med.	2	2	3	2	2	3	2	2	2	2	2
Eastern Med.	1	2	2	2	1	1	1	1	0	0	1
Western Med.	1	1	1	1	1	0	1	1	1	4	4

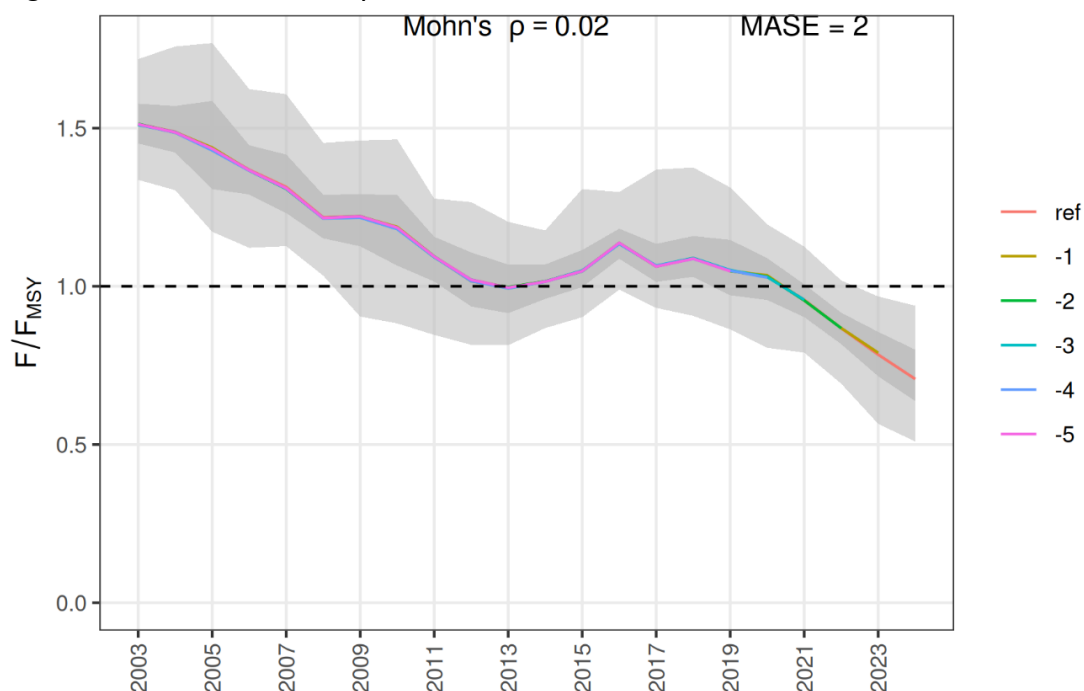
EcoRegion	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Black Sea	1	1	1	0	0	0	1	1	1	0	-
Central Med.	1	0	1	1	0	1	1	4	5	6	-
Eastern Med.	2	2	2	2	2	2	2	3	3	3	-
Western Med.	4	4	6	6	6	6	6	6	6	7	-

Source: own elaborations based on GFCM and STECF data.

14 Annex 2: Numerical retrospective of model-based indicators

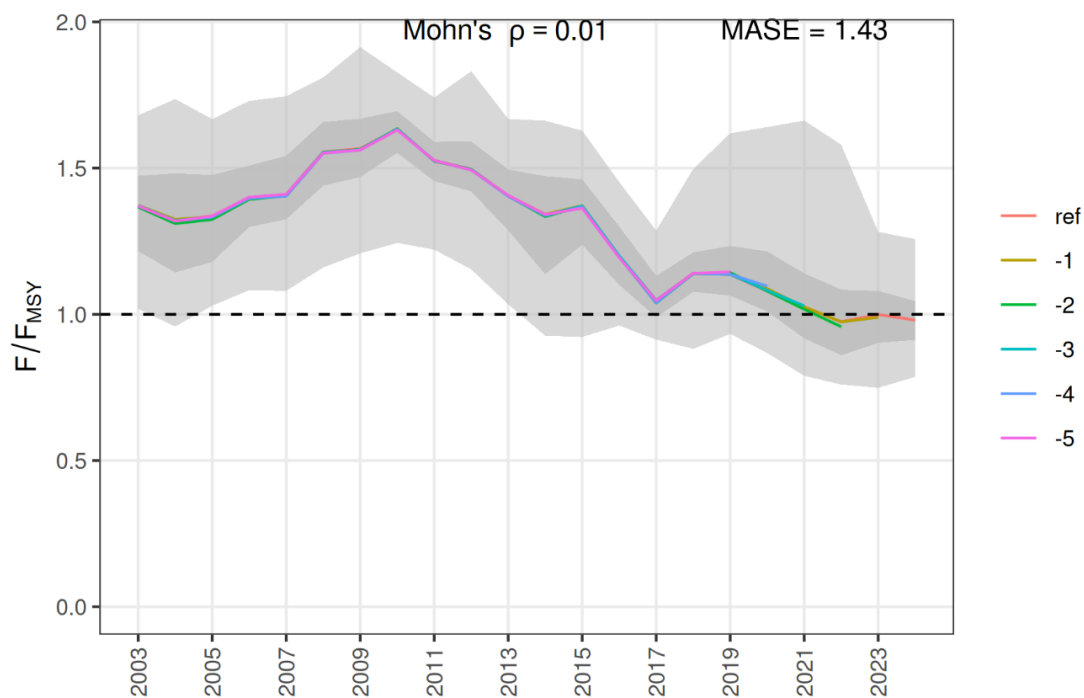
14.1 Northeast Atlantic

Figure 41. Numerical retrospective for the F/F_{MSY} model-based indicators in the NEA.



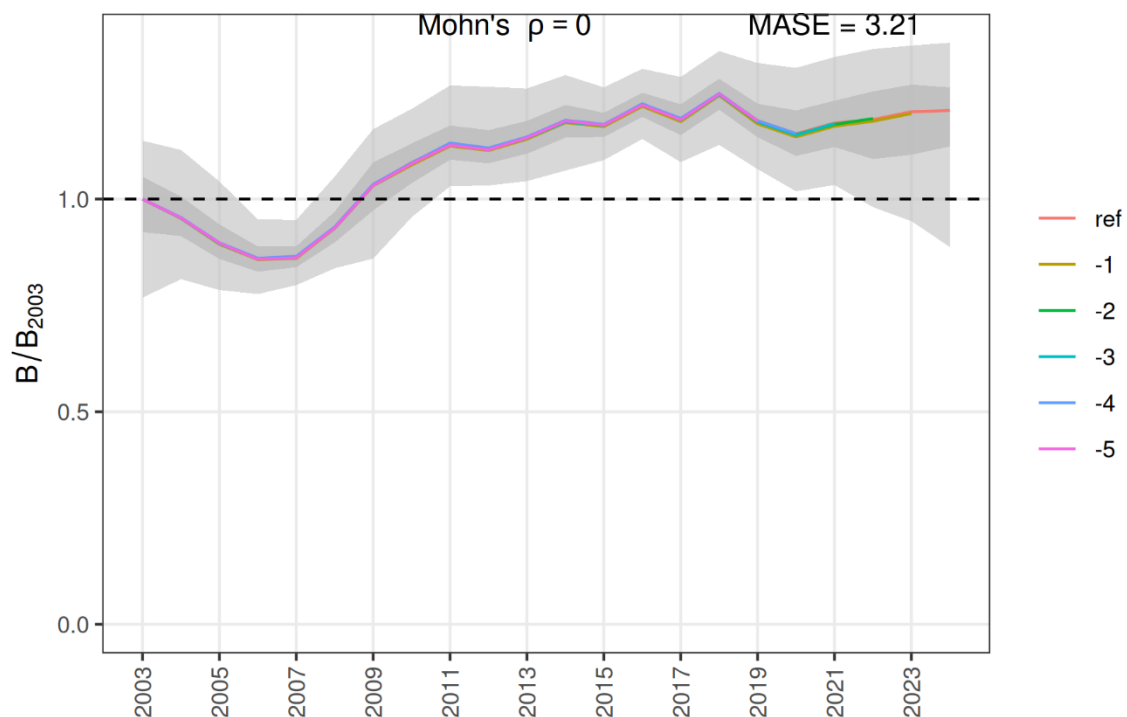
Source: own elaborations based on ICES data.

