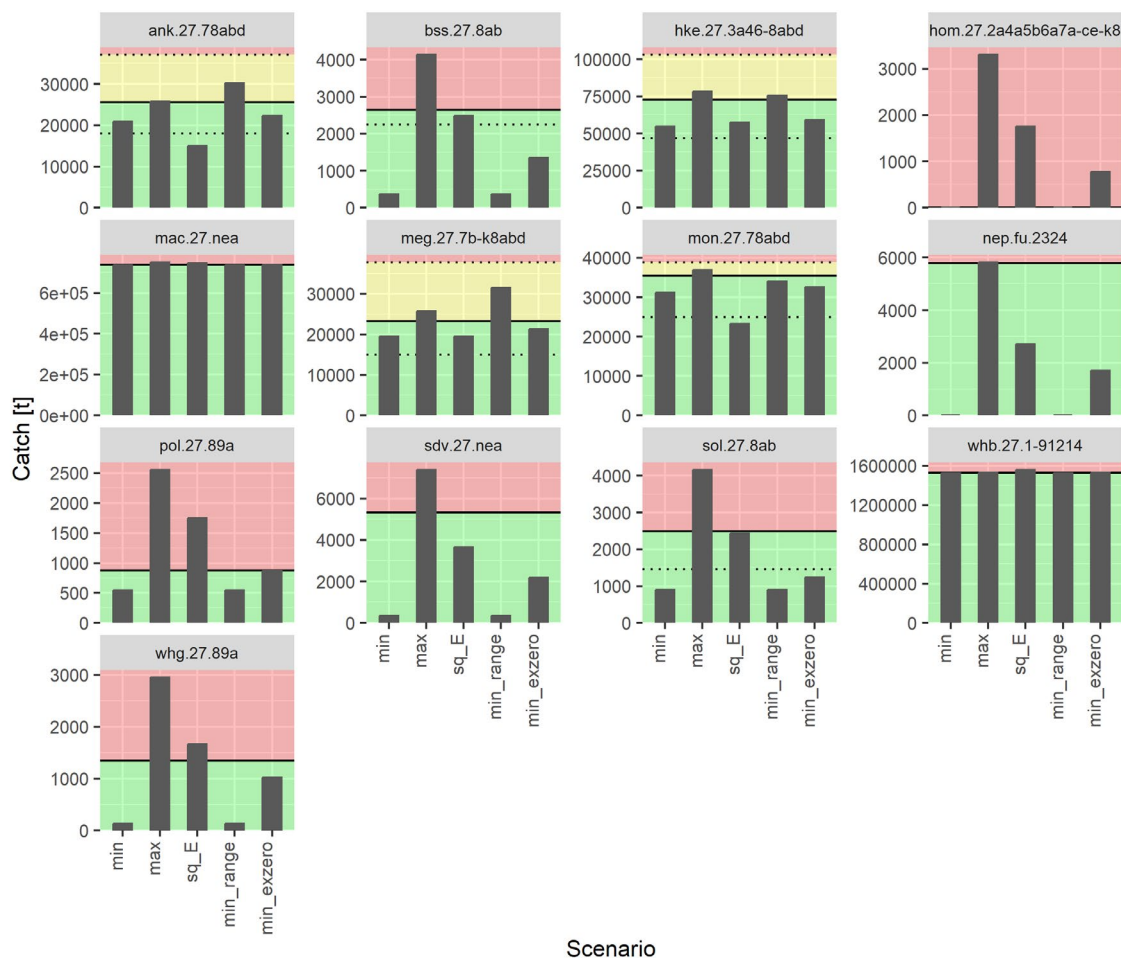## Bay of Biscay mixed-fisheries considerations

Mixed-fisheries considerations

Mixed-fisheries considerations are presented for black-bellied anglerfish (ank.27.78abd), sea bass (bss.27.8ab), hake (hke.27.3a46-8abd), horse mackerel (hom.27.2a4a5b6a7a–ce–k8), mackerel (mac.27.nea), megrim (meg.27.7b–k8abd), white anglerfish (mon.27.78abd), Norway lobster (functional units [FUs] 23 and 24; nep.fu.2324), pollack (pol.27.89a), smooth-hound (sdv.27.nea), sole (sol.27.8ab), blue whiting (whb.27.1–91214), and whiting (whg.27.89a) in the Bay of Biscay.

Given the single-stock catch advice for 2024, the most limiting stock for demersal fisheries in the Bay of Biscay is horse mackerel because of the zero-catch advice and the fact that almost all fleets within the mixed fishery catch this stock. The least limiting stock is white anglerfish (seven of 21 fleets). However, if horse mackerel were to be excluded as a restrictive stock as a result of the small contribution made by the demersal fleets to the total stock landings, the most limiting stock would be pollack, whose quota is first reached for seven of 21 defined fleets. It is assumed that fleet fishing patterns in the forecast years are the same as observed in the recent past.

Mixed fisheries projections are conducted for five scenarios corresponding to different assumptions on the future effort deployment by the fleets (Table 1). The trade-offs in catches and any potential for overshoot and undershoot of the single stock advice associated with each scenario are shown (Figure 1).

