

## 2 Blue whiting in Northeast Atlantic and adjacent waters

### *Micromesistius poutassou* in subareas 1–9, 12, and 14 (whb.27.1-91214)

Blue whiting (*Micromesistius poutassou*) is a small pelagic gadoid that is widely distributed in the eastern part of the North Atlantic. The highest concentrations are found along the edge of the continental shelf in areas west of the British Isles and on the Rockall Bank plateau, where it occurs in large schools at depths ranging between 300 and 600 metres and is also present in almost all other management areas between the Barents Sea and the Strait of Gibraltar and west to the Irminger Sea. Blue whiting reaches maturity at 2–7 years of age. Adults undertake long annual migrations between the feeding and spawning grounds. Most of the spawning takes place between March and April, along the shelf edge and banks west of the British Isles. Juveniles are abundant in many areas, with the main nursery area believed to be the Norwegian Sea. See the Stock Annex for further details on stock biology.

### 2.1 ICES advice in 2025

Fishing pressure ( $F$ ) on the stock has been estimated above  $F_{MSY}$  since 2014 and spawning-stock size (SSB) is estimated above  $MSY_{Btrigger}$  since 1997. ICES advises that when the long-term management strategy agreed by Norway, the European Union, the Faroe Islands, Iceland, and the United Kingdom is applied, catches in 2026 should be no more than 851 344 tonnes.

### 2.2 The fishery in 2025

The total catch of blue whiting in 2025 was 1 776 154 tonnes. As in previous years, the main fishery on blue whiting targeted spawning and post-spawning fish (Figures 2.2.1-2). 85% of the catches were taken in the first two quarters, with the majority taken along the slopes of the Western European shelf and around the Faroes. Smaller quantities were taken in the Norwegian Sea, in the Norwegian Trench, in the Rockall Trough and along the coast of Spain and Portugal.

The fishery in the second half of the year only accounted for 15% of the total catches. It was mainly in the Norwegian Sea, on the Iceland-Faroe Ridge and between Scotland and the Faroes, with smaller amounts in the Norwegian Trench, in the Celtic Sea and along the coast of Portugal and Spain (Figures 2.2.1-2).

The multinational fleet targeting blue whiting in 2025 consisted of several types of vessels from 14 countries, with Faroe Islands, Norway, Iceland and Russia taking the majority of the catches. The bulk of the catch is caught by large pelagic trawlers, some with the capacity to process or freeze on board. The remainder is caught by Refrigerated Sea Water (RSW) vessels.

### 2.3 Input to the assessment

At the Inter-Benchmark Protocol on Blue Whiting, IBPBLW (ICES, 2016a), it was decided to use preliminary within the year, quarter 1 and quarter 2, catch-at-age data in the assessment to get additional information to the within year IBWSS survey estimates. In recent years, 85-90% of the total annual catches of the age 3+ fish have been taken in the first half of the year, which makes it reasonable to estimate the total annual catch-at-age from reported first semester (Q1 & Q2)

data and expected total catches for the remainder of the year. The catch data sections in this report contain a comprehensive description of the 2025 data as reported to ICES and a brief description of the 2026 (Quarter 1 and Quarter 2) preliminary catch data.

The Russian age sample information and catch by quarter and ICES division and ICES rectangle for 2025 and also 2026 (Quarter 1 and Quarter 2) preliminary catch data were officially delivered to Faroe Marine Research Institute, and ICES decided to use this information.

### 2.3.1 Officially reported catch data

Official catches in 2025 were estimated as 1 776 154 tonnes based on data provided by WGWIDE members (Table 2.3.1.1). Data provided as catch by rectangle represented 95% of the total WG catch in 2025 (Figure 2.2.1). In 2025, the majority of catches were caught on the spawning grounds with largest contribution from ICES divisions 27.5.b, 27.7.c, 27.6.a, 27.7.k, 27.6.b and 27.2.a (Figure 2.3.1.1; Tables 2.3.1.2, 2.3.1.3), caught respectively in quarter 1 and quarter 2 (Figure 2.3.1.3). In the first two quarters, catches are taken over a broad area, with the highest catches in 27.5.b, 27.7.c, 27.6.a and 27.7.k, while later in the year catches are mainly taken in division 27.5.b, 27.6.a, 27.5.a, 27.2.a and in the North Sea (27.4.a) (Figures 2.3.1.6 and 2.3.1.7 and Table 2.3.1.3). The spatial and temporal distributions of catches in 2025 are similar to previous years (Figures 2.3.1.2, 2.3.1.3, 2.3.1.4; and Table 2.3.1.4 and Figure 1.10.7 in Section 1). The majority of the blue whiting catch was caught by five nations - Norway, Faroe Islands, Iceland, Russia and the UK respectively (Figure 2.3.1.5).

Discards of blue whiting are small. Most of the blue whiting caught in directed fisheries are used for reduction to fish meal and fish oil. However, some discarding occurs in the fisheries for human consumption and as bycatch in fisheries targeting other species.

Reports on discarding from fisheries which catch blue whiting were available from the Netherlands for the years 2002–2007 and 2012–2014. A study carried out to examine discarding in the Dutch fleet found that blue whiting made a minor contribution to the total pelagic discards.

The blue whiting discards data provided by Portuguese vessels operating with bottom otter trawl within the Portuguese portions of ICES Division 27.9.a are available since 2004. The discards data are from two fisheries: the crustacean fishery and the demersal fishery. The blue whiting estimates of discards in the crustacean fishery for the period of 2004–2011 ranged between 23% and 40% (in weight). For the same period the frequency of occurrence in the demersal fishery was around zero for most of the years, in the years where it was significant (2004, 2006, 2010) discards ranged between 43% and 38% (in weight). In 2025, discards were 27% of the total catches for blue whiting along the Portuguese coast (Table 2.3.1.5). The total catch from Portugal is less than of one percent the total international catches.

Information on discards has been available for Spanish fleets since 2006. Blue whiting is a bycatch in several bottom-trawl mixed fisheries. The estimates of discards in these mixed fisheries in 2006 ranged between 23% and 99% (in weight) as most of the catch is discarded and only the catch of the last day may be retained for marketing fresh. The catch rates of blue whiting in these fisheries are, however, low. In the directed fishery for blue whiting for human consumption with pair trawls, discards were estimated to be 9% (in weight) in 2025 (Table 2.3.1.5). Spanish catches are around 1% of the international catches.

In general, discards are assumed to be small in the blue whiting directed fishery. Discards data contributed to final catches of the following countries: Ireland, Portugal, Spain, Sweden and UK. The total discards constituted 0.15% of the total catches, 2736 tonnes. The largest fishing nations, Faroe Islands, Norway, Iceland and Russia do not have discards on blue whiting.

The total estimated catches (tonnes) inside and outside the NEAFC regulatory area by country were reported in Table 2.3.1.6. The catches inside the NEAFC RA represent 33% of the total catches of blue whiting in 2025.

### **2.3.1.1 Sampling intensity**

In 2025, 84% of catches were covered by the sampling program. In 2025, 1 795 length samples were collected from the fisheries with 130 720 fish measured and 16 353 aged (Table 2.3.1.1.1 and Table 2.3.1.1.2). Sampling intensity for blue whiting with detailed information on catch, the proportion of catch covered by the sampling program, the number of samples, number of fish measured, and number of fish aged per year from 2000 to 2025 is given in Table 2.3.1.1.1. Sampling intensity per country, quarter and ICES division for 2025 is listed in Tables 2.3.1.1.2, 2.3.1.1.3 and 2.3.1.1.4. The most intensive sampling, considering the age samples and the number of aged fish, took place in areas 27.2.a, 27.4, 27.5.b, 27.6.a, 27.7.c, 27.7.j, 27.7.k, 27.8.c and 27.9.a (Figure 2.3.1.1.1). No sampling was carried out by France, Greenland, Poland, Lithuania and Sweden which together represents 7% of the total catches. The sampled and estimated catch-at-age data are shown in Figure 2.3.1.1.1.

Sampling intensity for age and weight of blue whiting are made in proportion to landings according to CR 1639/2001 and apply to EU member states. The Fisheries Regulation 1639/2001, requires EU Member States to take a minimum of one sample for every 1000 tonnes landed in their country. Various national sampling programs are in force.

### **2.3.1.2 Age compositions**

As an example of an age-length key from sampled catches in 2025, data from ICES area 27.5.b is presented by quarter and country (Figure 2.3.1.2.1). The mean length (mm) by age reveals that age classifications do present some differences between countries. The major differences in mean length-at-age are observed in older ages, higher than age 9.

The catch-at-age numbers reveal a higher proportion of age 4 and 5 individuals in quarters 1 and 2, which corresponds to the 2020 and 2021 annual cohorts, when a higher recruitment was observed (Figure 2.3.1.2.2).

The ICES InterCatch program was used to calculate the total international catch-at-age, and to document how it was done.

## **2.3.2 Preliminary 2026 catch data (Quarters 1 and 2)**

The preliminary catches for 2026 as reported by the WGWISE members are presented in Table 2.3.2.1.

The spatial distribution of these 2026 preliminary catches is similar to the distribution in 2025 with the majority of catches taken in division 27.5.b, 27.7.k, 27.6.a and 27.7.c (Figure 2.3.2.1 and Table 2.3.2.1).

Sampling intensity for blue whiting from the preliminary catches by area with detailed information on the number of samples, number of fish measured, and number of fish aged is presented in Table 2.3.2.2.

WGWISE estimated the expected total catch for 2026 from the sum of declared national quotas, corrected for expected national uptake and transfer of these quotas (Table 2.3.2.3).

For the period 2016 to 2025, preliminary and final catch estimates are similar with maximum deviation in 2025 when the final catch was 1.4 % lower than the preliminary catch (Table 2.3.2.4). Age compositions (Figure 2.3.2.2) are also similar between preliminary and final catch data

except for some years and ages considering strong year classes, for example age 6, 5 and age 1 (i.e. the strong 2020, 2021 and 2025 year classes).

The estimation of catch at age and mean weight at age followed the method described in the Stock Annex.

### 2.3.3 Catch-at-age

The catch in numbers-at-age from 1981 to 2026 are presented in Table 2.3.3.1 and catch proportions at age are shown in Figure 2.3.3.1. Strong year classes that dominated the catches can be clearly seen in the early 1980s, 1990, the late 1990s and early 2000's. More recently, the propagation of the large 2014 year class is also evident and the recently emerged strong year classes of 2020 and 2021.

Catch curves for the international catch-at-age dataset (Figure 2.3.3.2) indicate a consistent decline in catch number by cohort in years with rather high landings (and probably similar high effort). The catch curves for year classes 2011-2017 show a consistent decline in the stock numbers with an estimated total mortality ( $Z=F+M$ ) around 0.6-0.7 for the ages fully recruited to the fisheries. With an assumed natural mortality ( $M=0.2$ ), the assessment  $F$  around 0.4-0.5 fits well to the  $Z$  values estimated from the catch curves.

### 2.3.4 Weight at age

Table 2.3.4.1 and Figure 2.3.4.1 show the mean weight-at-age for the total catch during 1981-2026 used in the stock assessment. Mean weight at ages 4-9 has generally decreased in the period 2010-2018, followed by a slight increase again up to 2021, after which mean weight decreases again for especially the lower ages (1-6). Ages 7-9 increased again in mean weight from 2023 onwards.

The weight-at-age for the stock is assumed the same as the weight-at-age for the catch.

### 2.3.5 Maturity and natural mortality

Blue whiting natural mortality and proportion of maturation-at-age are shown in Table 2.3.5.1. See the Stock Annex for further details.

### 2.3.6 Fisheries independent data

Data from the International Blue Whiting spawning stock survey are used by the stock assessment model, while recruitment indices from several other surveys are used to qualitatively adjust the most recent recruitment estimate by the assessment model and to guide the recruitments used in the forecast.

#### 2.3.6.1 International Blue Whiting spawning stock survey

The Stock Annex gives an overview of the surveys available for the blue whiting. The International Blue Whiting Spawning Stock Survey (IBWSS) is the only survey used as input to the assessment model.

The full time series of IBWSS was recalculated in summer 2020, using the same software (StoX; Johnsen et al., 2019) and method as previously applied. The values are presented in Table 2.3.6.1.1 and Figure 2.3.6.1.1 A.

The survey time-series (2004-2026) show variable internal consistency ranging from 0.2 to 0.83 (Figure 2.3.6.1.1 B). The overall internal consistency for age-disaggregated year classes was

slightly reduced compared to last year. There is a high internal consistency for the younger ages (1-5 years) and older ages (7-9 years) with correlation between 0.64 and 0.83, but poor ( $0.44 < r < 0.54$ ) between ages 5 to 7. This may indicate age reading problems for this group of ages.

The distribution of acoustic backscattering densities for blue whiting for the period 2023-2026 is shown in Figure 2.3.6.1.2. The abundance estimate of blue whiting for IBWSS are presented in Table 2.3.6.1.1. The survey in 2026 was impacted by bad weather, as in 2025. However, the judgement of the survey group was that the estimate of abundance is robust and that the stock was considered sufficiently sampled across core distribution areas.

Length and age distributions for the period 2022 to 2026 are given in Figure 2.3.6.1.3.

Survey indices, (ages 1-8 years 2004-2026) as applied in the stock assessment are shown in Table 2.3.6.1.1.

### 2.3.6.2 Other surveys

The Stock Annex provides information and time-series from surveys covering parts of the stock area. A brief survey description and survey results are provided below.

The International ecosystem survey in the Nordic Seas (IESNS) in May which is aimed at observing the pelagic ecosystem with a particular focus on Norwegian spring-spawning herring and blue whiting (mainly immature fish) in the Norwegian Sea (Table 2.3.6.2.1).

Norwegian bottom-trawl survey in the Barents Sea (BS-NoRu-Q1(Btr)) in February-March where blue whiting is regularly caught as a bycatch species. This survey gives the first reliable indication of year class strength of blue whiting. The 1-group in this survey is defined as less than 19 cm (Table 2.3.6.2.2).

Icelandic bottom-trawl survey on the shelf and slope area around Iceland. Blue whiting is caught as a bycatch species and 1-group is defined as less than 22 cm in March (Table 2.3.6.2.3).

Faroese bottom-trawl survey on the Faroe plateau in spring where blue whiting is caught as bycatch species. The 1-group in this survey is defined as equal or less than 23 cm in March (Table 2.3.6.2.4).

The International Survey in Nordic Seas and adjacent waters in July-August (IESSNS). Blue whiting has been considered a main target species in this survey since 2016 and as such methods were changed to ensure there was sampling for blue whiting. This was a recommendation from WGWISE 2015 to try to have one more time-series for blue whiting. Data for the survey are not used yet, due to the short time series. However, results from this survey are also presented to the working group and a strong signal of one-year olds were seen in 2026 (Table 2.3.6.2.5).

## 2.4 Stock assessment

The IBWSS survey is the only survey used by the SAM assessment. The survey was cancelled in 2020 due to the COVID-19 pandemic but conducted in 2021-2026.

The presented assessment in this report follows the recommendations from the Inter-Benchmark Protocol of Blue (ICES, 2016a) to use the SAM model. The configuration of the SAM model was kept unchanged in this year's assessment.

At WGWISE in 2021 the period for estimating recruitment for the short-term forecast was changed from the full-time series (minus the terminal year) to the more recent period since 1996 (minus the terminal year). This approach was again followed by WGWISE 2026.

### 2.4.1 2026 stock assessment

The estimated parameters from the SAM model from this year and last year's assessment are shown in Figure 2.4.1.1. The coefficients of variation (CV; standard deviation divided over mean) of the parameter values from the assessments (based on the retrospective analysis on this year's assessment) conducted since 2022 are shown in Table 2.4.1.1. The lowest observation noises, and therefore the largest weight in the assessment model, have in all years been from catches at ages 3-8, which constitute the largest proportion of the catch. There are no abrupt changes in the estimated parameters over the time-series presented. The absolute parameter values for the observation noise of catch age 1 and IBWSS abundance age 1 decreased slightly, meaning that the model has slightly more difficulty in fitting these observations. However, the corresponding CV values have not changed (catch age 1) or only very slightly (IBWSS age 1), indicating no large implications for model performance.

Figures 2.4.1.2 and 2.4.1.3 show the observed versus fitted values for catch at age and IBWSS abundance at age from the final assessment. As confirmed by the parameter values and CV (Figure 2.4.1.1, Table 2.4.1.1), the model fits the catch at age data well, but has more difficulty with catch at age 1, especially in recent years (Figure 2.4.1.2). The fit of observed IBWSS values seems to be slightly worse than for the catches, as already reflected by the higher parameter values and CV (Figure 2.4.1.1, Table 2.4.1.1), with most difficulty with fitting age 1 data (Figure 2.4.1.3).

For a model such as SAM, Berg and Nielsen (2016) pointed out that the so-called "One Step Ahead" (OSA) residuals should be used for diagnostic purposes. The OSA residuals (Figure 2.4.1.4) show a quite random distribution of residuals for the catch at age and IBWSS data. There seems to be a year class effect showing in the catch residuals starting in the early 2000s up to the mid-2010s. The process error residuals ("Joint sample residuals") for stock numbers and fishing mortality (Figure 2.4.1.5) are reasonably well randomly distributed.

The correlation matrix between ages for the catches and survey indices (Figure 2.4.1.6) shows a modest observation correlation for the younger ages and a stronger correlation for the older ages. This difference is more distinct for the catches, probably because it includes older ages (1-10+) than the survey data (ages 1-8). The correlation matrix this year is very similar to last year's assessment (Figure 2.4.1.6).

Figure 2.4.1.7 presents the exploitation pattern for the whole time-series. There are no abrupt changes in the exploitation pattern from 2010 to 2026, even though the landings in 2011 were just 19% of the landings in 2010, which might have given a change in the exploitation pattern. The plateau in selection at age 6 and older seen since mid-2000s seems more realistic than the more linear selection estimated for the beginning of the time series. The estimated stable exploitation pattern might be influenced by the use of correlated random walks for  $F$  at age with a high estimated correlation coefficient ( $Rho = 0.94$ , Table 2.4.1.1).

The retrospective analysis is shown for the last 5 years in Figure 2.4.1.8, with the previous years within the 95% confidence interval of the current assessment. Mohn's rho by year and as the average value over the last five years are presented in (Table 2.4.1.2). For recruitment, both the mean (-0.169) and annual values are high, as also seen in recent previous assessments, indicating a tendency to underestimate  $R$ . This is largely driven by the recruitment estimates in 2021 and 2022 (i.e. the strong 2020 and 2021 year classes) that are revised each year. The annual value for 2025 is particularly high (-0.262), as last year's recruitment is strongly revised as well. This has been observed in previous assessments, likely because the IBWSS age 1 is not an appropriate recruitment index, with its aim to assess the spawning stock biomass rather than recruitment at age 1. Mohn's rho of the annual peel for  $F$  in 2025 is rather high (0.348) due to a strong downward revision of  $F$  in this year's assessment compared to last year. In other years,  $F$  was revised mostly

upwards. SSB has been revised either upwards or downwards in recent years, but without a consistent retrospective pattern.

Stock summary results with added 95% confidence limits (Figure 2.4.1.9 and Table 2.4.1.3) show that fishing mortality has been above  $F_{MSY}$  since 2015. A recent peak in fishing mortality is observed in 2024 of 0.544, followed by declines to 0.508 and 0.401 in respectively 2025 and 2026. Recruitment (age 1) was high in 2015, followed by a series of lower recruitment in 2017–2020. The recruitment in both 2021 (62.6 billion) and 2022 (65.3 billion) is estimated to be historically high. Recruitment in 2025 is estimated to be 38.7 billion, which is considerable higher than the 2023 and 2024 recruitment estimates. After a period of decline since 2016, SSB has been increasing again since 2022, peaking in 2024 at 6.0 million tonnes. SSB is estimated to decrease again to 5.1 million tonnes in 2025 and further to 4.5 million tonnes in 2026.

#### **2.4.1.1 Leave-out runs and further diagnostics**

To further explore the observed retrospective patterns a leave-out run of the IBWSS was conducted. Ideally, the entire IBWSS from 2004 onwards is excluded, making the model entirely driven by the catch, but this was not possible with the ‘stockassessment’ R package for SAM. Alternatively, only the first few years of the time series (2004–2009) were kept, which are considered to have little influence on the model. In the IBWSS leave-out run, SSB and recruitment were slightly downscaled in recent years, whereas no change in  $F$  was observed (Figure 2.4.1.1.1). Last year’s assessment was strongly catch-driven caused by the low 2025 survey value, but adding a new year of survey data seemed to have given the IBWSS influence on the model again.

### **2.4.2 Alternative model runs**

During WGWIDE 2023 an alternative configuration of the Blue Whiting SAM assessment was prepared (available at [stockassessment.org](http://stockassessment.org); BW2023\_freeFRW). In this assessment, the number of parameters to estimate for the  $F$ -random walks was increased to allow estimation of these random walks for ages 1–3 separately from ages 4–10. At the same time, the imposed correlation structure in the catch-at-age data was turned off. The results were very similar to the final accepted model by WGWIDE 2023 and showed only minor differences when it comes to fitting catch-at-age. The overall negative log-likelihood was larger under the alternative configuration. The alternative configuration had no impact on the retrospective pattern either. See WGWIDE 2023 for more details.

## **2.5 Final assessment**

Following the recommendations from Inter-Benchmark Protocol on Blue Whiting (ICES, 2016a) the SAM model is used for the final assessment. The model settings can be found in the Stock Annex.

Input data are catch-at-age numbers (Table 2.3.3.1), mean weight-at-age in the stock and in the catch (Table 2.3.4.1) and natural mortality and proportion mature in Table 2.3.5.1. Applied survey data are presented in Table 2.3.6.1.1.

The model was run for the period 1981–2026, with catch data up to 2025 and preliminary catch data for the first half-year (Q1 and Q2) of 2026 raised to expected annual catches, and survey data (IBWSS) from March–April, 2004–2026. SSB 1<sup>st</sup> January in 2027 is estimated from survivors and estimated recruits (for 2027 estimated outside the model, see short-term forecast section). 11% of age group 1 is assumed mature, thus recruitment influences the size of SSB. The key results are presented in Tables 2.5.1, 2.5.2 and 2.5.3 and summarized in Table 2.4.1.3 and Figure

2.4.1.9. Parameter values, observed versus fitted values and residuals of the model fit are shown in Figures 2.4.1.1–2.4.1.5.

2.6 State of the Stock

Fishing pressure on the stock is above  $F_{MSY}$  and  $F_{pa}$  spawning-stock size is above  $MSY B_{trigger}$ ,  $B_{pa}$  and  $B_{lim}$  in 2026.

$F$  is estimated to be 0.401 in 2026, the lowest value in the time series years since 2014.  $F$  has been above  $F_{MSY}$  and  $F_{pa}$  (0.32) since 2014.  $SSB$  has decreased from 2024 (6.0 million tonnes) to 4.5 million tonnes in 2026.  $SSB$  has been above  $MSY B_{trigger}$  since 1997.

Recruitment (age 1) in 2022 is estimated to be the highest value in the time series (65.3 billion), closely followed by 2021 (62.6 billion). Recruitment in 2023 and 2024 are close to the long-term geometric mean (22.8 billion), whereas recruitment in 2025 is estimated to be reasonably high (38.7 billion). The 2026 recruitment is estimated to be at 24.7 billion, but recruitment indices not used in the model suggest a stronger year class (see 2.8.1).

2.7 Biological reference points

In the spring of 2016, the Inter-Benchmark Protocol on Blue Whiting (IBPBLW) (ICES, 2016a) delegated the task of re-evaluating biological reference points of the stock to the ICES Workshop on Blue Whiting Long Term Management Strategy Evaluation (WKBWMSE) (ICES 2016b). During the WGWISE meeting 2017, WKBWMSE concluded to keep  $B_{lim}$  and  $B_{pa}$  unchanged but revised  $F_{lim}$ ,  $F_{pa}$ , and  $F_{MSY}$ .

ICES made in 2021 the decision to use  $F_{p05}$  as the value for  $F_{pa}$ .  $F_{p05}$  was estimated by WKBWMSE (ICES 2016b), where it was concluded that the EQSIM simulations showed that  $F_{p0.05}$  (0.32) is less than the  $F_{MSY}$  in the constant  $F$  simulations, so  $F_{MSY}$  was set to this lower value.

ICES decided in September 2024 to follow the recommendation from WKNEWREF to not use  $F_{lim}$  as reference point anymore, so this point is not used to assess  $F$  against from 2025 onwards.

The table below summarises the currently used reference points.

| Framework              | Reference point   | Value          | Technical basis                                                                 | Source                       |
|------------------------|-------------------|----------------|---------------------------------------------------------------------------------|------------------------------|
| MSY approach           | $MSY B_{trigger}$ | 2.25 million t | $B_{pa}$                                                                        | ICES (2013a, 2013b, 2016b)   |
|                        | $F_{MSY}$         | 0.32           | Stochastic simulations with segmented regression stock–recruitment relationship | ICES (2016b)                 |
| Precautionary approach | $B_{lim}$         | 1.50 million t | Approximately $B_{loss}$                                                        | ICES (2013a, 2013b, 2016b)   |
|                        | $B_{pa}$          | 2.25 million t | $B_{lim} \exp(1.645 \times \sigma)$ , with $\sigma = 0.246$                     | ICES (2013a, 2013b, 2016b)   |
|                        | $F_{pa}$          | 0.32           | $F_{p05}$ ; the $F$ that leads to $SSB \geq B_{lim}$ with 95% probability       | ICES (2016b) and WGWISE 2021 |

## 2.8 Short-term forecast

### 2.8.1 Recruitment estimates

The benchmark WKPELA in February 2012 concluded that the available survey indices should be used in a qualitative way to estimate recruitment, rather than using them in a strict quantitative model framework. WGWIDE has followed this recommendation and investigated several survey time-series indices with the potential to give quantitative or semi-quantitative information of blue whiting recruitment. The investigated survey series were standardized by dividing with their mean and are shown in Figure 2.8.1.1.

The International Ecosystem Survey in the Nordic Seas (IESNS) only partially covers the known distribution of recruitment from this stock. The 1-group (2025 year class) index from the survey in 2026 was well above the median and the 2-group (2024 year class) was also well above the median of the historical range.

The 1-group (2025 year class) from The International Blue Whiting Spawning Stock Survey (IBWSS) was above the median in the time series and the 2-group (2024 year class) was well above the median in the time series (Table 2.3.6.1.1).

The Norwegian bottom-trawl survey in the Barents Sea (BS-NoRu-Q1(Btr)) in February-March 2026, showed that 1-group blue whiting was above the median in the time series (Table 2.3.6.2.2). This index should be used as a presence/absence index, in the way that when blue whiting is present in the Barents Sea, this is usually a sign of a strong year class, as all known strong year classes have been strong also in the Barents Sea.

The 1-group estimate in 2026 (2025 year class) from the Icelandic bottom-trawl survey showed a decrease compared to last year, but was still in the upper part in the time-series.

The 1-group estimate in 2026 (2025 year class) from the Faroese Plateau spring bottom-trawl survey showed a higher value than previous years and was well above the median in the time-series. This is the only survey which doesn't pick up a strong signal from the 2020 and 2021 year classes.

The International Ecosystem Summer Survey in the Nordic Seas (IESSNS) covers a major part of the juvenile area for blue whiting. The 1-group (2025 year class) index from the survey in 2026 was the second highest in the time series and the 2-group (2024 year class) was well above the median of the historical range.

In conclusion, the indices from available survey time-series indicate that the 2025 year class estimated from surveys are stronger than the previous years and well above the median. This is not seen in the SAM assessment (2025 recruitment age 1: 24.7 billion; Table 2.5.1). To further confirm this, a correlation analysis between the SAM recruitment estimates and the various survey indices at age 1 and 2 were performed. The strongest correlations with the SAM recruitment estimates were found for IBWSS age 2, IESNS age 1, IESNS age 2, IESSNS age 1 and IESSNS age 2 (Figure 2.8.1.2). This strengthened the expert group's trust in the IESNS and IESSNS as recruitment indices, both indicating an even stronger 2025 than 2024 year class, in contradiction to the SAM estimate for age 1 recruitment in 2025, based on IBWSS age 1.

Another methodology was considered to produce recruitment estimates for 2026, 2027 and 2028, following Cappelli et al. (2025) and Working Document 6 to this report. It uses a lagged Wind Stress Curl index and the SAM recruitment estimates from the previous year to estimate recruitment in the following year. Although the method was considered promising, it has not been through a benchmark process where it has been thoroughly tested as part of the short-term forecast.

It was therefore decided to use the long-term geometric 75<sup>th</sup> percentile (1996-2025) of the recruitment for this year class (39.4 billion; well above the SAM estimate) and the SAM estimates of the 2024 year class (38.7 billion in 2025 as age 1) for the short-term forecast.

No information is available for the 2026 and 2027 year classes and the geometric mean of the time-series from 1996-2025 was used for these year classes (22.8 billion at age 1 in 2027) (Table 2.8.2.1.2).

As described in the Stock Annex, WGWIDE decided in 2021 to change from using the geometric mean of the full time-series (since 1981) to use a shorter time-series (since 1996) for the calculations recruitment.

## 2.8.2 Short-term forecast

As decided at WGWIDE 2014, a deterministic version of the SAM forecast was applied. Details about specific implementation can be found in the Stock Annex.

### 2.8.2.1 Input

Table 2.8.2.1.1 lists the input data for the short-term predictions. Mean weight at age in the stock and mean weight in the catch are the same and are calculated as three-year averages (2024–2026) in accordance with the 2019 updated Stock Annex. Selection (exploitation pattern) is based on  $F$  in the most recent year. The proportion mature for this stock is assumed constant over the years and values are as used by the assessment.

As described in section 2.8.1, surveys that substantially correlate with the assessment model recruitment estimates and are currently not used in the assessment (IESNS, IESSNS) point towards a higher recruitment in 2026 compared to 2025. It was therefore decided to replace the recruitment estimate of the assessment model for 2026 (24.7 billion) with the long-term geometric 75<sup>th</sup> percentile (39.4 billion). Recruitment in 2027 and 2028 are assumed as the long-term average (1996-2025; 22.8 billion).

To ensure that the SSB for 2026 corresponded to the assumed recruitment for 2026, the SSB for 2026 was re-calculated. This was done by calculating the difference between the estimated and assumed recruitment values, multiplying this by the weight and maturity proportion at age 1 to get the biomass, and adding this to the originally estimated SSB value. This resulted in a change from 4474452 to 4546442 tonnes. The confidence interval around the SSB value was calculated from the original distribution of values, using the same standard deviation around the median as the originally estimated SSB.

As the assessment uses preliminary catches for 2026, an estimate of stock size is available for the 1<sup>st</sup> of January 2027. The normal use of an “intermediate year” calculation is not relevant in this case and  $F$  in the “intermediate year” (2026) is as estimated by the assessment model. Catches in 2026 are based on the preliminary catches based on declared national quotas and expected national uptake for 2026. Intermediate year assumptions are summarised in Table 2.8.2.1.2.

### 2.8.2.2 Output

A range of predicted catch and SSB options from the deterministic short-term forecast used for advice are presented in Table 2.8.2.2.1.

Following the ICES MSY framework for the target  $F$  from the Long-Term Management Strategy (LTMS) implies fishing mortality to be at  $F_{MSY} = 0.32$  and a TAC in 2027 of 1 112 531. This corresponds to a 31% increase compared to the ICES advice last year. According to paragraph 5 in the Long-Term Management Plan for blue whiting, if such as TAC deviates more than +25% from the TAC of the preceding year, the TAC is fixed to no more than 25% of the TAC of the preceding

year. Therefore, the TAC according to the Long-Term Management Plan for blue whiting corresponds to 1 064 191 tonnes in 2027. This corresponds a 4.2% decrease in catches in 2027 compared to 2026 if the 2027 TAC is followed.

SSB in 2028 is predicted to increase by 10.4% to 5.6 million tonnes, if the advised catches are taken.

### 2.8.2.3 Comparison of input with last year's forecast

Table 2.8.2.3.1 compares the estimated stock numbers at age from the assessments and as used in the forecasts from WGWIDE 2026 (with N-at-age 1 in 2026 as long-term geometric 75<sup>th</sup> percentile 1996-2025) and WGWIDE 2025 (with replaced N-at-age 1 in 2025 as long-term geometric mean 1996-2024) for the last five years (2022-2026). The ratio of the stock numbers from the two assessments is above 1 in all years and for all ages. The values are quite stable and close to one for 2022-2024 (except age 1 in 2024), while the current assessment provides higher estimates for several age groups in 2025 and 2026. Notably, this applies to age 1 in 2025 and age 2 in 2026, which corresponds to the strong 2024 year class. The adjustment of age 1 in 2025 is likely an effect of using the final instead of the preliminary catches in 2025, which showed >50% more catch numbers at age 1 in the final compared to the preliminary data.

The mean weight-at-age used in the forecast in this year's assessment (average of weight at age for 2024-2026) is very similar for most age groups compared to last year's forecast (average weight from 2023-2025 ; Figure 2.8.2.3.1). This year's mean weight-at-age used is slightly higher for age 6, 9 and 10 and slightly higher for age 8.

Table 2.8.2.3.2 compared the estimate stock numbers at age from the assessment and used in the forecasts multiplied by the weight at age for WGWIDE 2025 and 2026. The ratios are both in direction and values very similar as for the ratios of the stock numbers only (Table 2.8.3.2.1).

Selectivity at age is almost the same in this year's and the previous year's assessment (Figure 2.4.1.7).