Figure 42. Numerical retrospective for the F/F_{MSY} model-based indicators for outside EU-Waters stocks in the NEA.



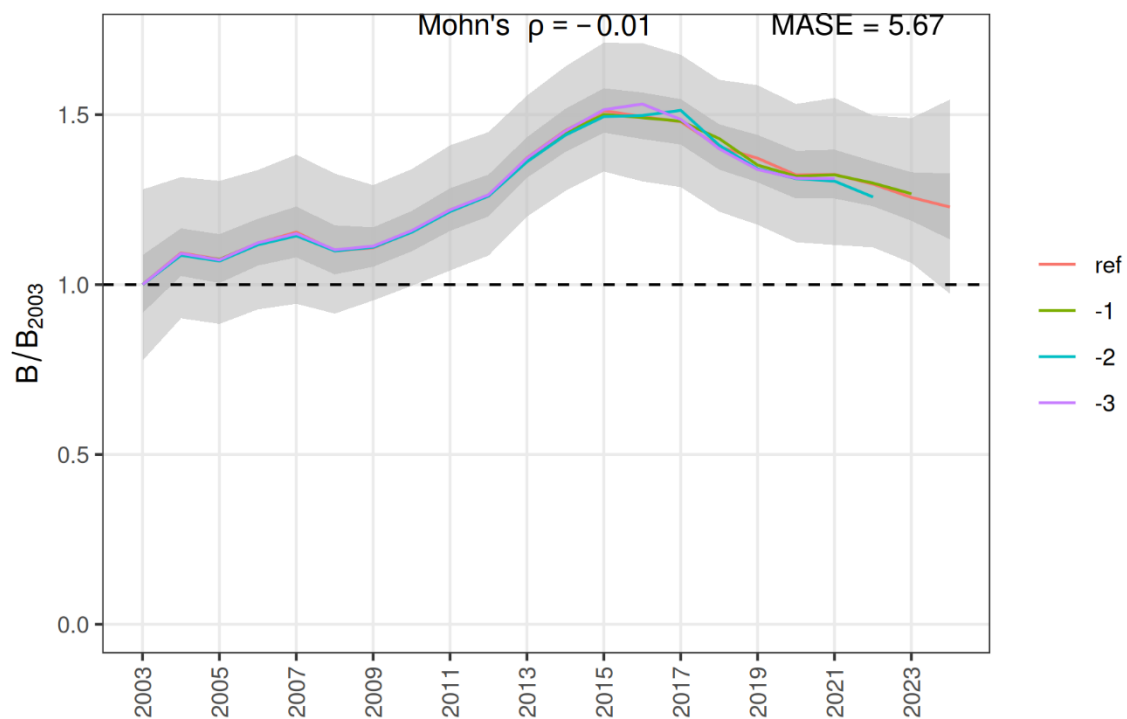
Source: own elaborations based on ICES data.

Figure 43. Numerical retrospective for the B/B_{2003} model-based indicators in the NEA.



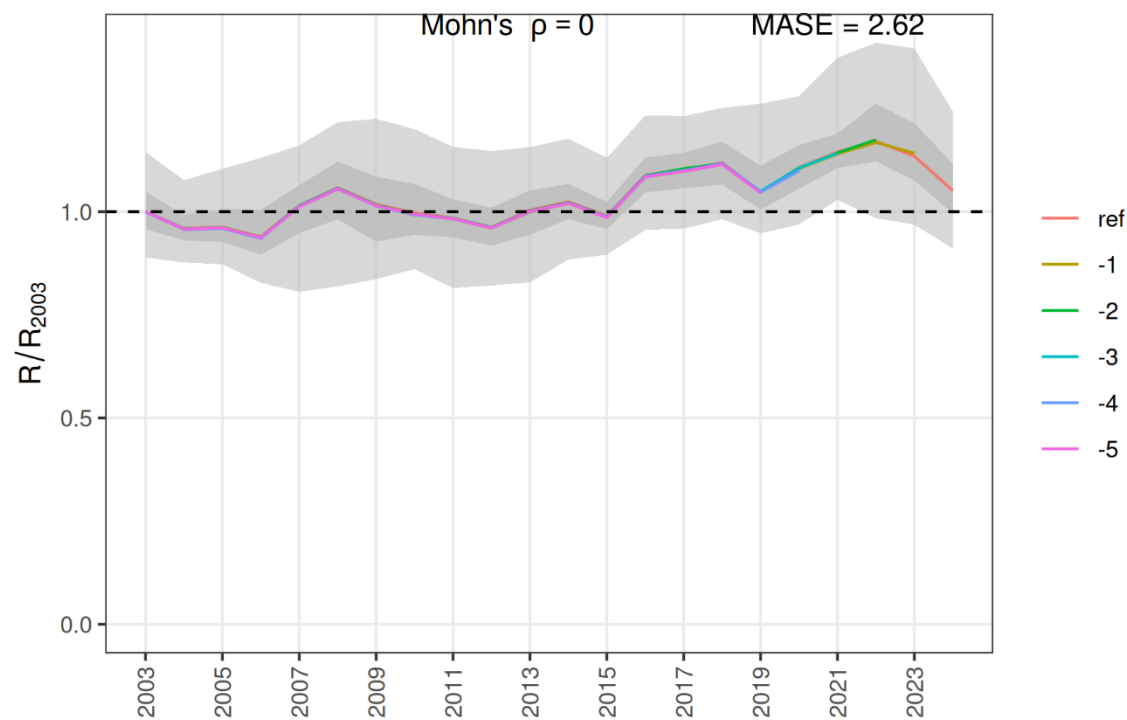
Source: own elaborations based on ICES data.

Figure 44. Numerical retrospective for the B/B_{2003} model-based indicators for category 3 stocks in the NEA.



Source: own elaborations based on ICES data.