Figure 1 Mixed fisheries for the Bay of Biscay. Mixed-fisheries projections. Estimates of potential 2024 catches (in tonnes) by stock and scenario (Table 1). Solid lines correspond to the single-stock catch advice. For those stocks with fishing mortality ranges defined, the lower dotted lines illustrate the catches corresponding to $F_{MSY\ lower}$ or reduced $F_{MSY\ lower}$ for stocks with defined ranges and with SSB < MSY $B_{trigger}$. The upper dotted lines illustrate the catches corresponding to $F_{MSY\ upper}$ for stocks with SSB ≥ MSY $B_{trigger}$.

Table 1   Mixed fisheries for the Bay of Biscay. Mixed-fisheries scenarios.

Scenario	Mixed-fisheries effort assumption	Basis for catch targets in 2024
Minimum (min)	For each fleet, fishing in 2024 stops when the catch for any one of the stocks meets its stock share*. This scenario is the most precautionary option and can highlight some potential "choke species" issues.	ICES catch advice
Maximum (max)	For each fleet, fishing in 2024 continues until all its stock shares* have been caught. This option illustrates the degree of overfishing of the single-stock advice if fishing is not restricted by the fleet stock shares*.	
Status quo effort (sq_E)	The effort of each fleet in 2024 is set equal to the average effort in the most recent three years (2020–2022) for which landings and discard data are available. However, for pelagic fleets that catch the remaining quota for mackerel, horse mackerel, and blue whiting it is assumed that they catch all their available quota.	
Minimum including ranges (min_range)	Same as "min" scenario.	Catches corresponding to $F_{MSY\ upper}$ for stocks in good status (SSB ≥ MSY $B_{trigger}$) and scaled F_{MSY} advice levels (F_{MSY} × SSB/MSY $B_{trigger}$) for the other stocks (including zero-catch advice stocks). Applies only to stocks with ranges defined and where corresponding catch scenarios are provided in the single-stock advice.
Minimum excluding zero catch advice (min_exzero)	For each fleet, fishing in 2024 stops when the catch for any one of the stocks (excluding zero-catch advice) meets its stock share*. Horse mackerel is a potential choke species for most of the fleets included in the analysis (due to the zero-TAC advice for 2024). However, over 2020–2022 the demersal fleets considered here account for less than 1% of stock landings.	ICES catch advice

* Throughout this document, the term "stock share" or "fleet stock share" is used to describe the share of the fishing opportunities for each particular fleet. These are calculated based on the single-stock advice for 2024 and the historical proportion of the stock landings taken by the fleet (2020–2022).

Catch scenarios

Mixed-fisheries analyses consider the implications of mixed fisheries operating under single-stock catch advice regimes given that there are no changes in the quota shares of the fleets for the different stocks, in the proportion of effort per métiers for each fleet, in discard rates or catchability in the métiers during the forecast period compared to the most recent years (2020–2022). Scenario assumptions for the intermediate year (2023) and forecast year (2024) are listed in Table 2. These assumptions may differ from those used in the single-stock forecasts.

Table 2   Mixed fisheries for the Bay of Biscay. Assumptions made in the intermediate year (2023) and in the forecast year (2024)

Variable	Notes
Effort per fleet (2023)	Days-at-sea: average of most recent years (2020–2022). Other fleets taking up the remaining catches for a single pelagic stock assume effort required for full quota uptake in the intermediate year.
Fishing patterns (2023–2024)	Catchability by stock and métier: average of most recent years (2020–2022) Effort-share by métier: average of most recent years (2020–2022)

Variable	Notes
Quota allocations (2024)	Catch-share by fleet: average of most recent years (2020–2022)
Catches outside of the Bay of Biscay (2024)	Associated with a single additional fleet per stock, it is assumed that they catch their full fleet stock share. This relates to catches of anglerfishes, megrim, hake, pollack, mackerel, horse mackerel and blue whiting out of areas 27.8.a-b and 27.8.d.

A total of five scenarios are presented, corresponding to different effort constraints for 2024 (Table 1). The forecasted scenarios are presented in terms of catch and the potential for catch advice over- and undershoot, which is driven by the most and the least restrictive single-stock advice (Figure 1 and Table 3). Scenario results for fishing mortality (F) in 2024 and spawning-stock biomass (SSB) in 2025 are presented in tables 4 and 5, respectively.

Scenarios that result in under- or overshoot are useful in identifying the main mismatches between the fishing opportunities of the various stocks, where limiting catch advice can create potential "choke species" effects at fleet level. They indicate the direction in which fleets may have to adapt their fishing behaviour to more fully utilize their catch opportunities without collectively exceeding single-stock fishing opportunities. Estimates of effort required by each fleet segment d to reach its "share" of each single-stock advice are shown in Figure 2.

The "min" scenario is consistent with a full implementation of a landing obligation (without any exemptions) given the individual single-stock advice (Table 3, Figure 1). In 2024, the "min" scenario shows that horse mackerel limits 14 of the 21 fleets (Figure 2). This is due to the zero-catch advice for horse mackerel. Of the remaining fleets, three are constrained by pollack, one by sea bass, and one by blue whiting (Figure 2).

The "max" scenario shows the upper bound of potential fleet effort and stock catches (Table 3, Figure 1) in that it assumes all fleets continue fishing until all their stock shares for all stocks are exhausted irrespective of economic viability, legality, or fleet capacity. In 2024, the "max" scenario, shows that white anglerfish would be the least limiting stock for 7 out of 21 fleets, black-bellied anglerfish and hake for four fleets, smooth-hound for three fleets, Norway lobster for two fleets, and mackerel for one fleet (Figure 2).