Table 2.8.2.3.3 shows the intermediate year assumptions and recruitments for the current and previous assessment. The main differences in input to the forecasts at WGWIDE 2025 and WGWIDE 2026 are the higher SSB at the start of the TAC year and the lower F recruitment in the terminal year for the 2026 WGWIDE forecast. This is due to the change in the model's perception of the stock size (upscaled) and fishing mortality (downscaled).

## 2.9 Comparison with previous assessment and forecast

Comparison of the assessments made in 2025 and 2026 (Figure 2.9.1) shows a slight upward revision of SSB in recent years. Fishing mortality is revised downwards for 2024 and particularly 2025, from 0.599 and 0.675, respectively, in the WGWIDE 2025 assessment to 0.544 and 0.508, respectively, in the WGWIDE 2026 assessment. Recruitment in 2021 and 2022 (i.e. the historic high year classes of 2020 and 2021) were slightly revised upwards in this year's assessment, whereas the 2024 year class was even more strongly revised upwards, from 16.9 billion by WGWIDE 2025 to 38.7 billion by WGWIDE 2026.

Figure 2.9.2 shows the differences in stock biomass, F and recruitment between using the final vs. preliminary catch data from 2025 in the WGWIDE 2025 assessment. The effects are limited for SSB and F, but a substantial increase in recruitment at age 1 in 2025 is observed when using the final data for 2025. A similar revision is observed for the WGWIDE 2026 assessment that also used the final 2025 data (Figure 2.9.1). As shown in Figure 2.3.2.2, catches of particular age 1 in 2025 were >50% higher in the final than in the preliminary data, thereby decreasing the relative

fishing pressure on that ages 3-7 experienced. Notably, the proportion of catch numbers inside  $F_{bar}$  in 2025 according to WGWIDE 2025 was 0.86, while this was 0.77 according to WGWIDE 2026. Therefore, the upscaling of recruitment and downscaling of  $F$  in the WGWIDE 2026 assessment can be explained by the change from preliminary to final catch data for 2025.

Another explanation for the upward revision in recruitment is the change in signal strength of the 2024 year class in the IBWSS (Table 2.3.6.1.1). As age 1 in 2025, this year class had low abundances compared to other years in the time series, where as age 2 in 2026, abundances were comparatively high. The signal of a strong 2024 year class was also picked by other surveys (section 2.8.1). As the IBWSS did not pick up this signal in 2025 but first in 2026, this year's assessment revised the recruitment estimate for 2025 accordingly.

In conclusion, the observed revisions in this year's versus last year's assessment can be ascribed to both the addition of a new year of data as well as change from the 2025 preliminary to final data.

## 2.10 Quality considerations

Based on the confidence interval produced by the assessment model SAM there is a moderate to high uncertainty of the absolute estimate of  $F$  and SSB and the recruiting year classes (Figure 2.4.1.9). The retrospective analysis (Figure 2.4.1.8) shows a tendency to underestimate recruitment in especially recent years, but unbiased estimates of  $F$  and SSB.

There are several sources of uncertainty: age reading, stock identity, survey indices and the use of preliminary catch data. As there is only one survey (IBWSS) that covers the spawning stock, the quality of the survey influences the assessment result considerably. The Inter-Benchmark Protocol on Blue Whiting (IBPBLW 2016) introduced a configuration of the SAM model that includes the use of estimated correlation for catch and survey observations. This handles the "year effects" in the survey observation in a better way than assuming an uncorrelated variance structure as usually applied in assessment models. However, biased survey indices will still give a biased stock estimate with the new SAM configuration. The estimated correlation for catch at age observations might correspond to the age reading discrepancy as also estimated from the inter-calibration exercise. The use of additional survey data may be beneficial, especially in years without IBWSS data.

Utilization of preliminary catch data provides the assessment with information for the most recent year in addition to the survey information. This should give a less biased assessment, as potentially biased survey data in the final year are supplemented by additional catch data. The final catch weight was only 0.9% higher than the preliminary data for 2025. The differences for the full time series (2016-2025) seem randomly distributed, ranging from -8 to +5 %, (Table 2.3.2.4).

## 2.11 Management considerations

The assessment this year provides a lower estimate of  $F(2025)$  and higher estimate of SSB(2026) compared to last year's estimates. The most recent recruitment estimates (year classes 2020-2024) are all estimated higher than last year. Year classes 2024 and 2025 are considered strong year classes, though not as strong as the historically high 2020 and 2021 year classes.

SSB at the beginning of 2027 (5.1 million tonnes) is estimated higher than SSB in 2026 (4.5 million tonnes). SSB is a good proxy for fishable stock, so this increase in SSB contributes to the higher TAC advice this year.

The 2020 and 2021 year classes are large and are still expected to contribute to the yield in 2026 (48%) and to the yield in 2027 (36%). The upcoming 2024 year class is expected to be the biggest individual contributor the catches in 2027 with 23%. If the Long-Term Management Strategy is used as basis for TAC, SSB in 2028 will increase by 10.4% relative to 2027 and increase by 9.5% if the catches in 2027 will be the same as in 2026 (Table 2.8.2.2.1)

The SSB is estimated around 5.1 million tonnes in 2027, which is more than twice the  $B_{MSY}$  and three times the  $B_{lim}$  (2 250 000 tonnes and 1 500 000 tonnes, respectively). Blue whiting was evaluated by IUCN in 2014 as a species of least concern (<https://www.iucnredlist.org/>) and it is neither found on OSPAR's list of threatened and declining species (<https://www.ospar.org/work-areas/bdc/species-habitats/list-of-threatened-declining-species-habitats/fish>) nor on the HELCOM Red List (<https://helcom.fi/baltic-sea-trends/biodiversity/red-list-of-baltic-species/red-list-of-fish-and-lamprey-species/>). Thus, ICES has not identified any conservation aspects.

## 2.12 Ecosystem considerations

Blue whiting is one of the most abundant pelagic and mesopelagic fish stocks in the Northeast Atlantic, SSB estimated from 1.4 - 6.9 million tonnes during the period from 1981 to 2025 (Table 2.4.1.3). The stock is widely distributed and highly migratory. Its distribution range is approximately from 30 °N to 80 °N latitude and from the coast of Europe to Greenland, into the Barents Sea and Mediterranean Sea (Trenkel *et al.*, 2014). Spawning is in the spring and mostly occurs on the shelf and banks west of Ireland and Scotland. The major summer feeding area is in the Norwegian Sea. Blue whiting is most frequently observed at 100-600 m depth (Heino and Godo, 2002). Their most important prey are euphausiids, amphipods and copepods (Pinnegar *et al.*, 2015, Bachiller *et al.*, 2016) and they are prey for piscivorous fish (Dolgov *et al.*, 2010) and cetaceans (Hátún *et al.*, 2009a). Blue whiting is an important species in the NE Atlantic and it's best documented ecosystem interactions are listed below:

(a) Stock productivity - recruitment: blue whiting population dynamic is driven by large annual variability in recruitment (at age 1 in the assessment model) which is not linked to spawning stock size (ICES, 2020). Changes in recruitment have been correlated to changes in the North Atlantic subpolar gyre between strong and weak states (Hátún *et al.*, 2009a,b). Two hypotheses have been suggested to explain a causal relationship between low gyre index and high recruitment (Payne *et al.*, 2012). One suggests changes in marine climate where weak gyre results in increased flow of warm subtropical waters and increased abundance of important prey for juvenile blue whiting on their nursing grounds west of Ireland and Scotland. The other suggests increasing predation of mackerel on blue whiting larvae during years of weak index, but neither has been proven right (Payne *et al.*, 2012). Other large scale oceanographic processes like wind stress curl, at the spawning grounds, appears to influence recruitment and provides forecast power for assessment (Cappelli, *et al.*, 2025). The mechanism of how wind stress curl influences recruitment remains poorly understood.

(b) Changes in distribution: blue whiting spawning distribution varies between years. It has been linked to the North Atlantic subpolar gyre as a strong gyre (cold and fresh water masses on the Rockall Plateau) shrinks the spawning area compared to a weak gyre (increasing saline and warm waters at Rockall) which expands the spawning area northward and westward into Rockall Plateau (Hátún *et al.*, 2009a,b; Miesner and Payne, 2018). Salinity appears specifically to impact spawning location of blue whiting (Miesner and Payne, 2018).

(c) It is still disputed whether there are one or two blue whiting populations in the Northeast Atlantic (Keating *et al.*, 2014; Pointin and Payne, 2014; ICES, 2016c; Mahé *et al.*, 2016). Currently blue whiting is considered a single population for management purposes. A recent review of

population structure indicates that blue whiting might be a complex metapopulation composed of resident and migratory subpopulations (Lee et al., 2025).

(d) Trophic interactions in the Norwegian Sea: there appears to be limited prey competition between blue whiting and the two other abundant pelagic species, Norwegian spring-spawning herring (*Clupea harengus*) and Atlantic mackerel (*Scomber scombrus*), as studies show limited dietary overlap between blue whiting and the two other species (Bachiller et al., 2016; Pinnegar et al., 2015). Limited prey competition between blue whiting and mackerel can be explained by limited vertical spatial overlap, mackerel mostly feed in the surface layer and blue whiting deeper in the water column (Utne et al., 2012). Where distribution of blue whiting and herring overlap (Utne et al., 2012) they appear to feed on different species, herring mainly feed on copepods and blue whiting mainly on euphausiids and amphipods, although juvenile blue whiting feed on copepods (Bachiller et al., 2016; Pinnegar et al., 2015).

An extensive overview of ecosystem considerations relevant for blue whiting can be found in the Stock Annex.

## 2.13 Regulations and their effects

A long-term management strategy for blue whiting is agreed by the European Union, the Faroe Islands, Iceland, Norway, and UK. However, there is no agreement between the Coastal States on a comprehensive share arrangement of the blue whiting TAC. WGWIDE estimates the total expected catch for 2026 to be 1 110 513 tonnes (Table 2.3.2.3), whereas ICES advised that when the agreed long-term management strategy is applied, catches in 2026 should be no more than 851 344 tonnes. The Coastal States agreed to set the TAC for 2026 according to the ICES advice. However, since they could not agree on a sharing arrangement, the resulting expected catch in 2026 is estimated to exceed the TAC by 30%.

### 2.13.1 Management plans and evaluations

The Coastal States noted in their consultations in October 2023 that the agreed long-term management strategy dated 27 October 2016, was regarded by ICES to be precautionary (Anon 2023).

The catch advice does however not take into account consistent deviations from the long-term management strategy as evident from the sum of unilateral quotas in recent years. During the evaluation of the management strategy (ICES, 2016b), the implementation error in the form of a consistent overshoot of the TAC was not included. Therefore, the current implementation of the long-term management strategy may no longer be precautionary.

## 2.14 References

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## 2.15 Figures

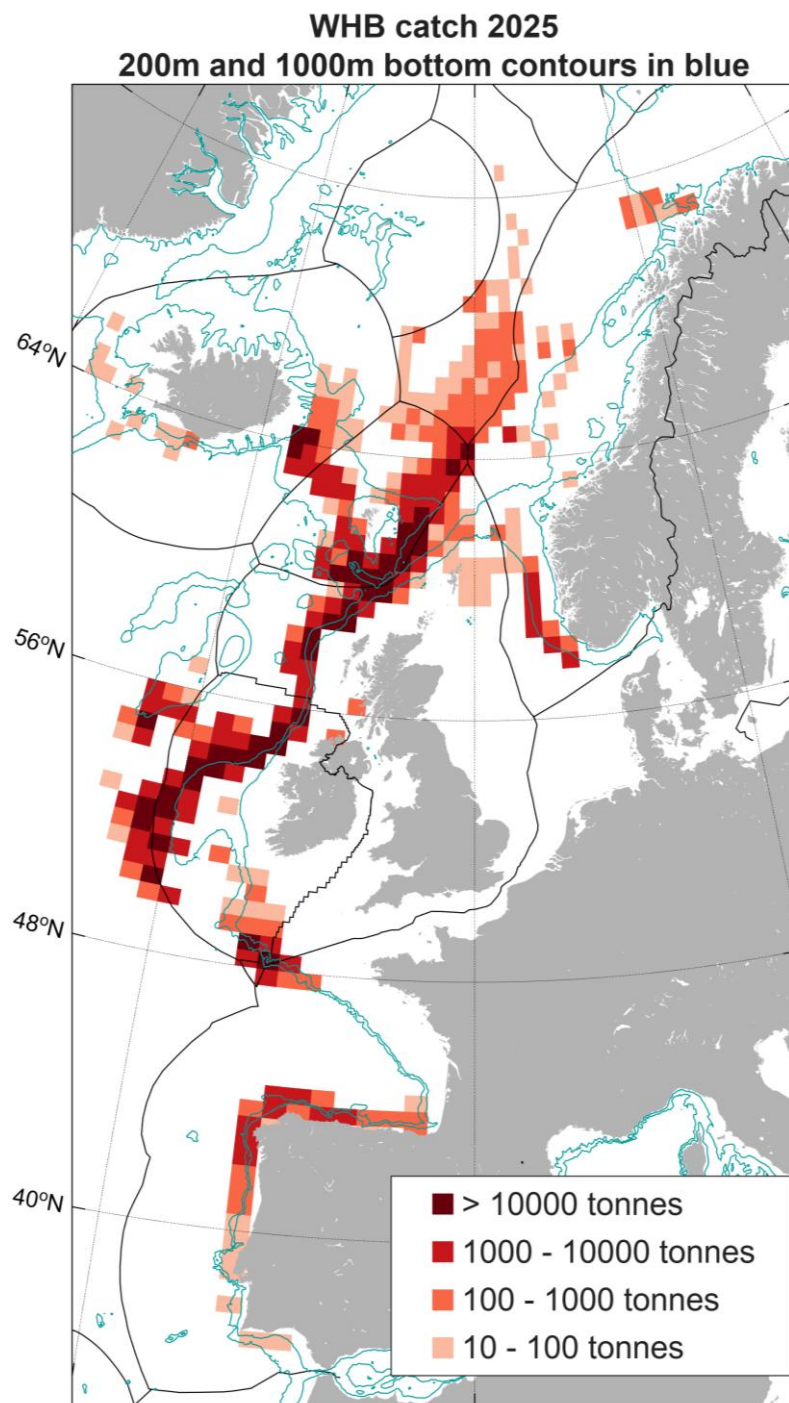


Figure 2.2.1. Blue whiting catches in 2025. The catches on the map constitute 95% of the ICES estimated catches. The 200 m and 1000 m depth contours are indicated in blue.

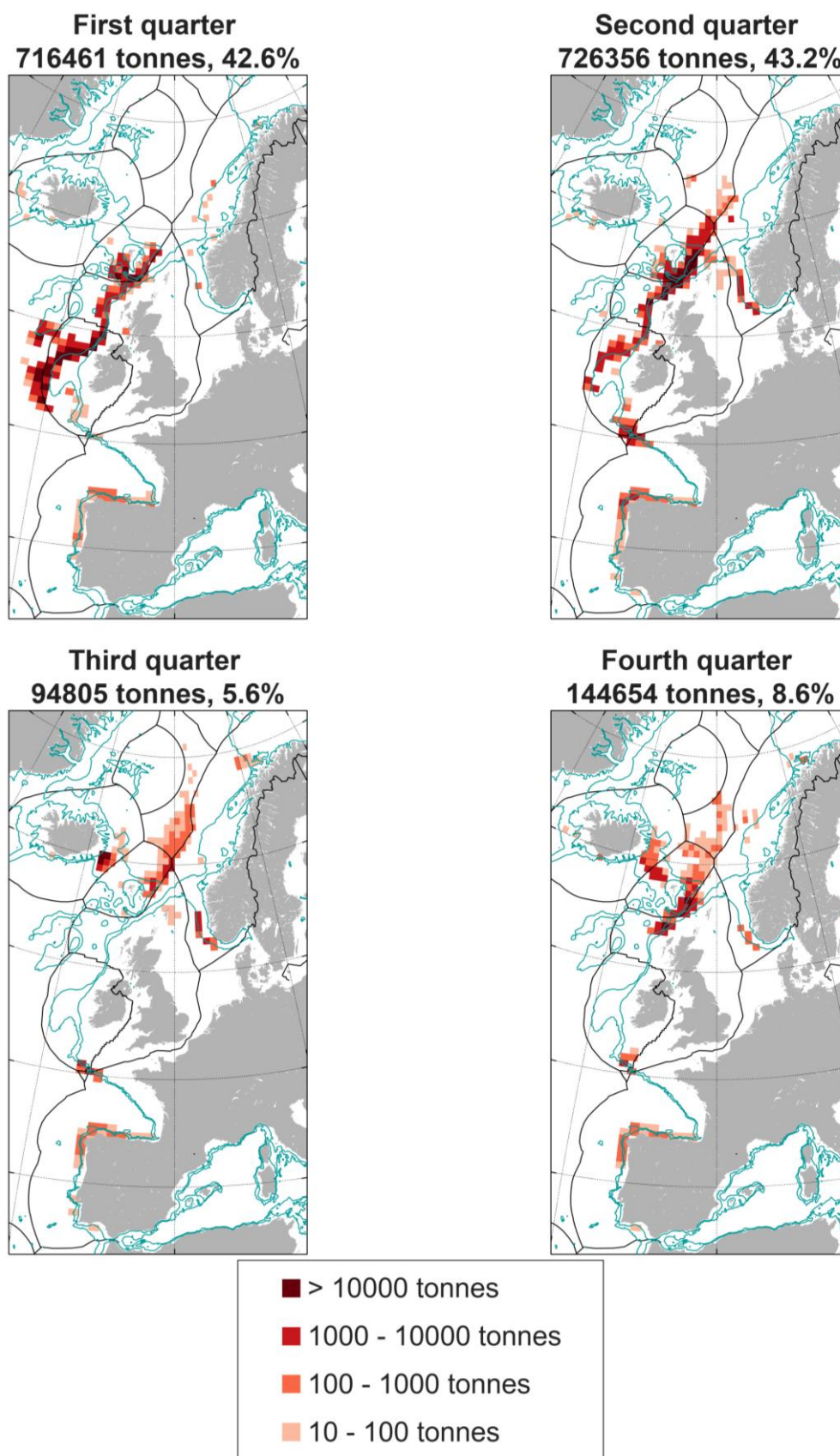


Figure 2.2.2. Blue whiting catches per quarter 2025. The catches on the map constitute 95% of the ICES estimated catches. The 200 m and 1000 m depth contours are indicated in blue.

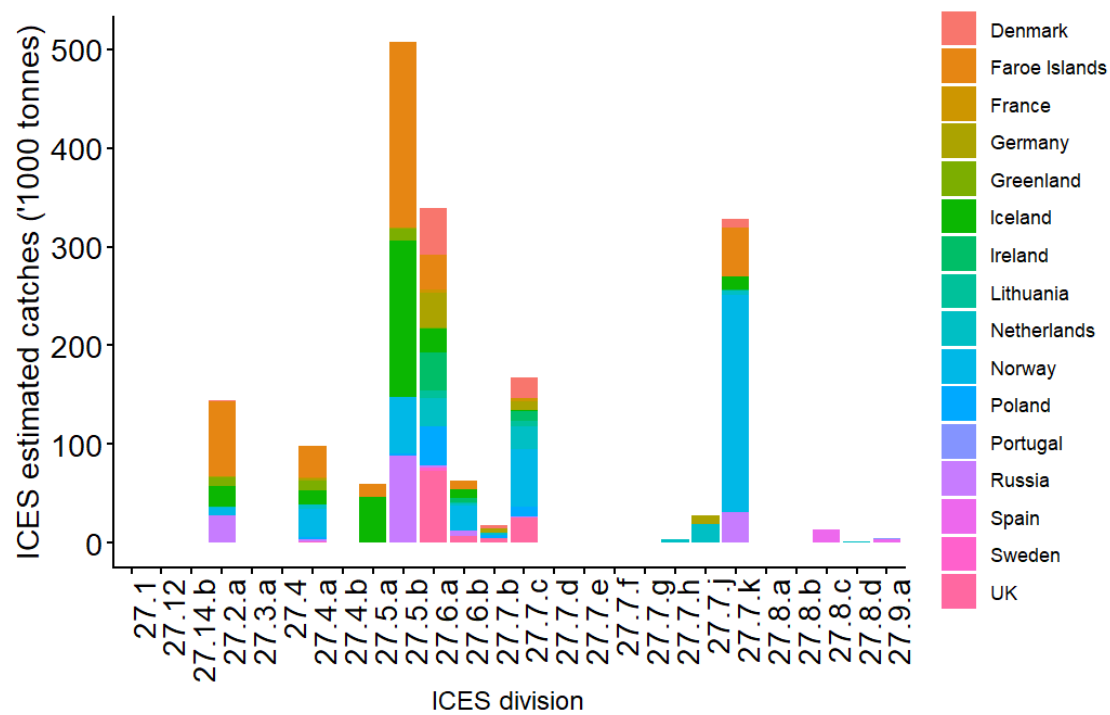
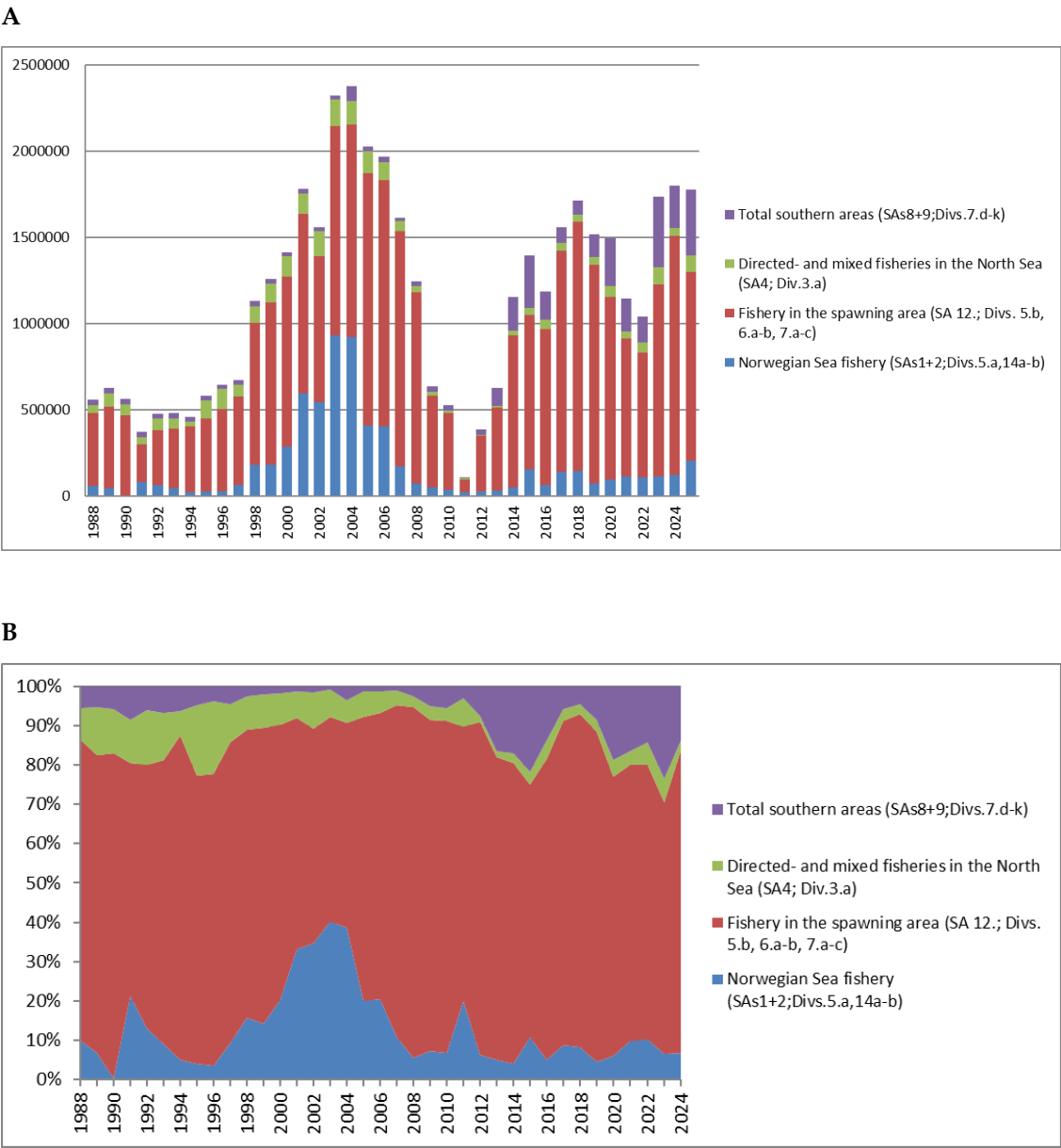


Figure 2.3.1.1. Blue whiting. ICES estimated catches ('1000 tonnes) in 2025 by ICES division and country.



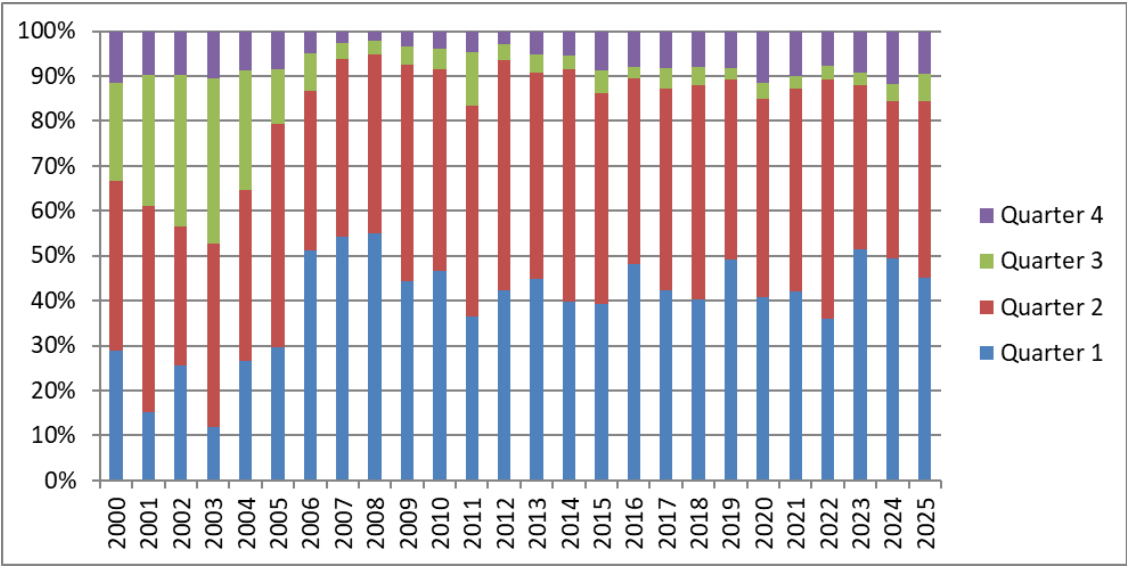


Figure 2.3.1.3. Blue whiting. Distribution of 2025 ICES estimated catches (in percentage) by quarter.

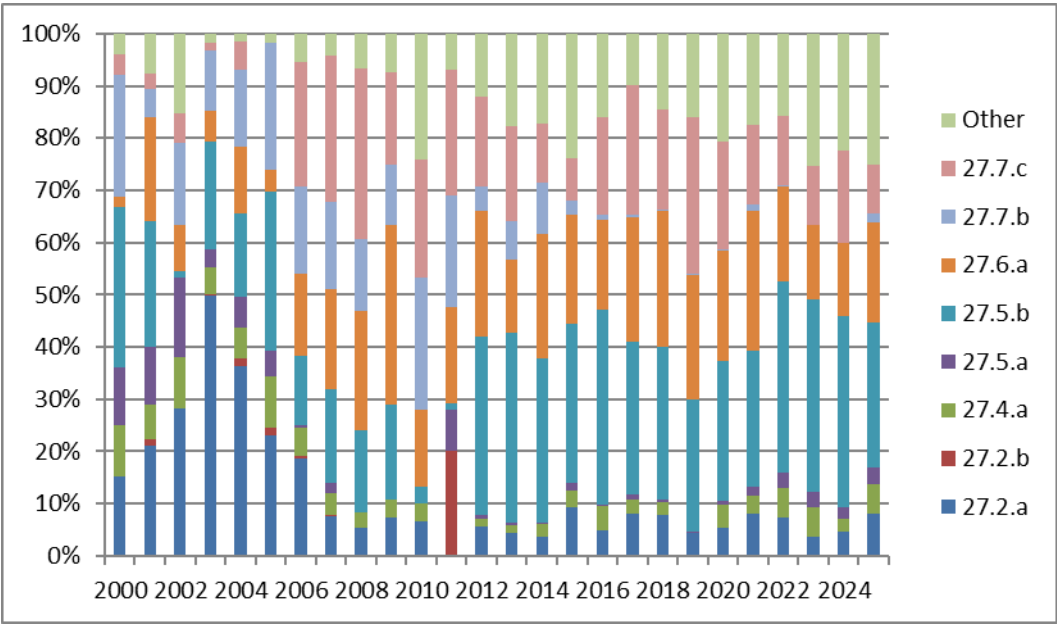


Figure 2.3.1.4. Blue whiting. Distribution of 2025 ICES estimated catches (in percentage) by ICES division.

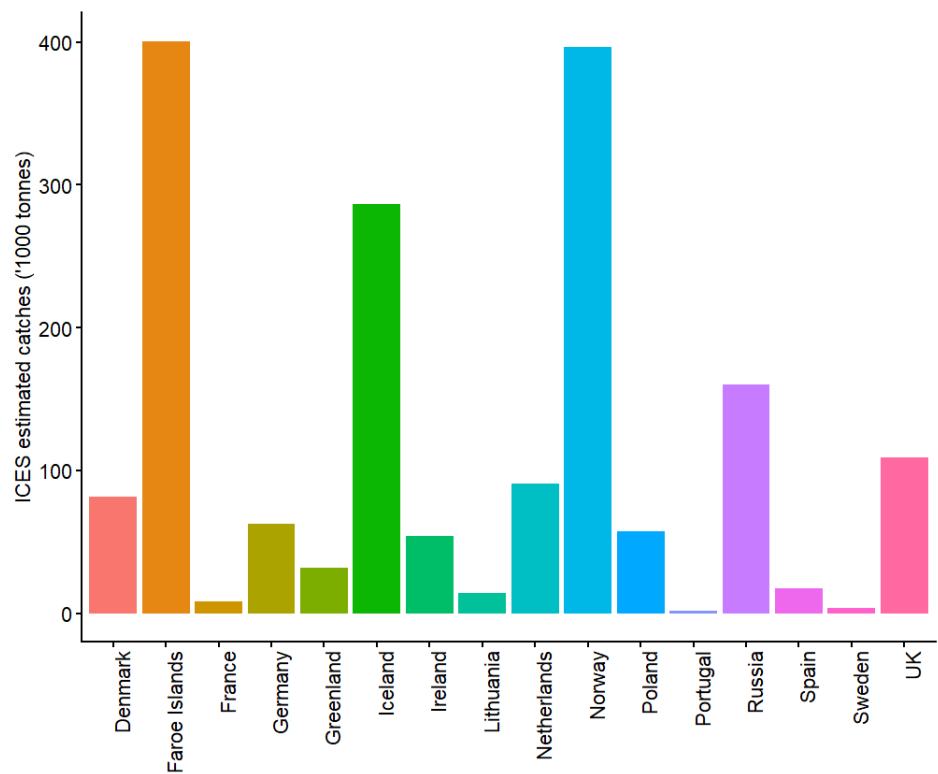


Figure 2.3.1.5. Blue whiting. ICES estimated catches ('1000 tonnes) in 2025 by country.

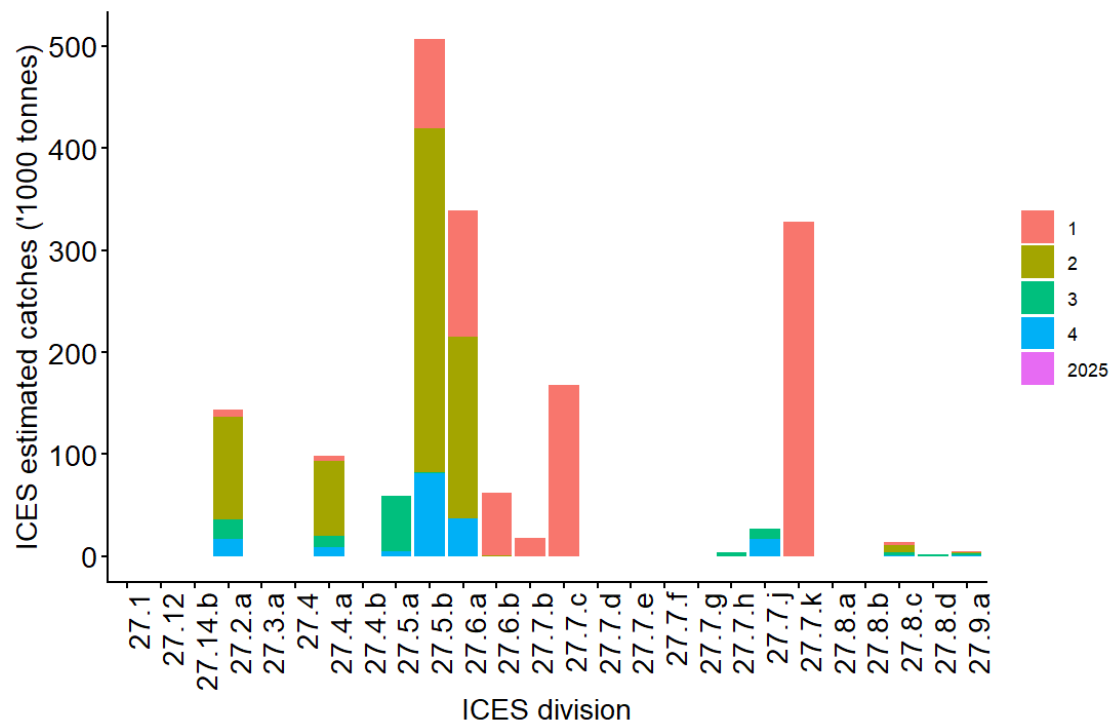


Figure 2.3.1.6. Blue whiting. Distribution of 2025 ICES estimated catches ('1000 tonnes) by ICES division and by quarter.