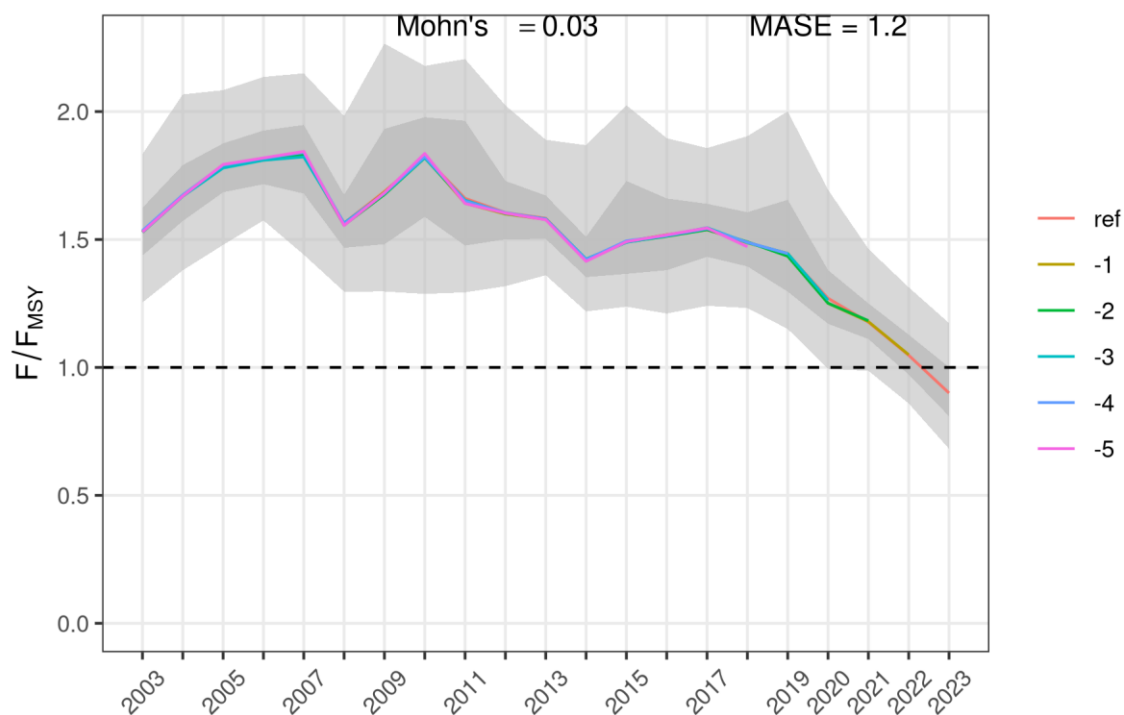
Figure 45. Numerical retrospective for the R/R_{2003} model-based indicators in the NEA.



Source: own elaborations based on ICES data.

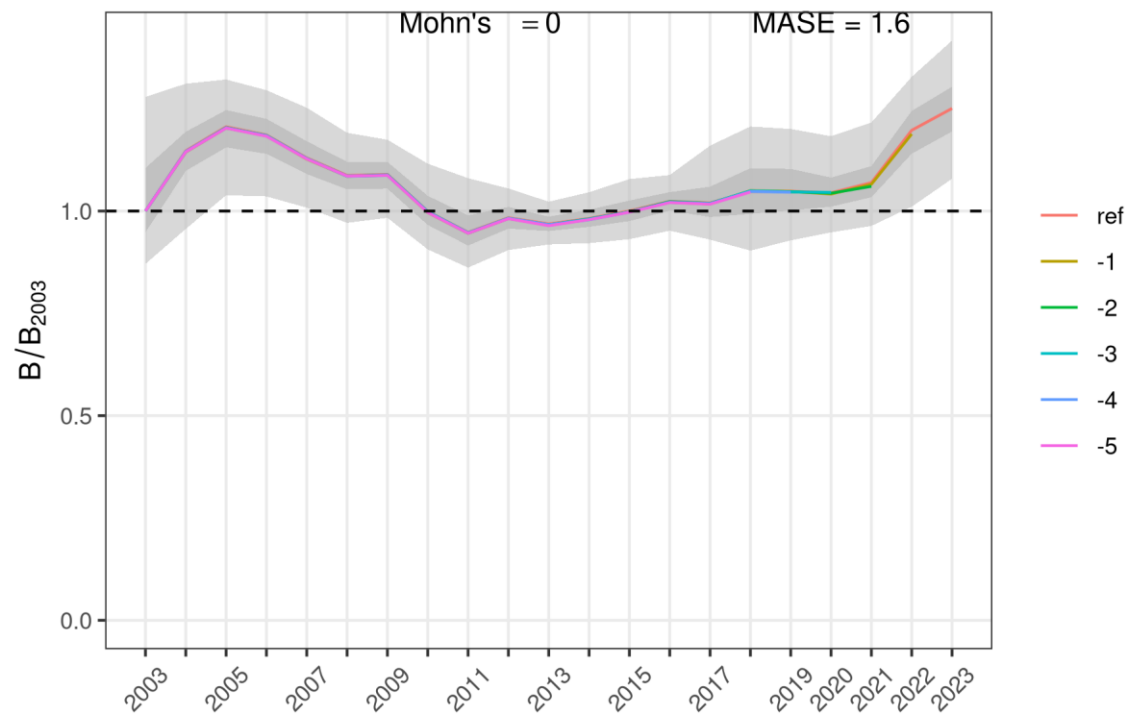
14.2 Mediterranean and Black Sea

Figure 46. Numerical retrospective for the F/F_{MSY} model-based indicators in the Mediterranean and Black Sea.



Source: own elaborations based on GFCM and STECF data.

Figure 47. Numerical retrospective for the B/B_{2003} model-based indicators in the Mediterranean and Black Sea.



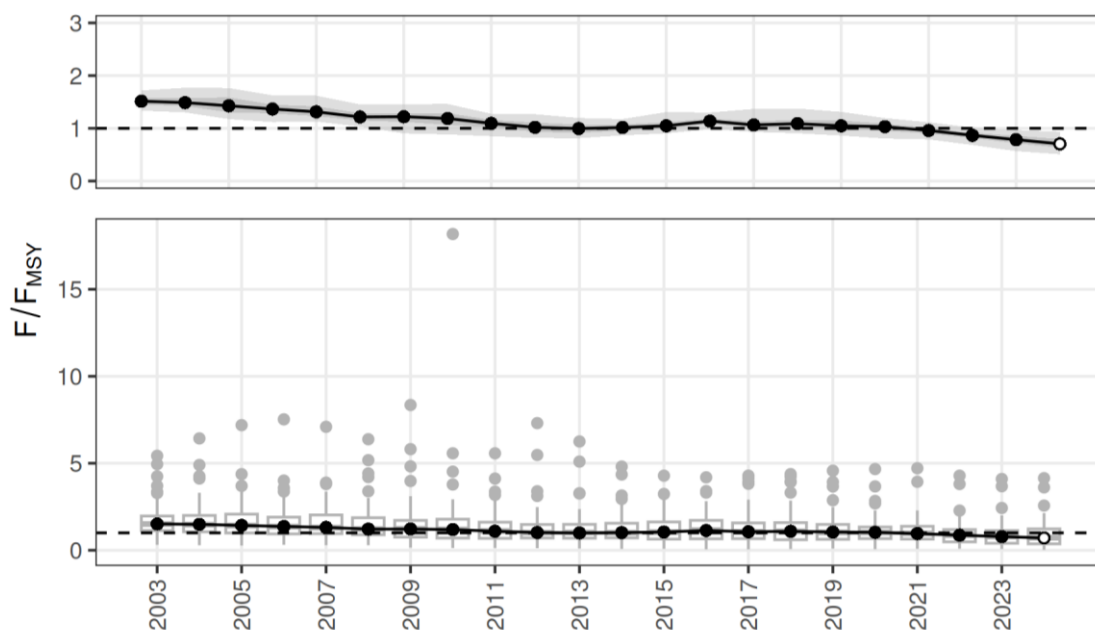
Source: own elaborations based on GFCM and STECF data.

15 Annex 4: Model-based indicators input data and outputs

In this annex, input data (presented as boxplots) and output from the model (solid line) are presented together. Regarding the model-based biomass indicator, standardised input data are not directly comparable with the model output since the model takes absolute biomass as input.