The *status quo* effort "sq_E" scenario sets the effort of each fleet in the forecast years equal to the average of the effort in the most recently recorded three years for which data are available (2020–2022). For the pelagic fleets that catch the remaining quota for mackerel, horse mackerel, and blue whiting, it is assumed that they catch all their available quotas. This scenario investigates the mixed-fisheries outcomes if the situation remains the same in terms of total effort and effort allocation among métiers. For 2024, this scenario shows advised catch overshoots for horse mackerel, pollack, and whiting (Table 3, Figure 1).

The "min_range" scenario explores how the higher catch advice associated with the $F_{MSY\ upper}$ reference point or scaled F_{MSY} reference points (for stocks where ranges are defined) may reduce choking behaviour in mixed fisheries and increase overall quota uptake. In this scenario, the choke species per fleet are the same as for the "min" scenario. However, catches per stock in 2024 are slightly increased for megrim, black-bellied anglerfish, and hake as a result of the increase in catch opportunities provided by the $F_{MSY\ upper}$ option for the stocks above MSY $B_{trigger}$ (Table 3, Figure 1).

In addition, a "min_exzero" scenario is presented, as the horse mackerel quota share of this stock for the demersal mixed fisheries is lower than 1%. In this scenario, horse mackerel was not included as an effort-restricting stock. In 2024, pollack becomes the most limiting stock constraining seven out of 21 fleet segments for this scenario (Figure 2). The catch advice for this pollack stock has shown a 20% reduction in 2022–2023 relative to 2021 and an additional 4% reduction in 2024–2025.

ICES single-stock catch advice for demersal stocks in 2024 is based on either existing management plans, ICES MSY approach, or ICES precautionary approach (PA). Scenario results show that it is not possible to achieve all advised single-stock catches simultaneously under current fishing patterns. However, the "min" scenario does deliver the management objectives of the single-stock advice for SSB and/or F simultaneously for all stocks. This scenario demonstrates the 'choke species' effect that may result from a strictly implemented landing obligation without adaptation of the fleets. Although there is no scenario which can achieve SSB above B_{pa} for sea bass or sole in 2025, the "min", "sq_E",

"min_range" and "min_exzero" scenarios do result in SSB above B_{lim} in 2025 for both stocks and the "max" scenario only for seabass (Table 5).

Horse mackerel, mackerel, and blue whiting are included in these analyses as they are potential choke species for some demersal fleets. Catches taken by these fleets represent very low proportions of the overall catches from these stocks, so the impact of these fleets on the dynamics of the stocks of mackerel, blue whiting, and horse mackerel is negligible even though they are economically important for these fleets.

Table 3   Mixed fisheries for the Bay of Biscay. Catches in 2024 (tonnes) resulting from single-stock advice and different mixed-fisheries scenarios for demersal fish species.

Stock	Single-stock advice	Catches per mixed-fisheries scenario (2024)				
	Catch (2024)*	min	max	sq_E	min_range	min_exzero
ank.27.78abd	25579	20881	25802	15026	30207	22257
bss.27.8ab	2642	372	4129	2480	372	1356
hke.27.3a46-8abd	72839	54770	78271	57519	75480	59003
hom.27.2a4a5b6a7a–ce–k8	0	0	3299	1758**	0	773
mac.27.nea	739386	737147	749692	747308**	737147	739122
meg.27.7b–k8abd	23303	19427	25703	19462	31447	21258
mon.27.78abd	35502	31169	36859	23220	34041	32584
nep.fu.2324	5786	0^	5815^	2713^	0^	1710^
pol.27.89a	872	541	2548	1749	541	866
sdv.27.nea^	5329	332	7374	3653	332	2174
sol.27.8ab	2489	895	4151	2427	895	1239
whb.27.1–91214	1529754	1526172	1531005	1556022**	1526172	1529749
whg.27.89a	1347	130	2949	1666	130	1022

* Advised catches of no more than the indicated value.
** The assumptions used in the "sq_E" scenario for the fleets which target pelagic species differ from those used for the demersal fleets (Table 1); hence this scenario should be interpreted with caution for horse mackerel and other pelagic species.
^ Landings.

Table 4   Mixed fisheries for the Bay of Biscay. Fishing mortality (F) in 2024 resulting from single-stock advice and different mixed-fisheries scenarios. Results are not presented for category 3 stocks (because reference points are not defined in terms of absolute values), Norway lobster and pelagic stocks. The colour gradients of the legend show the forecast fishing mortality under each scenario in relation to reference points detailed in the legend.

Stock	Single-stock advice F	F (2024) resulting from mixed-fisheries scenario				
	F (2024)	min	max	sq_E	min_range	min_exzero
ank.27.78abd*	0.163	0.133	0.164	0.096	0.192	0.142
bss.27.8ab*	0.129	0.0181	0.20	0.121	0.0181	0.066
hke.27.3a46–8abd	0.24	0.180	0.26	0.190	0.25	0.194
meg.27.7b–k8abd	0.23	0.192	0.25	0.192	0.31	0.21
mon.27.78abd*	0.192	0.169	0.199	0.126	0.184	0.176
sol.27.8ab*	0.29	0.104	0.48	0.28	0.104	0.144

* ank.27.78abd, bss.27.8ab, mon.27.78abd, and sol.27.8ab have no F_{lim}.