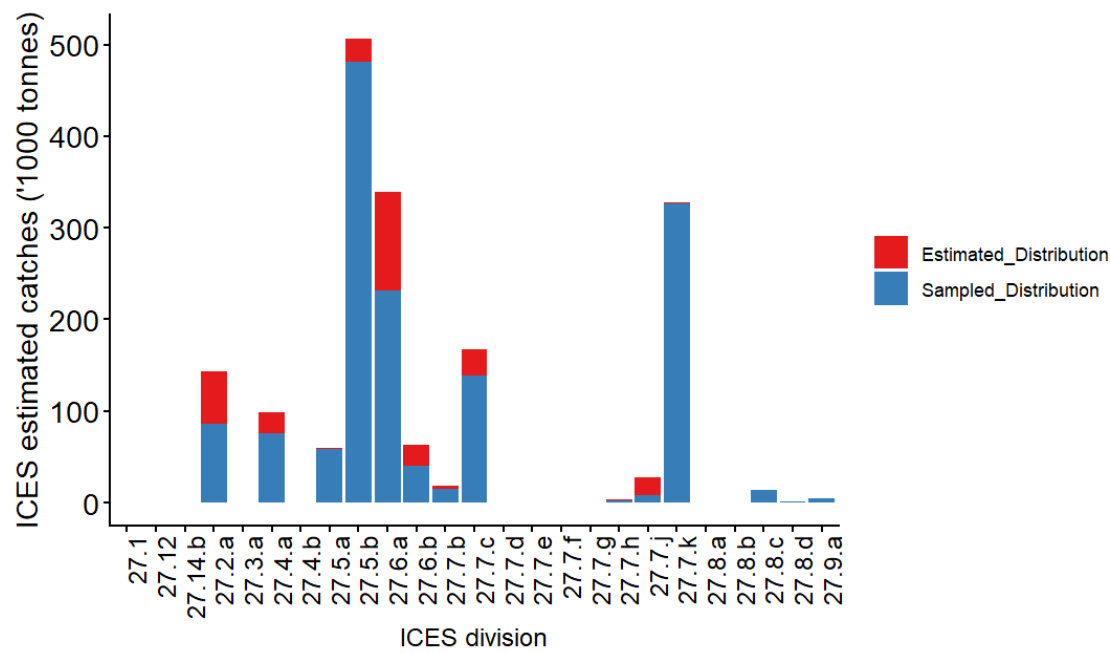


Figure 2.3.1.1.1. Blue whiting. 2025 ICES catches ('1000 tonnes) based on sampled or estimated distribution by ICES division.

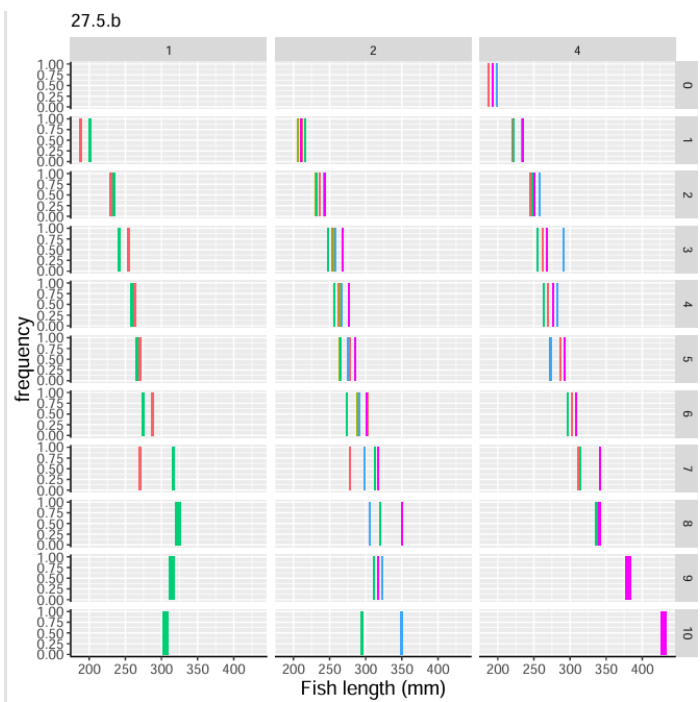


Figure 2.3.1.2.1. Blue whiting. Mean length (mm) by age (0-10 year), by quarter (1,2,4), by ICES division 27.5.b. These data only comprises the 2025 ICES catch-at-age sampled estimates for ICES division 27.5.b.

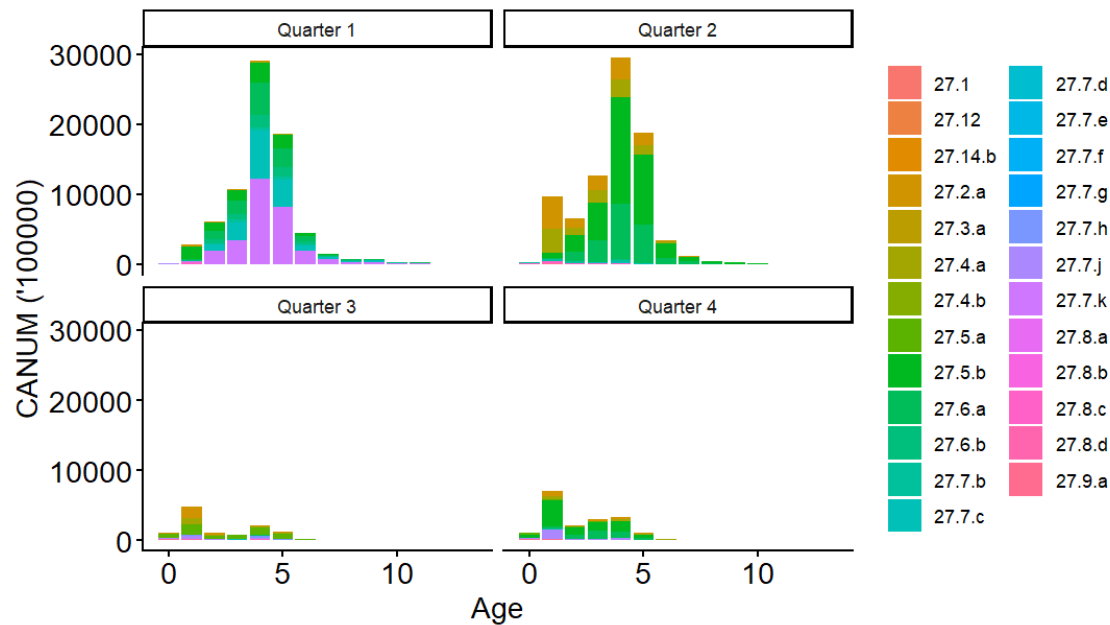


Figure 2.3.1.2.2. Blue whiting. Catch-at-age numbers (CANUM) distribution by quarter and ICES division for 2025.

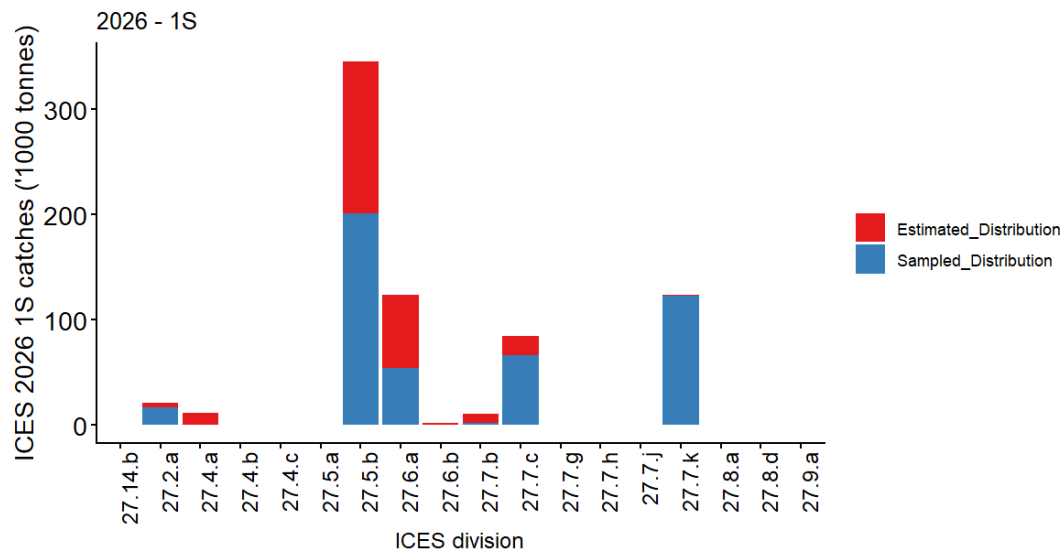


Figure 2.3.2.1. Blue whiting. 2026 ICES preliminary catches (\*1000 tonnes) (Quarter 1 + Quarter 2) based on sampled or estimated distribution by ICES division.

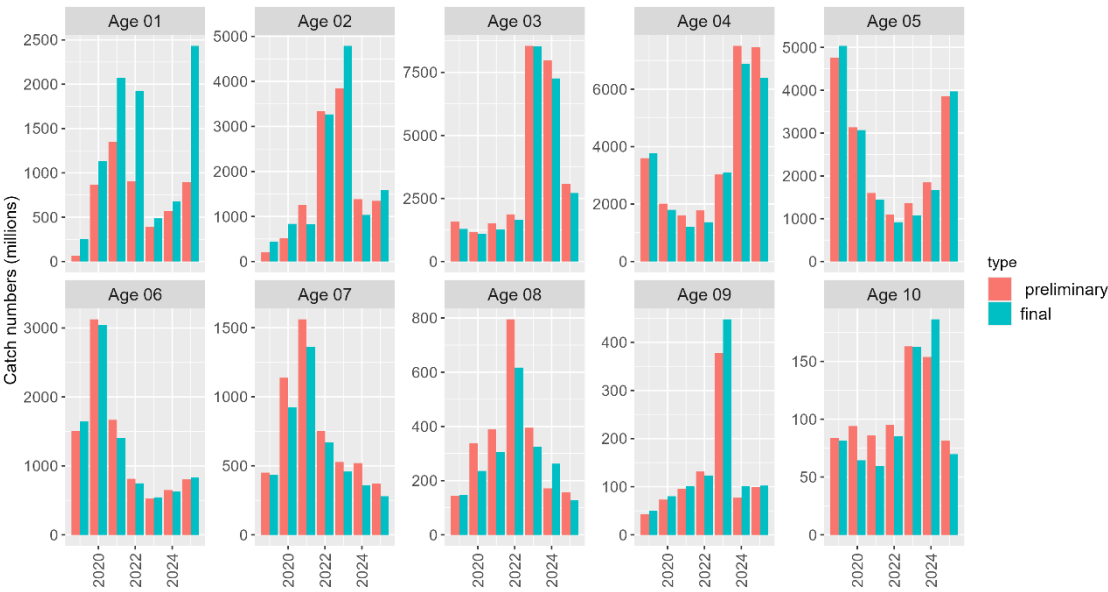


Figure 2.3.2.2 Preliminary and final estimates of catch at age number by age and year (2019-2025).

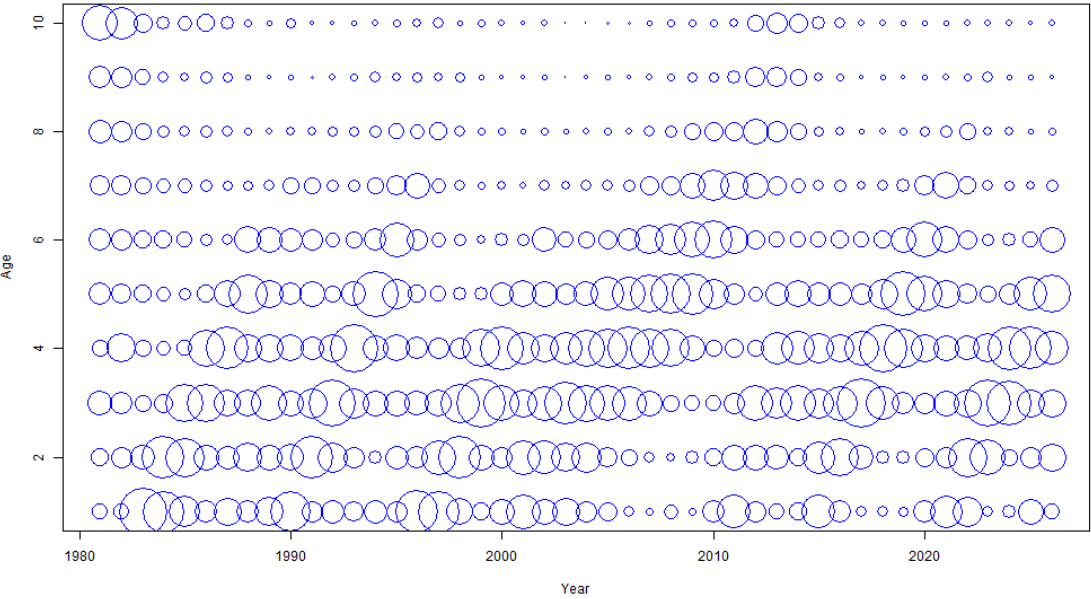
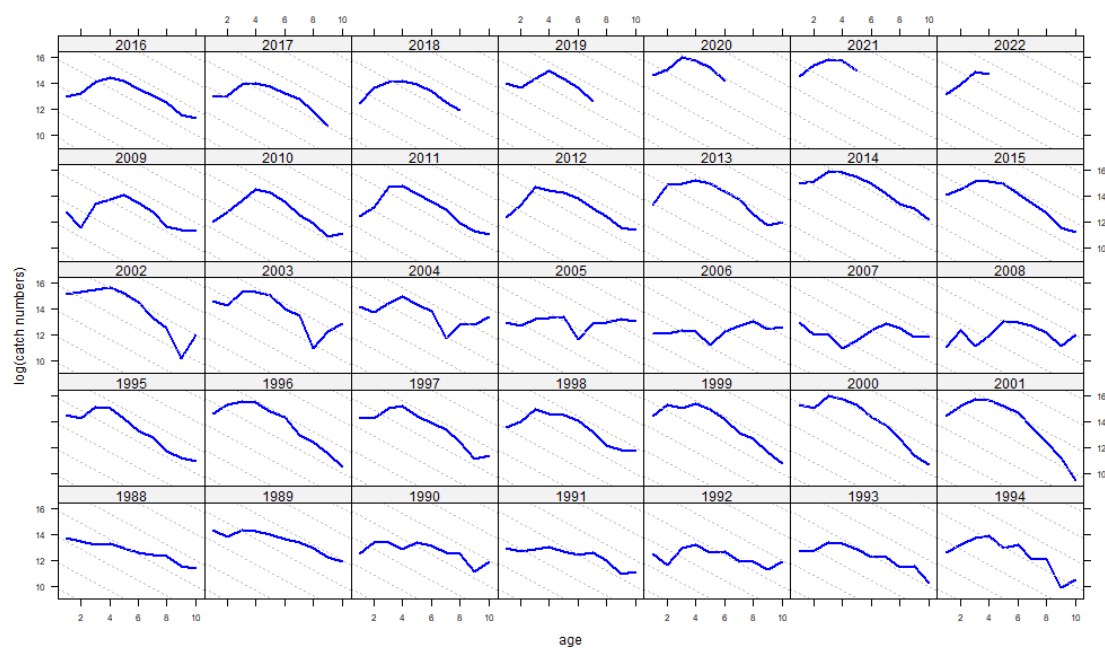


Figure 2.3.3.1. Blue whiting. Catch proportion at age, 1981-2026. Preliminary catch data for 2026 have been used.



**Figure 2.3.3.2. Blue whiting. Age disaggregated catch (numbers) plotted on log scale. The labels for each panel indicate year classes. The grey dotted lines correspond to  $Z=0.6$ . Preliminary catch data for 2026 have been used.**

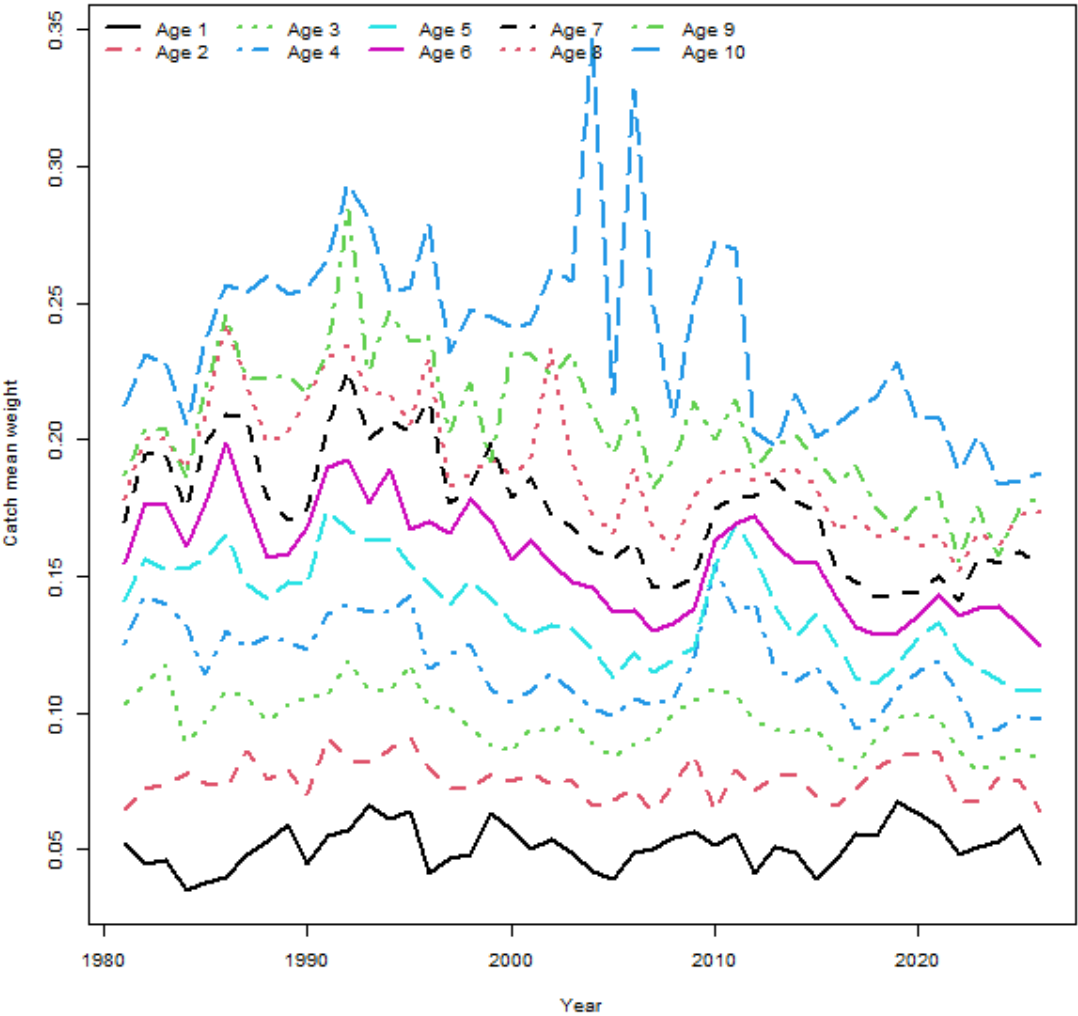
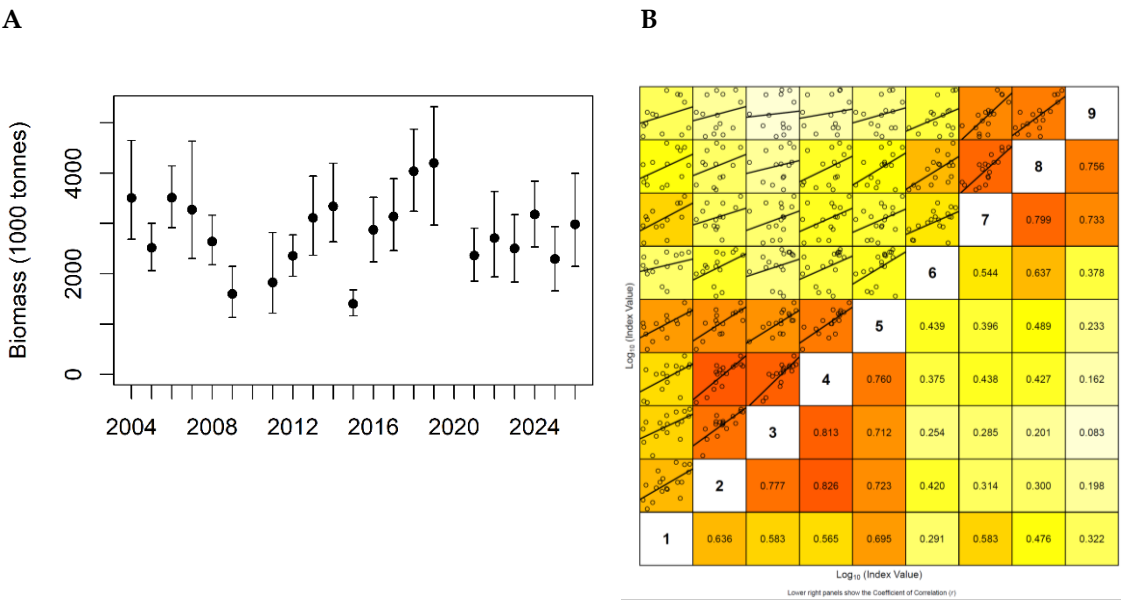


Figure 2.3.4.1. Blue whiting. Mean catch (and stock) weight (kg) at age by year. Preliminary catch data for 2026 have been used.



**Figure 2.3.6.1.1. Blue whiting. (A)** Estimate of total biomass from the International blue whiting spawning stock survey. The black dots and error bands are StoX estimates with 90 % confidence intervals. **(B)** Internal consistency within the International blue whiting spawning stock survey. The upper left part of the plots shows the relationship between log index-at-age within a cohort. Linear regression line shows the best fit to the log-transformed indices. The lower-right part of the plots shows the correlation coefficient ( $r$ ) for the two ages plotted in that panel. The background colour of each panel is determined by the  $r$  value, where red equates to  $r=1$  and white to  $r<0$ .

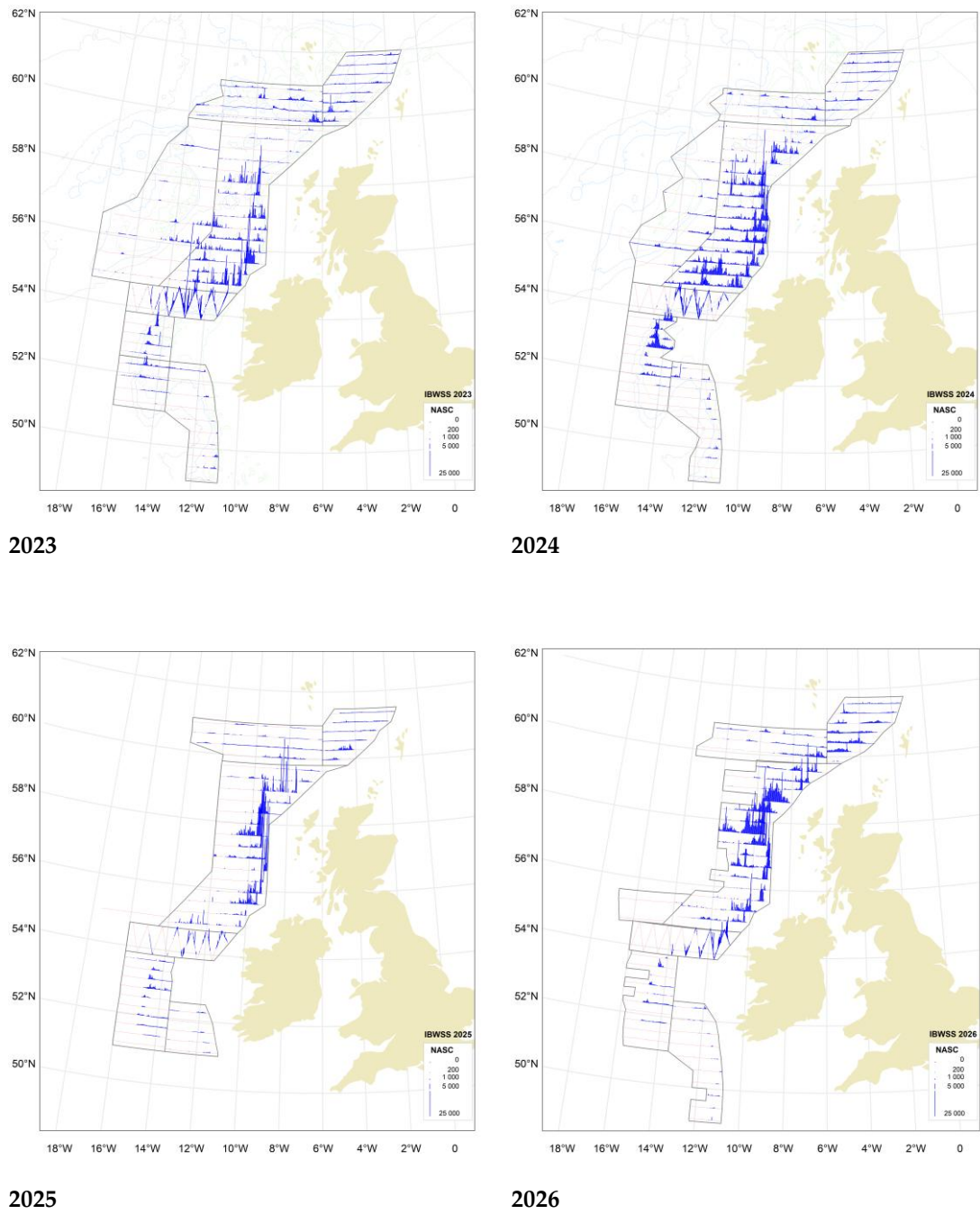
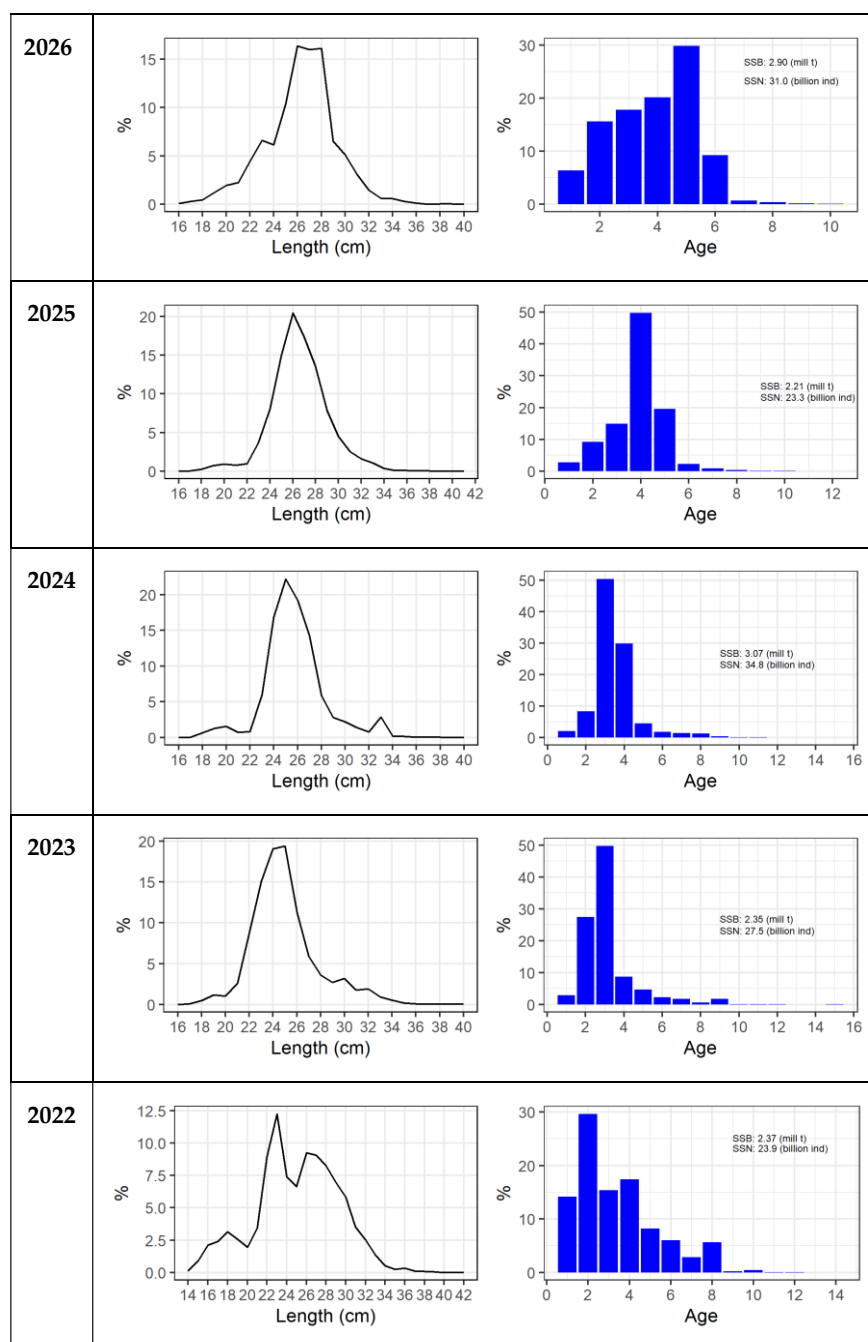


Figure 2.3.6.1.2. Blue whiting. NASC distribution of the blue whiting stock in the area to the west of Ireland and Britain, spring 2023 (upper panel) to 2026 (lower panel).



