Report of the 2026 ICCAT Albacore Stock Assessment Meeting

(Hybrid/Madrid, Spain, 22-25 June 2026)

The results, conclusions and recommendations contained in this Report only reflect the view of the Albacore Species Group. Therefore, these should be considered preliminary until the SCRS adopts them at its annual Plenary meeting and the Commission revise them at its annual meeting. Accordingly, ICCAT reserves the right to comment, object and endorse this Report, until it is finally adopted by the Commission.

1. Opening, adoption of agenda and meeting arrangements

The meeting was held from 22 to 25 June 2026 in hybrid format at the ICCAT Secretariat in Madrid, Spain. The meeting chairs, Haritz Arrizabalaga (EU-Spain) and Bruno L. Mourato (Brazil), opened the meeting. The ICCAT Executive Secretary welcomed and thanked the participants. The Chairs proceeded to review the agenda, which was adopted without changes (**Appendix 1**).

The list of participants is included in **Appendix 2.** The list of SCRS documents and presentations provided at the meeting is attached as **Appendix 3**. The abstracts of all SCRS documents and presentations provided at the meeting are included in **Appendix 4**. The following served as rapporteurs:

Sections	***Rapporteur***
Items 1, 9	M. Ortiz
Item 2	C. Mayor, M. Ortiz
Item 3	L.G. Cardoso, E. Kikuchi, R. Santa 'Ana, B. Mourato, A. Kimoto, M. Ortiz
Item 4	G. Merino, A. Urtizberea, G. Correa, H. Arrizabalaga
Item 5	B. Mourato, J. Ortiz de Urbina, H. Arrizabalaga
Item 6	B. Mourato, J. Ortiz de Urbina, H. Arrizabalaga
Item 7	B. Mourato, J. Ortiz de Urbina, H. Arrizabalaga
Item 8	B. Mourato, J. Ortiz de Urbina, H. Arrizabalaga

2. Review of updates to data inputs (limited to updates since the Data Preparatory Meeting)

The Secretariat provided an update of the fisheries statistics data for albacore stocks since the Albacore Data Preparatory Meeting in April 2026. It was indicated that few CPCs have submitted catch data of north Atlantic albacore for 2025. It was clarified that no new information has been provided aiming the South Atlantic albacore stock assessment.

The Secretariat also provided links for the dashboards of fisheries statistics of albacore and other species, inviting national scientists to review current information and communicate with the Secretariat if they have questions or comments on the available data. Finally, it was noted that in September 2026 the fisheries statistics of 2025 will be available and the Group can review the assumptions of catch for 2025 used for the South Atlantic stock projections and for the evaluation of Exceptional Circumstances of the North Atlantic albacore and final Management Procedure (MP) evaluation.

3. South Atlantic assessment models

3.1 JABBA

3.1.1 Model settings

Document SCRS/2026/159 presented preliminary stock assessment results for South Atlantic albacore using the Bayesian state-space surplus production model JABBA (Just Another Bayesian Biomass Assessment; Winker *et al*., 2018). The analyses followed the recommendations developed during the Albacore Data Preparatory Meeting of 2026 and were based on the updated total catch series for 1956-2024 together with standardized CPUE indices representing the principal fisheries exploiting the stock.

The abundance indices considered in the analyses included standardized longline CPUE series from Chinese Taipei, Japan, and a joint Brazil-Uruguay longline index, as well as a baitboat index from the South African fishery (See Table 9 of the Albacore Data Preparatory Meeting Report in 2026). Distinct combinations of these indices were explored to evaluate the influence of index selection on stock status estimates.

The Group reviewed the uncertainty grid developed for the assessment, which considered alternative production functions, productivity assumptions, and CPUE configurations. Two production functions were evaluated: a Fox production function, maintained for continuity with previous assessments, and a Pella-Tomlinson production function informed by priors derived from life-history parameters defined by an Age Structured Equilibrium Models (ASEM) (Winker *et al.*, 2019; Winker *et al.*, 2020). Alternative prior distributions for the intrinsic rate of population increase (r) and different assumptions regarding the shape parameter (B_{MSY}/K) were also incorporated.

Four scenarios were presented:

- Continuity run: replication of the model structure adopted in the 2020 stock assessment, using the Fox production function and the historical set of abundance indices.
- S01 (CR All): continuity configuration using the complete set of available standardized CPUE indices.
- S02 (ASEM): scenario incorporating life-history informed priors and a Pella-Tomlinson production function with same set of indices of the continuity run.
- S03 (ASEM All): ASEM configuration combined with the complete set of available standardized CPUE indices.

During the discussion, the Group requested clarification regarding the derivation of the life-history informed priors used in the ASEM scenarios. It was clarified that the priors were derived using the 50th percentile estimates from the life-history parameter distributions, since the life-history using the 25th and 75th percentiles (i.e. uncertainty grid) provided very similar priors and did not result in different trajectories when used in the models. Therefore, the authors decided to report only with the 50th percentile.

The Bayesian posterior distributions were estimated via MCMC using five independent chains, each with 30,000 iterations, a burn-in period of 5,000 iterations, and a thinning interval of 5. Given that the main source of uncertainty in the assessment was linked to the behavior of certain abundance indices, the Group requested the analysts undertake additional runs to evaluate the influence of individual CPUE series on the model outputs. These runs were based on the JABBA implementation of the Pella-Tomlinson production model, configured with the median (50th percentile) values for growth and natural mortality (M), consistent with the reference parameterization adopted for Stock Synthesis framework (SS3). Starting from the base run (S03), which incorporates all available CPUE series, two additional runs were requested by the Group by sequentially excluding the CTP_LL_TB02 and BRAURY_LL indices.

3.1.2 Diagnostics

The Group reviewed a suite of diagnostics, including residual analyses, runs tests, prior-posterior comparisons, retrospective analyses, and hindcasting cross-validation. The diagnostic work for the South Atlantic albacore JABBA assessment evolved across two days, moving from a broad exploration of model structure and index configuration toward a narrower, more targeted investigation of relative abundance indices as a possible new axis of uncertainty to be included in the uncertainty grid.

In a first instance, four scenarios were tested in a 2×2 design crossing production function/priors (Fox - continuity priors vs. Pella–Tomlinson - ASEM priors) with index set (the historical set used for continuity versus the full extended set including BRAURY_LL and ZAF_BB indices). Across all four runs, the model tracked the observed indices reasonably well, and the fits were primarily sensitive to which indices were included rather than to the choice of production function. The continuity set of indices produced a Root Mean Square Error (RMSE) of around 35.6%, while the full index set lowered this to roughly 26.9%, with Fox and Pella–Tomlinson yielding nearly identical patterns. The randomness of residuals, assessed through runs tests, showed that CTP_LL01, JPN_LL01 and ZAF_BB consistently passed, whereas CTP_LL02 and URY_LL_OLD systematically failed regardless of the production function used, pointing to residual structure tied to the data themselves rather than to model assumptions. A closer look at the CPUE conflicts confirmed this picture, URY_LL_OLD was identified as the main driver of large residuals, with negative spikes of roughly -1.5 between 1985 and 2010, while the runs incorporating the full set of indices displayed more randomly scattered residuals and lower overall error.

Process error behaved consistently with this pattern, remaining tight around zero in the continuity and S02 runs but widening considerably (±0.2 to ±0.3) in the full index runs, which also showed a persistent negative trend after 2010, suggesting a tendency to overestimate biomass in recent years. Despite these signals, the retrospective analysis indicated negligible bias across all scenarios, with Mohn's ρ generally below |0.1|.

Hindcasting cross-validation, reinforced the asymmetry already visible in the residual diagnostics, ZAF_BB showed reasonable predictive skill (Mean Absolute Scaled Error (MASE) around 1.18–1.24), CTP_LL02 performed close to a naïve baseline (MASE around 1.35–1.37), while BRAURY_LL was consistently the hardest series to forecast (MASE above 2), already foreshadowing the index-specific problems that would be investigated more directly during the meeting.

Building directly on these findings, the Group narrowed the focus to the Pella-Tomlinson structure alone and used the full-index run (S03 · ASEM All) as the new reference, from which two new runs were derived by sequentially excluding the two indices flagged to be a new axis of uncertainty for this assessment, CTP_LL02 and BRAURY_LL. The CPUE fits remained stable across the three runs (**Figure 1**). Runs tests continued to detect non-random residual patterns in scenarios that drop the BRAURY_LL index (**Figure 2**). On the other hand, in the scenario where the CTP_LL_TB02 index was dropped, all remaining indices had passed the random test. When residual plots were examined directly, removing BRAURY_LL produced the best overall result in terms of diagnostics, with RMSE dropping to 21.8%, compared with 24.5% for the run excluding CTP_LL_TB02 and 26.9% for the full index run (**Figure 3**).

Process error patterns were broadly similar across the three runs, without major structural differences in the magnitude of uncertainty (**Figure 4**). However, even if not statistically significant, the negative trends observed at the end of the process error series became more prominent in the scenario where the CTP_LL_TB02 was removed from the model. The retrospective diagnostics again showed negligible bias, with Mohn's ρ remaining below |0.2| in absolute terms (**Figure 5-8**). The hindcasting results were consistent with initial results presented in SCRS/2026/159, the run excluding BRA-URY_LL achieved the best predictive performance for both CTP_LL02 (MASE = 0.894) and ZAF_BB (MASE = 1.1), while the full-index run produced the weakest forecasts (MASE = 2.251 for CTP_LL02 and 2.731 for BRAURY_LL), confirming that the inclusion of BRA-URY_LL was actively degrading the model's predictive skill rather than merely adding noise (**Figure 9**).

3.1.3 Stock status results

The first four scenarios shared a common temporal pattern, B/B_{MSY} starts at higher levels early in the series, declines progressively to a low point in the late 1990s/early 2000s, and then partially recovers. The meaningful difference lies in the terminal level. In the continuity scenarios (historical index set), terminal biomass remains above B_{MSY}, whereas in the full-index scenarios (S01 and S03) it sits closer to 1 reflecting greater uncertainty. This pattern repeats almost identically between Fox and Pella–Tomlinson, confirming that the choice of production function has minimal effect on the estimated trajectory. The same holds for F/F_{MSY}, which oscillates around or below 1 throughout the series, with a similarly closer to threshold reading in the full-index scenarios.

The two new sensitivity runs produced trajectories that diverge clearly in the final third of the series. When BRAURY_LL is excluded, B/B_{MSY} stays at higher levels (between 1.5 and 2 for most of the recent series), and F/F_{MSY} remains below 1. When CTP_LL02 is removed instead, B/B_{MSY} drops to near or below 1 by the end of the series, with wider credibility intervals, and F/F_{MSY} exceeds 1. The full-index scenario (All) sits in an intermediate position between these two trajectories, reflecting the uncertainty introduced by the indices in the uncertainty grid (**Figure 10**).

3.1.4 Projections

The Group decided not to conduct projections based on JABBA results.

3.2 Stock Synthesis

3.2.1 Model settings

Document SCRS/2026/156 presented the first age-structured stock assessment for South Atlantic albacore using the Stock Synthesis (SS3) framework. The assessment integrated total catches, standardized abundance indices, and length-composition data covering the period 1956–2024. The model was configured as a single-area, single-sex population with annual time steps and Beverton-Holt stock-recruitment relationship. Recruitment variability (σR) and steepness (h) were fixed (see Table 5.2 of the Albacore Data Preparatory meeting report in 2026), while equilibrium recruitment (R_0) was estimated internally by the model.

The assessment incorporated five fishing fleets representing the principal fisheries exploiting South Atlantic albacore. Standardized abundance indices were available for four fleets and included Chinese Taipei longline, Japan longline, Brazil-Uruguay longline, and South African baitboat CPUE series. Length-composition data were available for all five fleets and were incorporated using 5-cm fork-length intervals.

Life-history uncertainty was represented through a grid of nine scenarios combining three alternative growth parameterizations and three alternative natural mortality estimates corresponding to the 25th, 50th, and 75th percentiles of the distributions agreed upon during the Albacore Data Preparatory Meeting in 2026. Growth parameters, natural mortality, and maturity assumptions followed the recommendations developed during the 2026 data preparation process. Additional sensitivity analyses were conducted to evaluate alternative maturity ogives and the influence of the Japanese longline historical abundance index on model results.

The Group noted that preliminary likelihood profile analyses indicated limited information in the available data to reliably estimate growth parameters and steepness within the model. Consequently, growth parameters were fixed according to the predefined biological scenarios, and steepness was fixed at 0.75 for all model runs.

3.2.2 Diagnostics

The Group reviewed a comprehensive suite of diagnostics, including residual analyses, runs tests, retrospective analyses, hindcast cross-validation, likelihood profiles, ASPM diagnostics, leave-one-out analyses, and jitter analyses (SCRS/2026/156). Overall, all model configurations converged successfully, with positive-definite Hessians and small final gradients, indicating stable model performance across the uncertainty grid. Retrospective analyses showed negligible retrospective patterns, with Mohn's rho values remaining within accepted ranges across scenarios. A jitter analysis based on ±10% perturbations to the initial parameter values provided no evidence of alternative minima and suggested that the models consistently converged to a stable solution.

The Group noted that recruitment deviations displayed similar temporal patterns across all Stock Synthesis scenarios and were broadly consistent with those estimated by the JABBA models (**Figure 11**). The Group considered that these patterns may reflect underlying environmental variability affecting recruitment dynamics, although no specific mechanisms were evaluated during the assessment.

The Group also noted that diagnostics consistently identified a conflict between the Brazil-Uruguay longline abundance index (BR-URY-LL) and the Chinese Taipei longline index (CTP-LL_TB2). This conflict was evident across multiple diagnostic analyses, including residual patterns, hindcast evaluations, R_0 likelihood profile, leave-one-out analyses, and ASPM diagnostics, and was considered the primary source of uncertainty affecting stock status estimates (**Figure 12** and **13**). Hindcast analyses indicated poor predictive performance for both BR-URY-LL and CTP-LL_TB2 compared with the other abundance indices, reflecting the conflicting signals in these series. ASPM diagnostics further suggested that the recent decline observed in the BR-URY-LL index was not consistent with the remaining indices of abundance and catch information. Similarly, R_0 likelihood profiles revealed contrasting signals between these two indices, while leave-one-out analyses produced substantially different stock trajectories depending on whether BR-URY-LL or CTP-LL_TB2 was excluded. In contrast, excluding any of the remaining indices resulted in only minor changes to model outputs.