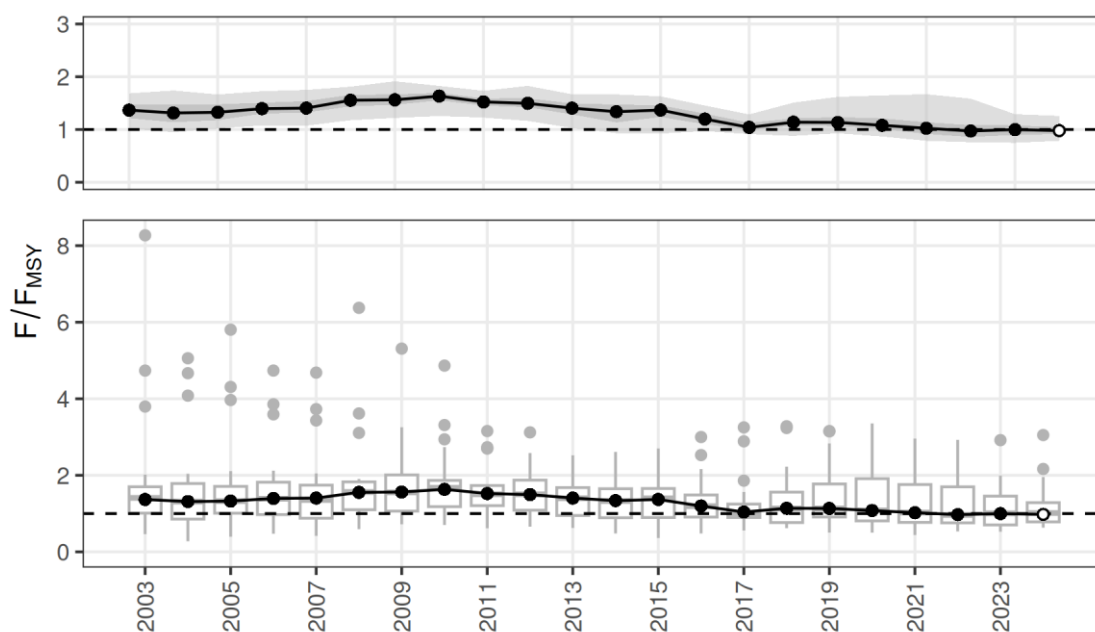
15.1 Northeast Atlantic

Figure 48. Trend in F/F_{MSY} (based on 60 stocks).



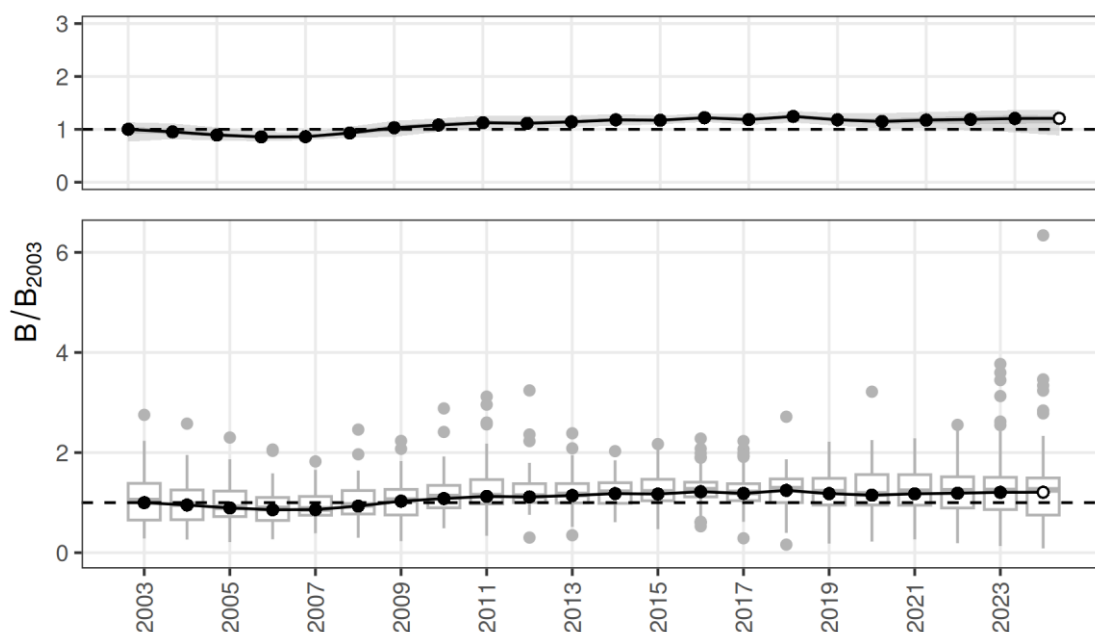
Source: own elaborations based on ICES data.

Figure 49. Trend in F/F_{MSY} for outside EU waters stocks (based on 20 stocks).



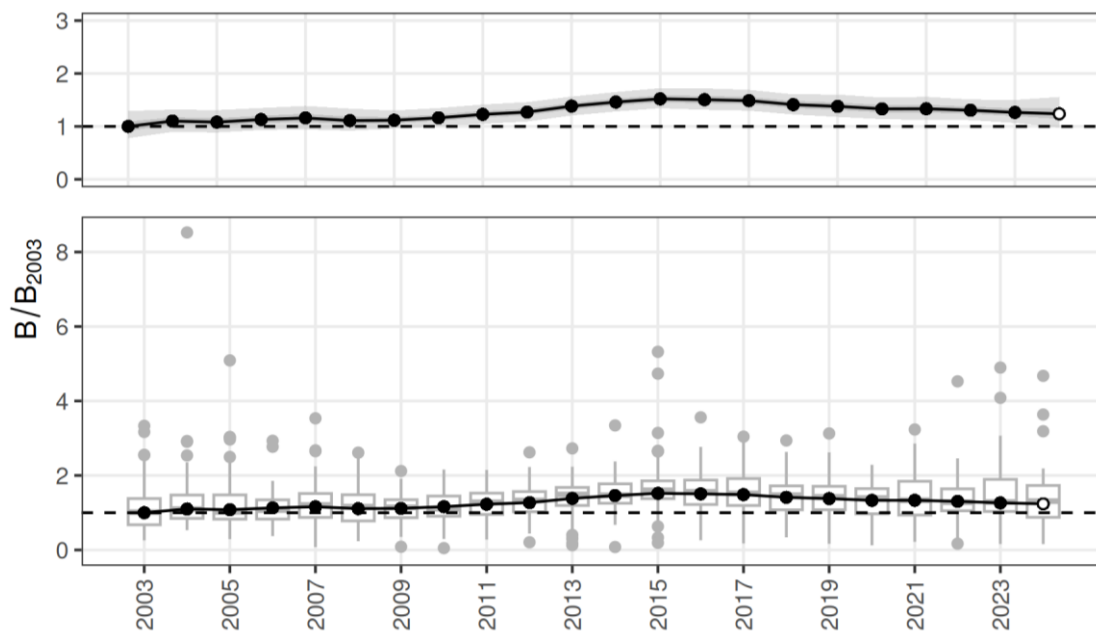
Source: own elaborations based on ICES data.

Figure 50. Trend in B/B_{2003} (based on 58 stocks).