**Figure 2.3.6.1.3. Blue whiting. Length (line) and age (bars) distribution of the blue whiting stock in the area to the west of Ireland and Britain, spring 2022 (lower panel) to 2026 (upper panel). Spawning-stock biomass and numbers are given.**

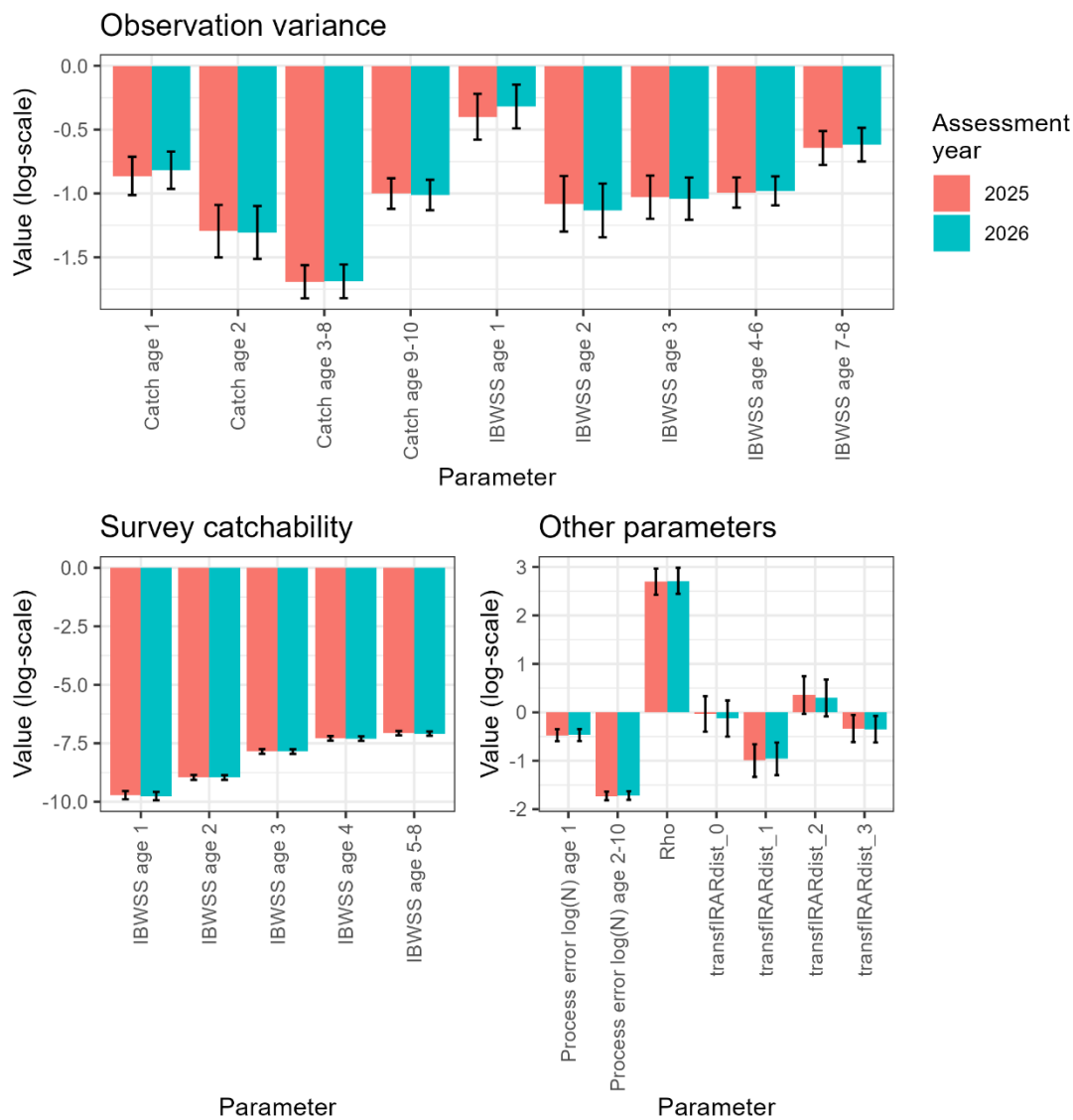
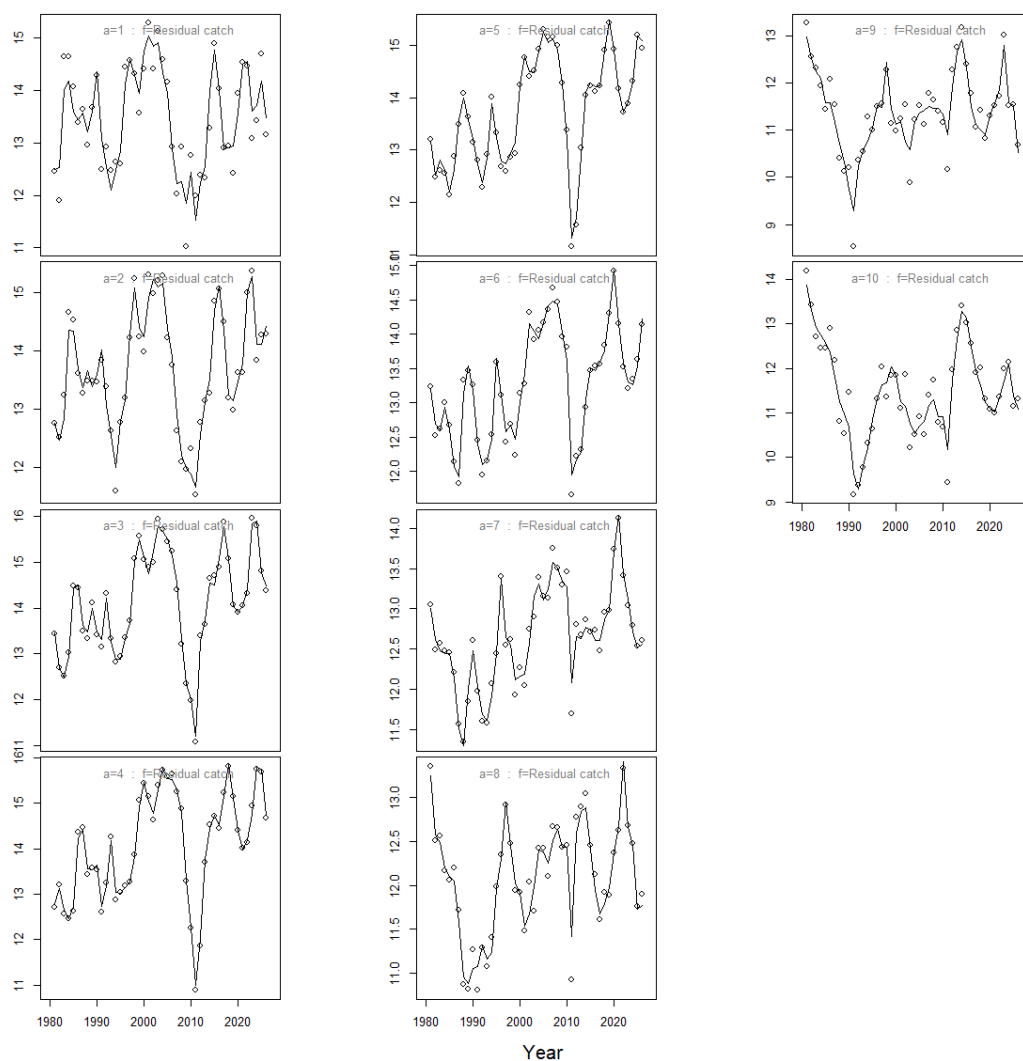
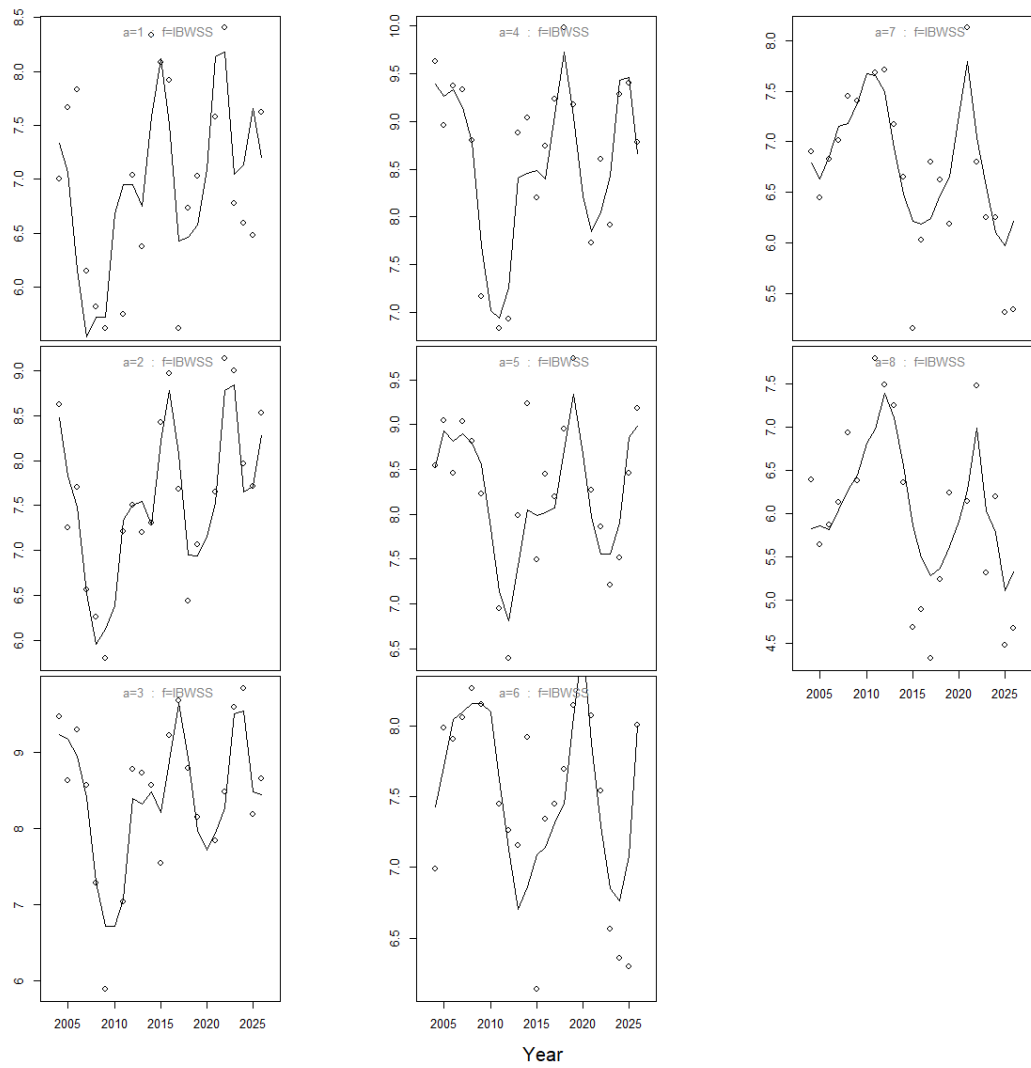


Figure 2.4.1.1. Blue whiting. Estimated parameter values and standard deviations of this and last year's assessment. Preliminary catch data for 2026 have been used.



**Figure 2.4.1.2. Blue whiting. Observed (dots) and fitted (lines) values for catch age for this year's assessment. Preliminary catch data for 2026 have been used.**



**Figure 2.4.1.3. Blue whiting. Observed (dots) and fitted (lines) values for IBWSS abundance age for this year's assessment. Preliminary catch data for 2026 have been used.**

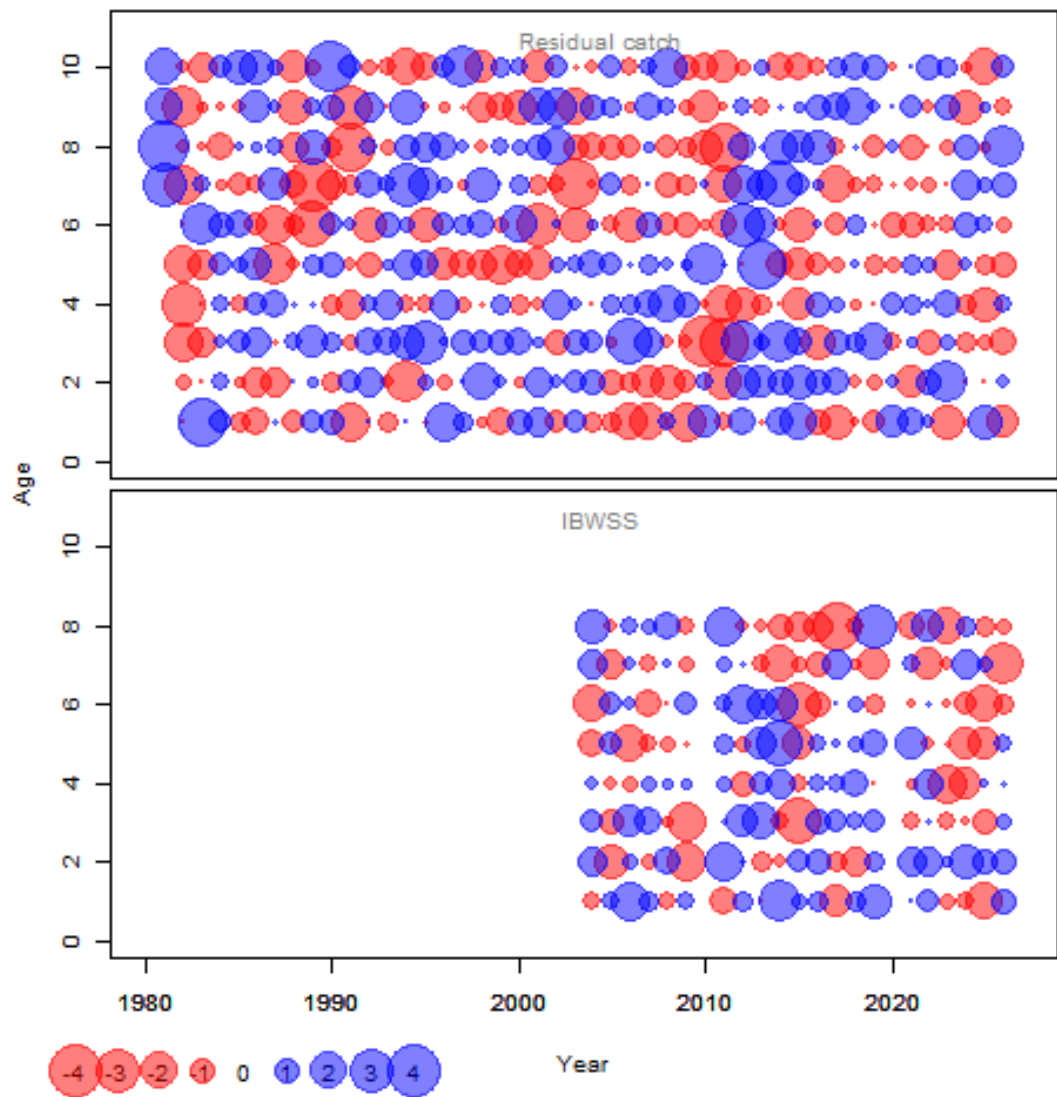


Figure 2.4.1.4. Blue whiting. One Step Ahead residuals (see Berg and Nielsen, 2016) from catch-at-age and the IBWSS survey 2004-2026 (no survey in 2010 and 2020). Red (lighter) bubbles show that the observed value is less than the fitted value and vice versa for blue bubbles. Preliminary catch data for 2026 have been used. Catch residuals for ages 1- 7 in 1981 could not be estimated.

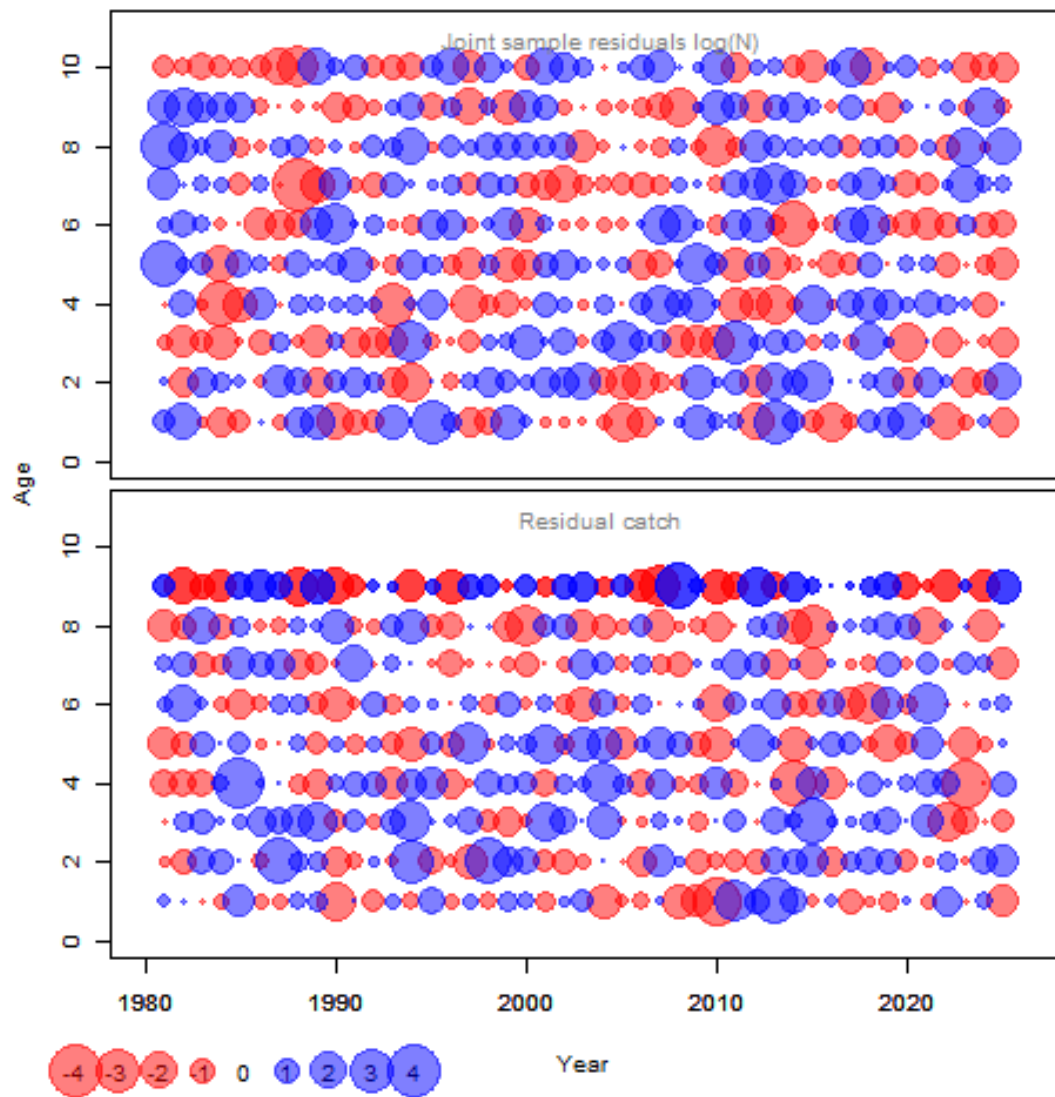


Figure 2.4.1.5 Blue whiting. Joint sample residuals (Process errors) for stock numbers and F at age. Red (lighter) bubbles show that the observed value is less than the fitted value and vice versa for blue bubbles. Preliminary catch data for 2026 have been used.

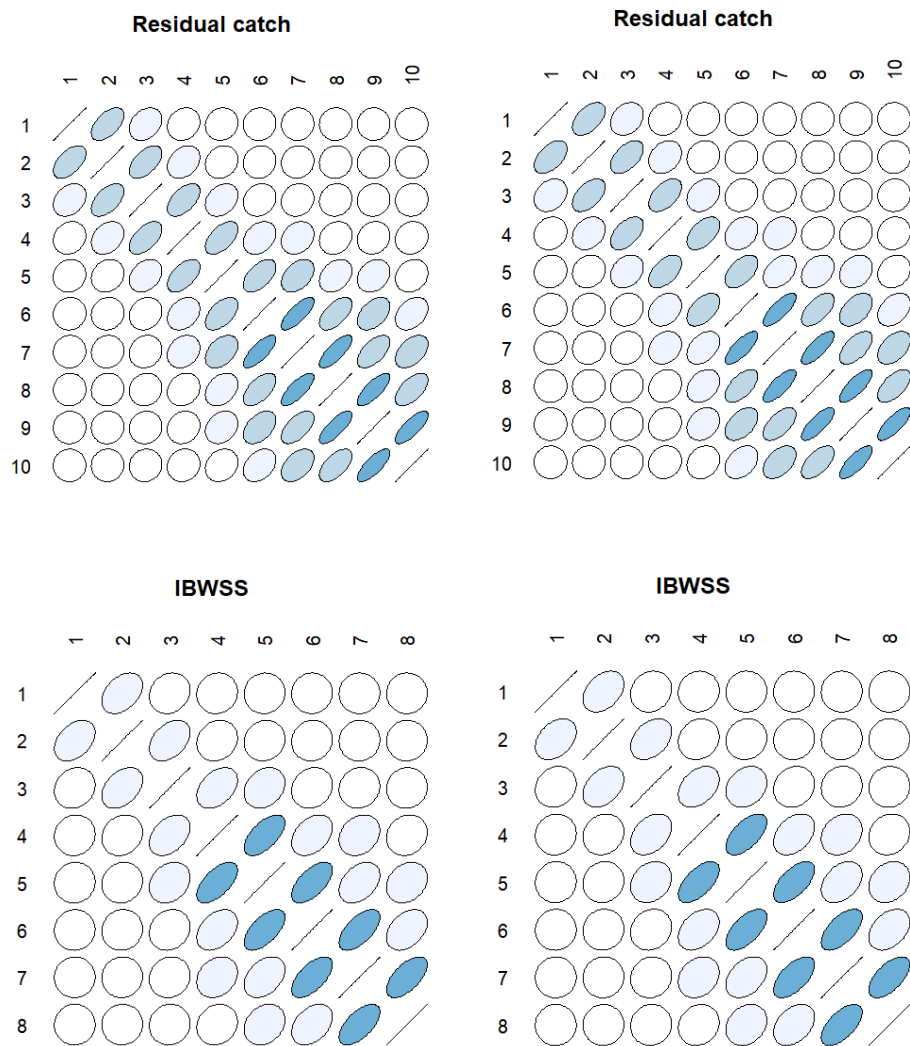


Figure 2.4.1.6. Blue whiting. The correlation matrix between ages for the catches and survey index of this year's assessment (WGwide 2026; left) and last year's assessment (WGwide 2025; right). Each ellipse represents the level curve of a bivariate normal distribution with the corresponding correlation. Hence, the sign of a correlation corresponds to the sign of the slope of the major ellipse axis. Increasingly darker shading is used for increasingly larger absolute correlations, while uncorrelated pairs of ages are depicted as circles with no shading. Preliminary catch data for 2026 have been used.

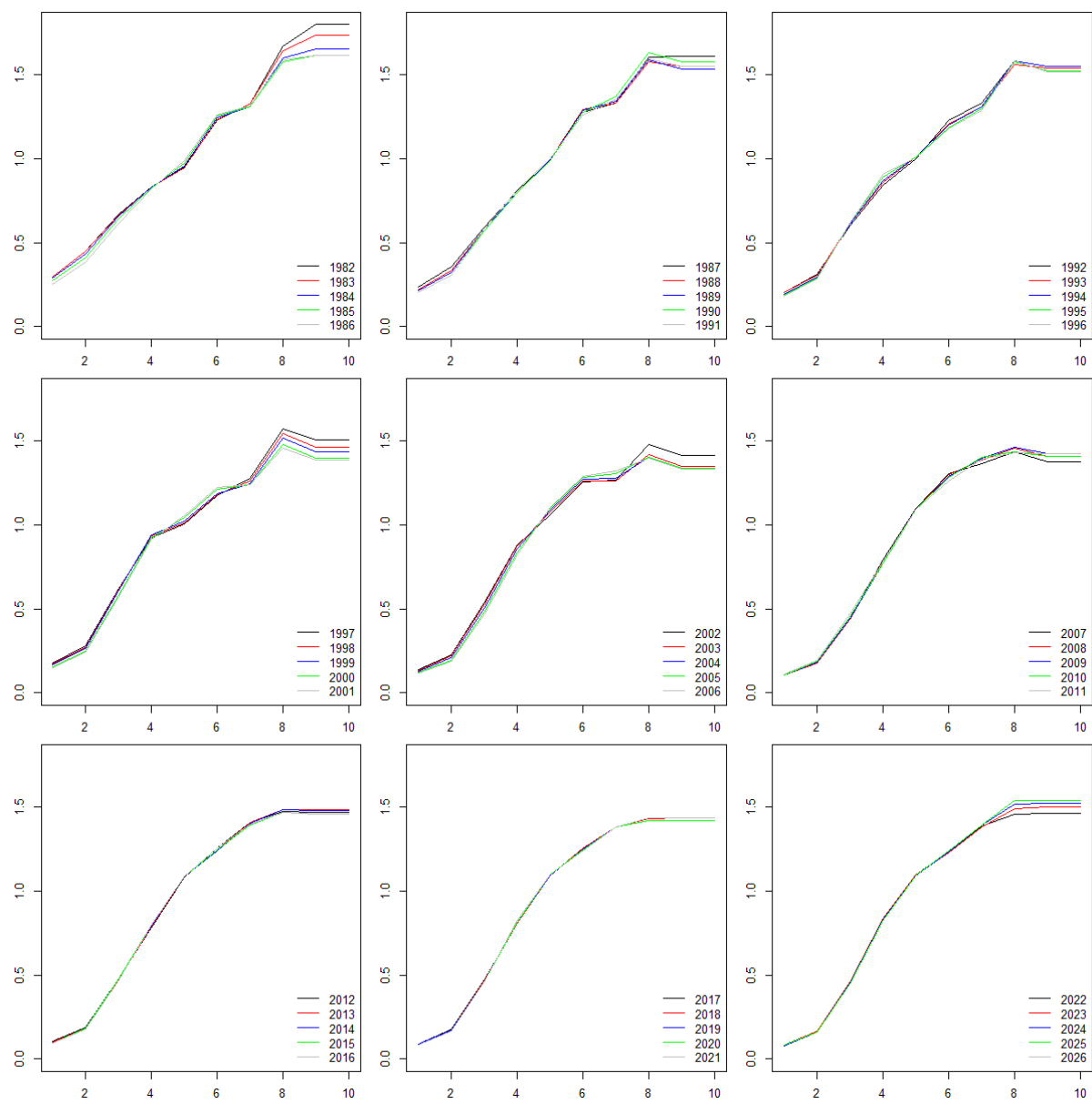
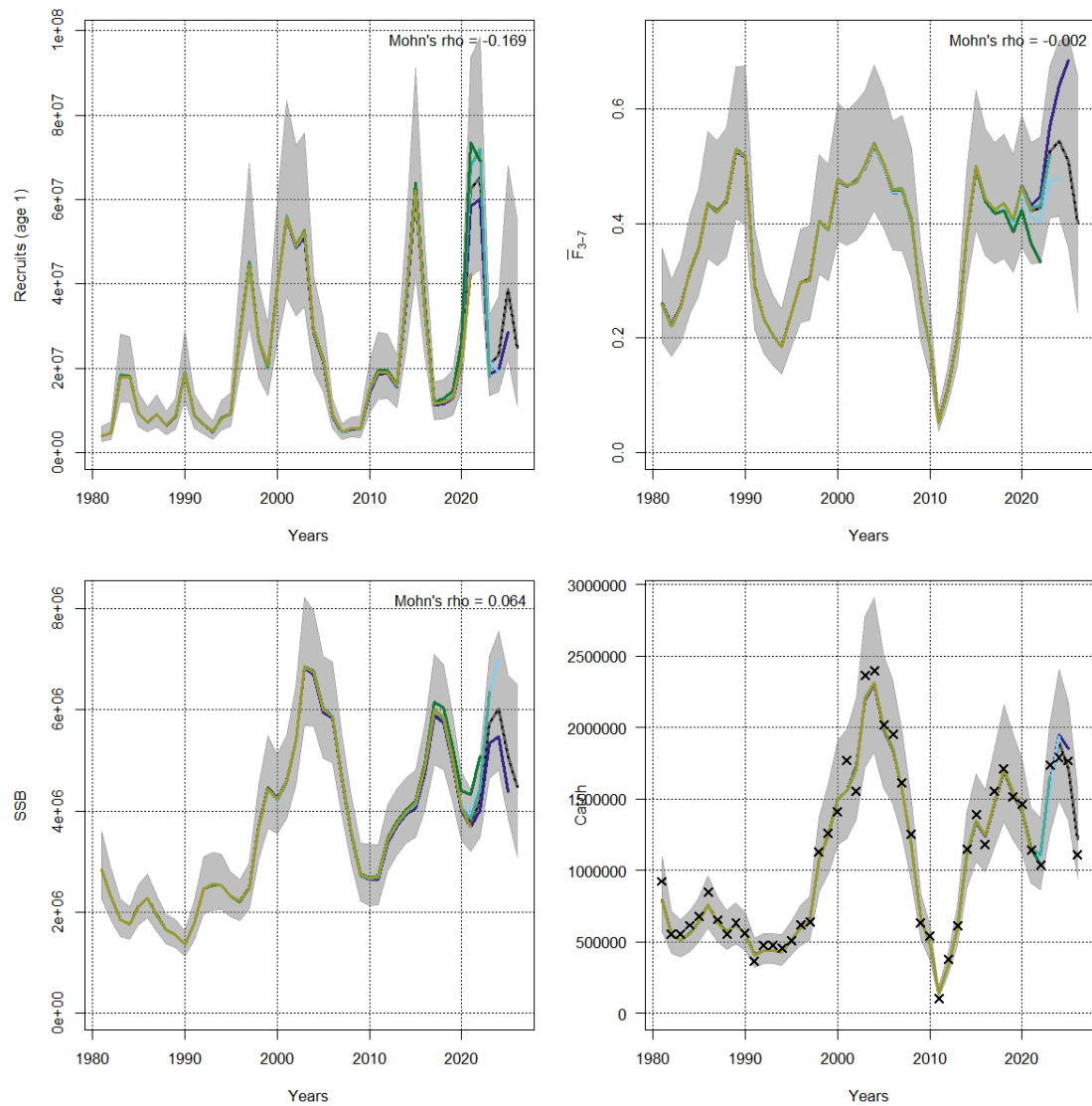
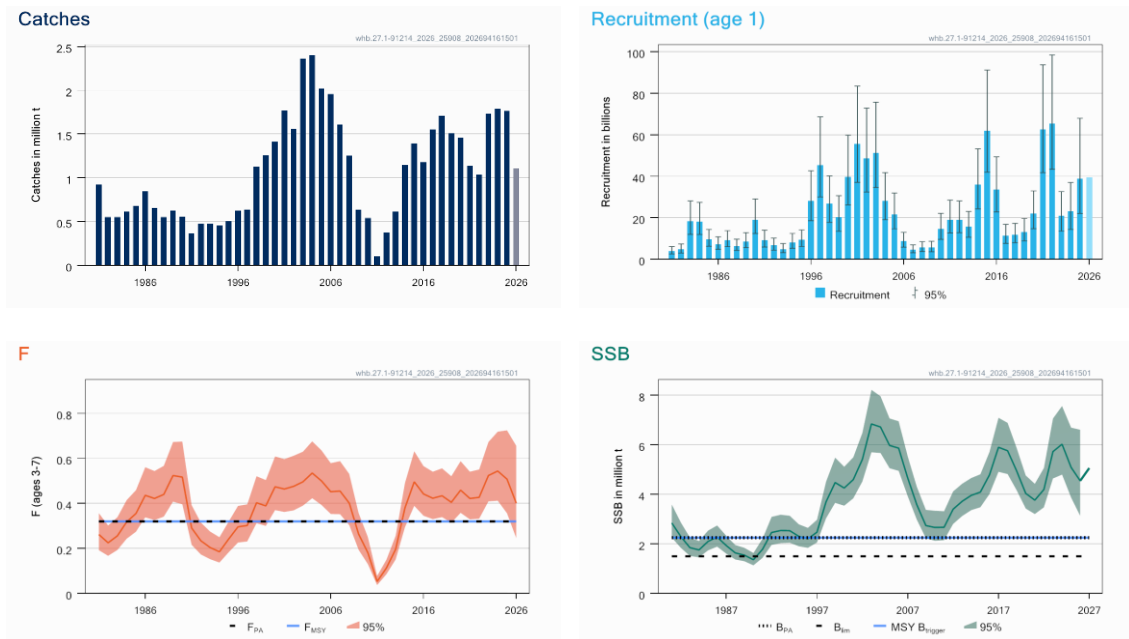


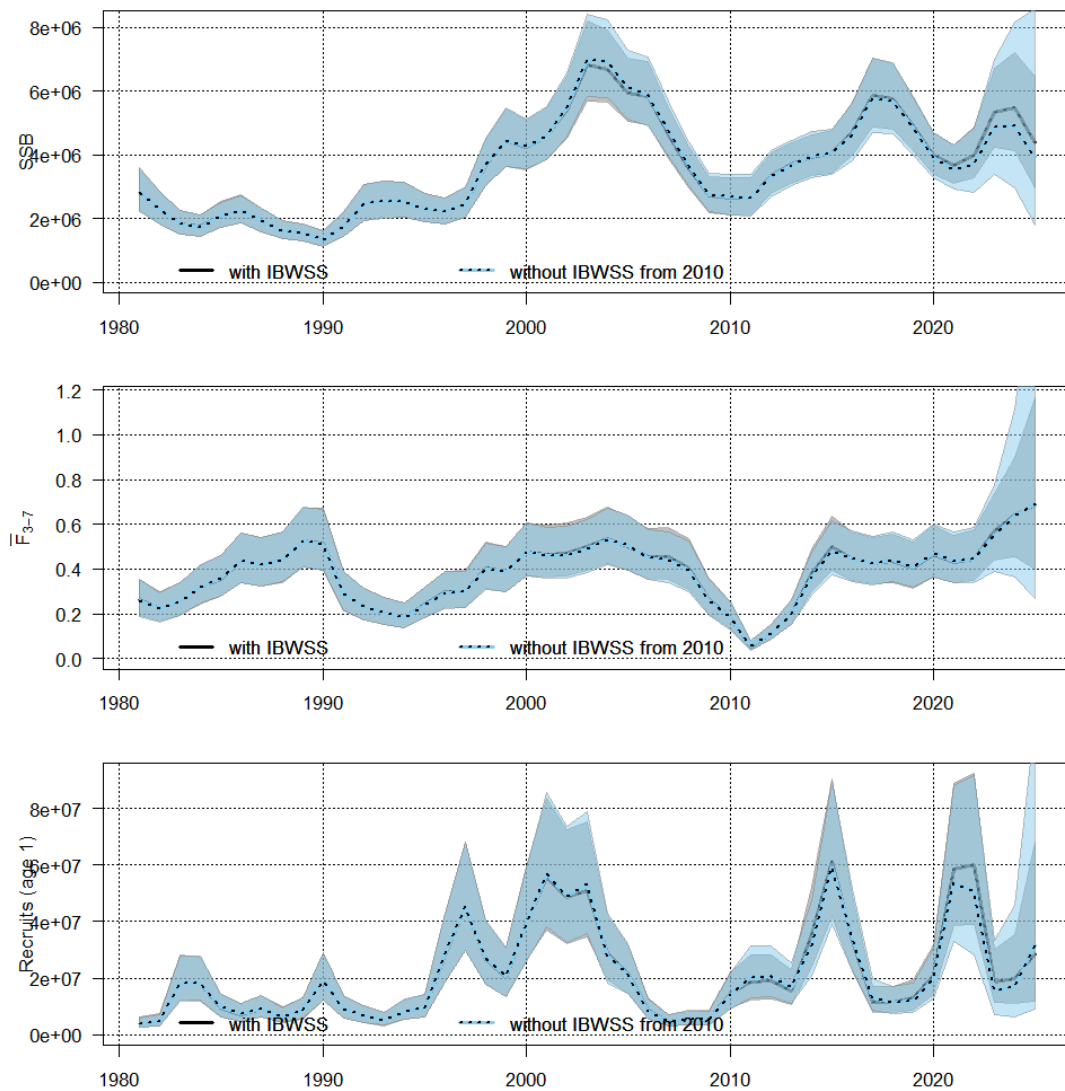
Figure 2.4.1.7. Blue whiting. Exploitation pattern by 5-years' time blocks. Preliminary catch data for 2026 have been used.