Legend:

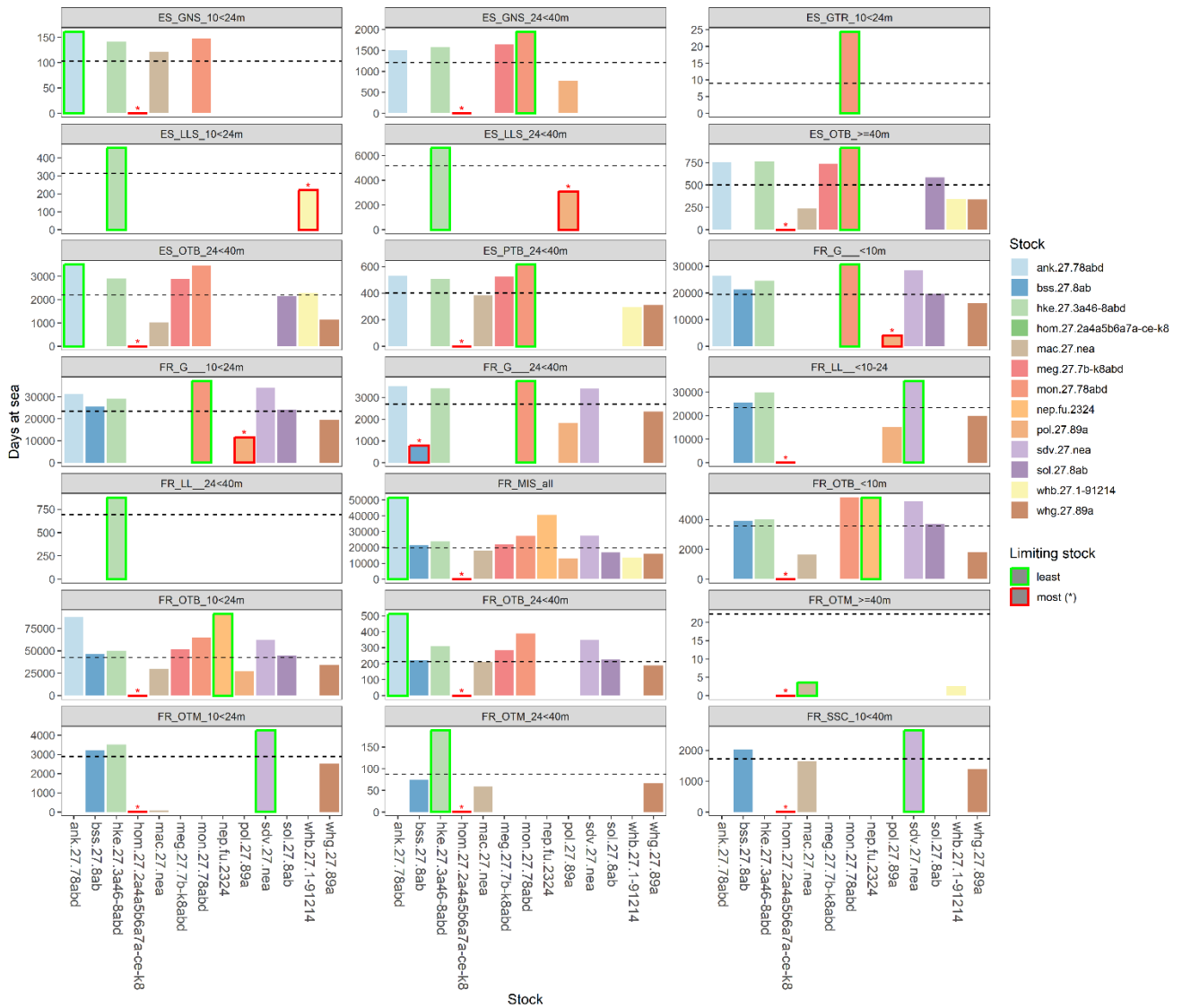|	
	$F_{2024} \leq F_{MSY}$
	$F_{MSY} < F_{2024} \leq F_{pa}$
	$F_{pa} < F_{2024} \leq F_{lim}$
	$F_{pa} < F_{2024}$, no F_{lim} defined
	$F_{2024} > F_{lim}$

