

Annex 3: Audits

Review of ICES Scientific Report - WGEF/ Working Group on Elasmobranch Fishes (14-23 June 2022)

Stock: Rje.27.7fg – Small-eyed ray (*Raja microocellata*) in divisions 7.f and 7.g (Bristol Channel and Celtic Sea North)

Reviewers: Christopher Griffiths

Expert group Chair: Jurgen Batsleer and Pascal Lorange

Secretariat representative: Inigo Martinez and Jette Fredslund

General

- This is a coastal species, and it is a bycatch of trawl and gillnet fisheries. Although not usually targeted, it is an important component of the Bristol Channel skate fishery.
- The main part of the stock occurs in Division 7.f and the eastern part of Division 7.g, with larger individuals occurring slightly further offshore
- The stock also extends into the southern parts of Division 7.a and any reported landings in 7.a are allocated to this stock
- Stock size is currently above MSY Btrigger proxy and F is below FMSY proxy
- Survey biomass index (derived from UK (E&W)-BTS-Q3 in divisions 7.f-g) suggests a declining trend through time albeit the estimated uncertainty is large
- Although the index used in the assessment is based on biomass ($\text{kg}\cdot\text{hr}^{-1}$), it is worth noting that this decline is collaborated by a decrease in numbers of individuals $\geq 50 \text{ cm L}_T$ (Silva, 2022 WD)
- Landings have been variable through time and were low in 2021
- Estimated landings in 2021 are considered to be an underestimation given a change in Belgian fisheries where a PO measure was put in place from 01/01/2021 to exclude the landing of this species
- ICES species-specific landings have exceeded the TAC in each of years 2015-2020

For single-stock summary sheet advice

Stock: Rje.27.7fg – Small-eyed ray (*Raja microocellata*) in divisions 7.f and 7.g (Bristol Channel and Celtic Sea North)

Short description of the assessment as follows:

- 1) Assessment type: update assessment
- 2) Assessment: accepted – Category 3 assessment/Trends from biomass index and LBIs
- 3) Forecast: NA
- 4) Assessment model: Rfb rule for Category 3 stocks
- 5) Consistency: First use of rfb rule for this stock
- 6) Stock status: Stock size is above MSY Btrigger proxy (I_{trigger}), and the fishing pressure is below $F_{\text{MSY proxy}}$
- 7) Management plan: ICES is not aware of any agreed precautionary management plan for small-eyed ray in this area.

General comments

ICES advises that when the MSY approach is applied, landings should be no more than 86 tonnes in each of the years 2023 and 2024. This is a reduction from previous advice (123 tonnes in 2021 and 2022) due to the application of the stability clause which limits the reduction in landings advice to -30%.

ICES framework for Category 3 stocks was applied (rfb rule). This is the first application of the rfb rule to this stock so the consistency of the assessment cannot be commented on.

Survey data for 2020 were used in the assessment as the reduced area covered included both 7.f and 7.g. Quality of landings data has improved since WKSHARK2 and generic naming issues have been corrected. Regulations for fishing opportunities have a TAC for *R. microocellata* in divisions 7.f–g within the overall TAC for skates and rays in divisions 6.a, 6.b, 7.a–c, and 7.e–k

Discarding is known to take place; however, ICES cannot quantify the corresponding dead catch. The advice sheet contains all the information required.

Technical comments

Several aspects were discussed and agreed upon during plenary:

- The group agreed to the use of combined length data from 2019 and 2020 (including landings and discards), with the addition of raw Belgium data. These data are used to calculate the fishing pressure proxy.
- Length data was available in 2021 (only from the UK) but was limited and therefore wasn't used in the assessment
- Length data was binned to 1cm (2cm length bins were also tested)
- The group also agreed to use a higher Linf value of 93.7cm (calculated using FishBase Linf tool with an Lmax of 91cm) as it matches the observed LFDs (max 90cm) and is therefore more representative than the 89.7cm value originally extracted from FishBase
- Rfb estimates were compared to the 2/5 and rb rules and were found to be comparable

I did note that the references are in reverse order – ICES 2022c occurs before ICES 2022a and ICES 2022b. This could be changed prior to the ADG.

Conclusions

The assessment has been performed correctly, following ICES guidance for assessing data limited stocks. Comments were made on the advice sheet during plenary and have been addressed.

References

Silva, J. F. 2022. Rajidae in the Irish Sea (ICES Division 7.a) and Bristol Channel (ICES divisions 7.f-g). Working Document to the ICES Working Group on Elasmobranch Fishes, June 14–23 2022, 23 pp.