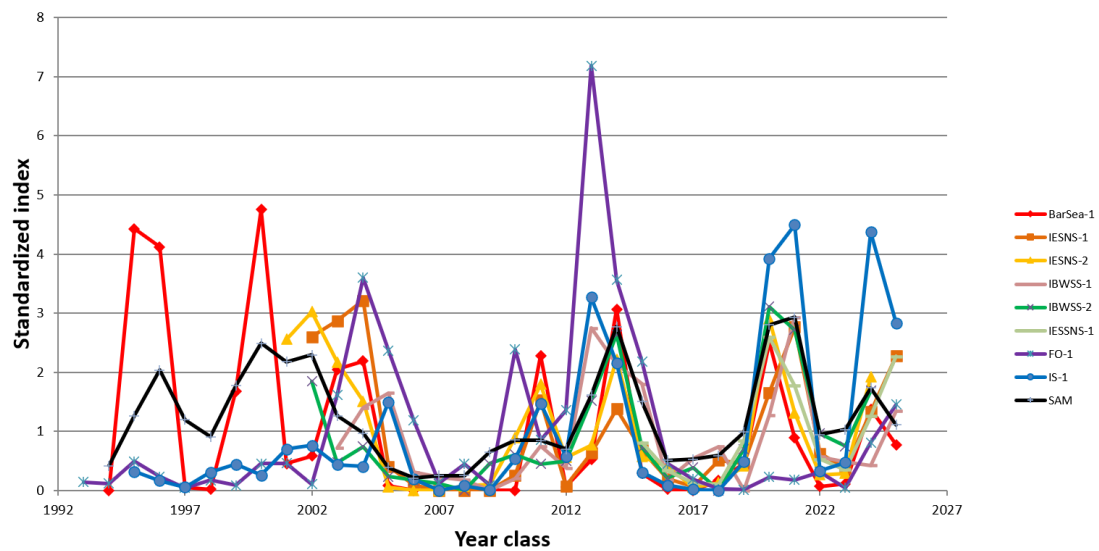
**Figure 2.4.1.8. Blue whiting.** Retrospective analysis of recruitment (age 1),  $F$ , SSB (tonnes) and total catch using the SAM model. The 95% confidence interval is shown for the most recent assessment.



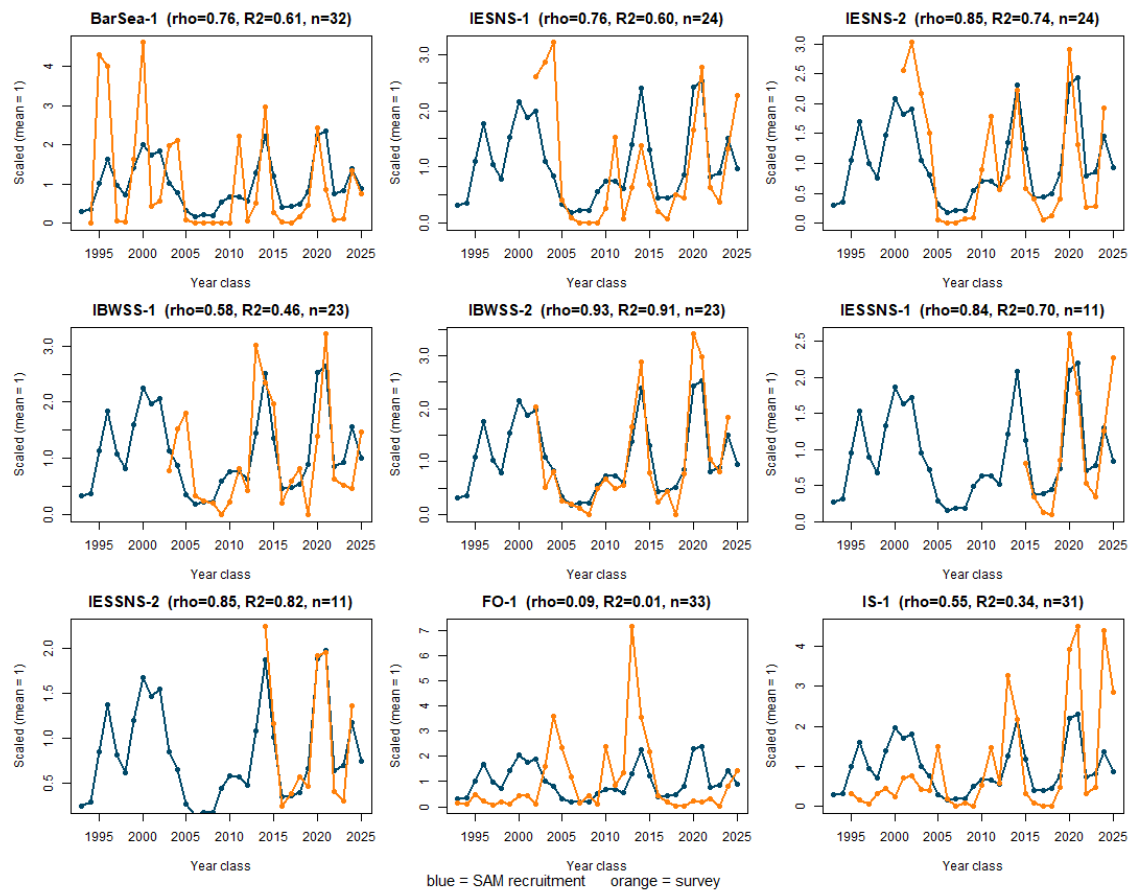
**Figure 2.4.1.9. Blue whiting. SAM final run: total catches, recruitment (age 1), F and SSB.** The graphs show the median value and the 95% confidence interval. Catches for 2026 are preliminary (shaded). The estimated recruitment for 2026 (shaded) has been replaced here by the long-term geometric 75<sup>th</sup> percentile (1996-2025) that is used in the forecast. The SSB and confidence interval for 2026 has been calculated from the assessment and the assumed recruitment for 2026.



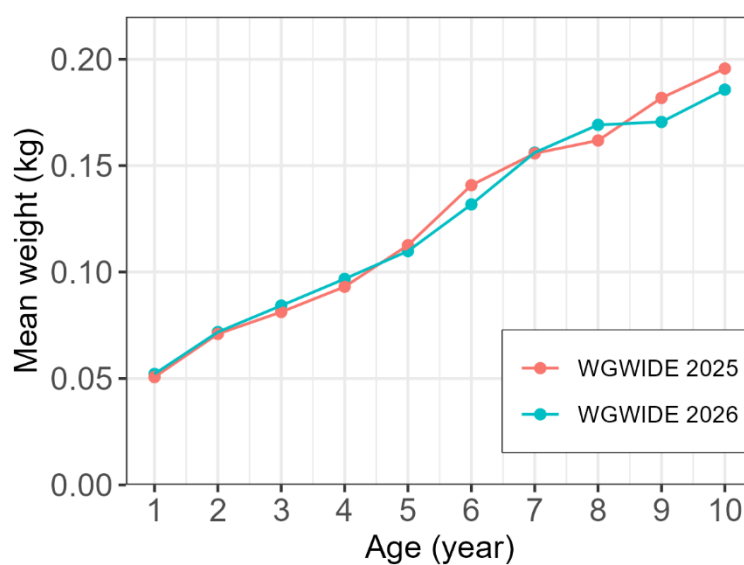
**Figure 2.4.1.1.1 Blue whiting.** Comparison of the estimated SSB,  $F_{\text{bar}}$  (age 3-7) and recruitment (age 1) of the complete 2026 assessment (black line and grey shaded confidence intervals) and the 2026 assessment where the IBWSS index has been excluded from 2010 onwards (blue dashed line and blue shaded confidence intervals).



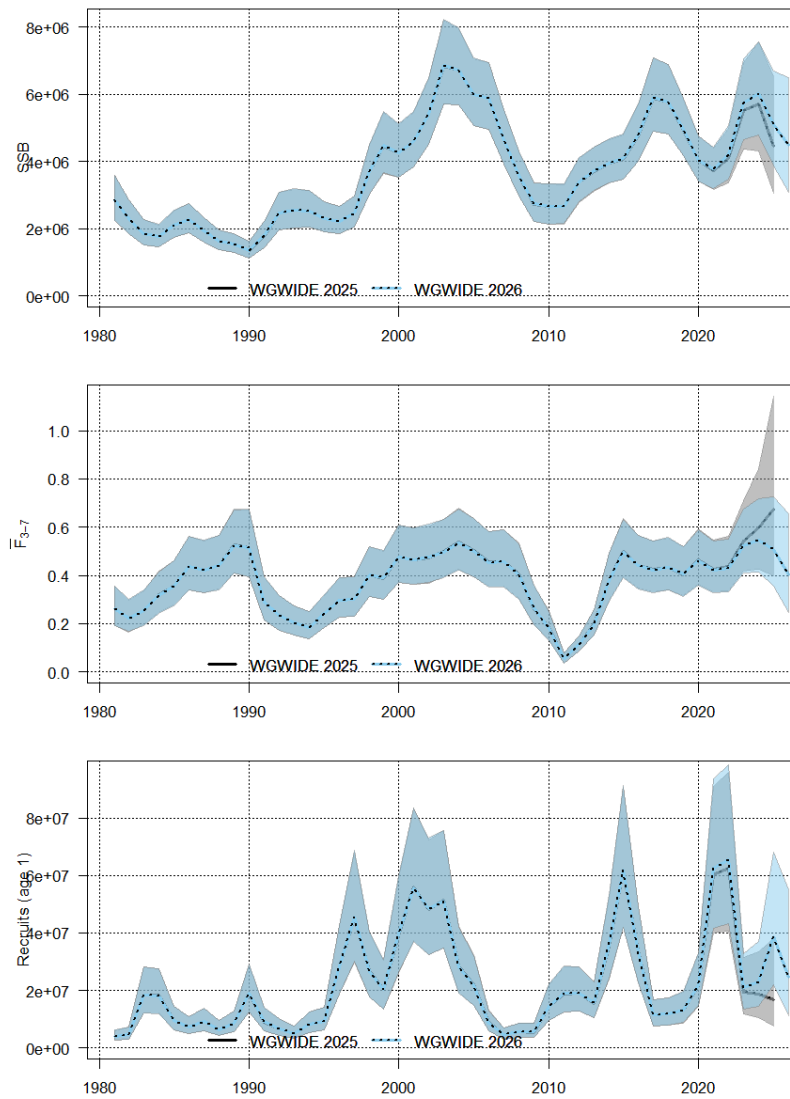
**Figure 2.8.1.1. Blue whiting young fish indices from five different surveys and recruitment index from the assessment, standardized by dividing each series by their mean. BarSea - Norwegian bottom-trawl survey in the Barents Sea, IESNS: International Ecosystem Survey in the Nordic Seas in May (1 and 2 is the age groups), IBWSS (Not updated in 2020): International Blue Whiting Spawning Stock survey (1 and 2 is the age groups), IESSNS: International Ecosystem Summer Survey in the Nordic Seas in July (1 group), FO: the Faroese bottom-trawl surveys in spring, IS: the Icelandic bottom-trawl survey in spring, SAM: recruits from the assessment.**



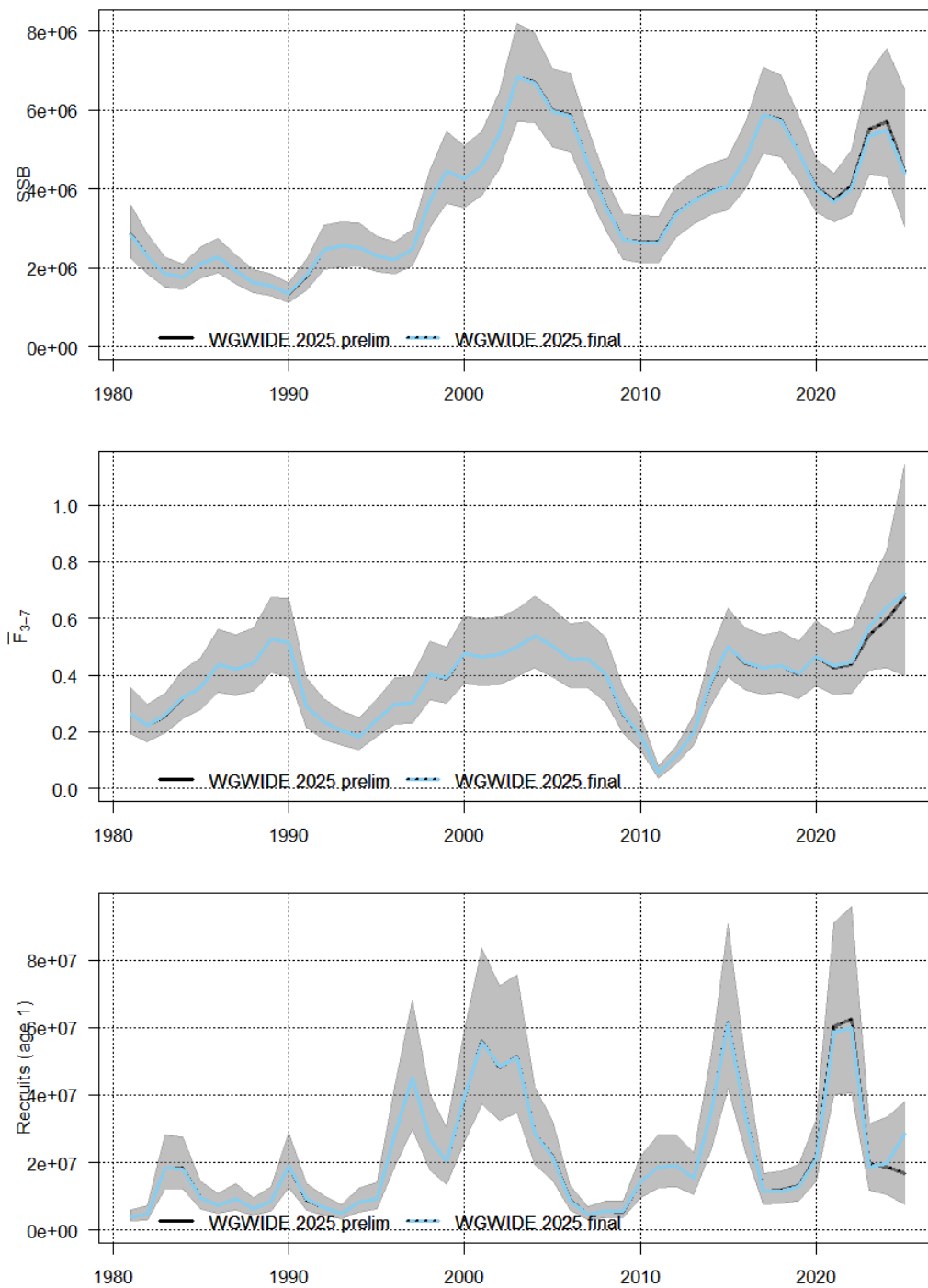
**Figure 2.8.1.2. Blue whiting. Survey indices and SAM recruitment (year-class aligned) combinedly plotted and correlations evaluated. Spearman  $\rho$ ,  $R^2$  and number of surveys are shown above each panel.**



**Figure 2.8.2.3.1. Blue whiting. Mean weight-at-age used in the forecast of current and last year's assessment. The mean is taken as the last three years of each assessment, including the terminal year. Weight-at-age values of the terminal year are based on preliminary catch data.**



**Figure 2.9.1. Blue whiting. Comparison of the 2026 (blue dotted line and shaded 95% confidence intervals) and 2025 (black line and grey shaded 95% confidence interval) stock assessments. Preliminary catch data for the terminal year have been used in both assessments.**



**Figure 2.9.2. Blue whiting.** Comparison of assessment runs with the configuration from WGWIDE 2025 with preliminary data for 2025 (black line and grey-shaded 95% confidence interval) and the WGWIDE 2025 assessment with final data for 2025 (blue line).

## 2.16 Tables

Table 2.3.1.1. Blue whiting. ICES estimated catches (tonnes) by country for the period 1988–2025.

| Country                 | 1988           | 1989           | 1990           | 1991           | 1992           | 1993           | 1994           | 1995           | 1996           | 1997           | 1998             | 2003             | 2004      | 2005      | 2006      | 2007      | 2008      |
|-------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|------------------|-----------|-----------|-----------|-----------|-----------|
| Denmark                 | 18 941         | 26 630         | 27 052         | 15 538         | 34 356         | 41 053         | 20 456         | 12 439         | 52 101         | 26 270         | 61 523           | 82 935           | 89 500    | 41 450    | 54 663    | 48 659    | 18 134    |
| Estonia                 |                |                |                |                | 6 156          | 1 033          | 4 342          | 7 754          | 10 982         | 5 678          | 6 320            |                  | **        |           |           |           |           |
| Faroe Islands           | 79 831         | 75 083         | 48 686         | 10 563         | 13 436         | 16 506         | 24 342         | 26 009         | 24 671         | 28 546         | 71 218           | 329 895          | 322 322   | 266 799   | 321 013   | 317 859   | 225 003   |
| France                  |                | 2 191          |                |                |                | 1 195          |                | 720            | 6 442          | 12 446         | 7 984            | 14 149           |           | 8 046     | 18 009    | 16 638    | 11 723    |
| Germany                 | 5 546          | 5 417          | 1 699          | 349            | 1 332          | 100            | 2              | 6 313          | 6 876          | 4 724          | 17 969           | 22 803           | 15 293    | 22 823    | 36 437    | 34 404    | 25 259    |
| Iceland                 |                | 4 977          |                |                |                |                |                | 369            | 302            | 10 464         | 68 681           | 501 493          | 379 643   | 265 516   | 309 508   | 236 538   | 159 307   |
| Ireland                 | 4 646          | 2 014          |                |                | 781            |                | 3              | 222            | 1 709          | 25 785         | 45 635           | 22 580           | 75 393    | 73 488    | 54 910    | 31 132    | 22 852    |
| Japan                   |                |                |                |                | 918            | 1 742          | 2 574          |                |                |                |                  |                  |           |           |           |           |           |
| Latvia                  |                |                |                |                | 10 742         | 10 626         | 2 582          |                |                |                |                  |                  |           |           |           |           |           |
| Lithuania               |                |                |                |                |                | 2 046          |                |                |                |                |                  |                  |           |           | 4 635     | 9 812     | 5 338     |
| Netherlands             | 800            | 2 078          | 7 750          | 17 369         | 11 036         | 18 482         | 21 076         | 26 775         | 17 669         | 24 469         | 27 957           | 48 303           | 95 311    | 147 783   | 102 711   | 79 875    | 78 684    |
| Norway                  | 233 314        | 301 342        | 310 938        | 137 610        | 181 622        | 211 489        | 229 643        | 339 837        | 394 950        | 347 311        | 560 568          | 834 540          | 957 684   | 738 490   | 642 451   | 539 587   | 418 289   |
| Poland                  | 10             |                |                |                |                |                |                |                |                |                |                  |                  |           |           |           |           |           |
| Portugal                | 5 979          | 3 557          | 2 864          | 2 813          | 4 928          | 1 236          | 1 350          | 2 285          | 3 561          | 2 439          | 1 900            | 2 651            | 3 937     | 5 190     | 5 323     | 3 897     | 4 220     |
| Spain                   | 24 847         | 30 108         | 29 490         | 29 180         | 23 794         | 31 020         | 28 118         | 25 379         | 21 538         | 27 683         | 27 490           | 13 825           | 15 612    | 17 643    | 15 173    | 13 557    | 14 342    |
| Sweden **               | 1 229          | 3 062          | 1 503          | 1 000          | 2 058          | 2 867          | 3 675          | 13 000         | 4 000          | 4 568          | 9 299            | 65 532           | 19 083    | 2 960     | 101       | 467       | 4         |
| UK (England + Wales)*** |                |                |                |                |                |                |                |                |                |                |                  |                  | 2 593     | 7 356     | 10 035    | 12 926    | 14 147    |
| UK (Northern Ireland)   |                |                |                |                |                |                |                |                |                |                |                  |                  |           |           |           |           |           |
| UK (Scotland)           | 5 183          | 8 056          | 6 019          | 3 876          | 6 867          | 2 284          | 4 470          | 10 583         | 14 326         | 33 398         | 92 383           | 27 382           | 57 028    | 104 539   | 72 106    | 43 540    | 38 150    |
| USSR / Russia *         | 177 521        | 162 932        | 125 609        | 151 226        | 177 000        | 139 000        | 116 781        | 107 220        | 86 855         | 118 656        | 130 042          | 355 319          | 346 762   | 332 226   | 329 100   | 236 369   | 225 163   |
| Greenland**             |                |                |                |                |                |                |                |                |                |                |                  |                  |           |           |           |           |           |
| Unallocated             |                |                |                |                |                |                |                |                |                |                |                  |                  |           |           |           |           |           |
| <b>TOTAL</b>            | <b>557 847</b> | <b>627 447</b> | <b>561 610</b> | <b>369 524</b> | <b>475 026</b> | <b>480 679</b> | <b>459 414</b> | <b>578 905</b> | <b>645 982</b> | <b>672 437</b> | <b>1 128 969</b> | <b>2 321 406</b> | 2 380 161 | 2 034 309 | 1 976 176 | 1 625 259 | 1 260 615 |

\* From

1992 only Russia.

\*\* Estimates from Sweden and Greenland: are not included in the Catch-at-age Number.

\*\* Estonia (2004): Reported to the EU but not to the ICES WGNPBW. (Landings of 19,467 tonnes).

\*\*\* From 2012.

Table 2.3.1.1. (continued). Blue whiting. ICES estimated catches (tonnes) by country for the period 1988–2025.

| Country               | 2009   | 2010   | 2011   | 2012   | 2013   | 2014    | 2015    | 2016    | 2017    | 2018    | 2019    | 2020    | 2021    | 2022    | 2023     | 2024    | 2025    |
|-----------------------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|---------|
| Denmark               | 248    | 140    | 165    | 340    | 2167   | 35256   | 45178   | 39395   | 60868   | 87348   | 68716   | 58997   | 40321   | 45644   | 87119    | 101521  | 81397   |
| Estonia               |        |        |        |        |        |         |         |         |         |         | 0       |         |         |         |          |         |         |
| Faroe Islands         | 58354  | 49979  | 16405  | 43290  | 85768  | 224700  | 282502  | 282416  | 356501  | 349838  | 336569  | 343372  | 202415  | 217401  | 394198   | 436591  | 400442  |
| France                | 8831   | 7839   | 4337   | 9799   | 8978   | 10410   | 9659    | 10345   | 13369   | 16784   | 16095   | 13769   | 14612   | 14202   | 16989    | 9194    | 8367    |
| Germany               | 5044   | 9108   | 278    | 6239   | 11418  | 24487   | 24107   | 20025   | 45555   | 47708   | 38244   | 42362   | 35327   | 21667   | 38718    | 42127   | 62419   |
| Iceland               | 120202 | 87942  | 5887   | 63056  | 104918 | 182879  | 214870  | 186914  | 228934  | 292944  | 268356  | 243725  | 190146  | 191813  | 292853   | 321572  | 286760  |
| Ireland               | 8776   | 8324   | 1195   | 7557   | 13205  | 21466   | 24785   | 27657   | 43238   | 49903   | 38836   | 40135   | 39514   | 28972   | 54396    | 63293   | 54256   |
| Lithuania             |        |        |        |        |        | 4717    |         | 1129    | 5300    |         |         | 9543    | 21183   | 13149   | 32600    | 19532++ | 14423   |
| Netherlands           | 35686  | 33762  | 4595   | 26526  | 51635  | 38524   | 56397   | 58148   | 81156   | 121864  | 75020   | 62309   | 62017   | 63249   | 84637    | 91085   | 90675   |
| Norway                | 225995 | 194317 | 20539  | 118832 | 196246 | 399520  | 489439  | 310412  | 399363  | 438426  | 351429  | 354033  | 233968  | 194973  | 390850   | 388951  | 396302  |
| Poland                |        |        |        |        |        |         |         |         | 15889   | 12152   | 27185   | 47616   | 26077   | 20948   | 28276    | 41645   | 57336   |
| Portugal              | 2043   | 1482   | 603    | 1955   | 2056   | 2150    | 2547    | 2586    | 2046    | 2497    | 3481    | 2819    | 2522    | 2784    | 3202     | 1737    | 1987    |
| Spain                 | 20637  | 12891  | 2416   | 6726   | 15274  | 32065   | 29206   | 31952   | 28920   | 24718   | 22782   | 23676   | 25509   | 26310   | 32870    | 23015   | 17147   |
| Sweden                | 3      | 50     | 1      | 4      | 199    | 2       | 32      | 42      | 90      | 16**    | 54      | 25      | 40      | 20      | 377      | 772     | 3584    |
| UK (England + Wales)  | 6176   | 2475   | 27     | 1590   | 4100   | 11      | 131     | 1374+   | 3447    | 1864    | 4062    | 7458    | 8783    | 7482    | 7521     | 3876    |         |
| UK (Northern Ireland) |        |        |        |        | 1232   | 2205    | 1119    |         |         | 4508    | 2899    | 2958    |         |         | 5299     | 3088    |         |
| UK (Scotland)         | 173    | 5496   | 1331   | 6305   | 8166   | 24630   | 30508   | 37173   | 64724   | 66682   | 54040   | 41344   | 65085   | 42903   | 87332    | 98619   |         |
| UK                    |        |        |        |        |        |         |         |         |         |         |         |         |         |         |          |         | 109032  |
| Russia                | 149650 | 112553 | 45841  | 88303  | 120674 | 152256  | 185763  | 173655  | 188449  | 170892  | 188006  | 181496  | 133605^ | 128002  | 153830   | 141241  | 159990  |
| Greenland             |        |        |        |        | 2133   |         |         |         | 20212   | 23333   | 19753   | 19611   | 20190   | 19218   | 26031    | 28934   | 32036   |
| Unallocated           |        |        |        | 3499   |        |         |         |         |         |         |         |         | 22137   |         |          |         |         |
| TOTAL                 | 641818 | 526357 | 103620 | 384021 | 628169 | 1155279 | 1396244 | 1181850 | 1558061 | 1711461 | 1515527 | 1495248 | 1143450 | 1038736 | 1737098  | 1816792 | 1776154 |
|                       |        |        |        |        |        |         |         |         |         |         |         |         |         |         | Total IC | 1797260 |         |

\*\* only landings (2018).

+ data updated in 2018.

++ 2024 data not available in InterCatch (IC).

^ Russia 2021 preliminary data (Q1+Q2) submitted to WGWIDE 2021.

Table 2.3.1.2. Blue whiting. ICES estimated catches (tonnes) by country and ICES division for 2025. Data submitted to InterCatch.

| ICES Division | Denmark      | Faroe Islands | France      | Germany      | Greenland    | Iceland       | Ireland      | Lithuania    | Netherlands  | Norway        | Poland       | Portugal    | Russia        | Spain        | Sweden      | UK            | Total          |
|---------------|--------------|---------------|-------------|--------------|--------------|---------------|--------------|--------------|--------------|---------------|--------------|-------------|---------------|--------------|-------------|---------------|----------------|
| 27.1          |              |               |             |              |              |               |              |              |              | 0             |              |             |               |              |             |               | 0              |
| 27.4          |              |               |             |              |              |               |              |              |              |               |              |             |               |              |             | 97            | 97             |
| 27.2.a        | 65           | 76178         |             | 829          | 9370         | 21392         |              |              | 176          | 8398          |              |             | 27397.5       |              | 2           |               | 143807         |
| 27.3.a        | 0            |               |             |              |              |               |              |              |              |               |              |             |               |              | 2           |               | 3              |
| 27.4.a        | 58           | 31421         | 1493        | 2555         | 9569         | 14072         |              |              | 4209         | 29443         | 1868         |             | 2512.811      |              | 731         | 179           | 98111          |
| 27.4.b        | 12           |               |             |              |              |               |              |              |              |               |              |             |               |              | 24          | 0             | 36             |
| 27.5.a        |              | 12457         |             |              | 12087        | 46674         |              |              |              |               |              |             |               |              |             |               | 71218          |
| 27.5.b        |              | 187299        | 158         | 1554         |              | 158401        |              |              | 244          | 56909         | 1696         |             | 88563.78      |              |             | 0             | 494825         |
| 27.6.a        | 47536        | 34549         | 3428        | 35833        | 1010         | 23419         | 38586        | 7985         | 28487        |               | 39728        |             | 2651.875      | 0            | 2825        | 72866         | 338903         |
| 27.6.b        |              | 9088          |             |              |              | 8348          | 4301         | 803          | 2770         | 24688         |              |             | 6401.749      |              |             | 6248          | 62647          |
| 27.7.b        | 3383         |               | 109         | 4034         |              |               | 913          | 31           | 1973         |               | 3476         |             |               | 0            |             | 4182          | 18102          |
| 27.7.c        | 21679        |               | 3072        | 8989         |              | 954           | 9368         | 5604         | 23580        | 57691         | 10568        |             | 760.379       | 22           |             | 25443         | 167730         |
| 27.7.d        |              |               | 0           |              |              |               |              |              |              |               |              |             |               |              |             | 0             | 0              |
| 27.7.e        |              |               | 0           |              |              |               |              |              |              |               |              |             |               |              |             | 6             | 6              |
| 27.7.f        |              |               |             |              |              |               |              |              | 1            |               |              |             |               |              |             |               | 1              |
| 27.7.g        |              |               |             |              |              |               | 127          |              |              |               |              |             |               | 11           |             |               | 138            |
| 27.7.h        | 1            |               | 2           | 854          |              |               |              |              | 3118         |               |              |             |               | 10           |             | 5             | 3989           |
| 27.7.j        | 65           |               | 101         | 7771         |              |               | 6.85         |              | 19212        |               |              |             |               | 165          |             | 4             | 27326          |
| 27.7.k        | 8462         | 49450         | 0           |              |              | 13457         | 955          |              | 5050         | 219173        |              |             | 31411.92      | 0            |             |               | 327959         |
| 27.8.a        | 136          |               | 0           |              |              |               |              |              | 130          |               | 1            |             |               | 38           |             |               | 306            |
| 27.8.b        |              |               | 2           |              |              |               |              |              |              |               |              |             |               | 250          |             |               | 252            |
| 27.8.c        |              |               | 0           |              |              |               |              |              |              |               |              | 496         |               | 13314        |             |               | 13810          |
| 27.8.d        |              |               | 0           |              |              |               |              |              | 1726         |               | 0            |             |               | 5            |             |               | 1731           |
| 27.9.a        |              |               |             |              |              |               |              |              |              |               |              | 1491        |               | 3333         |             |               | 4824           |
| 27.12         |              |               |             |              |              |               |              |              |              |               |              |             | 290.238       |              |             |               | 290            |
| 27.14.b       |              |               |             |              |              | 43            |              |              |              |               |              |             |               |              |             |               | 43             |
| <b>Total</b>  | <b>81397</b> | <b>400442</b> | <b>8367</b> | <b>62419</b> | <b>32036</b> | <b>286760</b> | <b>54256</b> | <b>14423</b> | <b>90675</b> | <b>396302</b> | <b>57336</b> | <b>1987</b> | <b>159990</b> | <b>17147</b> | <b>3584</b> | <b>109032</b> | <b>1776154</b> |

Table 2.3.1.3. Blue whiting. ICES estimated catches (tonnes) by quarter and ICES division for 2025. Data submitted to InterCatch.

| ICES area    | Quarter 1     | Quarter 2     | Quarter 3     | Quarter 4     | 2025*      | Total          |
|--------------|---------------|---------------|---------------|---------------|------------|----------------|
| 27.1         |               |               | 0             |               |            | 0              |
| 27.2.a       | 7220          | 100351        | 19506         | 16729         |            | 143807         |
| 27.3.a       | 0             | 1             | 2             | 0             |            | 3              |
| 27.4         |               |               |               |               | 97.42      | 97             |
| 27.4.a       | 4306          | 73245         | 11258         | 9302          |            | 98111          |
| 27.4.b       | 0             | 0             | 29            | 7             |            | 36             |
| 27.5.a       | 62            | 176           | 53804         | 5089          |            | 59131          |
| 27.5.b       | 87425         | 336732        | 1183          | 81571         | 0          | 506912         |
| 27.6.a       | 124223        | 177406        | 122           | 37148         | 4          | 338903         |
| 27.6.b       | 61512         | 1134          |               |               | 1          | 62647          |
| 27.7.b       | 18041         | 61            |               |               |            | 18102          |
| 27.7.c       | 167588        | 75            | 0             | 67            |            | 167730         |
| 27.7.d       | 0             | 0             |               | 0             |            | 0              |
| 27.7.e       | 0             | 6             |               | 0             |            | 6              |
| 27.7.f       | 1             |               |               |               |            | 1              |
| 27.7.g       | 32            | 36            |               | 70            |            | 138            |
| 27.7.h       | 79            | 4             | 3450          | 457           |            | 3989           |
| 27.7.j       | 548           | 131           | 9655          | 16993         |            | 27326          |
| 27.7.k       | 327809        | 148           | 0             | 2             |            | 327959         |
| 27.8.a       | 220           | 30            | 46            | 10            |            | 306            |
| 27.8.b       | 158           | 68            | 13            | 12            |            | 252            |
| 27.8.c       | 2863          | 6648          | 2862          | 1436          |            | 13810          |
| 27.8.d       | 51            | 2             | 1604          | 75            |            | 1731           |
| 27.9.a       | 640           | 1561          | 1196          | 1427          |            | 4824           |
| 27.12        | 290           |               |               |               |            | 290            |
| 27.14.b      | 28            | 11            | 3             | 1             |            | 43             |
| <b>Total</b> | <b>803097</b> | <b>697827</b> | <b>104733</b> | <b>170395</b> | <b>103</b> | <b>1776154</b> |

\* discards data estimates from UK are provided for the whole year and not raised by quarter due to sampling intensity.