Table 5   Mixed fisheries for the Bay of Biscay. Spawning-stock biomass (SSB) in 2025 results from single-stock advice and different mixed-fisheries scenarios. Results are not presented for category 3 stocks, Norway lobster or pelagic stocks. All weights are in tonnes. The colour gradients of the legend show the forecast SSB under each scenario in relation to reference points detailed in the legend.
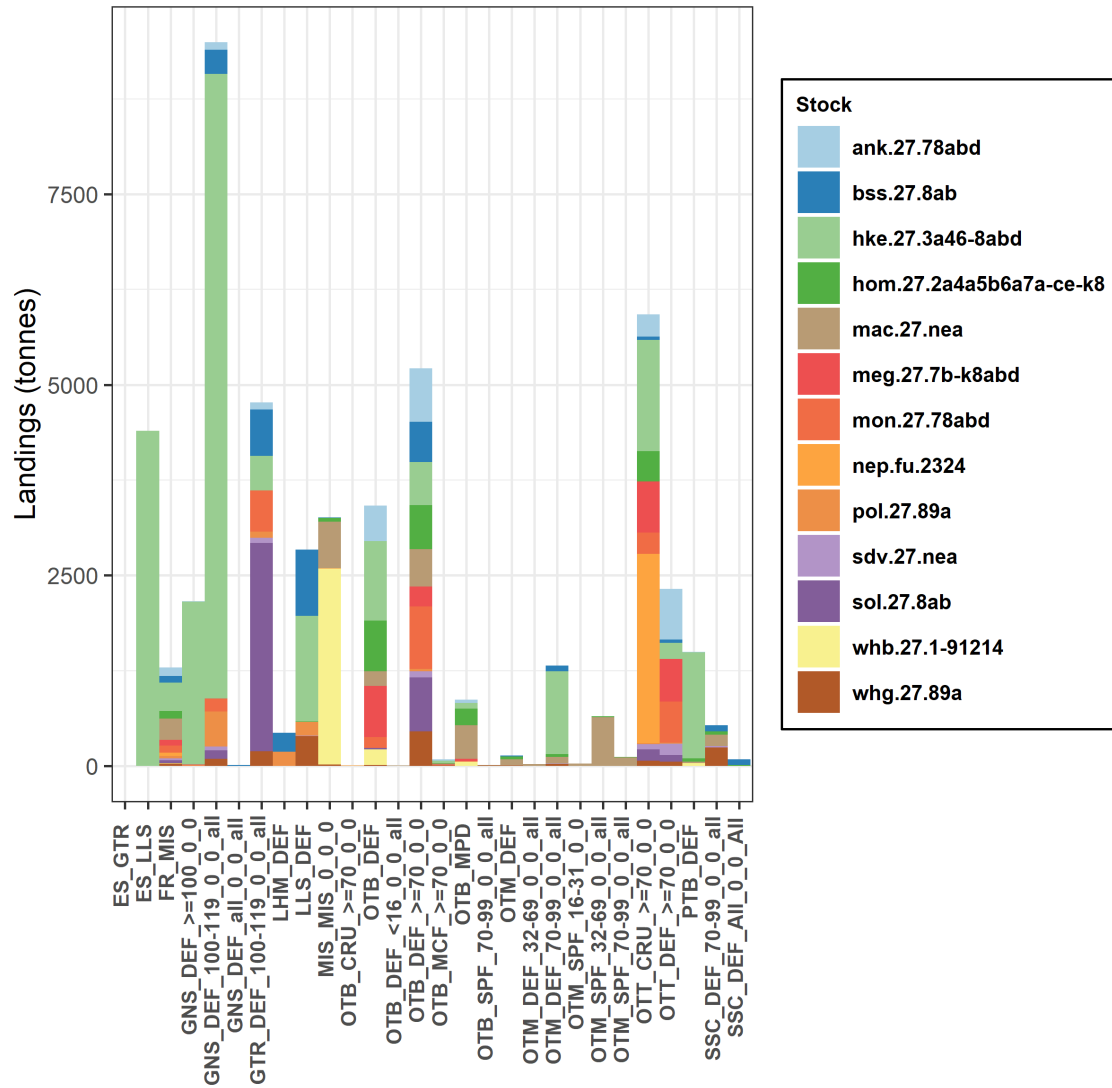
Stock	Single-stock advice	SSB (2025) resulting from mixed-fisheries scenarios				
	SSB (2025)	min	max	sq_E	min_range	min_exzero
ank.27.78abd	60186	61714	59949	64401	57689	61230
bss.27.8ab	14509	16266	12995	14583	16266	15487
hke.27.3a46–8abd*	129326	135513	121011	133807	124662	133147
meg.27.7b–k8abd	89889	90966	84175	90932	78271	89032
mon.27.78abd	64669	65252	63479	69071	64000	64837
sol.27.8ab	8975	10148	6874	8607	10148	9802

* Female SSB

Legend:

	$SSB_{2025} \geq B_{pa}$ or MSY $B_{trigger}$
	$SSB_{2025} \geq B_{lim}$, no B_{pa} defined
	$B_{lim} \leq SSB_{2025} < B_{pa}$
	$SSB_{2025} < B_{lim}$

Figure 2   Mixed fisheries for the Bay of Biscay. Estimates of effort by fleet needed to reach each single-stock catch advice. Stocks are coded by colour, with the bars for the most limiting stock ("choke species") for each fleet in 2024 highlighted with a red border and asterisk and the bars for the least limiting species highlighted with a green border. Fleet names are given by country (FR = France, ES = Spain), main gear, and vessel size (m). The *status quo* effort for each fleet (average 2020–2022) is shown as a dashed line for reference.

Figure 3   Mixed fisheries for the Bay of Biscay. Distribution of stocks landed by métier 2020–2022. A list of métier definitions is available in Table 6 and described in the 'Methods and data' section. Catches of métier OTH_*_-9 (outside of 8.a-b and 8.d) have not been included.

Table 6   Mixed fisheries for the Bay of Biscay. Métiers used in the mixed-fisheries analysis.