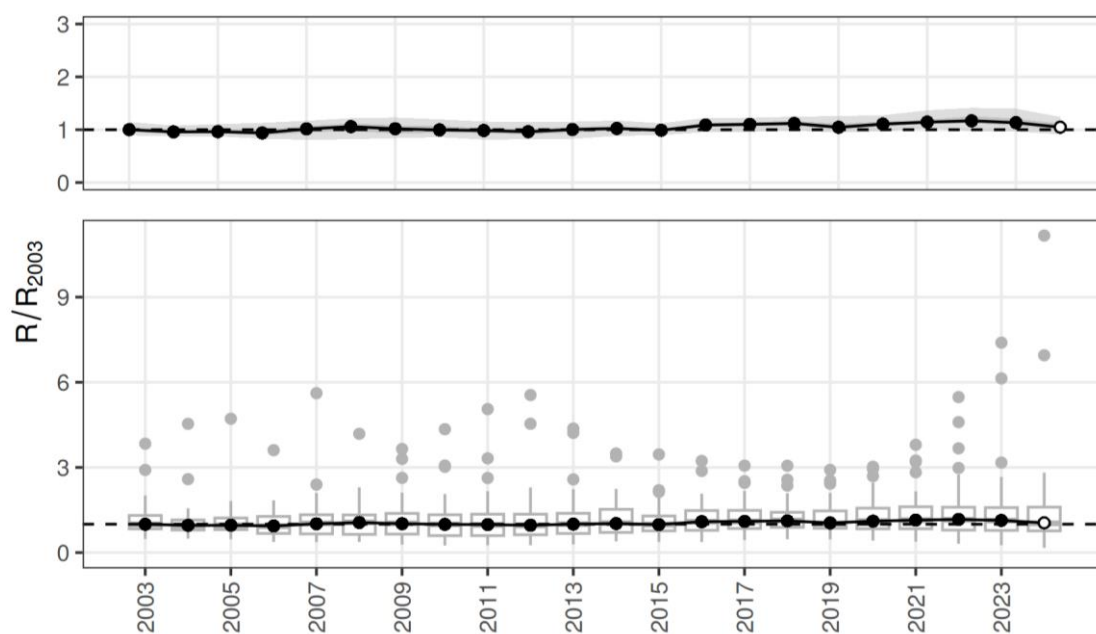
Source: own elaborations based on ICES data.

Figure 51. Trend in B/B_{2003} for category 3 stocks (based on 56 stocks).



Source: own elaborations based on ICES data.

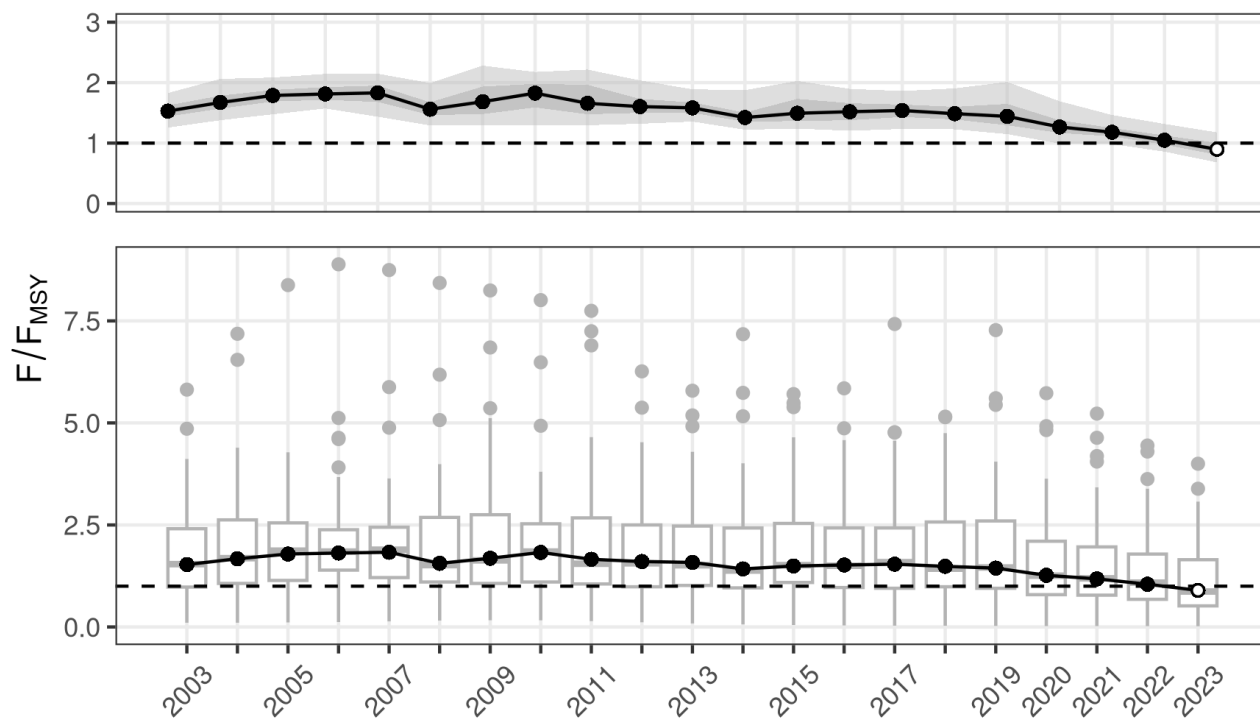
Figure 52. Trend in R/R_{2003} (based on 59 stocks).



Source: own elaborations based on ICES data.