Table 2.3.1.4. Blue whiting. ICES estimated catches (tonnes) from the main fisheries 1988–2025 by area.

| Year | Norwegian Sea fishery (SAs1+2;Divs.5.a,14a-b) | Fishery in the spawning area (SA 12.; Divs. 5.b, 6.a-b, 7.a-c) | Directed- and mixed fisheries in the North Sea (SA4; Div.3.a) | Total northern areas | Total southern areas (SAs8+9;Divs.7.d-k) | Grand total |
|------|-----------------------------------------------|----------------------------------------------------------------|---------------------------------------------------------------|----------------------|------------------------------------------|-------------|
| 1988 | 55829                                         | 426037                                                         | 45143                                                         | 527009               | 30838                                    | 557847      |
| 1989 | 42615                                         | 475179                                                         | 75958                                                         | 593752               | 33695                                    | 627447      |
| 1990 | 2106                                          | 463495                                                         | 63192                                                         | 528793               | 32817                                    | 561610      |
| 1991 | 78703                                         | 218946                                                         | 39872                                                         | 337521               | 32003                                    | 369524      |
| 1992 | 62312                                         | 318018                                                         | 65974                                                         | 446367               | 28722                                    | 475026      |
| 1993 | 43240                                         | 347101                                                         | 58082                                                         | 448423               | 32256                                    | 480679      |
| 1994 | 22674                                         | 378704                                                         | 28563                                                         | 429941               | 29473                                    | 459414      |
| 1995 | 23733                                         | 423504                                                         | 104004                                                        | 551241               | 27664                                    | 578905      |
| 1996 | 23447                                         | 478077                                                         | 119359                                                        | 620883               | 25099                                    | 645982      |
| 1997 | 62570                                         | 514654                                                         | 65091                                                         | 642315               | 30122                                    | 672437      |
| 1998 | 177494                                        | 827194                                                         | 94881                                                         | 1099569              | 29400                                    | 1128969     |
| 1999 | 179639                                        | 943578                                                         | 106609                                                        | 1229826              | 26402                                    | 1256228     |
| 2000 | 284666                                        | 989131                                                         | 114477                                                        | 1388274              | 24654                                    | 1412928     |
| 2001 | 591583                                        | 1045100                                                        | 118523                                                        | 1755206              | 24964                                    | 1780170     |
| 2002 | 541467                                        | 846602                                                         | 145652                                                        | 1533721              | 23071                                    | 1556792     |
| 2003 | 931508                                        | 1211621                                                        | 158180                                                        | 2301309              | 20097                                    | 2321406     |
| 2004 | 921349                                        | 1232534                                                        | 138593                                                        | 2292476              | 85093                                    | 2377569     |
| 2005 | 405577                                        | 1465735                                                        | 128033                                                        | 1999345              | 27608                                    | 2026953     |
| 2006 | 404362                                        | 1428208                                                        | 105239                                                        | 1937809              | 28331                                    | 1966140     |
| 2007 | 172709                                        | 1360882                                                        | 61105                                                         | 1594695              | 17634                                    | 1612330     |

Table 2.3.1.4. (continued) Blue whiting. ICES estimated catches (tonnes) from the main fisheries 1988–2025 by area.

| Year | Norwegian Sea fishery (SAs1+2;Divs.5.a,14a-b) | Fishery in the spawning area (SA 12.; Divs. 5.b, 6.a-b, 7.a-c) | Directed- and mixed fisheries in the North Sea (SA4; Div.3.a) | Total northern areas | Total southern areas (SAs8+9;Divs.7.d-k) | Grand total |
|------|-----------------------------------------------|----------------------------------------------------------------|---------------------------------------------------------------|----------------------|------------------------------------------|-------------|
| 2008 | 68352                                         | 1111292                                                        | 36061                                                         | 1215704              | 30761                                    | 1246465     |
| 2009 | 46629                                         | 533996                                                         | 22387                                                         | 603012               | 32627                                    | 635639      |
| 2010 | 36214                                         | 441521                                                         | 17545                                                         | 495280               | 28552                                    | 523832      |
| 2011 | 20599                                         | 72279                                                          | 7524                                                          | 100401               | 3191                                     | 103592      |
| 2012 | 24391                                         | 324545                                                         | 5678                                                          | 354614               | 29402                                    | 384016*     |
| 2013 | 31759                                         | 481356                                                         | 8749                                                          | 521864               | 103973                                   | 625837**    |
| 2014 | 45580                                         | 885483                                                         | 28596                                                         | 959659               | 195620                                   | 1155279     |
| 2015 | 150828                                        | 895684                                                         | 44661                                                         | 1091173              | 305071                                   | 1396244     |
| 2016 | 59744                                         | 905087                                                         | 55774                                                         | 1020604              | 162583                                   | 1183187***  |
| 2017 | 136565                                        | 1284105                                                        | 45474                                                         | 1466144              | 91917                                    | 1558061     |
| 2018 | 143204                                        | 1445957                                                        | 43484                                                         | 1632646              | 78831                                    | 1711477     |
| 2019 | 68593                                         | 1271883                                                        | 44856                                                         | 1385333              | 130194                                   | 1515527     |
| 2020 | 92084                                         | 1059197                                                        | 64327                                                         | 1215608              | 279640                                   | 1495248     |
| 2021 | 112082                                        | 801768                                                         | 39509                                                         | 953359               | 190091                                   | 1143450     |
| 2022 | 105752                                        | 724086                                                         | 59371                                                         | 889209               | 149527                                   | 1038736     |
| 2023 | 112352                                        | 1115090                                                        | 99955                                                         | 1327396              | 409702                                   | 1737098     |
| 2024 | 122317                                        | 1384345                                                        | 44864                                                         | 1551526              | 245734                                   | 1797260     |
| 2025 | 202981                                        | 1094585                                                        | 98247                                                         | 1395813              | 380341                                   | 1776154     |

\* Official catches by area from Sweden are not included (2012);

\*\* Official catches by area from Sweden and Greenland are not included (2013);

\*\*\* Grand total includes only 1336 tonnes from UK (England + Wales) (2016 total catch from UK (England + Wales) = 1374 ton).

**Table 2.3.1.5. Blue whiting. ICES estimates (tonnes) of catches, landings and discards by country for 2025. Data submitted to InterCatch.**

| Country       | BMS landings | Discards    | Landings       | Catches        | % discards  |
|---------------|--------------|-------------|----------------|----------------|-------------|
| Denmark       |              |             | 81397          | 81397          | 0.00        |
| Faroe Islands |              |             | 400442         | 400442         | 0.00        |
| France        |              |             | 8367           | 8367           | 0.00        |
| Germany       | 20           |             | 62399          | 62419          | 0.00        |
| Greenland     |              |             | 32036          | 32036          | 0.00        |
| Iceland       |              |             | 286760         | 286760         | 0.00        |
| Ireland       |              | 577         | 53679          | 54256          | 1.06        |
| Lithuania     |              |             | 14423          | 14423          | 0.00        |
| Netherlands   |              | 0           | 90675          | 90675          | 0.00        |
| Norway        |              |             | 396302         | 396302         | 0.00        |
| Poland        |              |             | 57336          | 57336          | 0.00        |
| Portugal      |              | 527         | 1460           | 1987           | 26.52       |
| Russia        |              |             | 159990         | 159990         | 0.00        |
| Spain         |              | 1520        | 15627          | 17147          | 8.86        |
| Sweden        |              | 2           | 3581           | 3584           | 0.07        |
| UK            |              | 110         | 108922         | 109032         | 0.10        |
| <b>Total</b>  | <b>20</b>    | <b>2736</b> | <b>1773397</b> | <b>1776154</b> | <b>0.15</b> |

**Table 2.3.1.6. Blue whiting. ICES estimated catches (tonnes) inside and outside NEAFC regulatory area for 2025 by country. Data submitted to InterCatch.**

| Country       | Outside NEAFC  | Inside NEAFC  | Total          |
|---------------|----------------|---------------|----------------|
| Denmark       | 81332          | 65            | 81397          |
| Faroe Islands | 340817         | 59625         | 400442         |
| France*       | 8367           | 0             | 8367           |
| Germany       | 62416          | 3             | 62419          |
| Greenland     | 31878          | 158           | 32036          |
| Iceland       | 23908          | 262852        | 286760         |
| Ireland       | 54256          | 0             | 54256          |
| Lithuania     | 14423          | 0             | 14423          |
| Netherlands   | 90500          | 175           | 90675          |
| Norway*       | 172891         | 223411        | 396302         |
| Poland        | 57336          | 0             | 57336          |
| Portugal      | 1987           | 0             | 1987           |
| Russia        | 113271         | 46719         | 159990         |
| Spain         | 17147          | 0             | 17147          |
| Sweden        | 3584           | 0             | 3584           |
| UK            | 109031         | 0             | 109032         |
| <b>Total</b>  | <b>1183146</b> | <b>593008</b> | <b>1776154</b> |

**Table 2.3.1.1.1. Blue whiting. ICES estimated catches (tonnes), the percentage of catch covered by the sampling programme, No. of age samples, No. of fish measured and No. of fish aged for 2000-2025. Data submitted to InterCatch.**

| Year        | Catch (tonnes) | % catch covered by sampling programme | No. Samples | No. Measured  | No. Aged     |
|-------------|----------------|---------------------------------------|-------------|---------------|--------------|
| 2000        | 1412928        | *                                     | 1136        | 125162        | 13685        |
| 2001        | 1780170        | *                                     | 985         | 173553        | 17995        |
| 2002        | 1556792        | *                                     | 1037        | 116895        | 19202        |
| 2003        | 2321406        | *                                     | 1596        | 188770        | 26207        |
| 2004        | 2377569        | *                                     | 1774        | 181235        | 27835        |
| 2005        | 2026953        | *                                     | 1833        | 217937        | 32184        |
| 2006        | 1966140        | *                                     | 1715        | 190533        | 27014        |
| 2007        | 1610090        | 87                                    | 1399        | 167652        | 23495        |
| 2008        | 1246465        | 90                                    | 927         | 113749        | 21844        |
| 2009        | 635639         | 88                                    | 705         | 79500         | 18142        |
| 2010        | 524751         | 87                                    | 584         | 82851         | 16323        |
| 2011        | 103591         | 85                                    | 697         | 84651         | 12614        |
| 2012        | 373937         | 80                                    | 1143        | 173206        | 15745        |
| 2013        | 625837         | 96                                    | 915         | 111079        | 14633        |
| 2014        | 1155279        | 89                                    | 912         | 111316        | 39738        |
| 2015        | 1396244        | 94                                    | 1570        | 102367        | 29821        |
| 2016        | 1183187        | 89                                    | 1092        | 120329        | 13793        |
| 2017        | 1558061        | 91                                    | 1779        | 147297        | 15828        |
| 2018        | 1711477        | 87                                    | 1565        | 131779        | 16426        |
| 2019        | 1515527        | 84                                    | 1253        | 136604        | 17869        |
| 2020        | 1495248        | 81                                    | 672         | 89110         | 16641        |
| 2021        | 1143450        | 81                                    | 1588        | 129317        | 15215        |
| 2022        | 1038736        | 77                                    | 1868        | 167650        | 15636        |
| 2023        | 1737098        | 78                                    | 1901        | 164353        | 17632        |
| 2024        | 1797260        | 77                                    | 2051        | 139929        | 18524        |
| <b>2025</b> | <b>1776154</b> | <b>84</b>                             | <b>1795</b> | <b>130720</b> | <b>16353</b> |

**Table 2.3.1.1.2. Blue whiting. ICES estimated catches (tonnes), the percentage of catch covered by the age sampling programme (catch-at-age numbers), No. of length samples, No. of age samples, No. of fish measured, No. of fish aged, No. of fish aged per 1000 tonnes and No. of fish measured by 1000 tonnes by country for 2025. Data submitted to InterCatch.**

| Country       | ICES catches   | % catch covered by age sampling programme | No. of Length Samples | No. of Length Measured | No. of Age Samples | No. Age Readings | No Aged/ 1000 tonnes | No Measured/ 1000 tonnes |
|---------------|----------------|-------------------------------------------|-----------------------|------------------------|--------------------|------------------|----------------------|--------------------------|
| Denmark       | 81397          | 100                                       | 25                    | 25                     | 1839               | 1376             | 17                   | 23                       |
| Faroe Islands | 400442         | 86                                        | 23                    | 23                     | 2189               | 1947             | 5                    | 5                        |
| France        | 8367           | 0                                         | 0                     | 0                      | 0                  | 0                | 0                    | 0                        |
| Germany       | 62419          | 50                                        | 44                    | 44                     | 9987               | 900              | 14                   | 160                      |
| Greenland     | 32036          | 0                                         | 0                     | 0                      | 0                  | 0                | 0                    | 0                        |
| Iceland       | 286760         | 96                                        | 103                   | 103                    | 10937              | 1739             | 6                    | 38                       |
| Ireland       | 54256          | 90                                        | 24                    | 24                     | 6463               | 1400             | 26                   | 119                      |
| Lithuania     | 14423          | 0                                         | 0                     | 0                      | 0                  | 0                | 0                    | 0                        |
| Netherlands   | 90675          | 80                                        | 75                    | 75                     | 15043              | 1838             | 20                   | 166                      |
| Norway        | 396302         | 100                                       | 83                    | 83                     | 2464               | 2464             | 6                    | 6                        |
| Poland        | 57336          | 0                                         | 0                     | 0                      | 0                  | 0                | 0                    | 0                        |
| Portugal      | 1987           | 75                                        | 49                    | 49                     | 4437               | 1366             | 687                  | 2233                     |
| Russia        | 159990         | 73                                        | 76                    | 76                     | 25016              | 993              | 6                    | 156                      |
| Spain         | 17147          | 99                                        | 1154                  | 1154                   | 39864              | 1054             | 61                   | 2325                     |
| Sweden        | 3584           | 0                                         | 0                     | 0                      | 0                  | 0                | 0                    | 0                        |
| UK            | 109032         | 91                                        | 139                   | 29                     | 12481              | 1276             | 12                   | 114                      |
| <b>Total</b>  | <b>1776154</b> | <b>84</b>                                 | <b>1795</b>           | <b>1685</b>            | <b>130720</b>      | <b>16353</b>     | <b>9</b>             | <b>74</b>                |

Table 2.3.1.1.3. Blue whiting. ICES estimated catches (tonnes), No. of Age samples, No. of fish measured and No. of fish aged by country and quarter for 2025. Data submitted to InterCatch (cont).

| Country              | Catches (ton) | No. of Length Samples | No. of Length Measured | No. Age Readings |
|----------------------|---------------|-----------------------|------------------------|------------------|
| <b>Denmark</b>       |               |                       |                        |                  |
| Quarter 1            | 47465         | 16                    | 1189                   | 935              |
| Quarter 2            | 31315         | 8                     | 620                    | 411              |
| Quarter 3            | 54            | 0                     | 0                      | 0                |
| Quarter 4            | 2562          | 1                     | 30                     | 30               |
| <b>Total</b>         | <b>81397</b>  | <b>25</b>             | <b>1839</b>            | <b>1376</b>      |
| <b>Faroe Islands</b> |               |                       |                        |                  |
| Quarter 1            | 104469        | 11                    | 1073                   | 899              |
| Quarter 2            | 239963        | 6                     | 611                    | 550              |
| Quarter 3            | 23641         | 2                     | 100                    | 99               |
| Quarter 4            | 32369         | 4                     | 405                    | 399              |
| <b>Total</b>         | <b>400442</b> | <b>23</b>             | <b>2189</b>            | <b>1947</b>      |
| <b>France</b>        |               |                       |                        |                  |
| Quarter 1            | 3171          | 0                     | 0                      | 0                |
| Quarter 2            | 5192          | 0                     | 0                      | 0                |
| Quarter 3            | 3             | 0                     | 0                      | 0                |
| Quarter 4            | 1             | 0                     | 0                      | 0                |
| <b>Total</b>         | <b>8367</b>   | <b>0</b>              | <b>0</b>               | <b>0</b>         |
| <b>Germany</b>       |               |                       |                        |                  |
| Quarter 1            | 25517         | 19                    | 4632                   | 342              |
| Quarter 2            | 15720         | 11                    | 2775                   | 383              |
| Quarter 3            | 5860          | 0                     | 0                      | 0                |
| Quarter 4            | 15322         | 14                    | 2580                   | 175              |
| <b>Total</b>         | <b>62419</b>  | <b>44</b>             | <b>9987</b>            | <b>900</b>       |

Table 2.3.1.1.3. (continued) Blue whiting. ICES estimated catches (tonnes), No. of Age samples, No. of fish measured and No. of fish aged by country and quarter for 2025. Data submitted to InterCatch (cont.).

| Country                  | Catches (ton) | No. of Length Samples | No. of Length Measured | No. Age Readings |
|--------------------------|---------------|-----------------------|------------------------|------------------|
| <b>Greenland</b>         |               |                       |                        |                  |
| Quarter 2                | 20863         | 0                     | 0                      | 0                |
| Quarter 3                | 998           | 0                     | 0                      | 0                |
| Quarter 4                | 10176         | 0                     | 0                      | 0                |
| <b>Total</b>             | <b>32036</b>  | <b>0</b>              | <b>0</b>               | <b>0</b>         |
| <b>Iceland</b>           |               |                       |                        |                  |
| Quarter 1                | 72914         | 32                    | 3476                   | 556              |
| Quarter 2                | 122202        | 38                    | 3958                   | 588              |
| Quarter 3                | 44283         | 16                    | 1643                   | 299              |
| Quarter 4                | 47361         | 17                    | 1860                   | 296              |
| <b>Total</b>             | <b>286760</b> | <b>103</b>            | <b>10937</b>           | <b>1739</b>      |
| <b>Ireland</b>           |               |                       |                        |                  |
| Quarter 1                | 42744         | 17                    | 4679                   | 1000             |
| Quarter 2                | 11375         | 7                     | 1784                   | 400              |
| Quarter 4                | 138           | 0                     | 0                      | 0                |
| <b>Total</b>             | <b>54256</b>  | <b>24</b>             | <b>6463</b>            | <b>1400</b>      |
| <b>Lithuania</b>         |               |                       |                        |                  |
| <b>Quarter 1 (Total)</b> | <b>14423</b>  | <b>0</b>              | <b>0</b>               | <b>0</b>         |
| <b>Netherlands</b>       |               |                       |                        |                  |
| Quarter 1                | 35784         | 18                    | 3891                   | 443              |
| Quarter 2                | 23129         | 11                    | 2060                   | 272              |
| Quarter 3                | 9122          | 24                    | 4871                   | 574              |
| Quarter 4                | 22640         | 22                    | 4221                   | 549              |
| <b>Total</b>             | <b>90675</b>  | <b>75</b>             | <b>15043</b>           | <b>1838</b>      |

Table 2.3.1.1.3. (continued) Blue whiting. ICES estimated catches (tonnes), No. of Age samples, No. of fish measured and No. of fish aged by country and quarter for 2025. Data submitted to InterCatch (cont.).

| Country         | Catches (ton) | No. of Length Samples | No. of Length Measured | No. Age Readings |
|-----------------|---------------|-----------------------|------------------------|------------------|
| <b>Norway</b>   |               |                       |                        |                  |
| Quarter 1       | 302274        | 65                    | 1925                   | 1925             |
| Quarter 2       | 81819         | 15                    | 449                    | 449              |
| Quarter 3       | 9800          | 2                     | 60                     | 60               |
| Quarter 4       | 2408          | 1                     | 30                     | 30               |
| <b>Total</b>    | <b>396302</b> | <b>83</b>             | <b>2464</b>            | <b>2464</b>      |
| <b>Poland</b>   |               |                       |                        |                  |
| Quarter 1       | 22747         | 0                     | 0                      | 0                |
| Quarter 2       | 21271         | 0                     | 0                      | 0                |
| Quarter 4       | 13318         | 0                     | 0                      | 0                |
| <b>Total</b>    | <b>57336</b>  | <b>0</b>              | <b>0</b>               | <b>0</b>         |
| <b>Portugal</b> |               |                       |                        |                  |
| Quarter 1       | 626           | 5                     | 261                    | 240              |
| Quarter 2       | 814           | 17                    | 2603                   | 303              |
| Quarter 3       | 296           | 13                    | 700                    | 360              |
| Quarter 4       | 251           | 14                    | 873                    | 463              |
| <b>Total</b>    | <b>1987</b>   | <b>49</b>             | <b>4437</b>            | <b>1366</b>      |
| <b>Russia</b>   |               |                       |                        |                  |
| Quarter 1       | 49655         | 40                    | 12967                  | 453              |
| Quarter 2       | 82825         | 20                    | 6515                   | 144              |
| Quarter 3       | 6291          | 0                     | 0                      | 0                |
| Quarter 4       | 21219         | 16                    | 5534                   | 396              |
| <b>Total</b>    | <b>159990</b> | <b>76</b>             | <b>25016</b>           | <b>993</b>       |

Table 2.3.1.1.3. (continued) Blue whiting. ICES estimated catches (tonnes), No. of Age samples, No. of fish measured and No. of fish aged by country and quarter for 2025. Data submitted to InterCatch (cont.).

| Country            | Catches (ton)  | No. of Length Samples | No. of Length Measured | No. Age Readings |
|--------------------|----------------|-----------------------|------------------------|------------------|
| <b>Spain</b>       |                |                       |                        |                  |
| Quarter 1          | 3193           | 246                   | 8371                   | 195              |
| Quarter 2          | 7543           | 360                   | 10617                  | 253              |
| Quarter 3          | 3782           | 282                   | 10147                  | 232              |
| Quarter 4          | 2629           | 266                   | 10729                  | 374              |
| <b>Total</b>       | <b>17147</b>   | <b>1154</b>           | <b>39864</b>           | <b>1054</b>      |
| <b>Sweden</b>      |                |                       |                        |                  |
| Quarter 1          | 0              | 0                     | 0                      | 0                |
| Quarter 2          | 3149           | 0                     | 0                      | 0                |
| Quarter 3          | 435            | 0                     | 0                      | 0                |
| Quarter 4          | 0              | 0                     | 0                      | 0                |
| <b>Total</b>       | <b>3584</b>    | <b>0</b>              | <b>0</b>               | <b>0</b>         |
| <b>UK</b>          |                |                       |                        |                  |
| Quarter 1          | 78115          | 31                    | 10182                  | 1246             |
| Quarter 2          | 30647          | 6                     | 407                    | 30               |
| Quarter 3          | 166            | 2                     | 35                     | 0                |
| Quarter 4          | 1              | 0                     | 0                      | 0                |
| 2025*              | 103            | 100                   | 1857                   | 0                |
| <b>Total</b>       | <b>109032</b>  | <b>139</b>            | <b>12481</b>           | <b>1276</b>      |
| <b>Grand Total</b> | <b>1776154</b> | <b>1795</b>           | <b>130720</b>          | <b>16353</b>     |

Table 2.3.1.1.4. Blue whiting. ICES estimated catches (tonnes), No. of length samples, No. of age samples, No. of fish measured, No. of fish aged, No. of fish aged by 1000 tonnes and No. of fish measured by 1000 tonnes by ICES division for 2025. Data submitted to InterCatch.

| ICES area    | Catches (tonnes) | No. Samples | No. of Length Measured | No. Age Readings | No. Aged/1000 tonnes | No. Measured/1000 tonnes |
|--------------|------------------|-------------|------------------------|------------------|----------------------|--------------------------|
| 27.1         | 0                | 0           | 0                      | 0                | 0                    | 0                        |
| 27.4         | 97               | 82          | 1749                   | 0                | 0                    | 17954                    |
| 27.2.a       | 143807           | 17          | 2316                   | 628              | 4                    | 16                       |
| 27.3.a       | 3                | 0           | 0                      | 0                | 0                    | 0                        |
| 27.4.a       | 98111            | 20          | 2331                   | 549              | 6                    | 24                       |
| 27.4.b       | 36               | 0           | 0                      | 0                | 0                    | 0                        |
| 27.5.a       | 59131            | 20          | 1950                   | 523              | 9                    | 33                       |
| 27.5.b       | 506912           | 121         | 20745                  | 2862             | 6                    | 41                       |
| 27.6.a       | 338903           | 128         | 24299                  | 3888             | 11                   | 72                       |
| 27.6.b       | 62647            | 36          | 6628                   | 627              | 10                   | 106                      |
| 27.7.b       | 18102            | 13          | 3196                   | 464              | 26                   | 177                      |
| 27.7.c       | 167730           | 55          | 6929                   | 1668             | 10                   | 41                       |
| 27.7.d       | 0                | 0           | 0                      | 0                | 0                    | 0                        |
| 27.7.e       | 6                | 5           | 95                     | 0                | 0                    | 16199                    |
| 27.7.f       | 1                | 0           | 0                      | 0                | 0                    | 0                        |
| 27.7.g       | 138              | 3           | 57                     | 0                | 0                    | 414                      |
| 27.7.h       | 3989             | 12          | 1172                   | 118              | 30                   | 294                      |
| 27.7.j       | 27326            | 99          | 5690                   | 419              | 15                   | 208                      |
| 27.7.k       | 327959           | 75          | 9258                   | 2023             | 6                    | 28                       |
| 27.8.a       | 306              | 57          | 383                    | 0                | 0                    | 1253                     |
| 27.8.b       | 252              | 135         | 2658                   | 0                | 0                    | 10538                    |
| 27.8.c       | 13810            | 440         | 17584                  | 528              | 38                   | 1273                     |
| 27.8.d       | 1731             | 7           | 1415                   | 164              | 95                   | 817                      |
| 27.9.a       | 4824             | 470         | 22265                  | 1892             | 392                  | 4615                     |
| 27.12        | 290              | 0           | 0                      | 0                | 0                    | 0                        |
| 27.14.b      | 43               | 0           | 0                      | 0                | 0                    | 0                        |
| Total (2025) | 1776154          | 1795        | 130720                 | 16353            | 9                    | 74                       |

**Table 2.3.2.1. Blue whiting. ICES estimated preliminary landings (tonnes) in 2026 by quarter and ICES division. Data submitted to InterCatch.**

|               | Landings      |               |           |               |
|---------------|---------------|---------------|-----------|---------------|
| ICES Division | Quarter 1     | Quarter 2     | Quarter 3 | Total         |
| 27.2.a        | 413           | 20672         |           | 21085         |
| 27.4.a        | 0             | 11458         | 3         | 11461         |
| 27.4.b        |               | 1             |           | 1             |
| 27.4.c        |               | 0             |           | 0             |
| 27.5.a        | 70            | 3             |           | 73            |
| 27.5.b        | 90761         | 254530        |           | 345291        |
| 27.6.a        | 73491         | 50692         |           | 124183        |
| 27.6.b        | 2123          |               |           | 2123          |
| 27.7.b        | 10677         | 371           |           | 11048         |
| 27.7.c        | 84539         | 180           |           | 84719         |
| 27.7.g        | 0             | 1             |           | 1             |
| 27.7.h        | 76            | 0             |           | 76            |
| 27.7.j        | 235           |               |           | 235           |
| 27.7.k        | 123973        | 1             |           | 123974        |
| 27.8.a        | 71            |               |           | 71            |
| 27.8.d        | 1             |               |           | 1             |
| 27.9.a        | 277           | 250           |           | 527           |
| 27.14.b       | 1             | 1             |           | 2             |
| <b>Total</b>  | <b>386708</b> | <b>338160</b> | <b>3</b>  | <b>724871</b> |

**Table 2.3.2.2. Blue whiting. ICES estimated preliminary catches (tonnes), No. of samples, No. of fish measured and No. of fish aged by ICES division for 2026 preliminary data (quarters 1 and 2). Data submitted to InterCatch.**

| ICES Division | Catch (tonnes) | No. samples | No. Measured | No. Aged    |
|---------------|----------------|-------------|--------------|-------------|
| 27.2.a        | 21085          | 1           | 50           | 50          |
| 27.4.a        | 11461          | 0           | 0            | 0           |
| 27.4.b        | 1              | 0           | 0            | 0           |
| 27.4.c        | 0              | 0           | 0            | 0           |
| 27.5.a        | 73             | 0           | 0            | 0           |
| 27.5.b        | 345291         | 19          | 1002         | 1001        |
| 27.6.a        | 124183         | 23          | 5209         | 1721        |
| 27.6.b        | 2123           | 0           | 0            | 0           |
| 27.7.b        | 11048          | 3           | 910          | 200         |
| 27.7.c        | 84719          | 21          | 2549         | 739         |
| 27.7.g        | 1              | 0           | 0            | 0           |
| 27.7.h        | 76             | 0           | 0            | 0           |
| 27.7.j        | 235            | 1           | 39           | 39          |
| 27.7.k        | 123974         | 22          | 678          | 678         |
| 27.8.a        | 71             | 0           | 0            | 0           |
| 27.8.d        | 1              | 0           | 0            | 0           |
| 27.9.a        | 527            | 0           | 0            | 0           |
| 27.14.b       | 2              | 0           | 0            | 0           |
| <b>Total</b>  | <b>724871</b>  | <b>90</b>   | <b>10437</b> | <b>4428</b> |

**Table 2.3.2.3. Blue whiting. ICES estimates of catches (tonnes) in 2026, based on (initial) declared quotas and expected uptake estimated by WGIDE.**

| Country            | InterCatch |        |               | Total 1st half | Expected catch 2026 2S | Total Catch 2026 |
|--------------------|------------|--------|---------------|----------------|------------------------|------------------|
|                    | Q1         | Q2     | Total (Q1+Q2) |                |                        |                  |
| Denmark            | 24517      | 14234  | 38751         | 38751          |                        | 38751            |
| Faroe Islands      | 46968      | 143758 | 190726        | 190726         | 41057                  | 231783           |
| Germany            | 12242      |        | 12242         | 12242          | 1500                   | 13742            |
| Iceland            | 45090      | 102430 | 147520        | 147520         |                        | 186157           |
| Ireland            | 26155      | 6934   | 33089         | 33089          |                        | 33089            |
| Norway             | 178915     | 48373  | 227288        | 227288         | 10000                  | 237288           |
| Poland             | 11137      | 11561  | 22697         | 22697          |                        | 22697            |
| Portugal           | 277        | 250    | 527           | 527            | 1473                   | 2000             |
| UK                 | 41408      | 10621  | 52029         | 57174          | 5401                   | 62575            |
| Greenland          |            |        |               |                |                        | 25000            |
| Spain              |            |        |               | 19317          | 18032                  | 37349            |
| France             |            |        |               |                |                        |                  |
| Netherlands        |            |        |               | 38034          | 8966                   | 47000            |
| Lithuania          |            |        |               |                |                        |                  |
| Sweden             |            |        |               | 2132           | 10                     | 2142             |
| Russia             |            |        |               | 115321         | 23620                  | 138941           |
| Combined           |            |        |               |                |                        | 32000            |
| <b>Total Geral</b> |            |        |               | <b>904817</b>  | <b>110059</b>          | <b>1110513</b>   |

**Table 2.3.2.4. Blue whiting. Comparison of preliminary and final catches (in tonnes) calculated from sum of product of catch number and mean weight at age used in the assessment).**

|                                       | Final   | Preliminary | Change in % * |
|---------------------------------------|---------|-------------|---------------|
| <b>2016</b>                           | 1180786 | 1147000     | 2.9           |
| <b>2017</b>                           | 1555069 | 1559437     | -0.3          |
| <b>2018</b>                           | 1709856 | 1712874     | -0.2          |
| <b>2019</b>                           | 1512026 | 1444301     | 4.7           |
| <b>2020</b>                           | 1460507 | 1478358     | -1.2          |
| <b>2021</b>                           | 1139531 | 1242727     | -8.3          |
| <b>2022</b>                           | 1035891 | 1107529     | -6.5          |
| <b>2023</b>                           | 1735017 | 1672378     | 3.7           |
| <b>2024</b>                           | 1789724 | 1881072     | -4.9          |
| <b>2025</b>                           | 1766808 | 1751013     | 0.9           |
| * (final-preliminary)/preliminary*100 |         |             |               |