To facilitate comparison among alternative model configurations, the Group noted the value of summarizing the diagnostic results across all scenarios in a single comparative table (**Table 1**). Overall, the diagnostic analyses provided a useful basis for evaluating model performance, identifying sources of uncertainty, and comparing alternative model configurations.

Based on the conflict between the BR-URY-LL and CTP-LL_TB2 abundance indices identified through the diagnostic analyses, two additional scenarios were evaluated. In one scenario, the BR-URY-LL index was excluded; in the other, the CTP-LL_TB2 index was excluded. The exclusion of either index resulted in improvements across several diagnostic measures, including residual patterns, hindcast performance, and ASPM diagnostics (**Figures 14-16**). The Group noted that these results highlight the influence of these indices on model outputs and support consideration of structural uncertainty arising from conflicting abundance signals when interpreting assessment results.

3.2.3. Stock status results

The initial runs with Stock Synthesis, evaluated the uncertainty associated with key life-history assumptions. A grid of nine model configurations was developed by combining three alternative growth parameterizations (25^{th}, 50^{th} and 75^{th}quantiles of the stochastic growth distributions) with three alternative natural mortality values (25^{th}, 50^{th} and 75^{th} quantiles).

Overall, the uncertainty grid resulted in differences in estimates of absolute biomass and recruitment, with most of the variation in biomass estimates being driven by alternative natural mortality assumptions rather than by growth. In contrast, relative stock status indicators were comparatively less sensitive to alternative biological assumptions. Consequently, the overall perception of stock status remained largely unchanged across the uncertainty grid. Likewise, equilibrium yield curves were highly consistent across the alternative configurations despite the differences observed in biomass and recruitment estimates.

Given that the main source of uncertainty is associated with the indices of abundance, particularly when compared with the uncertainty arising from the assumptions about biological parameters, the Group agreed that the uncertainty analysis should focus primarily on the indices of abundance primarily. Therefore, the Group agreed to use the central estimates (i.e. 50^{th} percentiles) of the growth and natural mortality values.

To explore the uncertainty, the Group agreed to use three alternative Stock Synthesis scenarios: (1) a model including all available abundance indices, (2) a model excluding CTP-LL_TB2, and (3) a model excluding BR-URY-LL, considering scenarios that excluded a given index as sensitivity runs. The Group noted that the improvements in diagnostic performance when either BR-URY-LL or CTP-LL_TB2 were excluded and indicated that these indices provide conflicting signals regarding recent stock dynamics.

The three CPUE scenarios produced similar estimates of virgin spawning biomass (SSB_0) and MSY indicating similar population dynamics, but markedly different perceptions of recent stock status (**Figure 17**). Estimates of SSB_0 varied only moderately among scenarios, ranging from 114,274 t to 123,536 t, and MSY was also relatively stable, ranging from 23,519.6 t to 25,148.4 t. This consistency is also reflected in the equilibrium yield curves, which were closely aligned across scenarios and showed similar estimated productivity of the stock. In contrast, recent spawning biomass (SSB_{2024}) and relative stock status differed substantially among scenarios.

The model including all abundance indices produced an intermediate estimate of stock status in 2024, with SSB_{2024}/SSB_{MSY} = 0.94 and F_{2024}/F_{MSY} = 0.90. Excluding BR-URY-LL resulted in a more optimistic stock trajectory, with higher recent spawning biomass and the stock estimated to be above SSB_{MSY} and below F_{MSY} in 2024 (SSB_{2024}/SSB_{MSY} = 1.29; F_{2024}/F_{MSY} = 0.77). Conversely, excluding CTP-LL_TB2 produced a more pessimistic trajectory, with lower recent spawning biomass and the stock estimated to be below SSB_{MSY} and above F_{MSY} in 2024 (SSB_{2024}/SSB_{MSY} = 0.43; F_{2024}/F_{MSY} = 1.35). Recruitment trajectories also diverged in recent years, particularly after 2010, with the scenario excluding BR-URY-LL producing higher recent recruitment and the scenario excluding CTP-LL_TB2 producing lower estimates.

These results indicate that the conflicting CPUE signals primarily affect the inferred recent stock trajectory and current stock status, rather than the estimated unfished biomass or long-term productive capacity of the stock.

3.2.4 Projections

The Group agreed that projections for the South Atlantic albacore stock would be conducted based on the one Stock Synthesis scenario that includes all indices of abundance. Stochastic projections will be done intersessionally and provided as an SCRS document prior to the September 2026 Group meeting.

The Group discussed and agreed to the following settings for the stock projections:

- Use Stock Synthesis results with all CPUEs.
- Assume a catch value of 21,840 t for the 2025 and 2026 projection years. This value is the estimated 3-year average (2022-2024) of total catch input used in the stock assessment.
- Use a 3-year average of the catch distribution by fleet (2022-2024) and its corresponding selectivities for the projection period.
- Set constant catch projection scenarios as follows: from 16,000 to 20,000 t in 2,000 t increments, 21,000 to 30,000 t in 1,000 t increments, and 32,000 to 38,000 t in 2,000 t increments.
- The projection period for constant catch scenarios will be from 2027 to 2039.
- Apply the Multivariate Lognormal (MVLN) approach for the stochastic projections and run 10,000 iterations.
- Future recruitment starting in 2025 will be predicted from the estimated stock recruitment relationship for this model with zero annual recruitment deviation.

3.3 Synthesis of South Atlantic assessment results

The Group reviewed the results from two stock assessment model platforms (JABBA and Stock Synthesis) during the meeting. The Group confirmed consistent results between the two stock assessment model platforms (**Figure 18**).

The Group concluded that it would be preferable to move forward with the Stock Synthesis scenarios to estimate the current stock status of the South Atlantic albacore. This decision was guided by the feasibility and flexibility of extending the SS3 scenarios into the Management Strategy Evaluation (MSE) framework that is being initially developed for the South Atlantic albacore stock.

Following an extensive review of the alternative assessment scenarios, the Group agreed that the Stock Synthesis model, including all available abundance indices, should be retained as the primary assessment model for stock status estimation, projections and providing management advice.

The Group recognized that the alternative scenarios excluding either the Chinese Taipei or the Brazil–Uruguay longline CPUE series provided valuable insights into the influence of conflicting abundance signals. However, the Group decided to estimate the stock status and to provide management advice using only the scenario with all the CPUEs.

The Group agreed that both exclusion scenarios should be regarded as sensitivity analyses designed to evaluate the influence of individual CPUE series on assessment results and to identify the principal sources of uncertainty associated with conflicting abundance trends.

The Group recognized that the uncertainty represented by the selected scenario does not fully encompass all plausible sources of uncertainty affecting stock status estimates and future projections. In particular, the sensitivity analyses demonstrated that conflicting abundance signals among the available CPUE series remain an important source of structural uncertainty, while additional uncertainty might be associated with alternative biological assumptions. Consequently, the confidence intervals from the selected assessment should not be interpreted as representing the full range of uncertainty surrounding current stock status and future stock trajectories.

The Group agreed that these uncertainties are more appropriately addressed within the ongoing southern albacore MSE process. Accordingly, the principal sources of uncertainty identified during the assessment, including alternative CPUE configurations and biological hypotheses, should be incorporated into the operating model conditioning process to ensure that candidate management procedures are evaluated for robustness to the uncertainties affecting stock dynamics, assessment results, and future management performance.

The selected Stock Synthesis model (i.e. reference model) indicated that relative spawning biomass (SSB/SSB_{MSY}) declined rapidly during the early catch time series decreasing from levels exceeding four times SSB_{MSY} in the late 1950s to values close to SSB_{MSY} by the mid-1960s (**Table 2** and **Figure 19**). Since then, relative spawning biomass has fluctuated around the management reference point, with intermittent periods both above and below SSB_{MSY}. During the most recent decade, median estimates remained close to the target level.

Fishing mortality increased progressively during the initial period, reaching levels close to or exceeding F_{MSY} from the 1970s onward (**Table 2** and **Figure 19**). Thereafter, fishing mortality exhibited substantial interannual variability but generally remained around the management reference point.

The Kobe posterior of the Stock Synthesis assessment reference model (**Figure 20**) suggests a 31.4% probability that South Atlantic albacore stock in 2024 was neither overfished ($SSB_{2024} \geq SSB_{MSY}$) nor subject to overfishing ($F_{2024} \leq F_{MSY}$) (i.e. in the green quadrant of the Kobe plot), and a 39.5% probability that the stock is currently overfished but not subject to overfishing (i.e. in the yellow quadrant of the Kobe plot). The median of the current biomass levels (SSB_{2024}/SSB_{MSY} = 0.95 with 95% confidence interval of 0.57 and 1.62) was below the MSY level, and the median of the current fishing mortality rate was also below F_{MSY} (F_{2024} / F_{MSY} =0.90 (0.62-1.31)). The median estimate of MSY was 24,333 (23,190- 25,476, 95% confidence interval) tons.

Overall, the selected assessment indicates that in 2024 the South Atlantic albacore stock was close to both biomass and fishing mortality MSY reference points. However, the relatively wide confidence intervals around the terminal estimates indicate that the stock could plausibly be either above or below the management targets, highlighting the remaining uncertainty associated with stock status.

The Group noted that the current assessment produced a different perception of stock status compared with the previous 2020 assessment. Several factors were considered responsible for these differences. First, the current assessment incorporated updated fisheries statistics, new size composition data and abundance indices that were not available in the previous assessments. Second, the transition from a surplus production model framework to an age-structured Stock Synthesis assessment resulted in a different characterization of stock productivity and population dynamics. The age-structured model suggested a less productive stock compared to the 2020 assessment and a slower rebuilding response of spawning biomass following reductions in fishing mortality, indicating a longer temporal lag between management actions and stock recovery associated with the maturity schedule of the population.

4. North Atlantic Management Strategy Evaluation (MSE)

4.1 Overview of the MSE framework

No new information was presented, but reference was made to the Trial Specifications Document (SCRS/2026/154).

4.2 Operating models

No new information was presented, but reference was made to the Trial Specifications Document (SCRS/2026/154).

4.3 Candidate management procedures (CMPs)

Document SCRS/2026/157 presented a preliminary evaluation of Candidate Management Procedures (CMPs) for North Atlantic albacore under the updated ICCAT MSE framework. The work builds on Rec. 21-04, integrating the 2023 benchmark stock assessment and revised operating models to reflect improved understanding of stock dynamics and fishery processes.

A limited set of CMPs was tested in response to Panel 2 guidance, including the current MP, variants with stricter stability constraints (±10% TAC change), empirical index-based approaches, model-based MPs using SPiCT (Pedersen and Berg, 2016) and a pseudo-constant catch rule.

4.4 Performance indicators and trade-offs

Performance was assessed through simulation across multiple operating models (OMs) using indicators of stock status relative to MSY reference points (e.g. B/B_{MSY}, F/F_{MSY}), safety (probability of biomass above B_{lim}), yield, and catch stability.

All CMPs maintain a high probability (>60%) of being within the Kobe green quadrant, indicating consistency with management objectives. Results indicate that empirical and pseudo-constant catch CMPs generally provide higher stability and favorable stock status, with the pseudo-constant catch option yielding the highest long-term catches. In contrast, model-based CMPs with $F_{target} = F_{MSY}$ show poorer performance in terms of biomass and higher fishing pressure. CMPs with $F_{target} = 0.8*F_{MSY}$ achieve a more balanced trade-off between conservation and yield. Using a stricter stability constraint (±10% TAC change) did not change performance substantially compared to the current constraint (+25/-20).

Robustness tests highlight the sensitivity of outcomes to reduced recruitment, while increased variability has limited impact. Overall, the current MP (Rec. 21-04) appears robust to the robustness tests that aimed to simulate climate change.

The Group recommended using the Shiny application as the main tool to present and explore the performance of CMPs to managers, noting that the application provides information on performance metrics, indicators and the description of each CMP. The Group also recommended improving the readability of the Shiny application by adding a legend to the time-series plots by CMP, particularly when all CMPs are displayed simultaneously. In addition, the Group recommended highlighting clearly in the Shiny application that the time series plots reflect catches during the historical period while predicted catch (proposed TACs in simulations) for the future period.

It was clarified that the OMs assume that, in recent years, stock dynamics have been strongly influenced by very high recruitment. Consequently, short-term increases in TACs are expected under some CMPs, but TACs subsequently decline as the stock returns to equilibrium recruitment conditions. The Group requested that the CMPs evaluated in the document be used to estimate the TAC for the period 2027–2029 in the event that any of them were adopted. The Group further noted that, if a model-based MP is to be recommended, including the current MP, Rec. 21-04 should at least be updated to reflect the biomass dynamic model used in this new round of MSE runs, namely SPiCT (Pedersen and Berg, 2016), and the available indices need to be updated as well. Therefore, the Group recommended updating Rec. 21-04 for the biomass dynamic model (SPiCT) in the estimator and the following indices of abundance: Spanish baitboat, Japan LL North (historical data), Japan LL South, China Taipei LL North, China Taipei LL South, US LL North, US LL South and Venezuelan LL (historical data).

The Group recommended that additional simulations be developed to evaluate cases where substantial differences occur between TAC and the catch in a given year for this stock. It was noted that such analyses were included in the previous round of the MSE (Merino *et al*., 2018) and that it would be desirable to repeat them in the current framework. The Group also noted that robustness tests assuming increased or decreased recruitment imply corresponding changes in MSY-based reference points. With respect to climate robustness tests, the Group discussed whether the current MP could be considered "climate safe". Based on the robustness tests, the CMP would respond to a 20% decline in recruitment by reducing the TAC, thereby allowing SSB recovery and stabilization. Although the recruitment-decline scenario showed wider tails than the reference models, particularly for F/F_{MSY}, the associated probabilities were very low, and both status and risk objectives were met. The Group therefore considered that the CMP could be regarded as "climate safe" to substantial (up to 20%) recruitment reductions, whether climate-driven or caused by other factors.