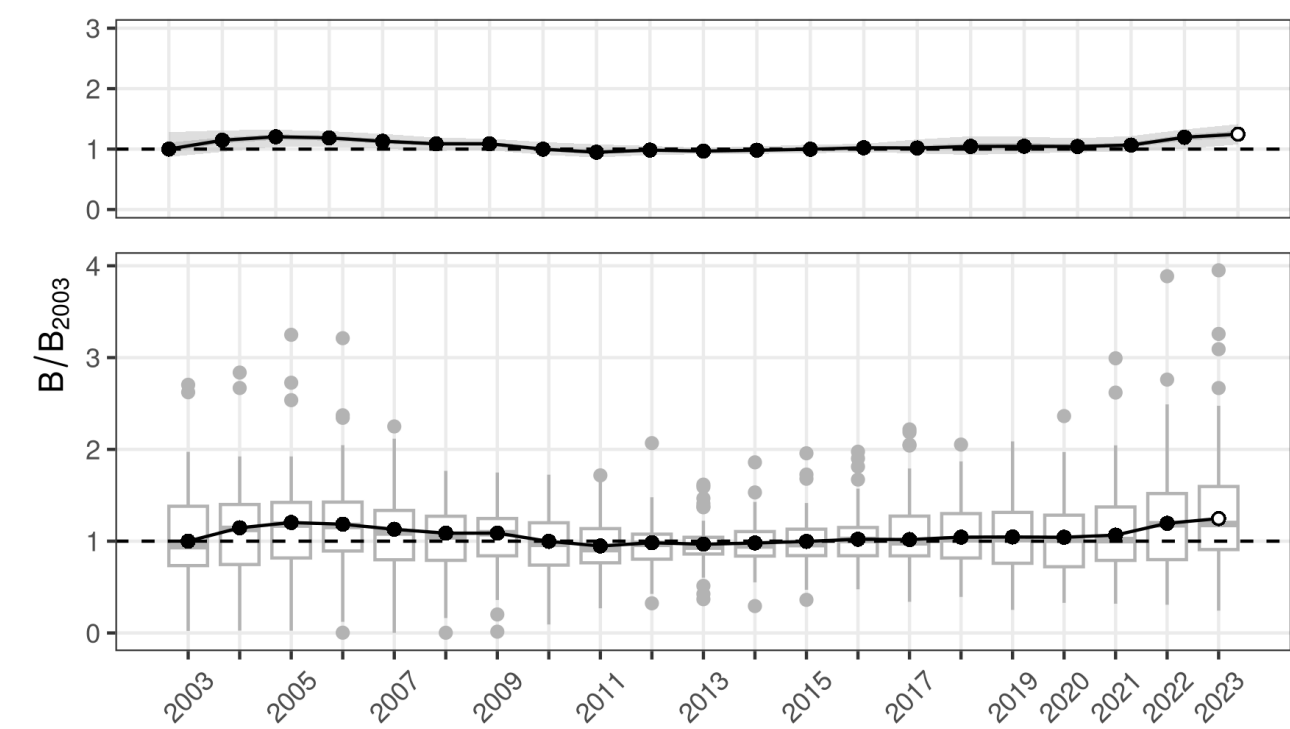
15.2 Mediterranean and Black Seas

Figure 53. Trend in F/F_{MSY} (based on 67 stocks).



Source: own elaborations based on GFCM and STECF data.

Figure 54. Trend in B_{std}/B_{2003} (based on 68 stocks).

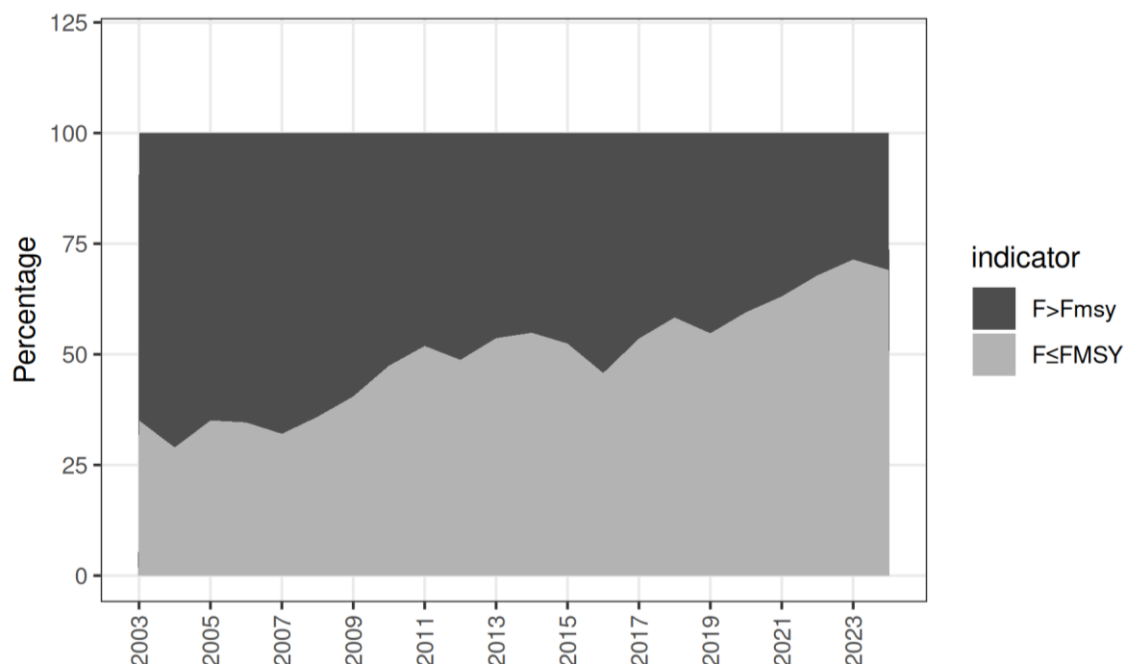


Source: own elaborations based on GFCM and STECF data.

16 Annex 5: Design based indicators in percentage

16.1 Northeast Atlantic

Figure 55. Percentage of stocks by year for which fishing mortality (F) was above/below F_{MSY} .



Source: own elaborations based on ICES data.

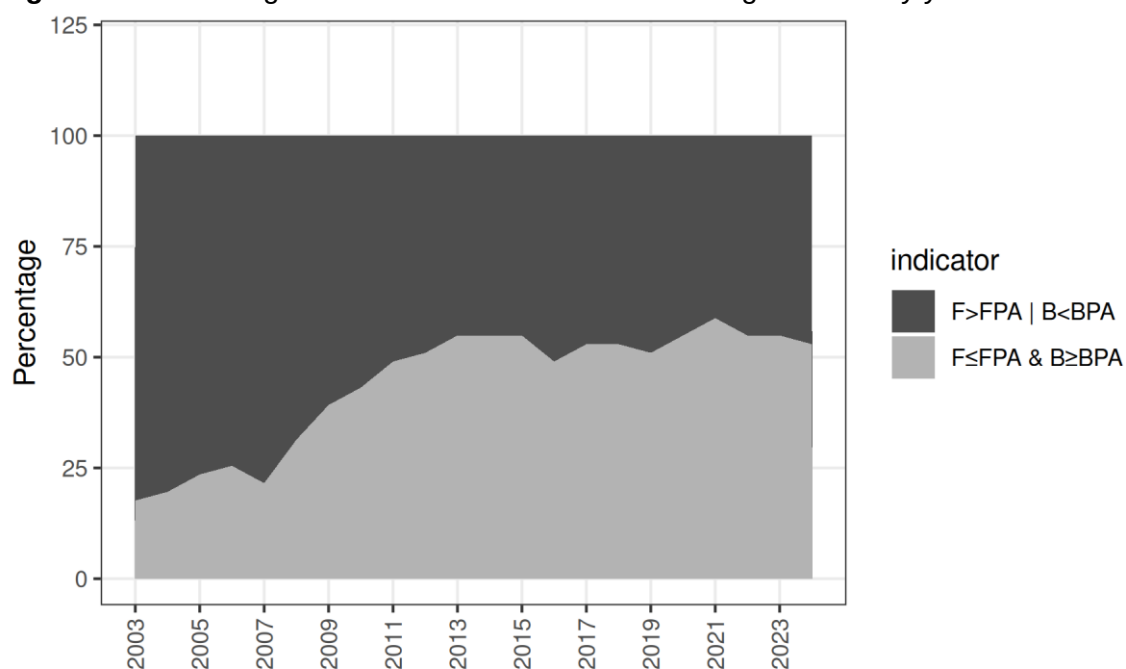
Table 36. Percentage of stocks by year for which fishing mortality (F) was above/below F_{MSY} .

Status	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
$F > F_{MSY}$	65	71	65	65	68	64	59	53	48	51	46
$F \leq F_{MSY}$	35	29	35	35	32	36	41	47	52	49	54

Percentiles	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$F > F_{MSY}$	45	48	54	46	42	45	40	37	32	29	31
$F \leq F_{MSY}$	55	52	46	54	58	55	60	63	68	71	69

Source: own elaborations based on ICES data.

Figure 56. Percentage of stocks outside/inside safe biological limits by year.