**Table 2.3.3.1. Blue whiting. Catch-at-age numbers (thousands) by year. Discards included since 2014. Preliminary catch data for 2026 have been used.**

| Year<br>Age | 1       | 2       | 3       | 4       | 5       | 6       | 7      | 8      | 9      | 10+     |
|-------------|---------|---------|---------|---------|---------|---------|--------|--------|--------|---------|
| 1981        | 258000  | 348000  | 681000  | 334000  | 548000  | 559000  | 466000 | 634000 | 578000 | 1460000 |
| 1982        | 148000  | 274000  | 326000  | 548000  | 264000  | 276000  | 266000 | 272000 | 284000 | 673000  |
| 1983        | 2283000 | 567000  | 270000  | 286000  | 299000  | 304000  | 287000 | 286000 | 225000 | 334000  |
| 1984        | 2291000 | 2331000 | 455000  | 260000  | 285000  | 445000  | 262000 | 193000 | 154000 | 255000  |
| 1985        | 1305000 | 2044000 | 1933000 | 303000  | 188000  | 321000  | 257000 | 174000 | 93000  | 259000  |
| 1986        | 650000  | 816000  | 1862000 | 1717000 | 393000  | 187000  | 201000 | 198000 | 174000 | 398000  |
| 1987        | 838000  | 578000  | 728000  | 1897000 | 726000  | 137000  | 105000 | 123000 | 103000 | 195000  |
| 1988        | 425000  | 721000  | 614000  | 683000  | 1303000 | 618000  | 84000  | 53000  | 33000  | 50000   |
| 1989        | 865000  | 718000  | 1340000 | 791000  | 837000  | 708000  | 139000 | 50000  | 25000  | 38000   |
| 1990        | 1611000 | 703000  | 672000  | 753000  | 520000  | 577000  | 299000 | 78000  | 27000  | 95000   |
| 1991        | 266686  | 1024468 | 513959  | 301627  | 363204  | 258038  | 159153 | 49431  | 5060   | 9570    |
| 1992        | 407730  | 653838  | 1641714 | 569094  | 217386  | 154044  | 109580 | 79663  | 31987  | 11706   |
| 1993        | 263184  | 305180  | 621085  | 1571236 | 411367  | 191241  | 107005 | 64769  | 38118  | 17476   |
| 1994        | 306951  | 107935  | 367962  | 389264  | 1221919 | 281120  | 174256 | 90429  | 79014  | 30614   |
| 1995        | 296100  | 353949  | 421560  | 465358  | 615994  | 800201  | 253818 | 159797 | 59670  | 41811   |
| 1996        | 1893453 | 534221  | 632361  | 537280  | 323324  | 497458  | 663133 | 232420 | 98415  | 82521   |
| 1997        | 2131494 | 1519327 | 904074  | 577676  | 295671  | 251642  | 282056 | 406910 | 104320 | 169235  |
| 1998        | 1656926 | 4181175 | 3541231 | 1044897 | 383658  | 322777  | 303058 | 264105 | 212452 | 85513   |
| 1999        | 788200  | 1549100 | 5820800 | 3460600 | 412800  | 207200  | 151200 | 153100 | 68800  | 140500  |
| 2000        | 1814851 | 1192657 | 3465739 | 5014862 | 1550063 | 513663  | 213057 | 151429 | 58277  | 139791  |
| 2001        | 4363690 | 4486315 | 2962163 | 3806520 | 2592933 | 585666  | 170020 | 97032  | 76624  | 66410   |
| 2002        | 1821053 | 3232244 | 3291844 | 2242722 | 1824047 | 1647122 | 344403 | 168848 | 102576 | 142743  |
| 2003        | 3742841 | 4073497 | 8378955 | 4824590 | 2035096 | 1117179 | 400022 | 121280 | 19701  | 27493   |
| 2004        | 2156261 | 4426323 | 6723748 | 6697923 | 3044943 | 1276412 | 649885 | 249097 | 75415  | 36805   |
| 2005        | 1427277 | 1518938 | 5083550 | 5871414 | 4450171 | 1419089 | 518304 | 249443 | 100374 | 55226   |
| 2006        | 412961  | 939865  | 4206005 | 6150696 | 3833536 | 1718775 | 506198 | 181181 | 67573  | 36688   |
| 2007        | 167027  | 306898  | 1795021 | 4210891 | 3867367 | 2353478 | 935541 | 320529 | 130202 | 88573   |

| Year Age | 1       | 2       | 3       | 4       | 5       | 6       | 7       | 8      | 9      | 10+    |
|----------|---------|---------|---------|---------|---------|---------|---------|--------|--------|--------|
| 2008     | 408790  | 179211  | 545429  | 2917190 | 3262956 | 1919264 | 736051  | 315671 | 113086 | 126637 |
| 2009     | 61125   | 156156  | 231958  | 594624  | 1596095 | 1156999 | 592090  | 251529 | 88615  | 48908  |
| 2010     | 349637  | 222975  | 160101  | 208279  | 646380  | 992214  | 702569  | 256604 | 70487  | 43693  |
| 2011     | 162997  | 101810  | 63954   | 53863   | 69717   | 116396  | 120359  | 55470  | 25943  | 12542  |
| 2012     | 239667  | 351845  | 663155  | 141854  | 106883  | 203419  | 363779  | 356785 | 212492 | 157947 |
| 2013     | 228175  | 508122  | 848597  | 896966  | 462714  | 224066  | 321310  | 397536 | 344285 | 383601 |
| 2014     | 588717  | 584084  | 2312953 | 2019373 | 1272862 | 416523  | 386396  | 462339 | 526141 | 662747 |
| 2015     | 2944849 | 2852384 | 2427329 | 2465286 | 1518235 | 707533  | 329882  | 258743 | 239164 | 450046 |
| 2016     | 1239331 | 3518677 | 2933272 | 1874011 | 1367844 | 756824  | 339851  | 185368 | 131039 | 288635 |
| 2017     | 401947  | 1999011 | 7864694 | 4063916 | 1509651 | 777185  | 263007  | 110351 | 63945  | 149369 |
| 2018     | 418781  | 541041  | 3572357 | 7340084 | 2983975 | 1022883 | 424206  | 150753 | 90387  | 163289 |
| 2019     | 249923  | 433573  | 1288871 | 3778379 | 5037323 | 1645999 | 431925  | 145916 | 50622  | 81357  |
| 2020     | 1135859 | 834162  | 1106838 | 1797157 | 3072708 | 3041983 | 923392  | 235330 | 80440  | 64535  |
| 2021     | 2069387 | 830692  | 1266077 | 1214790 | 1438769 | 1404443 | 1360105 | 304891 | 100993 | 59441  |
| 2022     | 1927303 | 3265756 | 1640425 | 1370794 | 924112  | 746761  | 670201  | 616695 | 123772 | 85610  |
| 2023     | 486523  | 4789545 | 8518376 | 3102660 | 1077444 | 543404  | 457654  | 323731 | 448035 | 162480 |
| 2024     | 675735  | 1034024 | 7263006 | 6891011 | 1662877 | 628131  | 358959  | 262393 | 100824 | 186569 |
| 2025     | 2432462 | 1584582 | 2716579 | 6402767 | 3969793 | 833379  | 278978  | 128309 | 102229 | 69745  |
| 2026     | 514100  | 1621910 | 1747982 | 2373079 | 3122627 | 1388928 | 298440  | 146817 | 43515  | 81765  |

**Table 2.3.4.1. Blue whiting. Individual mean weight (kg) at age in the catch and the stock. Preliminary catch data for 2026 have been used.**

| Year Age | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10+   |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1981     | 0.052 | 0.065 | 0.103 | 0.125 | 0.141 | 0.155 | 0.170 | 0.178 | 0.187 | 0.213 |
| 1982     | 0.045 | 0.072 | 0.111 | 0.143 | 0.156 | 0.177 | 0.195 | 0.200 | 0.204 | 0.231 |
| 1983     | 0.046 | 0.074 | 0.118 | 0.140 | 0.153 | 0.176 | 0.195 | 0.200 | 0.204 | 0.228 |
| 1984     | 0.035 | 0.078 | 0.089 | 0.132 | 0.153 | 0.161 | 0.175 | 0.189 | 0.186 | 0.206 |
| 1985     | 0.038 | 0.074 | 0.097 | 0.114 | 0.157 | 0.177 | 0.199 | 0.208 | 0.218 | 0.237 |
| 1986     | 0.040 | 0.073 | 0.108 | 0.130 | 0.165 | 0.199 | 0.209 | 0.243 | 0.246 | 0.257 |

| Year Age | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10+   |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1987     | 0.048 | 0.086 | 0.106 | 0.124 | 0.147 | 0.177 | 0.208 | 0.221 | 0.222 | 0.254 |
| 1988     | 0.053 | 0.076 | 0.097 | 0.128 | 0.142 | 0.157 | 0.179 | 0.199 | 0.222 | 0.260 |
| 1989     | 0.059 | 0.079 | 0.103 | 0.126 | 0.148 | 0.158 | 0.171 | 0.203 | 0.224 | 0.253 |
| 1990     | 0.045 | 0.070 | 0.106 | 0.123 | 0.147 | 0.168 | 0.175 | 0.214 | 0.217 | 0.256 |
| 1991     | 0.055 | 0.091 | 0.107 | 0.136 | 0.174 | 0.190 | 0.206 | 0.230 | 0.232 | 0.266 |
| 1992     | 0.057 | 0.083 | 0.119 | 0.140 | 0.167 | 0.193 | 0.226 | 0.235 | 0.284 | 0.294 |
| 1993     | 0.066 | 0.082 | 0.109 | 0.137 | 0.163 | 0.177 | 0.200 | 0.217 | 0.225 | 0.281 |
| 1994     | 0.061 | 0.087 | 0.108 | 0.137 | 0.164 | 0.189 | 0.207 | 0.217 | 0.247 | 0.254 |
| 1995     | 0.064 | 0.091 | 0.118 | 0.143 | 0.154 | 0.167 | 0.203 | 0.206 | 0.236 | 0.256 |
| 1996     | 0.041 | 0.080 | 0.102 | 0.116 | 0.147 | 0.170 | 0.214 | 0.230 | 0.238 | 0.279 |
| 1997     | 0.047 | 0.072 | 0.102 | 0.121 | 0.140 | 0.166 | 0.177 | 0.183 | 0.203 | 0.232 |
| 1998     | 0.048 | 0.072 | 0.094 | 0.125 | 0.149 | 0.178 | 0.183 | 0.188 | 0.221 | 0.248 |
| 1999     | 0.063 | 0.078 | 0.088 | 0.109 | 0.142 | 0.170 | 0.199 | 0.193 | 0.192 | 0.245 |
| 2000     | 0.057 | 0.075 | 0.086 | 0.104 | 0.133 | 0.156 | 0.179 | 0.187 | 0.232 | 0.241 |
| 2001     | 0.050 | 0.078 | 0.094 | 0.108 | 0.129 | 0.163 | 0.186 | 0.193 | 0.231 | 0.243 |
| 2002     | 0.054 | 0.074 | 0.093 | 0.115 | 0.132 | 0.155 | 0.173 | 0.233 | 0.224 | 0.262 |
| 2003     | 0.049 | 0.075 | 0.098 | 0.108 | 0.131 | 0.148 | 0.168 | 0.193 | 0.232 | 0.258 |
| 2004     | 0.042 | 0.066 | 0.089 | 0.102 | 0.123 | 0.146 | 0.160 | 0.173 | 0.209 | 0.347 |
| 2005     | 0.039 | 0.068 | 0.084 | 0.099 | 0.113 | 0.137 | 0.156 | 0.166 | 0.195 | 0.217 |
| 2006     | 0.049 | 0.072 | 0.089 | 0.105 | 0.122 | 0.138 | 0.163 | 0.190 | 0.212 | 0.328 |
| 2007     | 0.050 | 0.064 | 0.091 | 0.103 | 0.115 | 0.130 | 0.146 | 0.169 | 0.182 | 0.249 |
| 2008     | 0.055 | 0.075 | 0.100 | 0.106 | 0.120 | 0.133 | 0.146 | 0.160 | 0.193 | 0.209 |
| 2009     | 0.056 | 0.085 | 0.105 | 0.119 | 0.124 | 0.138 | 0.149 | 0.179 | 0.214 | 0.251 |
| 2010     | 0.052 | 0.064 | 0.110 | 0.154 | 0.154 | 0.163 | 0.175 | 0.187 | 0.200 | 0.272 |
| 2011     | 0.055 | 0.079 | 0.107 | 0.136 | 0.169 | 0.169 | 0.179 | 0.189 | 0.214 | 0.270 |
| 2012     | 0.041 | 0.072 | 0.098 | 0.141 | 0.158 | 0.172 | 0.180 | 0.185 | 0.189 | 0.203 |
| 2013     | 0.051 | 0.077 | 0.094 | 0.117 | 0.139 | 0.162 | 0.185 | 0.188 | 0.198 | 0.197 |
| 2014     | 0.049 | 0.078 | 0.093 | 0.112 | 0.128 | 0.155 | 0.178 | 0.190 | 0.202 | 0.217 |
| 2015     | 0.039 | 0.070 | 0.094 | 0.117 | 0.137 | 0.155 | 0.174 | 0.183 | 0.193 | 0.201 |

| Year Age | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10+   |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 2016     | 0.047 | 0.066 | 0.084 | 0.107 | 0.125 | 0.142 | 0.152 | 0.167 | 0.184 | 0.206 |
| 2017     | 0.056 | 0.072 | 0.080 | 0.094 | 0.113 | 0.131 | 0.148 | 0.172 | 0.190 | 0.212 |
| 2018     | 0.055 | 0.080 | 0.091 | 0.098 | 0.111 | 0.129 | 0.142 | 0.165 | 0.175 | 0.216 |
| 2019     | 0.068 | 0.085 | 0.099 | 0.109 | 0.118 | 0.130 | 0.144 | 0.167 | 0.167 | 0.228 |
| 2020     | 0.063 | 0.084 | 0.099 | 0.115 | 0.127 | 0.135 | 0.144 | 0.161 | 0.176 | 0.207 |
| 2021     | 0.058 | 0.086 | 0.099 | 0.119 | 0.133 | 0.143 | 0.150 | 0.166 | 0.181 | 0.209 |
| 2022     | 0.048 | 0.067 | 0.086 | 0.106 | 0.122 | 0.136 | 0.141 | 0.152 | 0.155 | 0.189 |
| 2023     | 0.051 | 0.067 | 0.078 | 0.091 | 0.117 | 0.138 | 0.157 | 0.166 | 0.176 | 0.202 |
| 2024     | 0.053 | 0.076 | 0.083 | 0.094 | 0.112 | 0.139 | 0.155 | 0.161 | 0.157 | 0.184 |
| 2025     | 0.058 | 0.075 | 0.087 | 0.099 | 0.108 | 0.132 | 0.159 | 0.173 | 0.175 | 0.185 |
| 2026     | 0.045 | 0.064 | 0.083 | 0.097 | 0.109 | 0.124 | 0.155 | 0.174 | 0.179 | 0.188 |

Table 2.3.5.1. Blue whiting. Natural mortality and proportion mature.

| Age               | 0    | 1    | 2    | 3    | 4    | 5    | 6    | 7-10+ |
|-------------------|------|------|------|------|------|------|------|-------|
| Proportion mature | 0.00 | 0.11 | 0.40 | 0.82 | 0.86 | 0.91 | 0.94 | 1.00  |
| Natural mortality | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20  |

Table 2.3.6.1.1. Blue whiting. Time-series of StoX abundance estimates of blue whiting (millions) by age in the IBWSS. Total biomass in last column (1000 t). Shaded values (ages 1-8; years 2004-2026) are used as input to the assessment

| Age   |      |      |       |       |      |      |      |      |      |          |
|-------|------|------|-------|-------|------|------|------|------|------|----------|
| Year  | 1    | 2    | 3     | 4     | 5    | 6    | 7    | 8    | 9    | 10+ TSB  |
| 2004  | 1097 | 5538 | 13062 | 15134 | 5119 | 1086 | 994  | 593  | 164  | 0 3505   |
| 2005  | 2129 | 1413 | 5601  | 7780  | 8500 | 2925 | 632  | 280  | 129  | 23 2513  |
| 2006  | 2512 | 2222 | 10858 | 11677 | 4713 | 2717 | 923  | 352  | 198  | 31 3517  |
| 2007  | 468  | 706  | 5241  | 11244 | 8437 | 3155 | 1110 | 456  | 123  | 58 3274  |
| 2008  | 337  | 523  | 1451  | 6642  | 6722 | 3869 | 1715 | 1028 | 269  | 284 2647 |
| 2009  | 275  | 329  | 360   | 1292  | 3739 | 3457 | 1636 | 587  | 250  | 162 1599 |
| 2010* |      |      |       |       |      |      |      |      |      |          |
| 2011  | 312  | 1361 | 1135  | 930   | 1043 | 1712 | 2170 | 2422 | 1298 | 250 1827 |

| Year   | Age  |      |       |       |       |      |      |      |      |      |      |
|--------|------|------|-------|-------|-------|------|------|------|------|------|------|
|        | 1    | 2    | 3     | 4     | 5     | 6    | 7    | 8    | 9    | 10+  | TSB  |
| 2012   | 1141 | 1818 | 6464  | 1022  | 596   | 1420 | 2231 | 1785 | 1256 | 1022 | 2347 |
| 2013   | 586  | 1346 | 6183  | 7197  | 2933  | 1280 | 1306 | 1396 | 927  | 1670 | 3110 |
| 2014   | 4183 | 1491 | 5239  | 8420  | 10202 | 2754 | 772  | 577  | 899  | 1585 | 3761 |
| 2015   | 3255 | 4565 | 1888  | 3630  | 1792  | 465  | 173  | 108  | 206  | 247  | 1405 |
| 2016   | 2745 | 7893 | 10164 | 6274  | 4687  | 1539 | 413  | 133  | 235  | 256  | 2873 |
| 2017   | 275  | 2180 | 15939 | 10196 | 3621  | 1711 | 900  | 75   | 66   | 144  | 3135 |
| 2018   | 836  | 628  | 6615  | 21490 | 7692  | 2187 | 755  | 188  | 72   | 144  | 4035 |
| 2019   | 1129 | 1169 | 3468  | 9590  | 16979 | 3434 | 484  | 513  | 99   | 144  | 4198 |
| 2020** |      |      |       |       |       |      |      |      |      |      |      |
| 2021   | 1948 | 2095 | 2545  | 2275  | 3914  | 3197 | 3379 | 463  | 189  | 114  | 2357 |
| 2022   | 4461 | 9313 | 4830  | 5460  | 2587  | 1880 | 898  | 1764 | 71   | 178  | 2707 |
| 2023   | 873  | 8135 | 14771 | 2744  | 1352  | 711  | 520  | 202  | 508  | 67   | 2501 |
| 2024   | 729  | 2885 | 18767 | 10787 | 1843  | 577  | 518  | 487  | 42   | 41   | 3176 |
| 2025   | 650  | 2236 | 3598  | 12034 | 4741  | 546  | 203  | 88   | 37   | 41   | 2262 |
| 2026   | 2046 | 5048 | 5768  | 6533  | 9674  | 2987 | 209  | 107  | 45   | 22   | 2982 |

\*Survey discarded. \*\*No survey

**Table 2.3.6.2.1. Blue whiting. Estimated abundance of 1- and 2-year old blue whiting (millions) from the International Ecosystem Survey in Nordic Seas (IESNS), 2003–2026.**

| Year\Age | Age 1 | Age 2 |
|----------|-------|-------|
| 2003*    | 16127 | 9317  |
| 2004*    | 17792 | 11020 |
| 2005*    | 19933 | 7908  |
| 2006*    | 2512  | 5504  |
| 2007*    | 592   | 213   |
| 2008     | 25    | 17    |
| 2009     | 7     | 8     |
| 2010     | 0     | 280   |

| Year\Age | Age 1 | Age 2 |
|----------|-------|-------|
| 2011     | 1613  | 0     |
| 2012     | 9476  | 3265  |
| 2013     | 454   | 6544  |
| 2014     | 3937  | 2030  |
| 2015     | 8563  | 2796  |
| 2016     | 4223  | 8089  |
| 2017     | 1236  | 2087  |
| 2018     | 441   | 1491  |
| 2019     | 3157  | 215   |
| 2020     | 2822  | 481   |
| 2021     | 10264 | 1500  |
| 2022     | 17169 | 10575 |
| 2023     | 3873  | 4792  |
| 2024     | 2326  | 969   |
| 2025     | 8249  | 1057  |
| 2026     | 14126 | 7009  |

\*Using the old TS-value. To compare the results all values were divided by approximately 3.1.

**Table 2.3.6.2.2. Estimated abundance of 1-group of blue whiting (millions) from the Norwegian winter survey (late January-early March) in the Barents Sea. Blue whiting < 19 cm in total body length, which most likely belong to 1-group. (Time series revised in 2023)**

| Year | All     | < 19 cm |
|------|---------|---------|
| 1994 | 65.43   | 0.04    |
| 1995 | 29.24   | 0.79    |
| 1996 | 1502.53 | 1461.18 |
| 1997 | 1671.57 | 1360.46 |
| 1998 | 85.99   | 17.28   |
| 1999 | 75.50   | 5.96    |
| 2000 | 644.59  | 554.44  |
| 2001 | 2365.41 | 1567.94 |
| 2002 | 1157.96 | 149.59  |

| Year | All     | < 19 cm |
|------|---------|---------|
| 2003 | 826.79  | 192.15  |
| 2004 | 1834.75 | 676.71  |
| 2005 | 2072.79 | 722.10  |
| 2006 | 2322.05 | 26.96   |
| 2007 | 960.64  | 0.75    |
| 2008 | 162.36  | 0.17    |
| 2009 | 75.73   | 0.02    |
| 2010 | 29.63   | 0.44    |
| 2011 | 10.71   | 0.05    |
| 2012 | 768.68  | 752.68  |
| 2013 | 510.46  | 21.67   |
| 2014 | 227.63  | 172.10  |
| 2015 | 1227.69 | 1012.16 |
| 2016 | 701.67  | 95.35   |
| 2017 | 1299.24 | 6.36    |
| 2018 | 106.96  | 0.62    |
| 2019 | 110.02  | 55.22   |
| 2020 | 209.66  | 150.22  |
| 2021 | 964.32  | 828.96  |
| 2022 | 599.84  | 293.71  |
| 2023 | 343.02  | 23.59   |
| 2024 | 154.70  | 37.98   |
| 2025 | 673.38  | 453.38  |
| 2026 | 708.61  | 255.77  |

**Table 2.3.6.2.3. Blue whiting. 1-group indices of blue whiting from the Icelandic bottom-trawl survey, 1-group (< 22 cm in March).**

| Catch Rate |         |
|------------|---------|
| Year       | < 22 cm |
| 1996       | 6.5     |
| 1997       | 3.4     |
| 1998       | 1.1     |
| 1999       | 6.3     |
| 2000       | 9       |
| 2001       | 5.2     |
| 2002       | 14.2    |
| 2003       | 15.4    |
| 2004       | 8.9     |
| 2005       | 8.3     |
| 2006       | 30.4    |
| 2007       | 3.9     |
| 2008       | 0.1     |
| 2009       | 1.6     |
| 2010       | 0.2     |
| 2011       | 10.8    |
| 2012       | 29.9    |
| 2013       | 11.7    |
| 2014       | 66.3    |
| 2015       | 43.8    |
| 2016       | 6.3     |
| 2017       | 1.8     |
| 2018       | 0.4     |
| 2019       | 0.1     |
| 2020       | 9.8     |
| 2021       | 79.6    |

| Catch Rate |         |
|------------|---------|
| Year       | < 22 cm |
| 2022       | 91.2    |
| 2023       | 6.8     |
| 2024       | 9.6     |
| 2025       | 88.7    |
| 2026       | 57.5    |

**Table 2.3.6.2.4. Blue whiting. 1-group indices of blue whiting from Faroese bottom-trawl survey, 1-group (<= 23 cm in March).**

| Catch Rate |          |
|------------|----------|
| Year       | <= 23 cm |
| 1994       | 1401     |
| 1995       | 1162     |
| 1996       | 4821     |
| 1997       | 2307     |
| 1998       | 463      |
| 1999       | 1717     |
| 2000       | 863      |
| 2001       | 4424     |
| 2002       | 4480     |
| 2003       | 1038     |
| 2004       | 15749    |
| 2005       | 35159    |
| 2006       | 23105    |
| 2007       | 11568    |
| 2008       | 1268     |
| 2009       | 4362     |
| 2010       | 855      |
| 2011       | 23323    |
| 2012       | 8366     |
| 2013       | 13254    |
| 2014       | 70139    |

| Catch Rate |          |
|------------|----------|
| Year       | <= 23 cm |
| 2015       | 34806    |
| 2016       | 21316    |
| 2017       | 4446     |
| 2018       | 1890     |
| 2019       | 286      |
| 2020       | 141      |
| 2021       | 2224     |
| 2022       | 1781     |
| 2023       | 3075     |
| 2024       | 412      |
| 2025       | 7895     |
| 2026       | 14189    |

**Table 2.3.6.2.5. Blue whiting. Estimated abundance of 1- and 2-year old blue whiting (millions) from the International Ecosystem Summer Survey in Nordic Seas (IESSNS), 2016–2026.**

| Year\Age | Age 1  | Age 2  |
|----------|--------|--------|
| 2016     | 5 781  | 11 423 |
| 2017     | 2 423  | 5 901  |
| 2018     | 893    | 1 208  |
| 2019     | 704    | 1 906  |
| 2020     | 6 027  | 2 903  |
| 2021     | 18 484 | 2 372  |
| 2022     | 12 623 | 9 748  |
| 2023     | 3 765  | 9 925  |
| 2024     | 2 518  | 2 057  |
| 2025     | 8 983  | 1 503  |
| 2026     | 16 188 | 6 883  |

Table 2.4.1.1. Blue whiting. Coefficient of variation of parameter estimates from the final (2026) and previous assessments (2022-2025). Values from previous assessments are based on retrospective run of the final assessment.

| Parameter                   | 2022 | 2023 | 2024 | 2025 | 2026 |
|-----------------------------|------|------|------|------|------|
| <b>Random walk variance</b> |      |      |      |      |      |
| -F Age 1-10                 | 0.36 | 0.35 | 0.35 | 0.35 | 0.34 |
| <b>Process error</b>        |      |      |      |      |      |
| -log(N) Age 1               | 0.62 | 0.66 | 0.64 | 0.63 | 0.63 |
| --- Age 2-10                | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 |
| <b>Observation variance</b> |      |      |      |      |      |
| -Catch Age 1                | 0.43 | 0.42 | 0.42 | 0.44 | 0.44 |
| --- Age 2                   | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 |
| --- Age 3-8                 | 0.18 | 0.18 | 0.19 | 0.18 | 0.18 |
| --- Age 9-10                | 0.37 | 0.37 | 0.37 | 0.37 | 0.36 |
| -IBWSS Age 1                | 0.72 | 0.69 | 0.68 | 0.71 | 0.73 |
| --- Age 2                   | 0.33 | 0.32 | 0.32 | 0.35 | 0.32 |
| --- Age 3                   | 0.38 | 0.36 | 0.35 | 0.36 | 0.35 |
| --- Age 4-6                 | 0.35 | 0.37 | 0.38 | 0.37 | 0.38 |
| --- Age 7-8                 | 0.53 | 0.55 | 0.54 | 0.52 | 0.54 |
| <b>Survey catchability</b>  |      |      |      |      |      |
| -IBWSS Age 1                | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 |
| --- Age 2                   | 0.11 | 0.12 | 0.12 | 0.13 | 0.13 |
| --- Age 3                   | 0.36 | 0.37 | 0.38 | 0.4  | 0.39 |
| --- Age 4                   | 0.68 | 0.68 | 0.66 | 0.69 | 0.68 |
| --- Age 5-8                 | 0.88 | 0.89 | 0.85 | 0.86 | 0.84 |
| Rho                         | 0.93 | 0.93 | 0.93 | 0.94 | 0.94 |

Table 2.4.1.2. Blue whiting. Mohn's rho by year and average over the last five years (n=5).

| Last data year | R(age 1) | SSB    | Fbar(3-7) |
|----------------|----------|--------|-----------|
| 2021           | -0.322   | -0.025 | -0.005    |

|                 |        |        |        |
|-----------------|--------|--------|--------|
| <b>2022</b>     | 0.057  | 0.211  | -0.222 |
| <b>2023</b>     | -0.143 | 0.11   | -0.01  |
| <b>2024</b>     | -0.173 | 0.163  | -0.121 |
| <b>2025</b>     | -0.262 | -0.138 | 0.348  |
| <b>Rho mean</b> | -0.169 | 0.064  | -0.002 |

**Table 2.4.1.3. Blue whiting. Estimated recruitment (R) in thousands, spawning-stock biomass (SSB) in tonnes, average fishing mortality for ages 3 to 7 (Fbar 3-7) and total-stock biomass (TSB) in tonnes. Preliminary catch data for 2026 have been used. Low and High refer to the 95% confidence limits.**

| Year | R(age 1) | Low      | High     | SSB     | Low     | High    | Fbar(3-7) | Low   | High  | TSB     | Low     | High     |
|------|----------|----------|----------|---------|---------|---------|-----------|-------|-------|---------|---------|----------|
| 1981 | 3973449  | 2573152  | 6135782  | 2847001 | 2254758 | 3594805 | 0.262     | 0.192 | 0.357 | 3345318 | 2696733 | 4149893  |
| 1982 | 4729882  | 3037364  | 7365524  | 2296715 | 1839620 | 2867384 | 0.225     | 0.167 | 0.302 | 2768651 | 2254256 | 3400426  |
| 1983 | 18388937 | 12025152 | 28120477 | 1849144 | 1511953 | 2261534 | 0.256     | 0.193 | 0.339 | 2886654 | 2355354 | 3537800  |
| 1984 | 18096712 | 11934506 | 27440682 | 1755833 | 1456343 | 2116913 | 0.318     | 0.243 | 0.415 | 3098953 | 2505835 | 3832459  |
| 1985 | 9522599  | 6306444  | 14378925 | 2099726 | 1737694 | 2537184 | 0.355     | 0.274 | 0.459 | 3240864 | 2652283 | 3960060  |
| 1986 | 7213139  | 4805205  | 10827713 | 2277253 | 1888444 | 2746112 | 0.436     | 0.338 | 0.561 | 3117311 | 2589533 | 3752656  |
| 1987 | 9160119  | 6090940  | 13775836 | 1935108 | 1606672 | 2330684 | 0.422     | 0.326 | 0.544 | 2822022 | 2346727 | 3393580  |
| 1988 | 6425183  | 4270470  | 9667079  | 1636102 | 1368942 | 1955401 | 0.44      | 0.341 | 0.567 | 2425202 | 2024112 | 2905771  |
| 1989 | 8488276  | 5618550  | 12823742 | 1546366 | 1297774 | 1842577 | 0.524     | 0.408 | 0.673 | 2390977 | 1985960 | 2878593  |
| 1990 | 19000495 | 12419072 | 29069710 | 1360597 | 1132770 | 1634246 | 0.517     | 0.396 | 0.675 | 2510386 | 2011581 | 3132877  |
| 1991 | 9086556  | 5880762  | 14039932 | 1781695 | 1435680 | 2211105 | 0.291     | 0.216 | 0.393 | 3233640 | 2542679 | 4112366  |
| 1992 | 6662790  | 4354747  | 10194110 | 2460454 | 1957597 | 3092483 | 0.234     | 0.173 | 0.315 | 3530690 | 2811086 | 4434503  |
| 1993 | 4903881  | 3170669  | 7584535  | 2540392 | 2029988 | 3179129 | 0.204     | 0.152 | 0.275 | 3413283 | 2744871 | 4244463  |
| 1994 | 8140749  | 5314003  | 12471164 | 2533319 | 2046107 | 3136544 | 0.185     | 0.137 | 0.25  | 3413466 | 2780695 | 4190230  |
| 1995 | 9327333  | 6146051  | 14155291 | 2303999 | 1901708 | 2791391 | 0.242     | 0.183 | 0.32  | 3350672 | 2765018 | 4060372  |
| 1996 | 28175352 | 18600367 | 42679291 | 2207277 | 1839380 | 2648756 | 0.296     | 0.226 | 0.389 | 3730078 | 3041086 | 4575168  |
| 1997 | 45420596 | 30046534 | 68661184 | 2473744 | 2055957 | 2976429 | 0.302     | 0.231 | 0.396 | 5471365 | 4310526 | 6944821  |
| 1998 | 26712106 | 17760549 | 40175368 | 3698406 | 3030778 | 4513101 | 0.403     | 0.312 | 0.521 | 6858973 | 5497418 | 8557747  |
| 1999 | 20306032 | 13452566 | 30651024 | 4477767 | 3656434 | 5483593 | 0.389     | 0.3   | 0.504 | 7212323 | 5876668 | 8851546  |
| 2000 | 39580787 | 26181992 | 59836498 | 4255923 | 3540776 | 5115512 | 0.474     | 0.37  | 0.609 | 7503275 | 6126322 | 9189711  |
| 2001 | 55614996 | 37053572 | 83474486 | 4593891 | 3838254 | 5498290 | 0.464     | 0.362 | 0.597 | 9026900 | 7301104 | 11160631 |

| Year | R(age 1)  | Low      | High     | SSB       | Low       | High      | Fbar(3-7) | Low   | High  | TSB      | Low     | High     |
|------|-----------|----------|----------|-----------|-----------|-----------|-----------|-------|-------|----------|---------|----------|
| 2002 | 48602191  | 32418857 | 72864165 | 5410245   | 4515251   | 6482641   | 0.476     | 0.369 | 0.612 | 10321119 | 8383069 | 12707219 |
| 2003 | 51199584  | 34624733 | 75708812 | 6842883   | 5696712   | 8219662   | 0.496     | 0.39  | 0.63  | 11720689 | 9652896 | 14231435 |
| 2004 | 28218446  | 19061371 | 41774576 | 6718321   | 5667918   | 7963389   | 0.535     | 0.423 | 0.676 | 10247460 | 8609046 | 12197686 |
| 2005 | 21634654  | 14647570 | 31954671 | 5973886   | 5051733   | 7064372   | 0.5       | 0.393 | 0.636 | 8393413  | 7089030 | 9937802  |
| 2006 | 8703753   | 5844839  | 12961063 | 5865017   | 4947908   | 6952114   | 0.452     | 0.353 | 0.579 | 7665332  | 6476339 | 9072614  |
| 2007 | 4668227   | 3135428  | 6950358  | 4657359   | 3919413   | 5534245   | 0.455     | 0.352 | 0.588 | 5666869  | 4782731 | 6714450  |
| 2008 | 5624269   | 3725791  | 8490119  | 3579361   | 2974479   | 4307250   | 0.401     | 0.303 | 0.531 | 4373298  | 3653270 | 5235239  |
| 2009 | 5584904   | 3600716  | 8662487  | 2739506   | 2225052   | 3372906   | 0.264     | 0.194 | 0.358 | 3432983  | 2810643 | 4193123  |
| 2010 | 14579607  | 9602595  | 22136197 | 2663141   | 2123803   | 3339442   | 0.181     | 0.13  | 0.251 | 3692699  | 2974513 | 4584289  |
| 2011 | 18993060  | 12648272 | 28520602 | 2669894   | 2147201   | 3319827   | 0.053     | 0.037 | 0.078 | 4345526  | 3499307 | 5396382  |
| 2012 | 18977406  | 12806429 | 28121963 | 3399506   | 2803964   | 4121536   | 0.113     | 0.085 | 0.15  | 5035518  | 4149877 | 6110167  |
| 2013 | 15631607  | 10594994 | 23062507 | 3720908   | 3124737   | 4430824   | 0.197     | 0.151 | 0.257 | 5496933  | 4598683 | 6570636  |
| 2014 | 35947033  | 24267428 | 53247884 | 3958952   | 3362608   | 4661055   | 0.38      | 0.294 | 0.491 | 6508526  | 5431912 | 7798526  |
| 2015 | 61889969  | 41984584 | 91232729 | 4090619   | 3477503   | 4811833   | 0.496     | 0.389 | 0.632 | 7932424  | 6504781 | 9673399  |
| 2016 | 33534589  | 22778591 | 49369546 | 4783932   | 4008358   | 5709571   | 0.442     | 0.345 | 0.566 | 8824433  | 7235405 | 10762441 |
| 2017 | 11360360  | 7660863  | 16846375 | 5900538   | 4909230   | 7092019   | 0.423     | 0.33  | 0.541 | 8505461  | 7069416 | 10233218 |
| 2018 | 11763302  | 7993176  | 17311678 | 5760685   | 4817736   | 6888193   | 0.434     | 0.339 | 0.556 | 7597377  | 6381941 | 9044290  |
| 2019 | 13164805  | 8815313  | 19660345 | 4943718   | 4160773   | 5873992   | 0.405     | 0.314 | 0.521 | 6740426  | 5700167 | 7970527  |
| 2020 | 22025156  | 14721985 | 32951231 | 4039067   | 3424012   | 4764603   | 0.459     | 0.358 | 0.588 | 6187765  | 5197170 | 7367169  |
| 2021 | 62550195  | 41736830 | 93742791 | 3766394   | 3204034   | 4427456   | 0.422     | 0.329 | 0.541 | 8115337  | 6446657 | 10215945 |
| 2022 | 65355457  | 43375035 | 98474520 | 4196459   | 3475097   | 5067562   | 0.427     | 0.332 | 0.551 | 9470361  | 7438684 | 12056936 |
| 2023 | 21035449  | 13561689 | 32627949 | 5725154   | 4640084   | 7063964   | 0.524     | 0.409 | 0.673 | 9718744  | 7719883 | 12235157 |
| 2024 | 23071202  | 14379250 | 37017255 | 6024876   | 4796925   | 7567166   | 0.544     | 0.412 | 0.719 | 8868610  | 6975907 | 11274841 |
| 2025 | 38731655  | 22065472 | 67985905 | 5087028   | 3865695   | 6694232   | 0.508     | 0.356 | 0.725 | 8578674  | 6268434 | 11740355 |
| 2026 | 24735494* | 11111571 | 55063741 | 4474452** | 3078367** | 6503682** | 0.401     | 0.245 | 0.656 | 7183697  | 4772467 | 10813171 |

\* Estimated value from SAM. In the forecast this value is replaced by the geometric 75th percentile of 1996-2025.