The Group noted that the analyses requested by the MSE subgroup to explore why different stability scenarios, had not converged when using empirical CMPs were completed. These scenarios show that the scenarios of +-10% and -20+25% maxTAC change do not converge in stock status in the long term, but larger maxTAC change scenarios do allow convergence, suggesting that the lack of convergence observed originally was actually due to the restrictions in TAC change. The Group also noted that the empirical CMPs allowing for increasing catch when the stock is estimated at higher abundance levels had also been completed and provide examples of CMPs calibrated to get higher yield and lower PGK values. Following discussion, the Group agreed to retain the seven CMPs evaluated in the document to illustrate CMP performance to the Commission.

4.5 Exceptional Circumstances

Presentation SCRS/2026/P/070 evaluated exceptional circumstances (ECs) for North Atlantic albacore under the current ICCAT Management Procedure (MP) framework (Rec. 21-04). It defines ECs as situations where model outputs fall outside the 2.5–97.5% percentile range derived from MSE testing, key data required for the HCR are unavailable or inappropriate, or total catch exceeds the TAC set by the MP.

The Group noted that the analysis did not detect exceptional circumstances precluding from application of the current MP. However, an update of these analyses will be provided during the Group meeting in September 2026, once the reported 2025 catch data is available.

4.6 MP Iteration

Document SCRS/2026/137 presented a preliminary stock assessment and application of the ICCAT Management Procedure (MP) for North Atlantic albacore using the biomass production model *mpb* (Kell *et al.*, 2017). The model integrates long-term catch data (1930–2025) and standardized CPUE indices from major fleets to estimate stock status, productivity, and MSY-based reference points.

Model diagnostics, including residual analyses, likelihood exploration, and retrospective patterns, indicate a robust fit and general consistency with previous assessments, while incorporating updated data and improved parameter estimates.

Results show that the stock is currently above B_{MSY} and fishing mortality is below F_{MSY}, indicating that it is neither overfished nor subject to overfishing. The stock remains in the Kobe green quadrant with very high probability (100%), reflecting a stock in good condition.

The application of the harvest control rule (HCR) under Rec. 21-04 yields a TAC advice for 2027–2029 above the allowable maximum. Therefore, the TAC is limited at 50,000 t.

5. Recommendations

For the South Atlantic albacore, the Group recommended continue efforts to improve CPUE standardization and the characterization of uncertainty in abundance indices used for stock assessment. Given the differing trends observed among the available CPUE series, further investigation is needed to better understand the factors driving these discrepancies, including differences in fleet dynamics, spatial and temporal coverage, fishing practices, gear characteristics and potential environmental influences on stock distribution and availability. The Group also recommended exploring the development and evaluation of a scientifically justified combined CPUE index, as it may provide a more robust representation of stock abundance by integrating information from multiple fisheries while reducing reliance on any single index.

The Group also recommended continuing the South Atlantic albacore MSE development process, using the results of the current stock assessment to condition the (reference and robustness) OMs and adequately integrate the main sources of uncertainty identified during the assessment, including sensitivities to biological and CPUE assumptions. Candidate management procedures should then be evaluated through simulation testing to determine their ability to achieve the agreed management objectives and provide management advice that is robust to uncertainty.

As for the northern albacore stock, the Group recommended that, if a model-based MP is to be continued, including the current MP, Rec. 21-04 should be updated to reflect the biomass dynamic model used in this new round of MSE runs, namely SPiCT (Pedersen and Berg, 2016), as well as the list of abundance indices that are now available and have been used in the last benchmark assessment as well as the testing of the candidate MPs.

The Group also recommended further investigating, within the updated MSE, the effects of the imperfect implementation of the TAC set by the MP, as was done with the original MSE.

6. Responses to the Commission

The Group revised and cleaned the list of potential responses identified by the Secretariat, and decided that, in 2026, only two responses were needed for northern Atlantic albacore (Rec. 21-04 para 4 and para 18, respectively). Drafts for these responses were elaborated and discussed by the Group and will be presented during the Group meeting in September 2026.

The Group reviewed the updated information regarding Mediterranean Albacore calibration of the larvae sampling gears and will prepare a Response to the Commission request of Rec. 24-08 para 11.

7. Review of the intersessional work tasks

With regards to the Mediterranean albacore, an online informal meeting is planned prior to the September 2026 Species Group meetings with the following objectives:

- To establish a network of researchers interested in contributing to the advancement of Mediterranean albacore research;
- To identify the current research activities and areas of expertise of participating researchers;
- To review the research topics identified during previous Albacore Species Group meetings, promote an open discussion on their relative priorities, and identify emerging research needs and new areas of interest;
- To develop a consensus document, endorsed by the participating research community, outlining priority research areas to support the sustainable management of Mediterranean albacore fisheries.

A report summarizing the outcomes of the meeting will be submitted to the September 2026 Group meeting.

As for the North Atlantic albacore stock, the following tasks were identified for the upcoming weeks:

- Update Exceptional Circumstances analysis with the final 2025 catch estimation;
- Update current MP iteration analysis with the final 2025 catch estimation;
- Update the USLL CPUE by area;
- Calculate the TAC that would arise from the seven CMPs.

As for the South Atlantic albacore stock, the following tasks were identified for the upcoming weeks:

- Stock stochastic projections will be done intersessionally and provided as an SCRS document prior to the Species Group meeting;
- Condition the reference OMs using the assessment results, including alternative OMs considering the uncertainties discussed during the assessment related to natural mortality, recruitment, growth, CPUEs and stock productivity;
- Start developing and evaluating candidate management procedures, including alternative harvest control rules and TAC-setting approaches. Start developing and evaluating simulations to assess the performance of candidate management procedures against the agreed management objectives and performance indicators;
- Present preliminary MSE results to the South Atlantic Albacore MSE Technical Team and the Group, and prepare an SCRS document summarizing the conditioned OMs, candidate management procedures and their performance.

8. Other matters

The Group revised the multiyear ALBYP plan that was put forward in 2025, including the priorities among tasks. It was noted that the progress made for different tasks had been already presented and discussed on earlier agenda items (namely the Biology and MSE sections) as input for the current meeting.

For the North Atlantic, the reproductive biology study is planned to be concluded in 2026, while tagging is planned to be conducted in the Bay of Biscay (smaller fish) and the Canary Islands/Galicia (large fish) soon.

SCRS/P/2026/034 provided a summary of the southern activities.

The biological studies have been presented under agenda item 2 and are planned to be finalized in 2027, although there yet remain some logistic difficulties regarding the transportation of samples and substantial uncertainty exists about growth of the southern stock. Tagging trials have not been successful and the Group noted that this could be improved if additional budget was allocated for dedicated tagging campaigns (instead of the current opportunistic approach), and additional scientific teams from different CPCs were embarked on the study.

SCRS/P/2026/038 provided a summary for the Mediterranean component of the ALBYP by priority topic.

The Group noted that the Balearic larval survey calibration study has started, and it is expected that results will be presented at the second intersessional meeting. The ALBYP Mediterranean network continues to advance coordinated research through expanding larval surveys, harmonized methodologies, new biological and fisheries data (notably from the Eastern Mediterranean), environmental data collection, and plans for an informal Mediterranean science meeting. Outcomes will be brought to the Albacore Species Group.

The Group will begin reviewing the research priorities within the Mediterranean ALBYP in September and update it for the next biennial cycle (2028-2029).

Finally, the Group mentioned the need to continue working on the improvement of Mediterranean albacore Task 1 and Task 2, especially for the historical period (see section 9). This is a recurrent issue where the ICCAT Secretariat has already invested substantial effort in the past. The Group noted that, unless statistics are improved, the ability to conduct robust assessments is impaired and might require substantial assumptions about the basic catch data series.

9. Adoption of the report and closure

The Report of the 2026 Albacore Stock Assessment Meeting was adopted during the meeting. The Chairs and the ICCAT Secretariat thanked all the participants for their efforts to work effectively and efficiently throughout the meeting. The meeting was adjourned.

References

Anonymous. Report of the 2026 ICCAT albacore Data Preparatory Meeting (Hybrid, April 13 to 17, 2026 Pasaia, Spain). Col. Vol. Sci. Pap. ICCAT, 83(3), SCRS/2026/005: 1-89 (2026)

Kell L., Arrizabalaga H., De Bruyn P., Merino G., Mosqueira I., Sharma R., and Ortiz de Urbina J. 2017. Validation of the Biomass Dynamic Stock Assessment model for use in a management procedure. Col. Vol. Sci. Pap. ICCAT 73(4):1354-1376.

Merino G., Arrizabalaga H., and Sant. 2018. Evaluation of variants to the Harvest Control Rule adopted in 2017 for north Atlantic albacore. Document SCRS/2018/113 withdrawn.

Pedersen, M.W., Berg, C.W., 2017. A stochastic surplus production model in continuous time. Fish and Fisheries 18, 226–243. https://doi.org/10.1111/faf.12174.

Winker, H., Carvalho, F., Kapur, M. (2018) JABBA: Just Another Bayesian Biomass Assessment. Fisheries Research 204: 275-288.

Winker, H., Mourato, B., and Chang, Y. 2019. Unifying parameterizations between age-structured and surplus production models: An application to Atlantic white marlin (*Kajikia albida*) with simulation testing. Col. Vol. Sci. Pap. ICCAT, 76(4): 219-234 (2020).

Winker, H., Mourato, B., Parker, D., Sant'Ana, R., Kimoto, A., and Ortiz, M. 2020. Preliminary stock assessment of South Atlantic albacore tuna (*Thunnus alalunga*) using the Bayesian state-space surplus production model JABBA.Col. Vol. Sci. Pap. ICCAT, 77(7): 352-376 (2020).

Table 1. Summary of model diagnostics and sensitivity analyses for the grid using three alternative Stock Synthesis scenarios: a model including all available abundance indices (S05_50th-VBF_50th-M), a model excluding CTP-LL_TB2 (S05_without_CTP-LL_TB2), and a model excluding BR-URY-LL (S05_without_BR-URY_LL). Diagnostic outcomes were qualitatively classified as Acceptable (Accept.), Reasonable (Reason.) or Unsatisfactory (Unsat.).

Diagnostic	Scenario		
	S05	S05_without_BR-URY_LL	S05_without_CTP-LL_TB2
Convergence Hessian	Accept.	Accept.	Accept.
R0 index likelihood	3 *Unsat.*	2 *Unsat.*	2 *Unsat.*
Index runs-test	3 Unsat.	1 Unsat.	Accept.
ZAF-BB MASE	0.78	0.82	1.15
BR-URY MASE	2.75		1.19
CTP_TB2 MASE	3.57	1.98	
Index RMSE	27.60%	20.90%	25.50
Retrospectives	Accept.	Accept.	Accept.
ASPM	Unsat.	Reason.	Accept.
ASPM_recDev	Accept.	Accept.	Accept.
Jitter	Accept.	Accept.	Accept.

Table 2. Annual median estimates of relative spawning biomass (SSB/SSB_{MSY}) and relative fishing mortality (F/F_{MSY}) from the Stock Synthesis assessment reference model, including all available abundance indices with 95% confidence intervals using the multivariate lognormal (MVLN) approximation**.**

	S05_all_index					
	SSB/SSBmsy			F/Fmsy		
Year	Median	95%LCI	95%UCI	Median	95%LCI	95%UCI
1957	4.192	2.899	6.048	0.017	0.012	0.023
1958	4.226	2.934	6.088	0.024	0.018	0.031
1959	4.146	2.857	6.012	0.105	0.082	0.133
1960	3.977	2.844	5.566	0.234	0.193	0.285
1961	3.862	2.954	5.055	0.251	0.210	0.301
1962	3.558	2.846	4.459	0.464	0.384	0.559
1963	3.330	2.759	4.021	0.455	0.368	0.562
1964	2.763	2.200	3.474	0.715	0.565	0.908
1965	2.140	1.497	3.070	0.878	0.670	1.153
1966	1.786	1.125	2.849	0.850	0.632	1.146
1967	1.814	1.115	2.967	0.508	0.373	0.690
1968	1.688	1.004	2.862	0.797	0.592	1.070
1969	1.589	0.918	2.765	0.904	0.675	1.209
1970	1.624	0.949	2.798	0.787	0.590	1.049
1971	1.620	0.955	2.761	0.858	0.645	1.141
1972	1.413	0.802	2.494	1.198	0.901	1.590
1973	1.233	0.682	2.233	1.107	0.818	1.495
1974	1.203	0.685	2.122	0.806	0.587	1.106
1975	1.251	0.741	2.119	0.706	0.516	0.963
1976	1.272	0.760	2.136	0.745	0.552	1.002
1977	1.250	0.741	2.118	0.799	0.604	1.054
1978	1.245	0.743	2.094	0.855	0.656	1.115
1979	1.292	0.790	2.119	0.856	0.659	1.114
1980	1.352	0.855	2.143	0.891	0.687	1.156
1981	1.322	0.839	2.086	0.966	0.746	1.251
1982	1.093	0.660	1.817	1.238	0.945	1.622
1983	1.147	0.716	1.837	0.645	0.483	0.860
1984	1.249	0.816	1.916	0.583	0.453	0.752
1985	1.028	0.630	1.683	1.149	0.917	1.442
1986	0.783	0.440	1.402	1.381	1.114	1.716
1987	0.669	0.368	1.228	1.555	1.252	1.938
1988	0.710	0.407	1.243	1.204	0.943	1.538
1989	0.825	0.502	1.360	1.020	0.777	1.343
1990	0.892	0.543	1.470	0.987	0.775	1.259
1991	0.956	0.577	1.590	0.858	0.671	1.098
1992	0.983	0.571	1.700	1.165	0.912	1.491
1993	1.275	0.795	2.047	1.059	0.821	1.366
1994	1.235	0.744	2.058	1.119	0.851	1.472
1995	1.229	0.741	2.043	0.863	0.663	1.124
1996	1.321	0.813	2.154	0.884	0.686	1.141
1997	1.444	0.893	2.335	0.903	0.700	1.167
1998	1.588	1.016	2.487	1.042	0.811	1.341
1999	1.554	0.986	2.452	1.012	0.789	1.300
2000	1.225	0.735	2.050	1.184	0.930	1.509
2001	0.840	0.462	1.539	1.493	1.188	1.883
2002	0.686	0.370	1.284	1.288	1.014	1.639
2003	0.681	0.384	1.215	1.164	0.908	1.496
2004	0.897	0.560	1.441	0.955	0.735	1.244
2005	1.116	0.721	1.725	0.793	0.602	1.045
2006	1.114	0.701	1.772	0.997	0.764	1.302
2007	1.109	0.687	1.792	0.850	0.650	1.114
2008	1.141	0.712	1.826	0.814	0.620	1.070
2009	1.207	0.765	1.902	0.983	0.746	1.298
2010	1.195	0.751	1.898	0.877	0.662	1.162
2011	0.974	0.579	1.644	1.087	0.825	1.435
2012	0.782	0.434	1.413	1.158	0.877	1.534
2013	0.804	0.459	1.412	0.930	0.697	1.243
2014	1.013	0.627	1.636	0.677	0.502	0.916
2015	1.184	0.760	1.845	0.750	0.552	1.020
2016	1.225	0.785	1.914	0.698	0.511	0.953
2017	1.152	0.723	1.834	0.641	0.476	0.865
2018	1.046	0.643	1.699	0.757	0.565	1.013
2019	1.083	0.674	1.740	0.677	0.510	0.899
2020	1.199	0.765	1.883	0.775	0.587	1.023
2021	1.104	0.675	1.807	1.066	0.812	1.399
2022	1.014	0.607	1.697	1.036	0.777	1.380
2023	0.939	0.553	1.610	0.970	0.698	1.350
2024	0.954	0.567	1.616	0.902	0.620	1.312