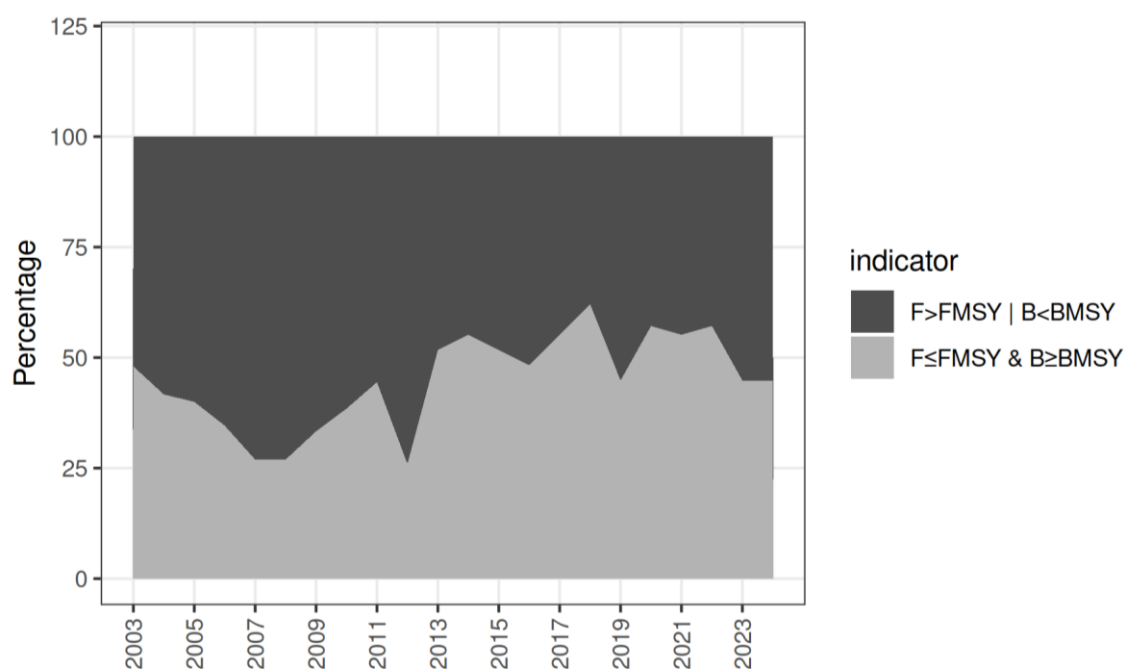
Source: own elaborations based on ICES data.

Table 37. Percentage of stocks outside/inside safe biological limits by year.

Status	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
$F > F_{PA}$ or $SSB < B_{PA}$	82	80	76	75	78	69	61	57	51	49	45
$F \leq F_{PA}$ and $SSB \geq B_{PA}$	18	20	24	25	22	31	39	43	49	51	55
Percentiles	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$F > F_{PA}$ or $SSB < B_{PA}$	45	45	51	47	47	49	45	41	45	45	47
$F \leq F_{PA}$ and $SSB \geq B_{PA}$	55	55	49	53	53	51	55	59	55	55	53

Source: own elaborations based on ICES data.

Figure 57. Percentage of stocks with $F > F_{MSY}$ or $SSB < B_{MSY}$ and percentage of stocks with $F \leq F_{MSY}$ and $SSB \geq B_{MSY}$.



Source: own elaborations based on ICES data.

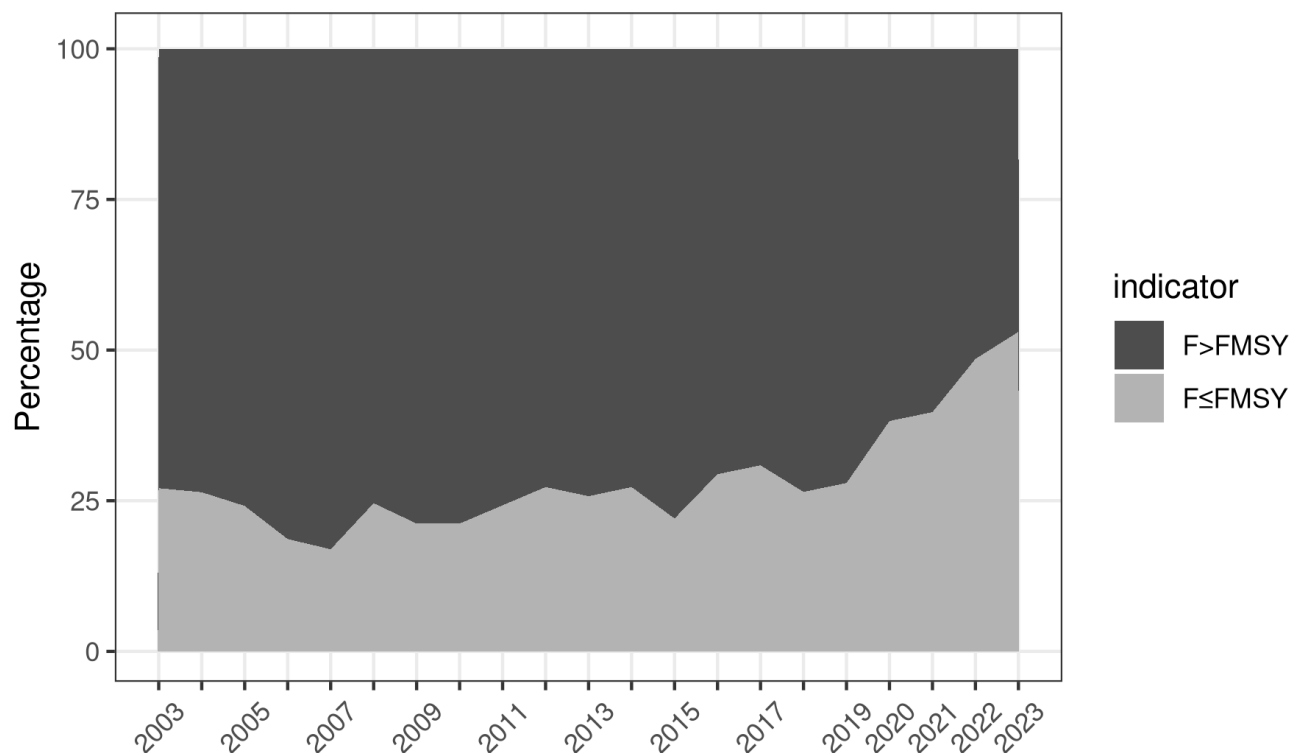
Table 38. Percentage of stocks with $F > F_{MSY}$ or $SSB < B_{MSY}$ and percentage of stocks with $F \leq F_{MSY}$ and $SSB \geq B_{MSY}$.

Status	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
$F > F_{MSY}$ or $SSB < B_{MSY}$	52	58	60	65	73	73	67	62	56	74	48
$F \leq F_{MSY}$ and $SSB \geq B_{MSY}$	48	42	40	35	27	27	33	38	44	26	52
Percentiles	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$F > F_{MSY}$ or $SSB < B_{MSY}$	45	48	52	45	38	55	43	45	43	55	55
$F \leq F_{MSY}$ and $SSB \geq B_{MSY}$	55	52	48	55	62	45	57	55	57	45	45

Source: own elaborations based on ICES data.

16.2 Mediterranean and Black Seas

Figure 58. Percentage of stocks by year for which fishing mortality (F) was above/below F_{MSY} .



Source: own elaborations based on GFCM and STECF data.