Métier	Gear and target	Mesh size
ES_MIS, FR_MIS	Other gear types (Spanish and French, respectively)	-
GNS_DEF_all_0_0_all	Set gillnet targeting demersal fish	-
GNS_DEF_>=100_0_0	Set gillnet targeting demersal fish	> 100 mm
GNS_DEF_100-119_0_0_all	Set gillnet targeting demersal fish	> 100 mm
GTR_DEF_100-119_0_0_all	Trammel net targeting demersal fish	> 100 mm
ES_GTR	Spanish trammel net	-
LHM_DEF	Handline targeting demersal fish	-
LLS_DEF	Set longline targeting demersal fish	-
ES_LLS	Spanish longline	-
OTB_CRU_>=70_0_0	Norway lobster bottom otter trawl	≥ 70 mm
OTB_DEF	Bottom otter trawl directed to demersal fish	-
OTB_DEF_<16_0_0_all	Bottom otter trawl directed to demersal fish	< 16 mm
OTB_DEF_>=70_0_0	Bottom otter trawl directed to demersal fish	≥ 70 mm
OTB_MCF_>=70_0_0	Bottom otter trawl directed to mixed cephalopods and demersal fish	≥ 70 mm
OTB_MPD	Bottom otter trawl directed to mixed pelagic and demersal fish	≥ 70 mm
OTB_SPF_70-99_0_0_all	Bottom otter trawl directed to pelagic fish	70–99 mm
OTM_DEF	Medium water otter trawl directed to demersal fish	-
OTM_DEF_32-69_0_0_all	Medium water otter trawl directed to demersal fish	32–69 mm
OTM_DEF_70-99_0_0_all	Medium water otter trawl directed to demersal fish	70–99 mm
OTM_SPF_16-31_0_0	Medium water otter trawl directed to pelagic fish	16–31 mm
OTM_SPF_32-69_0_0_all	Medium water otter trawl directed to pelagic fish	32–69 mm
OTM_SPF_70-99_0_0_all	Medium water otter trawl directed to pelagic fish	70–99 mm
OTT_CRU_>=70_0_0	Twin otter trawl directed to crustaceans	≥ 70 mm
OTT_DEF_>=70_0_0	Twin otter trawl directed to demersal fish	≥ 70 mm
PTB_DEF	Spanish bottom pair trawl directed to demersal fish	≥ 70 mm
SSC_DEF_70-99_0_0_all	Fly shooting seine	70–99 mm
SSC_DEF_All_0_0_All	Fly shooting seine	-
MIS_MIS_0_0_0	Other gear types	
OTH_*_-9 (outside of 8.a-b and 8.d)	All gears	-

Quality considerations

The single-stock assessments form the basis of the mixed-fisheries scenarios, and the single-stock forecasts are reproduced as part of the mixed-fisheries analyses allowing for additional quality control of both processes. Some discrepancies are to be expected between the single-stock forecasts and the reproduction of the advice in the mixed-fisheries forecast. This is due to structural and methodological differences between the stochastic forecasts conducted during ICES Working Group for the Bay of Biscay and Iberian Waters Ecoregion (WGBIE) for hake and megrim (ICES, 2023a) or the Working Group on Widely Distributed Stocks (WGWIDE) for mackerel, horse mackerel, and blue whiting (ICES, 2023b) and the deterministic forecast done within WGMIXFISH (ICES, 2023c). Despite these methodological differences, the differences observed this year were small (≤ 7%) for all stocks, and the WGMIXFISH deterministic forecast was considered close enough to the single-stock advice to be used as a basis for the mixed-fisheries scenarios. The quality of the individual forecasts of the single-stocks will affect the quality of the mixed-fisheries scenarios.

A new "min_range" scenario has been added this year (see Table 1). The "min_exzero" was previously called "min-exhom".

Table 7   Mixed fisheries for the Bay of Biscay. The basis of the assessment.

Assessment type	FLBEIA (FLR; Garcia *et al.*, 2017)
Input data	Assessments on the relevant stocks by the Working Group for the Bay of Biscay and Iberian Coast Ecoregion (WGBIE; ICES, 2023a), Working Group on Elasmobranch Fishes (WGEF; ICES, 2023d) and Working Group on Widely Distributed Stocks (WGWIDE; ICES, 2023b); catch and effort by fleet and métiers
Discards and bycatch	Included for both anglerfishes, hake, megrim, and whiting as in the respective single-stock assessments
Indicators	None
Other information	None
Working groups	WGBIE (ICES, 2023a), WGEF (ICES, 2023c), WGWIDE (ICES, 2023b), and the Working Group on Mixed Fisheries Advice (WGMIXFISH-ADVICE; [ICES, 2023c])

Issues relevant for the advice

Mixed-fisheries scenarios are based on the central assumptions that fishing patterns of fleets (quota shares per stock, effort allocation to different métiers) and catchability in 2023 and 2024 are the same as those in 2020–2022. In reality, fishing patterns may change over time, particularly in response to significant changes in policy.

The model includes four stocks (ank.27.78abd, hke.27.3a46–8abd, mon.27.78abd, and meg.27.7b–k8abd) that are also included in the mixed-fisheries advice for the Celtic Sea ecoregion. Catches of these stocks outside of the Bay of Biscay are included in the model as separate fleets and full uptake of stock shares for these fleets is assumed. The outcomes for ank.27.78abd, hke.27.3a46–8abd, mon.27.78abd, and meg.27.7b–k8abd can only be considered representative in the context of Bay of Biscay demersal fisheries. There may be inconsistencies between the catch forecasts in scenarios in the Celtic Sea and Bay of Biscay mixed-fisheries advice.