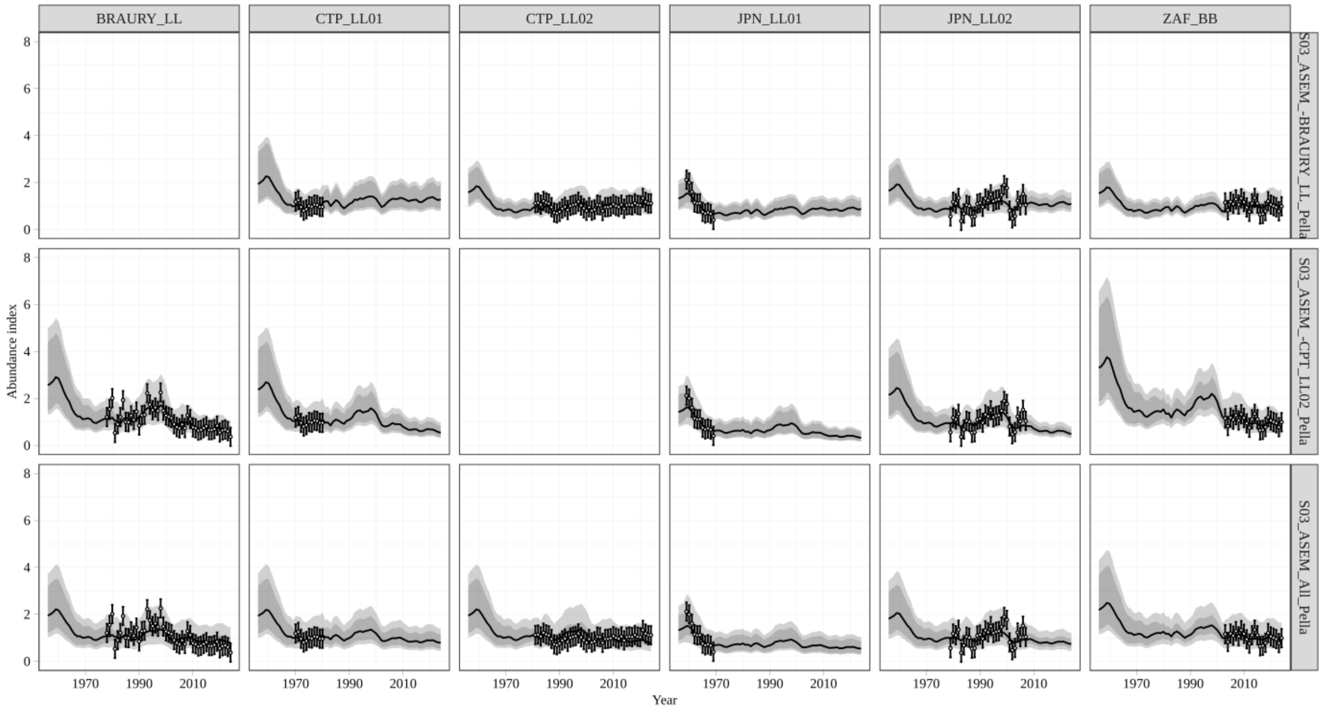


Figure 1. Time series of observed (points with error bars) and predicted (solid line) CPUE indices for South Atlantic albacore under the three JABBA scenarios. Shaded areas represent the 80% and 95% credibility intervals. Rows correspond to scenarios and columns to indices.

Figure 2. Runs tests evaluating the randomness of the CPUE residual time series by index and scenario for South Atlantic albacore. Green panels indicate no evidence of lack of randomness (p > 0.05); red panels indicate the opposite. The shaded band shows three standard errors from the mean, and red points identify years exceeding this threshold (3-sigma rule). Rows correspond to scenarios and columns to indices.

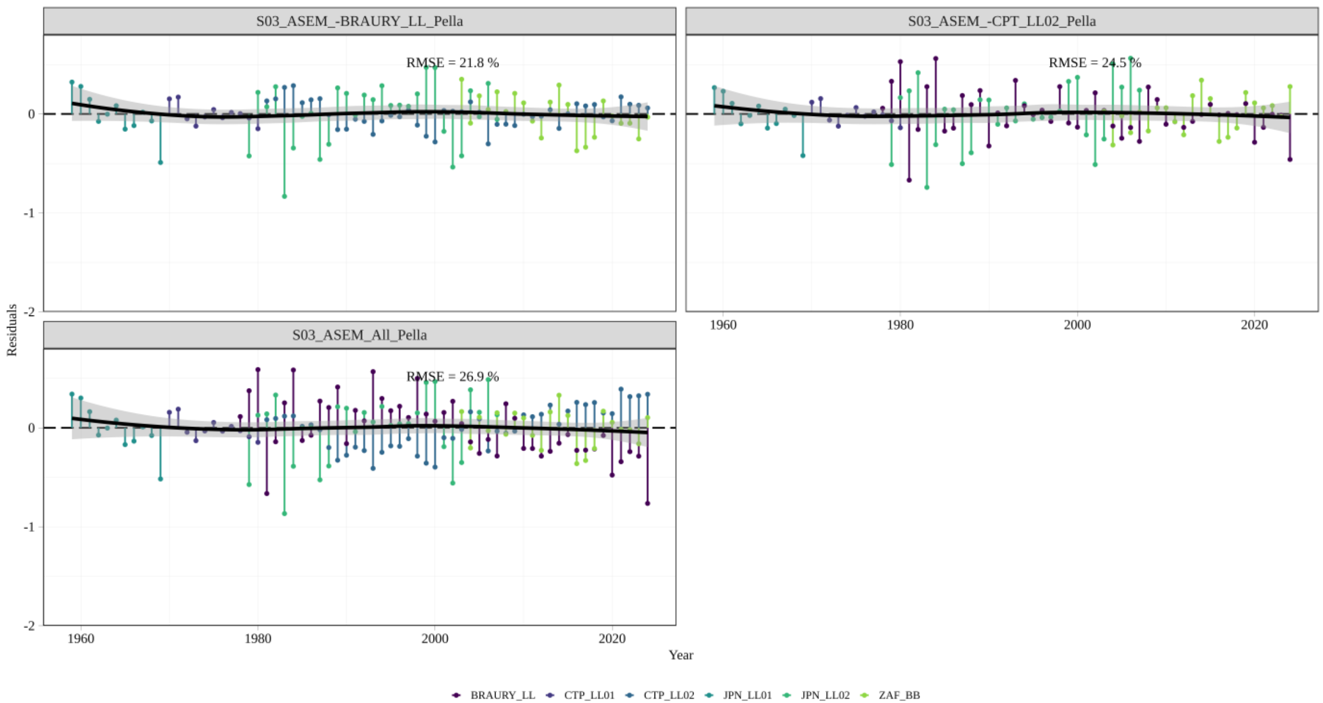


Figure 3. JABBA residual diagnostic plots for the CPUE indices used in each scenario for South Atlantic albacore. Colors identify the individual indices, vertical segments represent the residuals available for each year, and the solid black line indicates a loess smoother through all residuals. RMSE is reported in each panel.

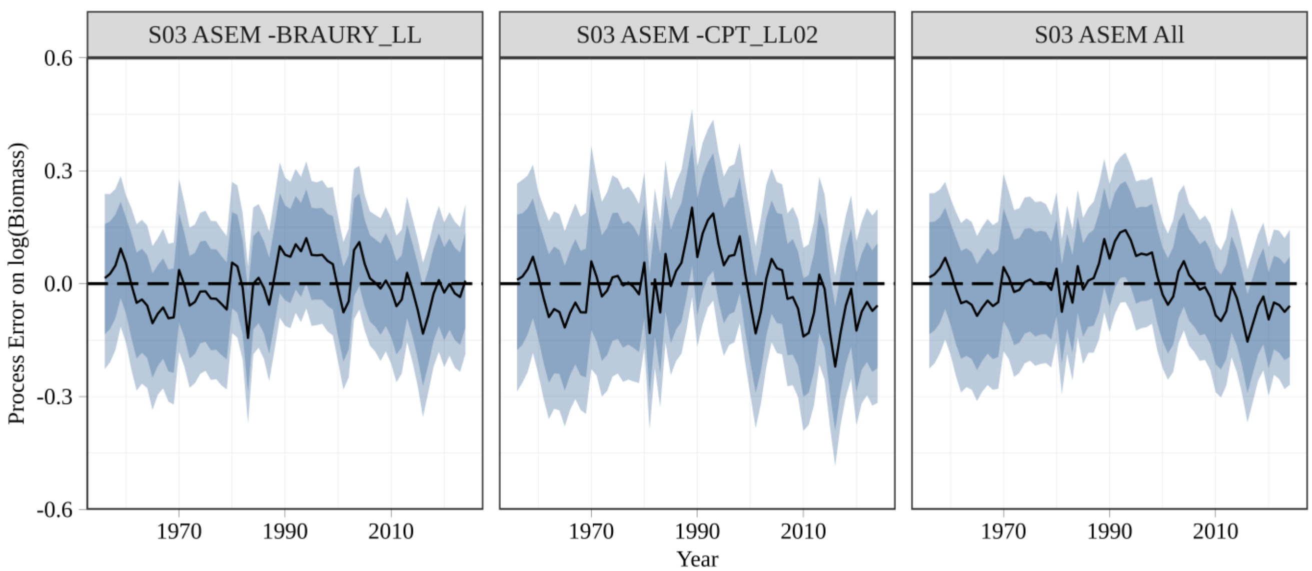


Figure 4. Estimated trajectories of the process error on log-biomass for South Atlantic albacore under the three JABBA scenarios. The solid line represents the posterior median and shaded areas represent the 80% and 95% credibility intervals.

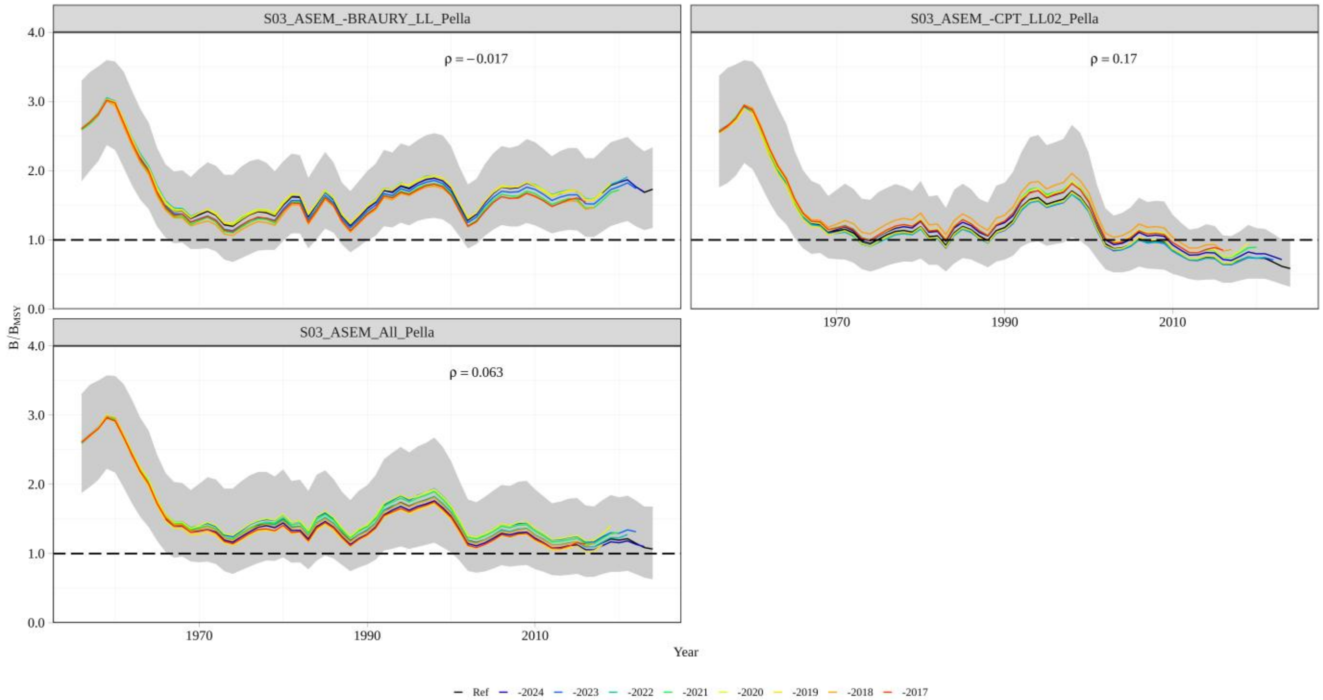


Figure 5. Retrospective analysis of relative biomass (B/B_{MSY}) for South Atlantic albacore under the three JABBA scenarios. The horizontal dashed line marks B/B_{MSY} = 1. The black line is fitted to the full time series; colored lines indicate sequential retrospective peels (2024-2017). Shaded areas represent the 95% credibility interval of the reference run. Mohn's rho (ρ) is reported in each panel.