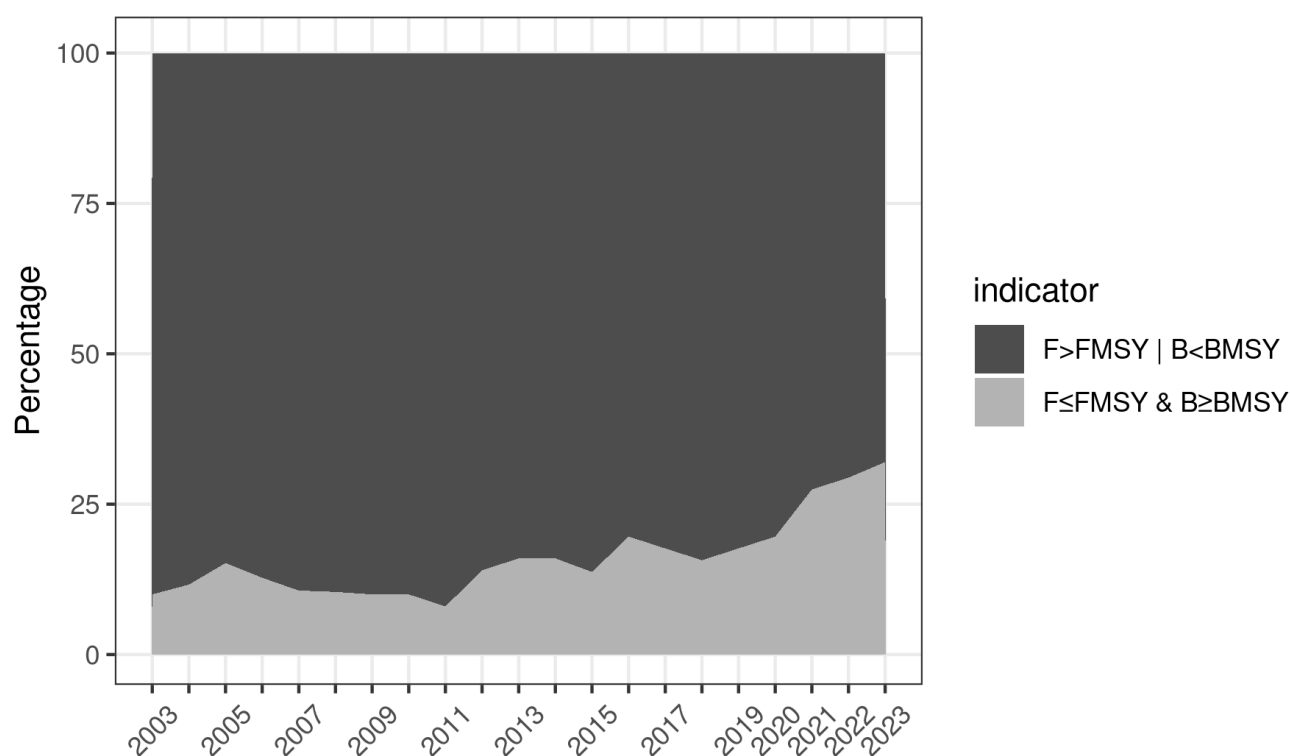
Table 39. Percentage of stocks by year for which fishing mortality (F) was above/below F_{MSY} .

Status	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
$F > F_{MSY}$	73	74	76	81	83	75	79	79	76	73	74
$F \leq F_{MSY}$	27	26	24	19	17	25	21	21	24	27	26

Percentiles	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$F > F_{MSY}$	73	78	71	69	74	72	62	60	51	47	-
$F \leq F_{MSY}$	27	22	29	31	26	28	38	40	49	53	-

Source: own elaborations based on GFCM and STECF data.

Figure 59. Percentage of stocks with $F > F_{MSY}$ or $SSB < B_{MSY}$ and percentage of stocks with $F \leq F_{MSY}$ and $SSB \geq B_{MSY}$.



Source: own elaborations based on GFCM and STECF data.

Table 40. Percentage of stocks with $F > F_{MSY}$ or $SSB < B_{MSY}$ and percentage of stocks with $F \leq F_{MSY}$ and $SSB \geq B_{MSY}$.

Status	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
$F > F_{MSY}$ or $SSB < B_{MSY}$	90	88	85	87	89	90	90	90	92	86	84
$F \leq F_{MSY}$ and $SSB \geq B_{MSY}$	10	12	15	13	11	10	10	10	8	14	16

Percentiles	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$F > F_{MSY}$ or $SSB < B_{MSY}$	84	86	80	82	84	82	80	73	71	68	-
$F \leq F_{MSY}$ and $SSB \geq B_{MSY}$	16	14	20	18	16	18	20	27	29	32	-

Source: own elaborations based on GFCM and STECF data.

16.3 EU Waters

Figure 60. Percentage of stocks by year for which fishing mortality (F) was above/below F_{MSY} .

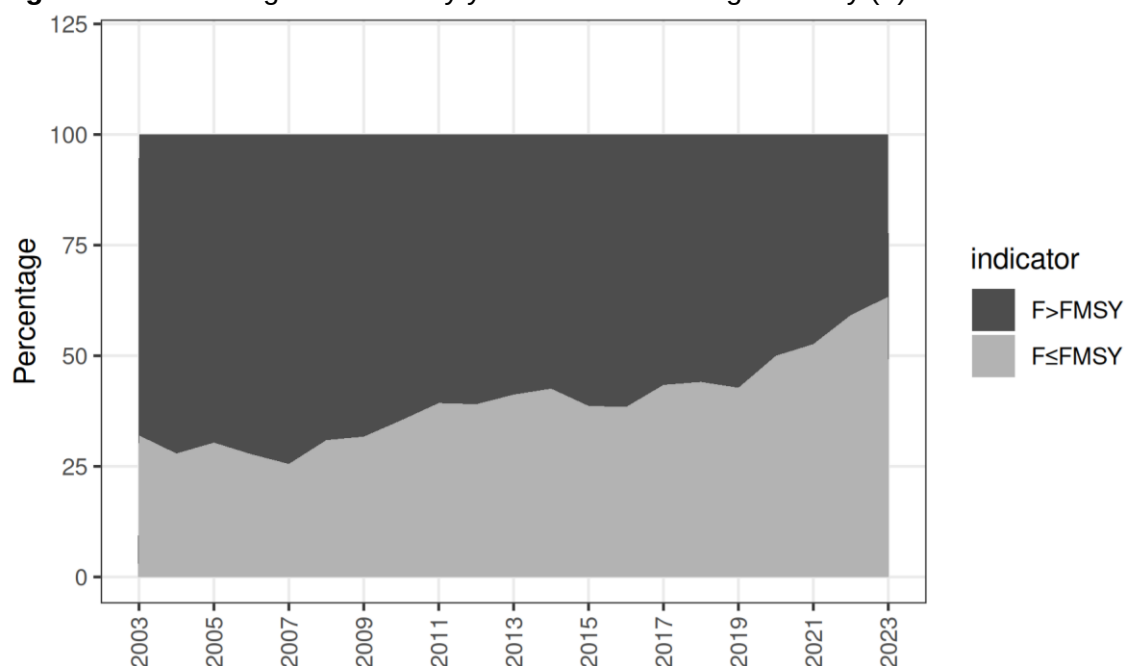


Table 41. Percentage of stocks by year for which fishing mortality (F) was above/below F_{MSY} .

Status	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
$F > F_{MSY}$	68	72	70	72	74	69	68	65	61	61	59
$F \leq F_{MSY}$	32	28	30	28	26	31	32	35	39	39	41

Percentiles	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
$F > F_{MSY}$	57	61	62	57	56	57	50	47	41	37	-
$F \leq F_{MSY}$	43	39	38	43	44	43	50	53	59	63	-

Source: own elaborations based on ICES, GFCM and STECF data.

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