Catches of three large pelagic stocks (blue whiting, horse mackerel, and mackerel) are included for these analyses. These are minor compared to overall catches by demersal fleets of these stocks and so have negligible impact on the dynamics of these stocks.

The present analysis includes nine demersal fish stocks, one Norway lobster stock and three pelagic fish stocks. Other species are caught in these fisheries and could influence fishing activity. Some important stocks for the Bay of Biscay demersal fisheries have not been included because of suspected problems with species labelling. These stocks are thornback ray (rjc.27.8), cuckoo ray (rjn.27.678abd), and undulate ray (rju.27.8ab).

Norway lobster fisheries are managed on the basis of one TAC for the Bay of Biscay, while ICES advises on the basis of FUs. Each of the TACs for anglerfish and megrim covers two species (for anglerfish: *Lophius piscatorius* and *L. budegassa*, for megrim: *Lepidorhombus whiffiagonis* and *L. boscii*). *Lepidorhombus boscii* is not included in the mixed-fisheries catch advice, The mixed-fisheries analysis is based on ICES catch advice for the individual FUs and stocks. As a consequence, the extent of effort limitation may differ if based on TAC unit rather than on individual stock.

The "min_range" scenario makes use of the multiannual plan (MAP) F_{MSY} ranges defined for demersal stocks under the EU MAP for the western waters (EU, 2019). However, 2024 catch advice is only based on these ranges for sea bass and sole. For the rest of the stocks (anglerfishes, hake, and megrim) there is not an agreed shared management plan although the MAP has been already adopted by the EU and consequently, advice is given based on the MSY approach. Additionally, horse mackerel lacks a catch option with a reduction to F_{MSY} advice below $B_{trigger}$ and therefore the zero-catch advice is maintained in this scenario.

Methods and data

Mixed-fisheries considerations are based on single-stock assessments combined with knowledge of the species composition in catches in the Bay of Biscay fisheries; this is done using the FLBEIA model (García *et al.*, 2017). The forecasts are presented in terms of total catches. All stocks have been under a landing obligation since 2019, and all catches for these species are assumed to count against the fleet stock shares each year.

Fleets used in the mixed-fisheries analysis are defined by their country, predominant gear type, and vessel length. Fleets landing less than 1% of each stock (2020–2022) are aggregated to the "MIS_MIS" fleet. Fleets which have catches but lack corresponding effort data are included in the mixed-fisheries model to account for all sources of fishing mortality for the stocks included. The stock-specific OTH_*_-9 fleets account for differences in total catch between the fleet data and observed catches from single stock assessment and predominately consists of out-of-area catches or catches from pelagic fleets. The OTH_*_-9 fleets are excluded from Figure 2.

Métiers are based on gear type, target assemblage and mesh size. Within a fleet, métiers landing less than 2% of each stock (2020–2022) are aggregated under the "MIS" métier category. Stock catches lower than 1 t (in all years 2020–2022) and pelagic fleets without bycatch of demersal species (Spanish purse seiners, hand and pole lines) are removed from the analysis. Table 6 describes the métiers used, and Figure 3 illustrates the landings by métier and species.

The mixed-fisheries forecasts include full analytical single-stock assessments for the following stocks: black-bellied anglerfish, sea bass, hake, horse mackerel, mackerel, megrim, white anglerfish, pollack, smooth-hound, sole, blue whiting, and whiting, as well as two Norway lobster FUs with underwater TV (UWTV) surveys for absolute estimates of abundance. There are differences between stock areas, management areas, and management rules (MSY approach or MAP) for the stocks considered here. Table 8 summarizes the advice area and management areas for the main stocks.

Catches of three large pelagic stocks (blue whiting, horse mackerel, and mackerel) are included in these analyses. Catches by demersal fleets are minor compared to overall catches of these stocks and so have negligible impact on the dynamics of these stocks. These species are included because of their importance to the demersal fleet and their potential as choke species.

Average total landings (2020–2022, Figure 4) of all species considered in the mixed-fisheries considerations were 48 960 tonnes, with:

- 42% landed by otter trawls;
- 34% by gill- and trammel nets;
- 16% by set longlines and handlines;
- 3% by pair trawls;
- 4% by a miscellaneous group of gears.
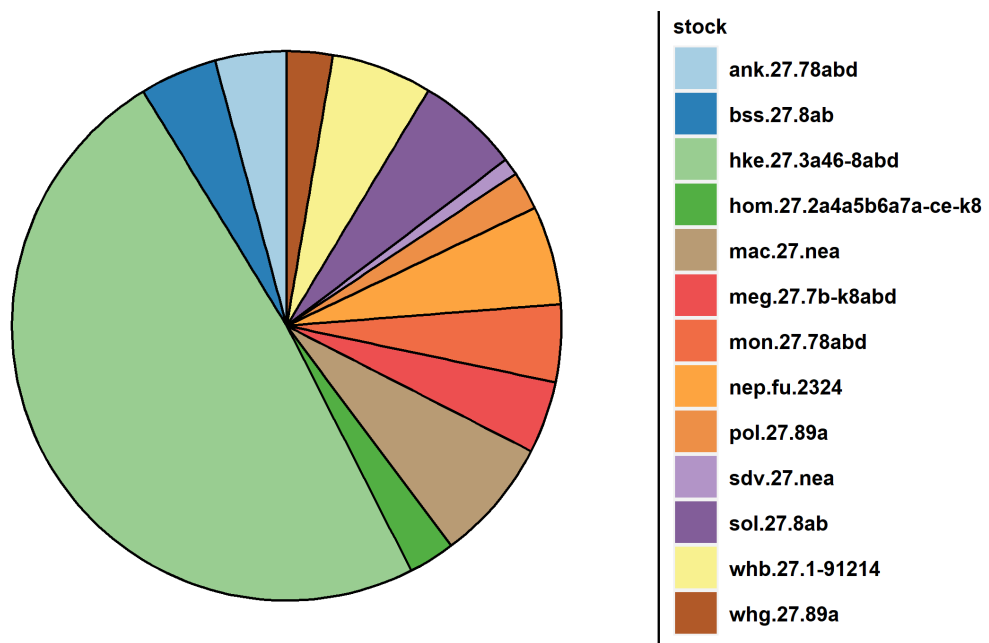
Figure 4   Mixed fisheries for the Bay of Biscay. Landings distribution by stock (average 2020–2022).

Table 8   Mixed fisheries for the Bay of Biscay. ICES single-stock advice area and management areas for the species considered.

Species	ICES single-stock advice area	Management area
Black-bellied anglerfish	Subarea 7 and divisions 8.a–b and 8.d (Celtic Seas, Bay of Biscay). Category 1 stock.	Combined TAC for anglerfish stocks Subarea 7 Divisions 8.a, 8.b, 8.d, 8.e
Sea bass	Divisions 8.a–b (northern and central Bay of Biscay). Category 1 stock.	No TAC
Hake	Subareas 4, 6, and 7, and divisions 3.a, 8.a–b, and 8.d, Northern stock (Greater North Sea, Celtic Seas, and the northern Bay of Biscay). Category 1 stock.	Division 3a EU and UK waters of Division 2.a and Subarea 4 Subareas 6 and 7; EU, UK and international waters of Division 5.b; international waters of subareas 12 and 14 Divisions 8.a, 8.b, 8.d, and 8.e
Horse mackerel	Subarea 8 and divisions 2.a, 4.a, 5.b, 6.a, 7.a–c, and 7.e–k (Northeast Atlantic). Category 1 stock.	EU and UK waters of Division 2.a, Division 4.a; Subarea 6, divisions 7.a-c, 7.e-k, 8.a, 8.b, 8.d and 8.e; EU and international waters of Division 5.b; international waters of subareas 12 and 14 Division 8.c
Mackerel	Subareas 1–8 and 14, and in Division 9.a (Northeast Atlantic and adjacent waters). Category 1 stock.	Norwegian waters of divisions 2.a and 4.a Division 3.a and Subarea 4; EU and UK waters of Divisions 2.a, 3.b, 3.c and subdivisions 22–32 Subareas 6 and 7, divisions 8.a, 8.b, 8.d and 8.e; EU, UK and international waters of Division 5.b; international waters of Division 2.a, subareas 12 and 14 Division 8.c, subareas 9 and 10; EU waters of CECAF 34.1.1
Megrim	Divisions 7.b–k, 8.a–b, and 8.d (west and southwest of Ireland, Bay of Biscay). Category 1 stock.	Combined TAC for megrim stocks Subarea 7 Divisions 8.a, 8.b, 8.d and 8.e
White anglerfish (monkfish)	Subarea 7 and divisions 8.a–b and 8.d (Celtic Seas, Bay of Biscay). Category 1 stock.	Combined TAC for anglerfish stocks Subarea 7 Divisions 8.a, 8.b, 8.d, and 8.e
Norway lobster	Divisions 8.a and 8.b, functional units 23–24 (northern and central Bay of Biscay). Category 1 stock.	Divisions 8.a, 8.b, 8.d, and 8.e
Pollack	Subarea 8 and Division 9.a (Bay of Biscay and Atlantic Iberian waters). Category 3 stock.	Divisions 8.a, 8.b, 8.d and 8.e Division 8.c Subareas 9 and 10; EU waters of CECAF 34.1.1
Smooth hound	Subareas 1–10, 12, and 14 (Northeast Atlantic and adjacent waters). Category 3 stock.	No TAC
Sole	Divisions 8.a–b (northern and central Bay of Biscay). Category 1 stock.	Divisions 8.a and 8.b
Blue whiting	Subareas 1–9, 12, and 14 (Northeast Atlantic and adjacent waters). Category 1 stock.	Norwegian waters of Subareas 2 and 4 EU, UK and international waters of subareas 1, 2, 3, 4, 5, 6, and 7, divisions 8.a, 8.b, 8d, and 8.e, subareas 12 and 14 EU and UK waters of Subarea 2, Division 4.a, subareas 5 and 6 north of 56° 30' N and Subarea 7 west of 12° W Division 8.c, subareas 9 and 10; Union waters of CECAF 34.1.1 Faroese waters
Whiting	Subarea 8 and Division 9.a (Bay of Biscay and Atlantic Iberian waters). Category 3 stock.	Subarea 8

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