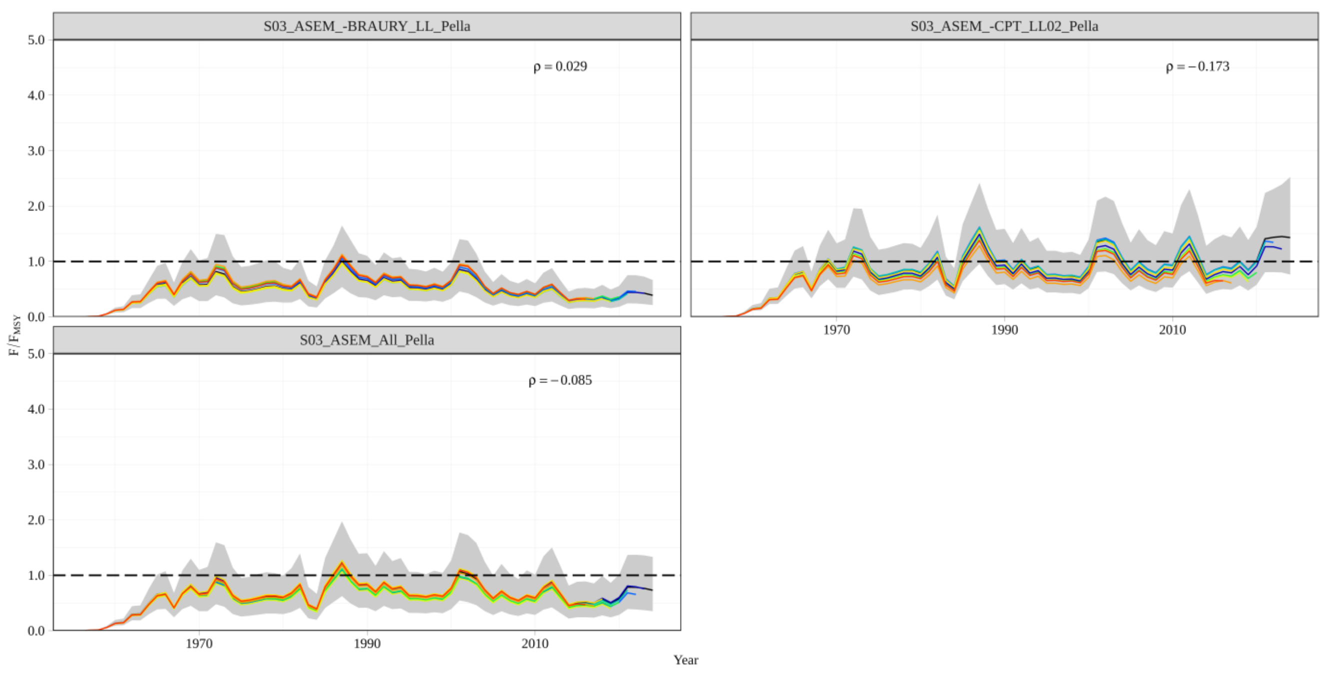


Figure 6. Retrospective analysis of relative fishing mortality (F/F_{MSY}) for South Atlantic albacore under the four JABBA scenarios. The horizontal dashed line marks F/F_{MSY} = 1. The black line is fitted to the full time series; colored lines indicate sequential retrospective peels (2024-2017). Shaded areas represent the 95% credibility interval of the reference run. Mohn's rho (ρ) is reported in each panel.

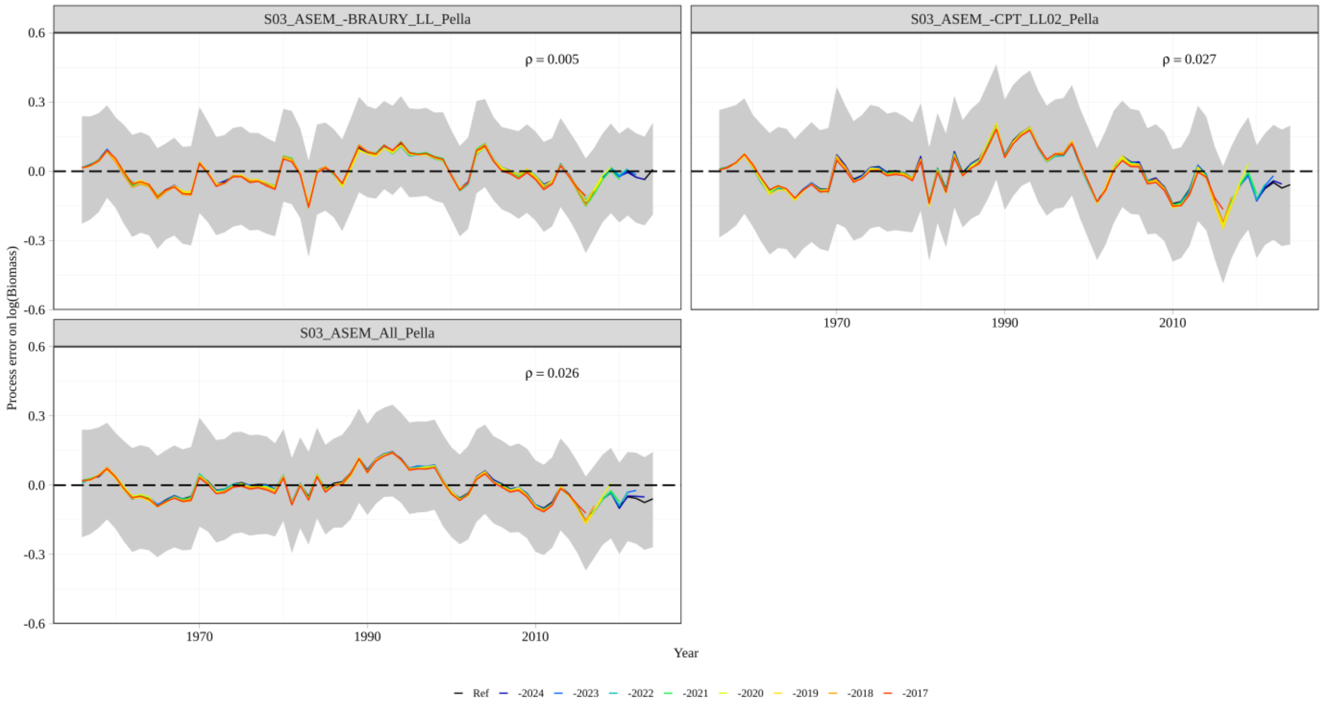


Figure 7. Retrospective analysis of the process error on log-biomass for South Atlantic albacore under the three JABBA scenarios. The black line is fitted to the full time series; colored lines indicate sequential retrospective peels (2024-2017). Shaded areas represent the 95% credibility interval of the reference run. Mohn's rho (ρ) is reported in each panel.

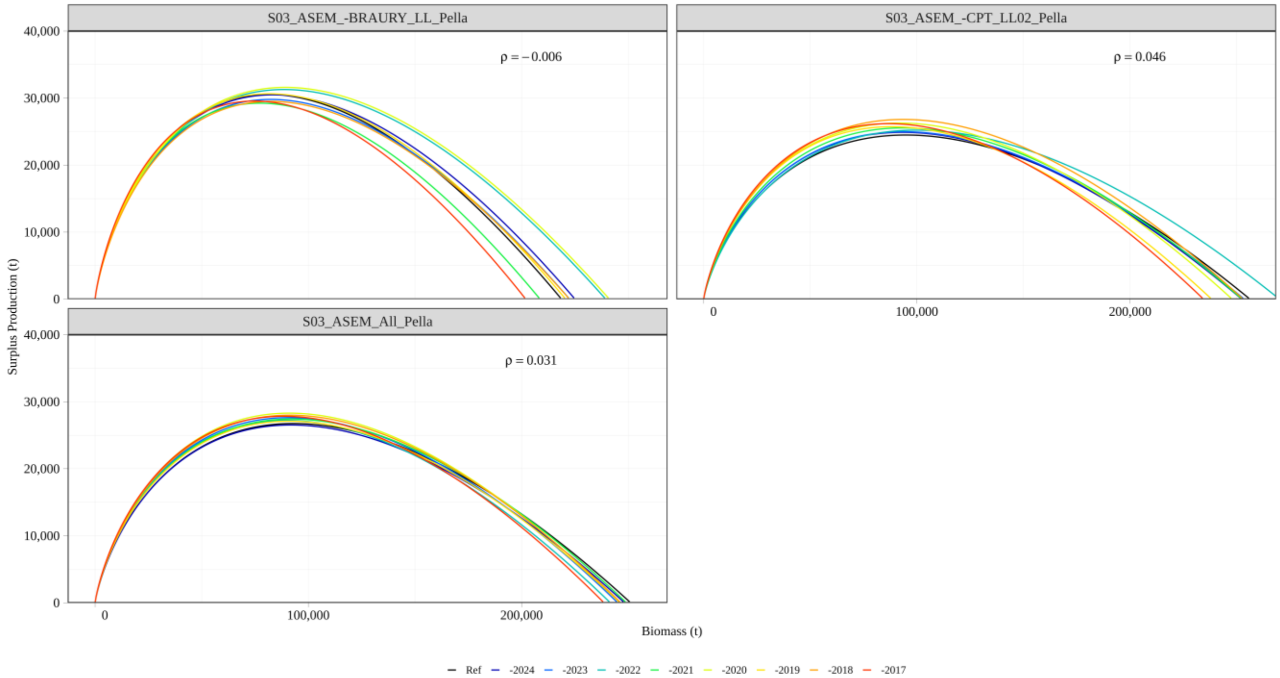


Figure 8. Retrospective analysis of the surplus production function (production as a function of biomass) for South Atlantic albacore under the three JABBA scenarios. The black line is fitted to the full time series; colored lines indicate sequential retrospective peels (2024-2017). Shaded areas represent the 95% credibility interval of the reference run. Mohn's rho (ρ) is reported in each panel.

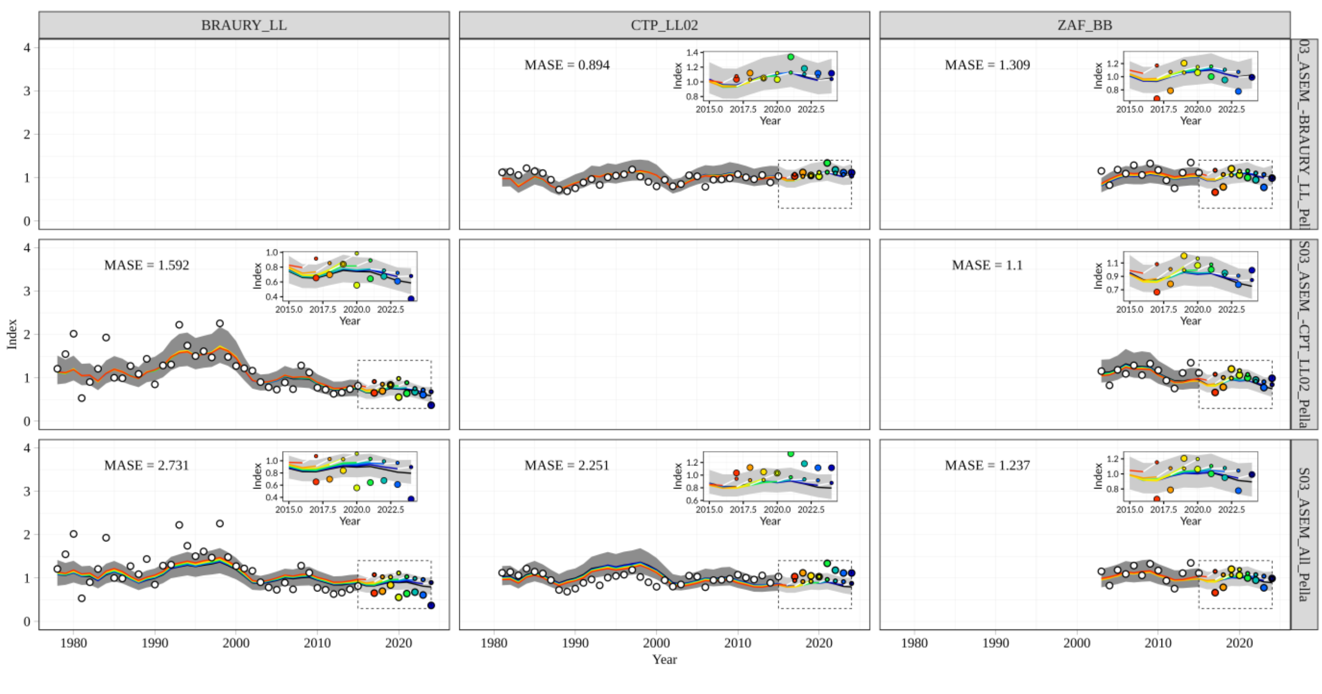
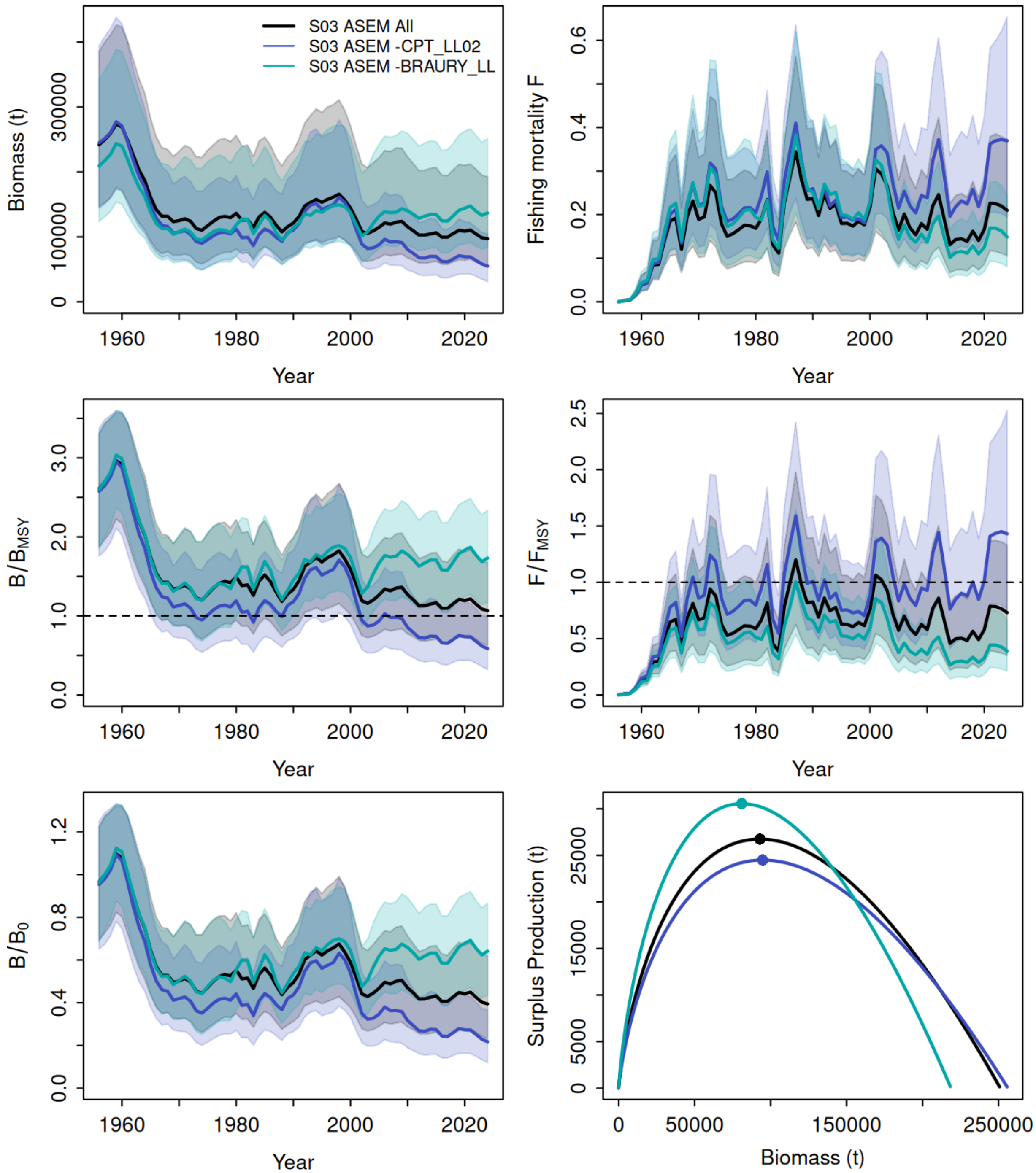