\*\* Estimated value from SAM. In the forecast, these values are re-calculated using the assumed recruitment for 2026 (geometric 75th percentile of 1996-2025).

**Table 2.5.1. Blue whiting. Estimated fishing mortalities. Preliminary catch data for 2026 have been used.**

| Year | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10+   |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1981 | 0.076 | 0.117 | 0.173 | 0.215 | 0.248 | 0.322 | 0.349 | 0.444 | 0.481 | 0.481 |
| 1982 | 0.066 | 0.101 | 0.150 | 0.186 | 0.213 | 0.276 | 0.298 | 0.376 | 0.404 | 0.404 |
| 1983 | 0.076 | 0.115 | 0.170 | 0.212 | 0.242 | 0.316 | 0.339 | 0.420 | 0.444 | 0.444 |
| 1984 | 0.092 | 0.138 | 0.209 | 0.264 | 0.304 | 0.396 | 0.417 | 0.508 | 0.526 | 0.526 |
| 1985 | 0.098 | 0.146 | 0.227 | 0.293 | 0.345 | 0.445 | 0.464 | 0.560 | 0.574 | 0.574 |
| 1986 | 0.111 | 0.166 | 0.268 | 0.358 | 0.430 | 0.551 | 0.574 | 0.693 | 0.704 | 0.704 |
| 1987 | 0.100 | 0.150 | 0.250 | 0.341 | 0.417 | 0.538 | 0.562 | 0.677 | 0.679 | 0.679 |
| 1988 | 0.098 | 0.148 | 0.254 | 0.351 | 0.437 | 0.569 | 0.586 | 0.694 | 0.680 | 0.680 |
| 1989 | 0.112 | 0.170 | 0.303 | 0.419 | 0.521 | 0.675 | 0.703 | 0.833 | 0.802 | 0.802 |
| 1990 | 0.105 | 0.160 | 0.294 | 0.411 | 0.511 | 0.660 | 0.707 | 0.843 | 0.815 | 0.815 |
| 1991 | 0.059 | 0.089 | 0.169 | 0.236 | 0.290 | 0.366 | 0.393 | 0.464 | 0.451 | 0.451 |
| 1992 | 0.048 | 0.073 | 0.140 | 0.196 | 0.234 | 0.287 | 0.311 | 0.369 | 0.363 | 0.363 |
| 1993 | 0.041 | 0.062 | 0.125 | 0.175 | 0.206 | 0.247 | 0.268 | 0.319 | 0.314 | 0.314 |
| 1994 | 0.036 | 0.055 | 0.113 | 0.161 | 0.187 | 0.222 | 0.243 | 0.293 | 0.288 | 0.288 |
| 1995 | 0.046 | 0.070 | 0.149 | 0.215 | 0.244 | 0.287 | 0.314 | 0.382 | 0.369 | 0.369 |
| 1996 | 0.055 | 0.084 | 0.183 | 0.269 | 0.298 | 0.350 | 0.383 | 0.469 | 0.449 | 0.449 |
| 1997 | 0.054 | 0.085 | 0.188 | 0.279 | 0.304 | 0.355 | 0.386 | 0.476 | 0.455 | 0.455 |
| 1998 | 0.069 | 0.109 | 0.248 | 0.376 | 0.407 | 0.474 | 0.509 | 0.623 | 0.589 | 0.589 |
| 1999 | 0.064 | 0.102 | 0.236 | 0.365 | 0.398 | 0.461 | 0.485 | 0.591 | 0.559 | 0.559 |
| 2000 | 0.073 | 0.118 | 0.276 | 0.439 | 0.494 | 0.574 | 0.589 | 0.701 | 0.664 | 0.664 |
| 2001 | 0.069 | 0.112 | 0.263 | 0.424 | 0.490 | 0.569 | 0.575 | 0.677 | 0.644 | 0.644 |
| 2002 | 0.066 | 0.107 | 0.254 | 0.419 | 0.505 | 0.596 | 0.603 | 0.704 | 0.671 | 0.671 |
| 2003 | 0.067 | 0.108 | 0.261 | 0.434 | 0.535 | 0.625 | 0.625 | 0.704 | 0.668 | 0.668 |
| 2004 | 0.069 | 0.111 | 0.271 | 0.458 | 0.581 | 0.680 | 0.684 | 0.749 | 0.711 | 0.711 |
| 2005 | 0.060 | 0.098 | 0.242 | 0.418 | 0.548 | 0.641 | 0.651 | 0.701 | 0.668 | 0.668 |
| 2006 | 0.052 | 0.085 | 0.212 | 0.371 | 0.498 | 0.584 | 0.598 | 0.633 | 0.604 | 0.604 |
| 2007 | 0.049 | 0.081 | 0.203 | 0.360 | 0.498 | 0.593 | 0.620 | 0.654 | 0.627 | 0.627 |
| 2008 | 0.043 | 0.071 | 0.177 | 0.313 | 0.439 | 0.522 | 0.555 | 0.584 | 0.565 | 0.565 |

| Year | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10+   |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 2009 | 0.028 | 0.048 | 0.118 | 0.204 | 0.288 | 0.341 | 0.369 | 0.385 | 0.375 | 0.375 |
| 2010 | 0.019 | 0.034 | 0.082 | 0.140 | 0.197 | 0.232 | 0.253 | 0.260 | 0.254 | 0.254 |
| 2011 | 0.006 | 0.010 | 0.025 | 0.042 | 0.058 | 0.068 | 0.074 | 0.076 | 0.076 | 0.076 |
| 2012 | 0.012 | 0.021 | 0.054 | 0.088 | 0.122 | 0.141 | 0.159 | 0.166 | 0.166 | 0.166 |
| 2013 | 0.020 | 0.036 | 0.093 | 0.155 | 0.215 | 0.245 | 0.277 | 0.292 | 0.292 | 0.292 |
| 2014 | 0.037 | 0.069 | 0.181 | 0.302 | 0.414 | 0.471 | 0.533 | 0.564 | 0.563 | 0.563 |
| 2015 | 0.048 | 0.089 | 0.236 | 0.397 | 0.540 | 0.617 | 0.690 | 0.727 | 0.724 | 0.724 |
| 2016 | 0.041 | 0.078 | 0.206 | 0.352 | 0.479 | 0.554 | 0.617 | 0.647 | 0.645 | 0.645 |
| 2017 | 0.039 | 0.074 | 0.199 | 0.341 | 0.461 | 0.530 | 0.583 | 0.606 | 0.605 | 0.605 |
| 2018 | 0.039 | 0.074 | 0.202 | 0.351 | 0.473 | 0.544 | 0.600 | 0.621 | 0.622 | 0.622 |
| 2019 | 0.035 | 0.068 | 0.187 | 0.329 | 0.442 | 0.506 | 0.559 | 0.573 | 0.575 | 0.575 |
| 2020 | 0.040 | 0.077 | 0.211 | 0.375 | 0.502 | 0.571 | 0.634 | 0.651 | 0.652 | 0.652 |
| 2021 | 0.036 | 0.070 | 0.193 | 0.347 | 0.462 | 0.523 | 0.582 | 0.604 | 0.605 | 0.605 |
| 2022 | 0.036 | 0.070 | 0.195 | 0.354 | 0.468 | 0.527 | 0.592 | 0.623 | 0.626 | 0.626 |
| 2023 | 0.044 | 0.086 | 0.241 | 0.439 | 0.575 | 0.644 | 0.724 | 0.781 | 0.787 | 0.787 |
| 2024 | 0.044 | 0.088 | 0.247 | 0.452 | 0.595 | 0.672 | 0.757 | 0.825 | 0.829 | 0.829 |
| 2025 | 0.042 | 0.082 | 0.229 | 0.420 | 0.554 | 0.629 | 0.709 | 0.783 | 0.782 | 0.782 |
| 2026 | 0.032 | 0.064 | 0.179 | 0.328 | 0.434 | 0.496 | 0.569 | 0.637 | 0.638 | 0.638 |

Table 2.5.2. Blue whiting. Estimated stock numbers-at-age (thousands). Preliminary catch data for 2026 have been used.

| Year | 1        | 2        | 3       | 4       | 5       | 6       | 7       | 8       | 9       | 10+     |
|------|----------|----------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1981 | 3973449  | 3492838  | 4830001 | 2045790 | 2601939 | 2133018 | 1642587 | 1744976 | 1241319 | 2999938 |
| 1982 | 4729882  | 2987180  | 2511625 | 3268697 | 1571321 | 1485474 | 1286141 | 1009741 | 892249  | 1955394 |
| 1983 | 18388937 | 3841393  | 1878043 | 1811007 | 1881629 | 1213457 | 1005607 | 848277  | 624793  | 1257394 |
| 1984 | 18096712 | 14670937 | 2457404 | 1231725 | 1253753 | 1388552 | 810810  | 547910  | 478412  | 922943  |
| 1985 | 9522599  | 13594272 | 9851634 | 1455681 | 748723  | 911131  | 744866  | 458207  | 265156  | 722843  |
| 1986 | 7213139  | 6377321  | 9412078 | 5572735 | 953004  | 452018  | 469216  | 375302  | 231933  | 501025  |
| 1987 | 9160119  | 5041257  | 4063404 | 6893698 | 2572250 | 398195  | 253708  | 236859  | 156611  | 294341  |
| 1988 | 6425183  | 6884469  | 3509011 | 2862279 | 3721606 | 1270768 | 199638  | 125697  | 98464   | 169675  |

| Year | 1        | 2        | 3        | 4        | 5        | 6       | 7       | 8       | 9       | 10+     |
|------|----------|----------|----------|----------|----------|---------|---------|---------|---------|---------|
| 1989 | 8488276  | 4625230  | 4996551  | 2418004  | 2131922  | 1684425 | 352798  | 103087  | 60469   | 114617  |
| 1990 | 19000495 | 5977835  | 3097025  | 2729444  | 1481289  | 1196402 | 565422  | 121435  | 33492   | 85781   |
| 1991 | 9086556  | 15711099 | 4260401  | 1782413  | 1493145  | 873396  | 565613  | 191130  | 32506   | 45595   |
| 1992 | 6662790  | 7464932  | 12494304 | 3306164  | 1256240  | 791771  | 488390  | 289104  | 102597  | 39386   |
| 1993 | 4903881  | 5101852  | 5294991  | 9721671  | 2259285  | 972935  | 517883  | 284003  | 157992  | 74825   |
| 1994 | 8140749  | 3357200  | 4077066  | 3381815  | 6947232  | 1435433 | 763854  | 328100  | 208640  | 116850  |
| 1995 | 9327333  | 5874031  | 3133218  | 2560320  | 2851571  | 3726196 | 1037143 | 543644  | 220252  | 185209  |
| 1996 | 28175352 | 7110852  | 4088335  | 2400765  | 1539868  | 1856761 | 2232952 | 644865  | 306217  | 248963  |
| 1997 | 45420596 | 21390572 | 5527880  | 2580200  | 1414847  | 1061935 | 1058328 | 1213483 | 288717  | 336496  |
| 1998 | 26712106 | 38183149 | 16557287 | 3516293  | 1369964  | 923079  | 776437  | 602950  | 613408  | 291312  |
| 1999 | 20306032 | 20518925 | 27931219 | 10717759 | 1709455  | 772600  | 518865  | 410410  | 236024  | 426608  |
| 2000 | 39580787 | 15251307 | 16679395 | 15954283 | 4362442  | 1111041 | 471342  | 324360  | 153557  | 313156  |
| 2001 | 55614996 | 31752230 | 12090698 | 10817411 | 7522611  | 1704133 | 490282  | 228308  | 163845  | 178503  |
| 2002 | 48602191 | 45078468 | 20420365 | 8361841  | 5481985  | 3438748 | 693794  | 254972  | 103948  | 155501  |
| 2003 | 51199584 | 38597051 | 34913680 | 13605181 | 5103243  | 2969615 | 1209299 | 347604  | 88248   | 106509  |
| 2004 | 28218446 | 40318122 | 29782529 | 20842481 | 7331896  | 2491495 | 1323268 | 506089  | 152893  | 80400   |
| 2005 | 21634654 | 21122361 | 27700103 | 18074130 | 10869647 | 3274712 | 1120958 | 518471  | 193914  | 99257   |
| 2006 | 8703753  | 14914352 | 21932980 | 19213815 | 9588052  | 4511915 | 1373789 | 489644  | 219863  | 120646  |
| 2007 | 4668227  | 5703657  | 12796502 | 15822833 | 10385071 | 4776119 | 1864006 | 617462  | 233235  | 164915  |
| 2008 | 5624269  | 3228220  | 4172176  | 10915934 | 9212151  | 4965865 | 1883710 | 766033  | 239313  | 203401  |
| 2009 | 5584904  | 3801418  | 2285865  | 3607924  | 6951529  | 4756368 | 2222595 | 864988  | 329683  | 191644  |
| 2010 | 14579607 | 4888185  | 2264478  | 1794851  | 3335639  | 4348560 | 2858183 | 1211841 | 415267  | 268120  |
| 2011 | 18993060 | 12566178 | 3209593  | 1621212  | 1606437  | 2601702 | 2707198 | 1364901 | 818476  | 391828  |
| 2012 | 18977406 | 14917220 | 12181138 | 2249211  | 1181713  | 1622182 | 2341307 | 2120112 | 1087186 | 903164  |
| 2013 | 15631607 | 15624206 | 11384202 | 7216685  | 2229066  | 1089084 | 1379318 | 1642302 | 1349138 | 1387063 |
| 2014 | 35947033 | 12188803 | 13689724 | 7880719  | 4353124  | 1347994 | 933172  | 1002350 | 1021745 | 1495278 |
| 2015 | 61889969 | 30952035 | 10501027 | 8339109  | 4201863  | 1743418 | 739954  | 522606  | 485818  | 1060471 |
| 2016 | 33534589 | 54424356 | 20696596 | 7510371  | 4298823  | 1819610 | 709984  | 353827  | 224428  | 597020  |
| 2017 | 11360360 | 26599622 | 43741161 | 14681640 | 4492914  | 2144060 | 740138  | 283940  | 161367  | 374677  |

| Year | 1         | 2        | 3        | 4        | 5        | 6       | 7       | 8       | 9      | 10+    |
|------|-----------|----------|----------|----------|----------|---------|---------|---------|--------|--------|
| 2018 | 11763302  | 8666355  | 21344968 | 28323373 | 8613682  | 2455044 | 938199  | 311095  | 141872 | 262001 |
| 2019 | 13164805  | 8610269  | 8246307  | 14279968 | 15953719 | 4500060 | 1111089 | 397772  | 135103 | 190647 |
| 2020 | 22025156  | 10672454 | 6356213  | 6305664  | 8244193  | 7674275 | 2096008 | 540267  | 186739 | 150979 |
| 2021 | 62550195  | 15669285 | 7967308  | 4334916  | 4112798  | 3772577 | 3508032 | 771124  | 251763 | 148430 |
| 2022 | 65355457  | 54164135 | 11092475 | 5336555  | 2689235  | 2103822 | 1651265 | 1578401 | 334437 | 197020 |
| 2023 | 21035449  | 58088548 | 38908372 | 7924144  | 2769956  | 1385085 | 1055389 | 631507  | 717991 | 246230 |
| 2024 | 23071202  | 17665517 | 40241171 | 21643081 | 3926816  | 1284691 | 676980  | 497019  | 206906 | 349592 |
| 2025 | 38731655  | 18781172 | 13845893 | 22095229 | 10047283 | 1746288 | 586847  | 249125  | 202209 | 177107 |
| 2026 | 24735494* | 32758375 | 13181664 | 9756508  | 11117832 | 4223970 | 718520  | 299020  | 86575  | 151350 |

\*In the short-term forecast, the 2026 recruitment estimate is replaced by the long-term geometric 75<sup>th</sup> percentile (1996-2025).

**Table 2.5.3. Blue whiting. Model estimate and 95% confidence interval of total catch weight (in tonnes) and Sum of Product of catch number and mean weight at age for ages 1-10+ (Observed catch). Preliminary catch data for 2026 have been used.**

| Year | Estimate | Low    | High    | Observed catch |
|------|----------|--------|---------|----------------|
| 1981 | 790335   | 572480 | 1091094 | 922980         |
| 1982 | 548121   | 419263 | 716583  | 550643         |
| 1983 | 508560   | 394621 | 655396  | 553344         |
| 1984 | 555287   | 429957 | 717149  | 615569         |
| 1985 | 633471   | 498532 | 804933  | 678214         |
| 1986 | 760286   | 598723 | 965447  | 847145         |
| 1987 | 642595   | 505930 | 816176  | 654718         |
| 1988 | 568344   | 448195 | 720702  | 552264         |
| 1989 | 614989   | 487830 | 775292  | 630316         |
| 1990 | 556442   | 438336 | 706371  | 558128         |
| 1991 | 409779   | 319088 | 526246  | 364008         |
| 1992 | 438970   | 346621 | 555923  | 474592         |
| 1993 | 439073   | 345025 | 558757  | 475198         |
| 1994 | 427849   | 334368 | 547464  | 457696         |
| 1995 | 508049   | 403404 | 639839  | 505176         |

| Year | Estimate | Low     | High    | Observed catch |
|------|----------|---------|---------|----------------|
| 1996 | 595486   | 472944  | 749779  | 621104         |
| 1997 | 645392   | 508115  | 819757  | 639681         |
| 1998 | 1075924  | 843172  | 1372925 | 1131955        |
| 1999 | 1252463  | 976178  | 1606946 | 1261033        |
| 2000 | 1501888  | 1179164 | 1912938 | 1412449        |
| 2001 | 1561496  | 1226972 | 1987224 | 1771805        |
| 2002 | 1734798  | 1361616 | 2210258 | 1556955        |
| 2003 | 2185321  | 1723423 | 2771014 | 2365319        |
| 2004 | 2304852  | 1825457 | 2910144 | 2400795        |
| 2005 | 1991295  | 1579731 | 2510082 | 2018344        |
| 2006 | 1846572  | 1465037 | 2327471 | 1956239        |
| 2007 | 1559149  | 1235469 | 1967630 | 1612269        |
| 2008 | 1166336  | 917558  | 1482567 | 1251851        |
| 2009 | 660205   | 518572  | 840521  | 634978         |
| 2010 | 470514   | 364101  | 608027  | 539539         |
| 2011 | 138384   | 102267  | 187255  | 103771         |
| 2012 | 327337   | 260064  | 412011  | 375692         |
| 2013 | 591185   | 469322  | 744690  | 613863         |
| 2014 | 1106051  | 873004  | 1401310 | 1147650        |
| 2015 | 1333745  | 1060568 | 1677287 | 1390656        |
| 2016 | 1242064  | 985362  | 1565641 | 1180786        |
| 2017 | 1473393  | 1167109 | 1860053 | 1555069        |
| 2018 | 1700662  | 1340404 | 2157747 | 1709856        |
| 2019 | 1535134  | 1208182 | 1950564 | 1512026        |
| 2020 | 1414399  | 1118186 | 1789081 | 1460507        |
| 2021 | 1146495  | 912746  | 1440104 | 1139531        |
| 2022 | 1086461  | 861704  | 1369840 | 1035891        |
| 2023 | 1593706  | 1258167 | 2018730 | 1735017        |
| 2024 | 1896432  | 1494359 | 2406687 | 1789724        |

| Year | Estimate | Low     | High    | Observed catch |
|------|----------|---------|---------|----------------|
| 2025 | 1712987  | 1347562 | 2177507 | 1766808        |

**Table 2.8.2.1.1. Blue whiting. Input to short-term projection (median values for exploitation pattern and stock numbers). Mean weight in 2027+ is the average weight for 2024-2026, while the mean weight in 2026 is not used and only shown for comparison. Stock numbers in 2027 age 1 are the long-term geometric mean (1996-2025), while age 2 is scaled according to the long-term geometric 75<sup>th</sup> percentile (1996-2025).**

| Age     | Mean weight in the stock and catch (kg) in 2026 | Mean weight in the stock and catch (kg) in 2027+ | Proportion mature | Natural mortality | Exploitation pattern | Stock number (2027) (thousands) |
|---------|-------------------------------------------------|--------------------------------------------------|-------------------|-------------------|----------------------|---------------------------------|
| Age 1   | 0.045                                           | 0.052                                            | 0.11              | 0.2               | 0.081                | 22790977                        |
| Age 2   | 0.064                                           | 0.072                                            | 0.4               | 0.2               | 0.159                | 31204530                        |
| Age 3   | 0.083                                           | 0.084                                            | 0.82              | 0.2               | 0.445                | 25159958                        |
| Age 4   | 0.097                                           | 0.097                                            | 0.86              | 0.2               | 0.819                | 9027921                         |
| Age 5   | 0.109                                           | 0.11                                             | 0.91              | 0.2               | 1.081                | 5751683                         |
| Age 6   | 0.124                                           | 0.132                                            | 0.94              | 0.2               | 1.237                | 5900383                         |
| Age 7   | 0.155                                           | 0.156                                            | 1                 | 0.2               | 1.419                | 2105603                         |
| Age 8   | 0.174                                           | 0.169                                            | 1                 | 0.2               | 1.589                | 332908                          |
| Age 9   | 0.179                                           | 0.171                                            | 1                 | 0.2               | 1.59                 | 129423                          |
| Age 10+ | 0.188                                           | 0.186                                            | 1                 | 0.2               | 1.59                 | 102930                          |

**Table 2.8.2.1.2. Blue whiting. Deterministic forecast, intermediate year assumptions and recruitments.**

| Variable            | Value    | Notes                                                                                  |
|---------------------|----------|----------------------------------------------------------------------------------------|
| F ages 3-7 (2026)   | 0.401    | From the assessment (based on assumed 2026 catches)                                    |
| SSB (2027)          | 5060667  | From the forecast; in tonnes                                                           |
| R age 1 (2026)      | 39366774 | Geometric 75 <sup>th</sup> percentile (1996–2025); in thousands                        |
| R age 1 (2027-2028) | 22790977 | GM (1996–2025); in thousands                                                           |
| Total catch (2026)  | 1110513  | As estimated by ICES, based on declared national quotas and expected uptake; in tonnes |

**Table 2.8.2.2.1. Blue whiting. Deterministic forecast (weights in tonnes).**

|                                        | Catch(2027) | F(2027) | SSB(2028) | % SSB change* | % Catch change** | % Advice change*** |
|----------------------------------------|-------------|---------|-----------|---------------|------------------|--------------------|
| Long-term management strategy (F=FMSY) | 1112531     | 0.32    | 5540154   | 9.5           | 0.182            | 31                 |
| MSY approach: FMSY                     | 1112531     | 0.32    | 5540154   | 9.5           | 0.182            | 31                 |
| F = 0                                  | 4           | 0.00    | 6595335   | 30            | -100             | -100               |
| Fpa                                    | 1112531     | 0.32    | 5540154   | 9.5           | 0.182            | 31                 |
| SSB (2028) = Blim                      | 5838440     | 4.90    | 1500000   | -70           | 430              | 590                |
| SSB (2028) = Bpa                       | 4854205     | 2.90    | 2250000   | -56           | 340              | 470                |
| SSB (2028) = MSY Btrigger              | 4854205     | 2.90    | 2250000   | -56           | 340              | 470                |
| F = F (2026)                           | 1351452     | 0.40    | 5316586   | 5.1           | 22               | 59                 |
| SSB (2028) = SSB (2027)                | 1626572     | 0.50    | 5060702   | 0             | 46               | 91                 |
| Catch (2027) = Catch (2026)            | 1110513     | 0.32    | 5542021   | 9.5           | 0                | 30                 |
| Catch (2027) = Catch (2026) -20 %      | 888427      | 0.25    | 5750917   | 13.6          | -20              | 4.4                |
| Catch (2027) = Catch (2026) +25%       | 1388143     | 0.41    | 5282361   | 4.4           | 25               | 63                 |
| Catch (2027) = Advice (2026) -20 %     | 681071      | 0.19    | 5946785   | 17.5          | -39              | -20                |
| Catch (2027) = Advice (2026) +25%      | 1064191     | 0.30    | 5585532   | 10.4          | -4.2             | 25                 |
| F = 0.05                               | 194136      | 0.05    | 6409709   | 27            | -83              | -77                |
| F = 0.1                                | 380163      | 0.10    | 6232387   | 23            | -66              | -55                |
| F = 0.15                               | 558503      | 0.15    | 6062929   | 19.8          | -50              | -34                |
| F = 0.16                               | 593284      | 0.16    | 6029944   | 19.2          | -47              | -30                |
| F = 0.17                               | 627777      | 0.17    | 5997254   | 18.5          | -43              | -26                |
| F = 0.18                               | 661984      | 0.18    | 5964855   | 17.9          | -40              | -22                |
| F = 0.19                               | 695909      | 0.19    | 5932744   | 17.2          | -37              | -18.3              |
| F = 0.2                                | 729554      | 0.20    | 5900918   | 16.6          | -34              | -14.3              |
| F = 0.21                               | 762922      | 0.21    | 5869374   | 16            | -31              | -10.4              |
| F = 0.22                               | 796018      | 0.22    | 5838108   | 15.4          | -28              | -6.5               |
| F = 0.23                               | 828842      | 0.23    | 5807119   | 14.8          | -25              | -2.6               |
| F = 0.24                               | 861398      | 0.24    | 5776403   | 14.1          | -22              | 1.18               |
| F = 0.25                               | 893689      | 0.25    | 5745957   | 13.5          | -19.5            | 5                  |

|          | Catch(2027) | F(2027) | SSB(2028) | % SSB change* | % Catch change** | % Advice change*** |
|----------|-------------|---------|-----------|---------------|------------------|--------------------|
| F = 0.26 | 925718      | 0.26    | 5715778   | 12.9          | -16.6            | 8.7                |
| F = 0.27 | 957487      | 0.27    | 5685863   | 12.4          | -13.8            | 12.5               |
| F = 0.28 | 988999      | 0.28    | 5656209   | 11.8          | -10.9            | 16.2               |
| F = 0.29 | 1020257     | 0.29    | 5626814   | 11.2          | -8.1             | 19.8               |
| F = 0.3  | 1051264     | 0.30    | 5597675   | 10.6          | -5.3             | 23                 |
| F = 0.31 | 1082021     | 0.31    | 5568789   | 10            | -2.6             | 27                 |
| F = 0.32 | 1112531     | 0.32    | 5540154   | 9.5           | 0.182            | 31                 |
| F = 0.33 | 1142798     | 0.33    | 5511766   | 8.9           | 2.9              | 34                 |
| F = 0.34 | 1172823     | 0.34    | 5483623   | 8.4           | 5.6              | 38                 |
| F = 0.35 | 1202610     | 0.35    | 5455723   | 7.8           | 8.3              | 41                 |
| F = 0.45 | 1487858     | 0.45    | 5189500   | 2.5           | 34               | 75                 |

\* SSB 2028 relative to SSB 2027.

\*\* Catch 2027 relative to expected catch in 2026 (1 110 513 tonnes).

\*\*\* Catch 2027 relative to advice for 2026 (851 344 tonnes).

**Table 2.8.2.3.1. Blue whiting. Stock numbers-at-age estimated by WGWIDE 2026 and used in the forecast as a ratio of stock numbers-at-age estimated by WGWIDE 2025 and used in the forecast last year. During WGWIDE 2025, the numbers-at-age 1 estimated by SAM were replaced by the long-term geometric mean (1996-2024) for the forecast. During WGWIDE 2026, the numbers-at-age 1 estimated by SAM were replaced by the long-term geometric 75<sup>th</sup> percentile (1996:2025).**

| Age | 2022 | 2023 | 2024 | 2025 | 2026 |
|-----|------|------|------|------|------|
| 1   | 1.05 | 1.08 | 1.23 | 2.29 | 1.12 |
| 2   | 1.04 | 1.05 | 1.08 | 1.21 | 1.91 |
| 3   | 1.02 | 1.04 | 1.05 | 1.09 | 1.15 |
| 4   | 1.01 | 1.03 | 1.05 | 1.00 | 1.28 |
| 5   | 1.01 | 1.01 | 1.07 | 1.11 | 1.06 |
| 6   | 1.01 | 1.01 | 1.02 | 1.21 | 1.18 |
| 7   | 1.02 | 1.03 | 1.03 | 1.02 | 1.39 |
| 8   | 1.01 | 1.02 | 1.06 | 1.03 | 1.67 |
| 9   | 1.01 | 1.02 | 1.05 | 1.28 | 1.23 |
| 10  | 1.02 | 1.03 | 1.05 | 1.14 | 1.67 |

**Table 2.8.2.3.2. Blue whiting. Stock numbers-at-age multiplied by weight at age, estimated by WGWISE 2026 and used in the forecast as a ratio of stock numbers at age multiplied by weight at age estimated by WGWISE 2025 used in the forecast. During WGWISE 2025, the numbers-at-age 1 estimated by SAM were replaced by the long-term geometric mean (1996-2024) for the forecast. During WGWISE 2026, the numbers-at-age 1 estimated by SAM were replaced by the long-term geometric 75<sup>th</sup> percentile (1996:2025).**

| Age | 2022 | 2023 | 2024 | 2025 | 2026 |
|-----|------|------|------|------|------|
| 1   | 1.05 | 1.08 | 1.23 | 2.81 | 1.15 |
| 2   | 1.04 | 1.05 | 1.08 | 1.32 | 1.94 |
| 3   | 1.02 | 1.04 | 1.05 | 1.15 | 1.20 |
| 4   | 1.01 | 1.03 | 1.05 | 1.05 | 1.33 |
| 5   | 1.01 | 1.01 | 1.07 | 1.10 | 1.04 |
| 6   | 1.01 | 1.01 | 1.02 | 1.10 | 1.10 |
| 7   | 1.02 | 1.03 | 1.03 | 1.04 | 1.39 |
| 8   | 1.01 | 1.02 | 1.06 | 1.13 | 1.74 |
| 9   | 1.01 | 1.02 | 1.05 | 1.05 | 1.15 |
| 10  | 1.02 | 1.03 | 1.05 | 1.04 | 1.59 |

**Table 2.8.2.3.3. Blue whiting. Deterministic forecast, intermediate year assumptions and recruitments used in previous and current assessment.**

|                     | WGWISE 2025 |            | WGWISE 2026 |            |
|---------------------|-------------|------------|-------------|------------|
|                     | Year        | Value      | Year        | Value      |
| F                   | 2025        | 0.675      | 2026        | 0.401      |
| SSB                 | 2026        | 3 645 041  | 2027        | 5 060 667  |
| Assumed recruitment | 2025        | 22 062 028 | 2026        | 39 366 774 |
|                     | 2026–2027   | 22 062 028 | 2027-2028   | 22 790 977 |
| Catch               | 2025        | 1 751 013  | 2026        | 1 110 513  |

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