Figure 9. Hindcasting cross-validation (HCXval) results for South Atlantic albacore, showing one-year-ahead forecasts of CPUE values relative to the expected CPUE for each index and scenario. Observations used for cross-validation are shown as color-coded points with the associated shaded confidence interval. The mean absolute scaled error (MASE) is reported in each panel.



Figures 10. JABBA three model results for the South Atlantic albacore. Biomass and fishing mortality (upper panels), biomass relative to B_{MSY} (B/B_{MSY}) and fishing mortality relative to F_{MSY} (F/F_{MSY}) (middle panels), biomass relative to B_0 (B/B_{MSY}) and surplus production curve (bottom panels).

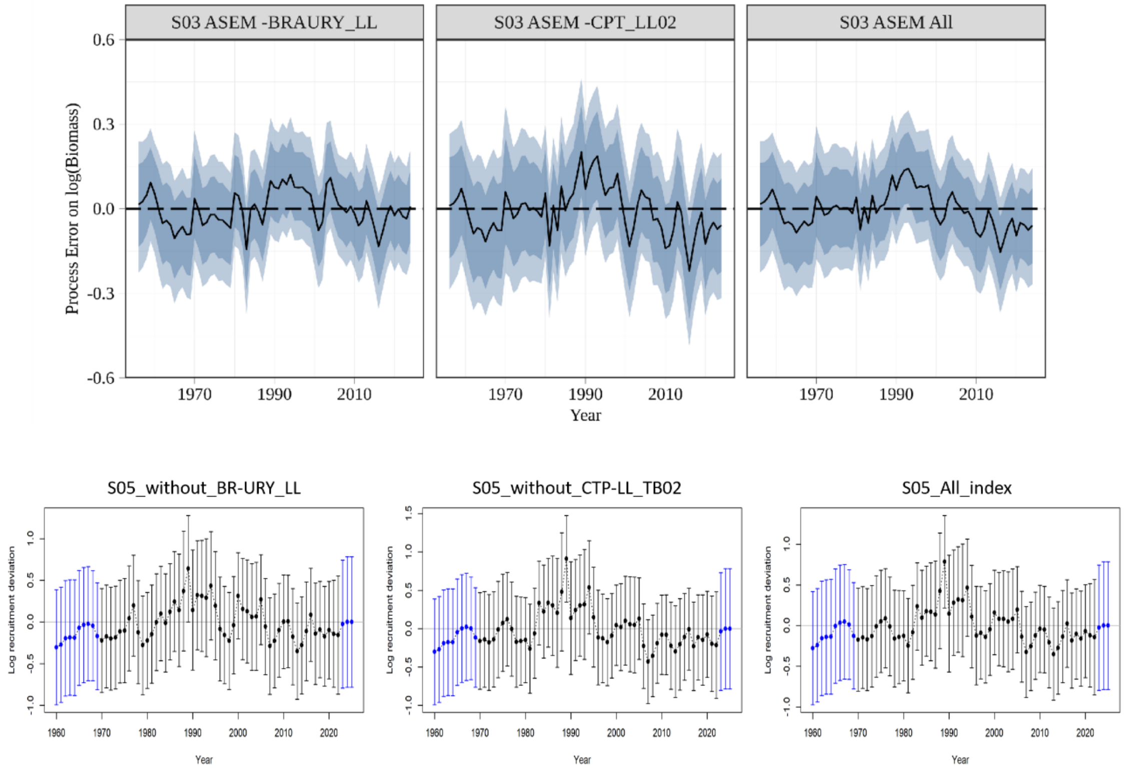


Figure 11. Comparison between process error estimates from JABBA (upper panels) and recruitment deviations estimated by Stock Synthesis (SS3) (lower panels). JABBA results correspond to the S03 model configuration, while SS3 results correspond to the S05 model configuration. For both approaches, results are shown for analyses excluding the BR-URY-LL index, excluding the CTP-LL_TB02 index, and including all available abundance indices.

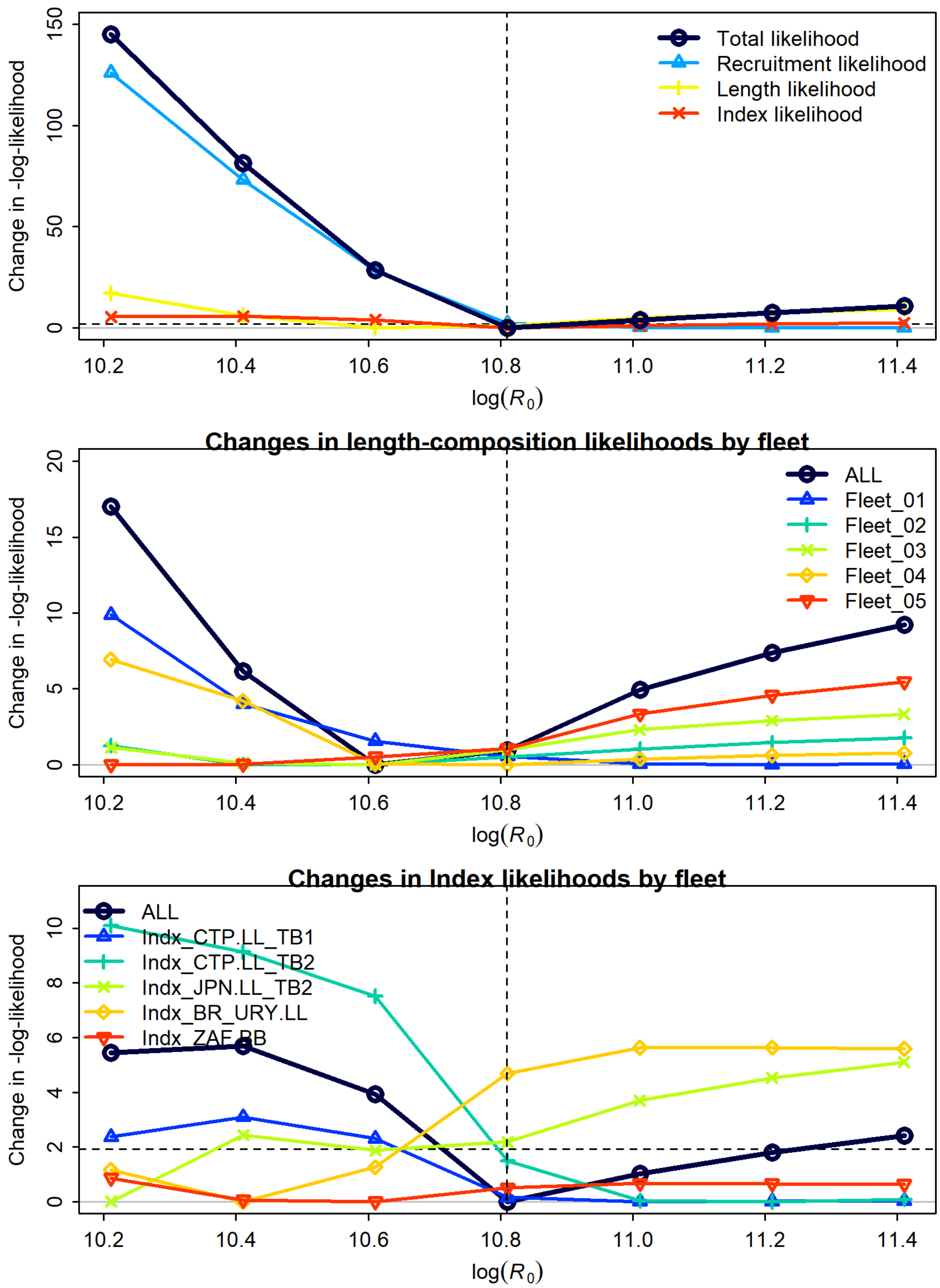


Figure 12. Likelihood profiles for *log(R0)* for scenario *S05_50th-VBF_50th-M*. Top panel shows the contributions of the total, recruitment, length-composition, and abundance-index likelihoods. Middle and bottom panels show fleet-specific contributions from length-composition and abundance-index data, respectively. The vertical dashed line indicates the estimated value of *log(R0)*. Results for the remaining scenarios are provided in Appendix B of SCRS/2026/156.

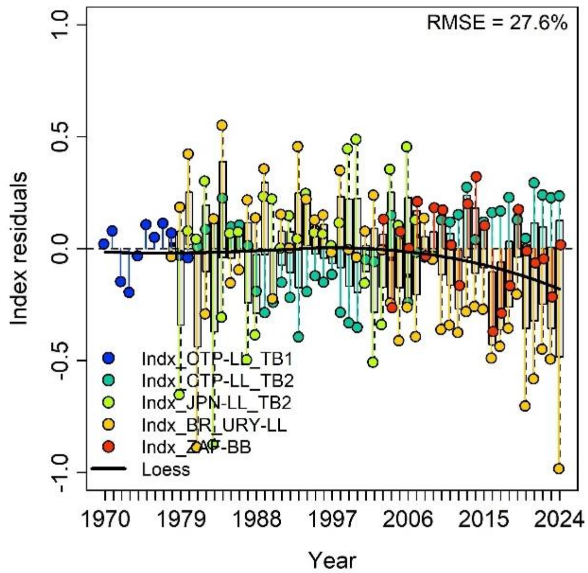


Figure 13. Joint residual plots for CPUE under scenario *S05_50th-VBF_50th-M*. Results for the remaining scenarios are provided in Appendix B of SCRS/2026/156.

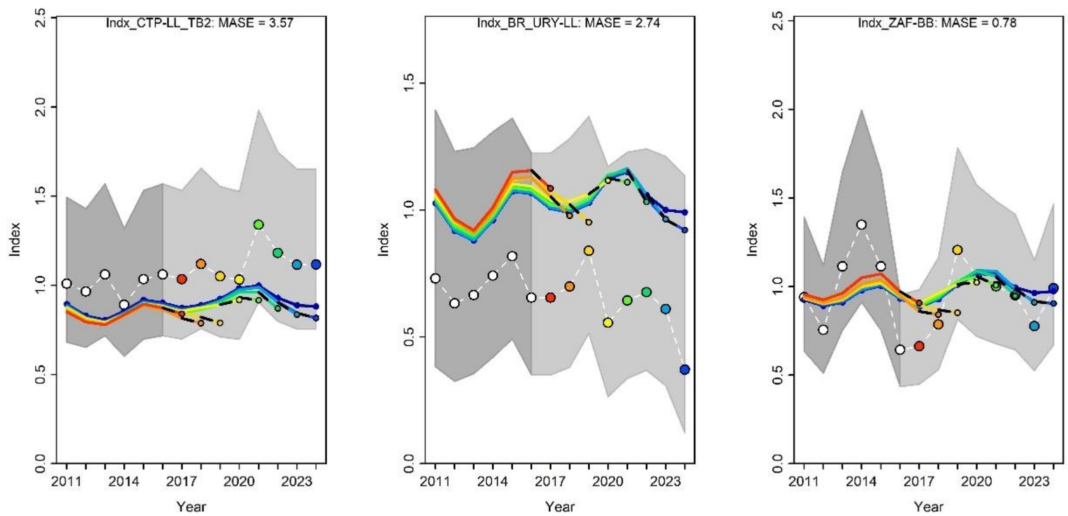


Figure 14. Hindcast analysis of standardized abundance indices using retrospective peels of up to eight years for scenario *S05_50th-VBF_50th-M*. Colored lines represent predictions from successive retrospective runs, circles indicate observed index values, and shaded areas denote prediction uncertainty. MASE values are reported for each index and model configuration. Results for the remaining scenarios are provided in Appendix B of SCRS/2026/156.

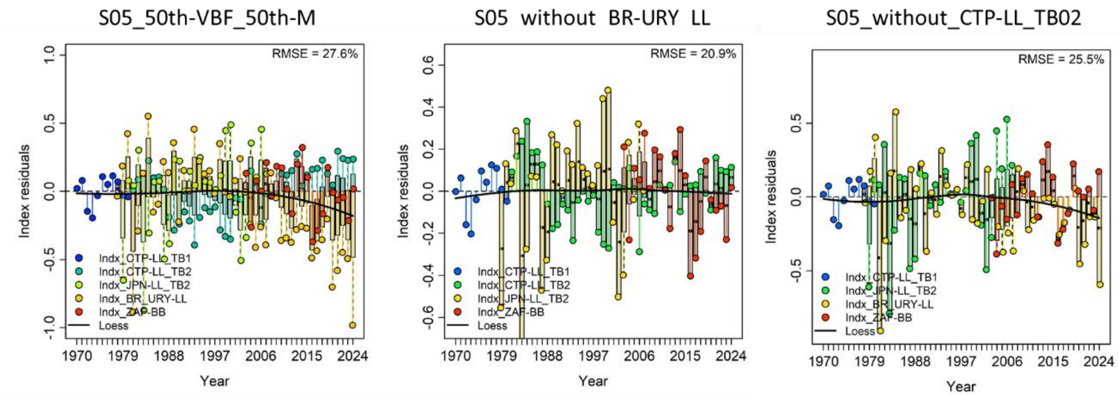


Figure 15. Joint residual plots for CPUE under scenarios with all indices included (left panel), excluding BR-URY-LL (middle panel), and excluding CTP-LL_TB2 (right panel).

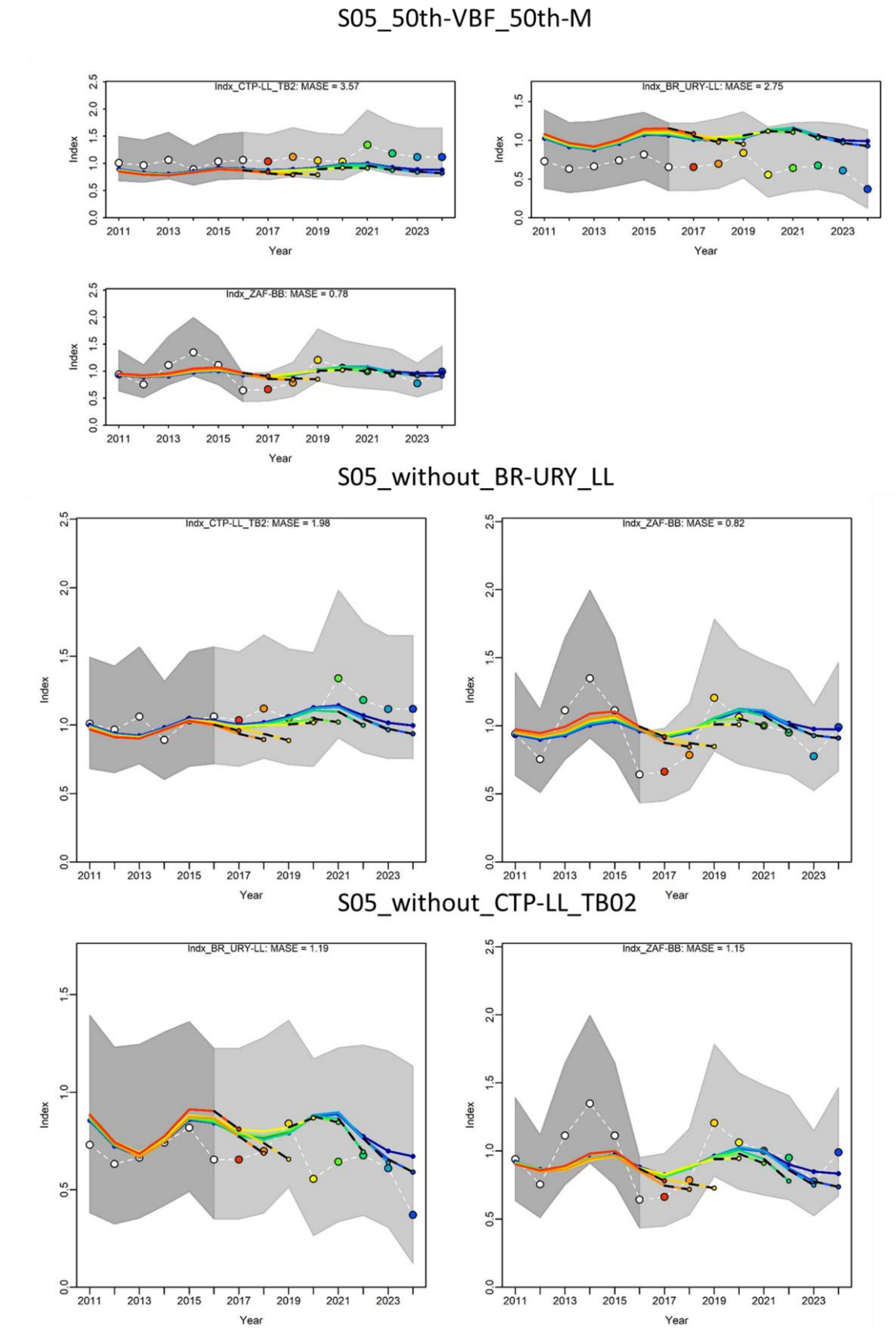


Figure 16. Hindcast analysis of standardized abundance indices using retrospective peels of up to eight years for scenarios with all indices included (upper panel), excluding BR-URY-LL (middle panel), and excluding CTP-LL_TB2 (lower panel).

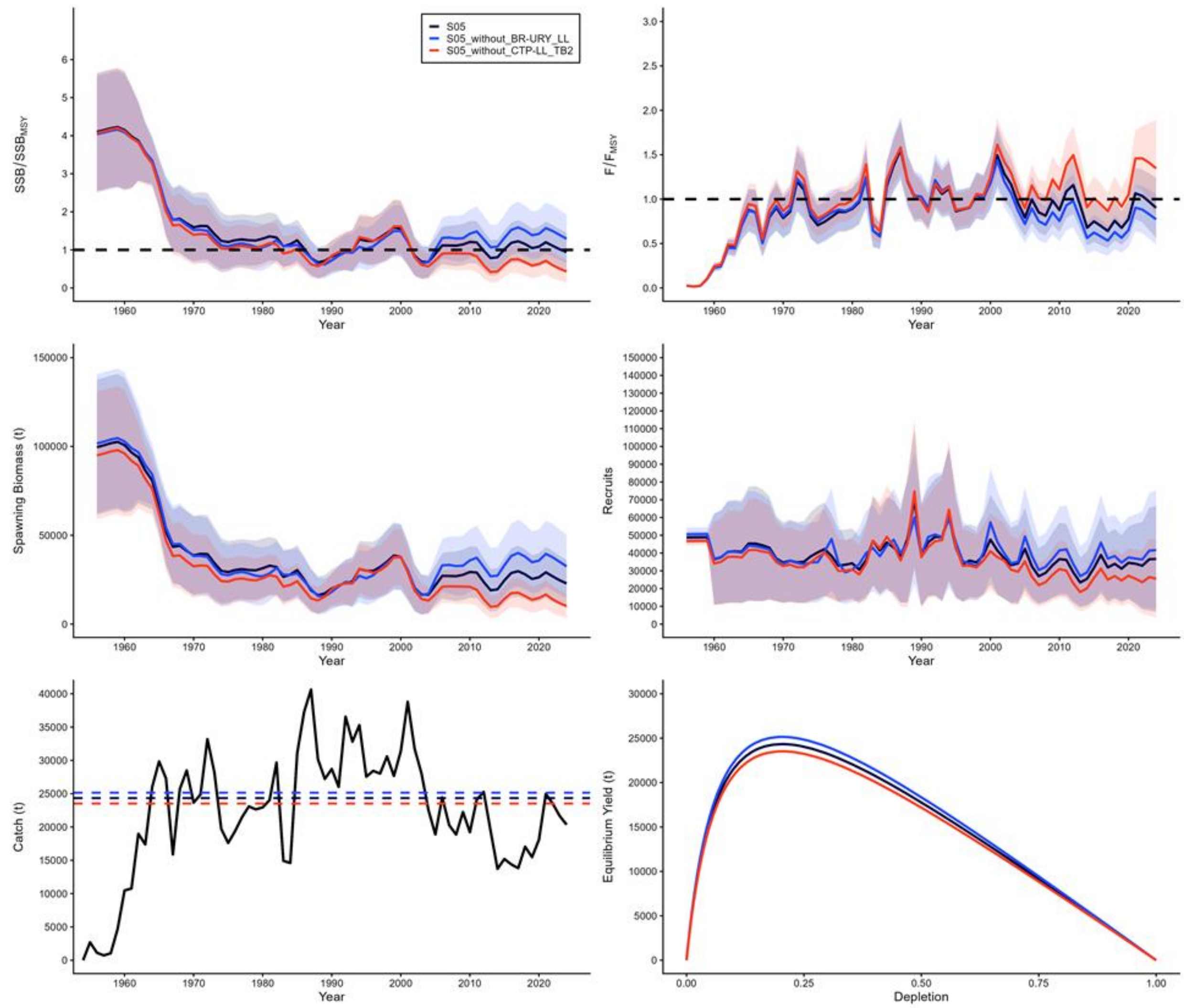


Figure 17. Comparison of Stock Synthesis (SS3) outputs for South Atlantic albacore under alternative CPUE scenarios. Results are shown for the model including all available abundance indices (S05), the model excluding the Chinese Taipei longline abundance index (CTP-LL_TB2), and the model excluding the Brazil–Uruguay longline abundance index (BR-URY-LL). Panels show the trajectories of relative spawning biomass (SSB/SSB_{MSY}), relative fishing mortality (F/F_{MSY}), spawning biomass, recruitment, total catch, and equilibrium yield curves. Shaded areas represent 95% confidence intervals derived from the standard deviations estimated in the SS3. In the catch panel, the solid black line represents the historical total catch trajectory, while the colored dashed horizontal lines indicate the estimated MSY for each model scenario.

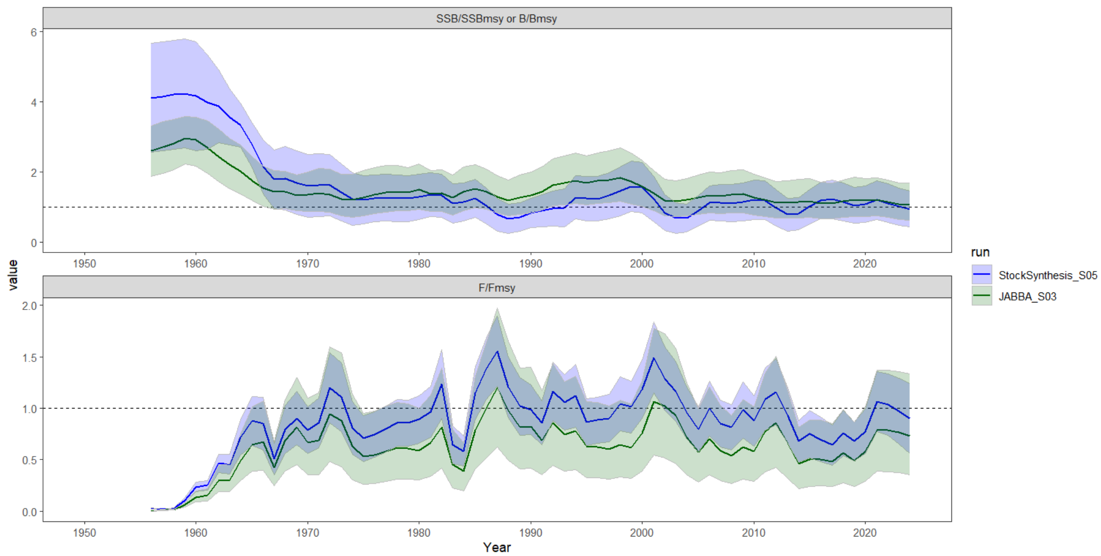


Figure 18. Comparison of B/B$_{MSY}$ and F/F$_{MSY}$ trajectories from the Stock Synthesis model (reference model, blue line) and JABBA model (S03, green line) with the 95% confidence intervals.

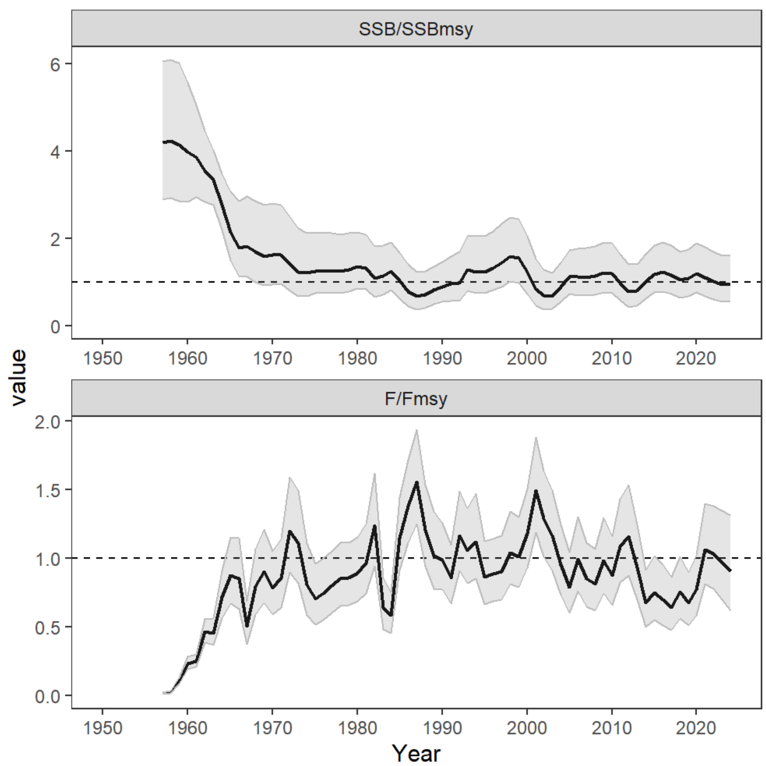


Figure 19. Estimated trajectories of relative spawning biomass (SSB/SSB$_{MSY}$; upper panel) and relative fishing mortality (F/F$_{MSY}$; lower panel) from the Stock Synthesis assessment reference model including all available abundance indices, built with 10,000 iterations based on the Monte-Carlo multivariate lognormal (MVLN) approach. Trajectories were produced with SSB at the end of each year. The shaded area represents a 95% confidence interval, and the horizontal dashed lines indicate the management reference points (SSB/SSB$_{MSY}$ = 1 and F/F$_{MSY}$ = 1).

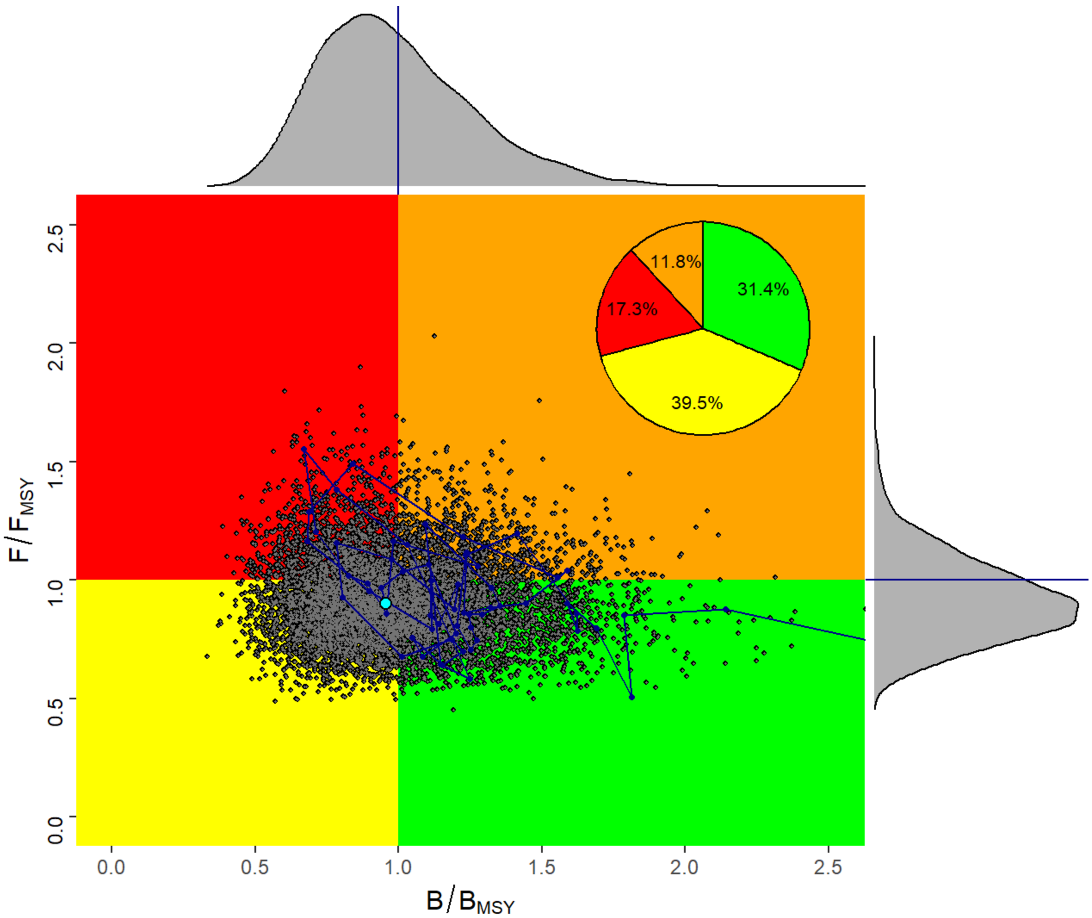


Figure 20. Kobe phase plot from the Stock Synthesis assessment reference model with 10,000 MVLN iterations for the South Atlantic albacore stock. Solid blue dots and line indicate the stock status trajectory (starting in 1965 in the graph), with the light blue dot indicating the terminal year (2024), grey dots are the interactions for the terminal year with the marginal distributions plotted in the lateral axis. Trajectories and Kobe plot were produced with SSB at the end of each year.

Appendix 1

Tentative Agenda

1. Opening, adoption of the Agenda and meeting arrangements

2. Review of updates to data inputs (limited to updates since the Data Preparatory Meeting).

3. South Atlantic assessment models

   3.1 JABBA

      3.1.1 Model settings
      3.1.2 Diagnostics
      3.1.3 Stock status results
      3.1.4 Projections

   3.2 Stock Synthesis

      3.2.1 Model settings
      3.2.2 Diagnostics
      3.2.3 Stock status results
      3.2.4 Projections

   3.3 Synthesis of South Atlantic assessment results

4. North Atlantic MSE (Management Strategy Evaluation)

   4.1 Overview of the MSE framework
   4.2 Operating models
   4.3 Candidate management procedures (CMPs)
   4.4 Performance indicators and trade-offs
   4.5 Exceptional Circumstances
   4.6 MP Iteration

5. Recommendations

6. Responses to the Commission

7. Review of the workplan

8. Other matters

9. Adoption of the report and closure

Appendix 2

List of Participants[*] [1]

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Appendix 3

List of Papers and Presentations

Doc Ref	Title	Authors
SCRS/2026/137	Stock assessment and application of management procedure for North Atlantic albacore.	Merino G., Urtizberea G., Moron Correa G., and Arrizabalaga H.
SCRS/2026/154	Specifications for MSE Trials for North Atlantic Albacore.	Urtizberea A., Correa Giancarlo M., Merino G., and Arrizabalaga H.
SCRS/2026/155	Calibration of fishing gears for standardizing catches of albacore tuna larvae in the western Mediterranean.	Alvarez-Berastegui D., Tugores M. P., Torres A.P, Alvarez I., Gonzalez N., Aranda I., Carreño A., and Reglero P.
SCRS/2026/156	Preliminary stock synthesis assessment for south Atlantic albacore (*Thunnus alalunga*) covering 1956–2024.	Kikuchi E., Mourato M., Hordyk A., Sant'Ana R., Kimoto A., Ortiz M., and Cardoso L.G.
SCRS/2026/157	Preliminary Evaluation of Candidate Management Procedures for North Atlantic Albacore	Urtizberea A., Correa G.M., Merino G., and Arrizabalaga H.
SCRS/2026/159	Preliminary JABBA Model runs in support of the 2026 Stock Assessment of South Atlantic Albacore (*Thunnus alalunga*)	Sant'Ana R., Mourato B., Kikuchi E., Cardoso L.G., Kimoto A., and Ortiz M.
SCRS/P/2026/070	Evaluation of exceptional circumstances for North Atlantic albacore in 2026	Merino G., Urtizberea A., Moron Correa G., and Arrizabalaga H.

Appendix 4

SCRS Documents and Presentation Abstracts as provided by the authors

SCRS/2026/137 - This document presents a preliminary stock assessment for North Atlantic albacore tuna (*Thunnus alalunga*) using the biomass production model *mpb* (Kell, 2016). The assessment integrates nominal catch data with abundance indices of five fisheries. The assessment model covers the period 1930-2025 and represents an update and revision of the previous assessments of 2016, 2020 and 2023. The assessment assumes that North Atlantic albacore constitutes a single stock distributed across the North Atlantic area. Standardized CPUE series from the main longline fleets (China Taipei, Japan, US and Venezuela) and the bait boat (Spain) are included in the model. For this assessment, we include an overview of the data, a diagnostic analysis of the model fit including analyses of residuals, likelihood exploration, retrospective analyses and an evaluation of consistency with previous models. Also, we provide model results in a probabilistic way and calculate the recommended catch limits for the 2027-2029 management period following ICCAT's Recommendation 21-04. Our results indicate that North Atlantic albacore is not overfished and that overfishing is not occurring and the TAC set by the current management procedure for the period 2027-2029 would be 50,000 tons.

SCRS/2026/154 - Atlantic Albacore Management Strategy Evaluation (MSE) in a consolidated report in a way that contains all the information needed to: understand how the MSE framework was built; how it has been peer-reviewed and updated. This document is intended to be a reference document that can be updated in the future, if necessary, as the North Atlantic albacore MSE evolves. The "living" document can be found at https://iccat.github.io/nalb-mse-2/.

SCRS/2026/155 - This study evaluated the comparability of two ichthyoplankton sampling tactics used to estimate Mediterranean albacore (*Thunnus alalunga*) larval abundances in the western Mediterranean Sea: the historical B60deep configuration (Bongo 60, 333 μm mesh, 70 m depth) and the current B90mld (Bongo 90, 500 μm mesh, 30 m depth). Experimental paired tows conducted around the Balearic Islands in 2013 and 2019 were analyzed to assess differences in larval occurrence, abundance and length distributions. No significant differences were detected in the probability of larval occurrence or length distributions between sampling tactics. However, B60deep generally yielded higher catch-per-unit-area estimates, although results were characterized by high variability and limited statistical power. A calibration approach was implemented by incorporating fishing tactic effects directly into the larval index standardization procedure through fishing-tactic specific larval back-calculation models and delta log-normal GAMs. Application of this methodology to a test larval index (2001–2024) reduced abundance estimates associated with the historical sampling period by approximately 35%, providing a practical framework for future updates of the Mediterranean albacore larval index.

SCRS/2026/156 - Albacore (*Thunnus alalunga*) is an important pelagic resource exploited primarily by longline and baitboat fisheries throughout the South Atlantic Ocean. Here, we present the first preliminary stock assessment of South Atlantic albacore using the Stock Synthesis (SS3) framework, integrating catch, standardized abundance indices, and length-composition data covering the period 1956–2024. The assessment was structured around five fishing fleets and incorporated uncertainty in key life-history parameters through a grid of nine alternative scenarios combining different assumptions for growth and natural mortality. All model configurations converged successfully and showed generally satisfactory fits to the available data. However, residual analyses, leave-one-out diagnostics, hindcast analyses, and Age-Structured Production Model (ASPM) diagnostics consistently identified a conflict between the Brazil-Uruguay longline abundance index (BR-URY-LL) and the Chinese Taipei longline index (CTP-LL_TB2). This conflict represented the primary source of uncertainty affecting stock status estimates. Under the base assessment, estimates of terminal stock status varied among biological scenarios but were generally close to management reference points, with SSB2024/SSBMSY ranging from 0.84 to 1.10 and F2024/FMSY ranging from 0.74 to 1.02. Despite substantial variation in absolute biomass and recruitment estimates, maximum sustainable yield (MSY) estimates remained relatively stable, ranging from approximately 23,800 to 25,200 t. A sensitivity analysis excluding the BR-URY-LL index substantially improved model diagnostics and reduced conflicts among abundance indices.

Under this alternative configuration, all scenarios estimated biomass above SSB_{MSY} (SSB_{2024}/SSB_{MSY} = 1.17 to 1.44) and fishing mortality below F_{MSY} (F_{2024}/F_{MSY} = 0.67 to 0.79). These results were consistent with the previous South Atlantic albacore assessment, which did not include the BR-URY-LL index. Overall, the assessment suggests that current stock status is highly sensitive to the inclusion of conflicting abundance indices, emphasizing the importance of evaluating their influence on assessment outcomes prior to a benchmark assessment.

SCRS/2026/157 - In 2017, ICCAT adopted Recommendation 17-04 that contained an interim Harvest Control Rule (HCR) for North Atlantic Albacore (*Thunnus alalunga*). In 2021, this was extended to a fully specified Management Procedure (MP, Recommendation 21-04), including the HCR, the data and specifications to update stock status, and a protocol for exceptional circumstances. The adoption of this management framework was supported by a Management Strategy Evaluation (MSE) process developed between 2013 and 2021. In 2023, a new benchmark stock assessment was developed, and the MSE framework was updated to reflect the new information available on stock biology and fishery data. As part of the work plan to develop the renewed MSE, we address the requests of Panel 2 held in March 2026 in evaluating a suite of candidate MPs under the new MSE framework. This paper describes a set of preliminary candidate management procedures, including empirical and model-based CMPs. In addition to the reference set of operating models, a model-based CMP is also evaluated on three robustness tests. Using a set of indicators, we compared the CMPs' performance. These results will be discussed under the Albacore Stock Assessment Meeting in June 2026.

SCRS/2026/159 - This document presents the preliminary runs of the Bayesian state-space surplus production model JABBA for the 2026 stock assessment of South Atlantic albacore (*Thunnus alalunga*), following the configuration recommended during the 2026 Data Preparatory Meeting. Updated total catch series (1956–2024) and a set of standardized joint and fleet-specific CPUE indices from the main longline fleets (Chinese-Taipei, Japan, and a joint Brazil–Uruguay series) and the South African baitboat fishery were used to condition the model. An uncertainty grid was implemented through an external specification table, combining alternative production functions, prior assumptions for the intrinsic rate of population increase (*r*) and the shape parameter (B_{MSY}/K), and alternative CPUE index sets. Convergence and goodness-of-fit were evaluated through a comprehensive suite of diagnostics, including residual analysis, runs tests, retrospective analysis, and hindcasting cross-validation. The runs provide updated estimates of key parameters, temporal trajectories of biomass and fishing mortality relative to their reference points, and Kobe-based stock-status inferences. The results are intended to support the deliberations of the 2026 Atlantic albacore stock assessment process.

SCRS/P/2026/070 – Provided results of the evaluation of exceptional circumstances (ECs) for North Atlantic albacore under the ICCAT Management Procedure (MP) framework (Rec. 21-04). It defines ECs as situations where model outputs fall outside the 2.5–97.5% percentile range derived from MSE testing, key data required for the HCR are unavailable or inappropriate, or total catch exceeds the TAC set by the MP. These analyses support the robustness of the MP under unexpected stock, data, or implementation conditions. The analysis did not detect exceptional circumstances precluding from application of the current MP.