Review of ICES Scientific Report - *WGEF/ Working Group on Elasmobranch Fishes (14-23 June 2022)*

Stock: Rjh.27.7afg – Blonde ray (*Raja brachyura*) in divisions 7.a and 7.f–g (Irish Sea, Bristol Channel, Celtic Sea North)

Reviewers: Christopher Griffiths

Expert group Chair: Jurgen Batsleer and Pascal Lorance

Secretariat representative: Inigo Martinez and Jette Fredslund

General

- Blonde ray is a coastal and inner shelf species that has a patchy distribution and is often found in greater abundance on sandbanks
- It is an important commercial species in the area. It is taken in trawl fisheries targeting the overall skate complex and is a bycatch in various demersal fisheries. It may also be targeted in areas of high local abundance, due to its large size and high market value.
- The species is likely seasonally targeted in 7.f, but landings in 7.g and 7.a are thought to be bycatch
- ICES landings have exceeded advice since 2015. In 2021, ICES landings (1464 tonnes) were double the advised landings (716 tonnes)
- Catch rates are fairly consistent across the 4 countries (Belgium, UK, Ireland and France) – Belgium caught a relatively large amount in 2020 but this returned to expected levels in 2021.
- ICES category 5 was applied as information on stock status and/or exploitation are unavailable and reference points cannot be defined
- Quantity of landings data has improved following WKSHARK2, however, landings data for blonde ray and spotted ray are often confounded
- The UK (E&W)-BTS-Q3 survey in the Bristol Channel and off the east coast of Ireland catches blonde ray. Currently, this survey is not considered a reliable stock size indicator. Some discussion was had at the meeting about including this stock in WSKATE, however, further assessment of the survey data is needed.
- Preliminary information from the UK (E&W)-BTS-Q3 survey suggests that stock has an overall increasing trend since 2015 (Silva, 2022). That said, the survey gear (beam trawl) may not sample the species effectively and may miss large individuals.

For single-stock summary sheet advice

Stock: Rjh.27.7afg – Blonde ray (*Raja brachyura*) in divisions 7.a and 7.f–g (Irish Sea, Bristol Channel, Celtic Sea North)

Short description of the assessment as follows:

- 8) Assessment type: update assessment
- 9) Assessment: accepted – Category 5 assessment (precautionary buffer applied)
- 10) Forecast: NA
- 11) Assessment model: No assessment
- 12) Consistency: Precautionary buffer was applied in 2018 and was also considered in 2022
- 13) Stock status: Unknown (information to define reference points are not available)
- 14) Management plan: ICES is not aware of any agreed precautionary management plan for blonde ray in this area.

General comments

The precautionary buffer was applied in 2018 and has therefore been considered in 2022. No new information is available and therefore the precautionary buffer was applied in the advice.

Landings in 2023 and 2024 should be no more than 573 tonnes, this is a 20% decline from advised landings in 2021 and 2022 (issued in 2020 – 716 tonnes)

The species/stock is managed under a combined TAC which prevents effective control of single-stock exploitation rates, and could lead to the overexploitation of some species

Discarding is known to take place; however, ICES cannot quantify the corresponding dead catch

The advice sheet contains all the necessary information

Technical comments

Two comments were made by the group in response to the presentation of the advice sheet:

1. Values needed to be rounded in Table 5
2. Survey codes needed in Table 3

I can confirm that both comments have been addressed. I have also corrected a small typo in 'Issues relevant to the advice'.

Conclusions

The assessment has been performed correctly, following ICES guidance for assessing data limited stocks. Minor comments were made in the advice sheet and have been addressed.

References

Silva, J. F. 2022. Rajidae in the Irish Sea (ICES Division 7.a) and Bristol Channel (ICES divisions 7.f-g). Working Document to the ICES Working Group on Elasmobranch Fishes, June 14–23 2022, 23 pp.

Review of ICES Scientific Report (WGEF/Working Group on Elasmobranch Fishes) (2022) (14-23 June)
 Stock: Spurdog (*Squalus acanthias*) in subareas 1–10, 12, and 14 (the Northeast Atlantic and adjacent waters)

Reviewers: Teresa Moura

Expert group Chair: Jurgen Batsleer and Pascal Lorance

Secretariat representative: Inigo Martinez and Jette Fredslund

Audience to write for: advice drafting group, ACOM, and next year's expert group

General

- First assessment after the 2021 benchmark.
- In the benchmark the model was updated by including more information on survey indices, landings, length distribution and biological information (growth and fecundity), covering now a wider distribution area of the stock.
- When preparing data for the 2022 assessment, some errors were detected; some data compiled for the 2021 benchmark were corrected. Also, landings and discards were updated since 2005 to be consistent with WKSHARK. Differences between assessment using benchmark and updated data are presented in the report and discussed. The assessment with corrected values gives a better perspective of the stock, with the biomass now above the reference point.
- The 2022 assessment considered the corrected data.

For single-stock summary sheet advice

Spurdog (*Squalus acanthias*) in subareas 1–10, 12, and 14 (the Northeast Atlantic and adjacent waters)

Short description of the assessment as follows (examples in grey text):

- 15) Assessment type: update
- 16) Assessment: accepted
- 17) Forecast: accepted
- 18) Assessment model: Integrated age-length and sex-structured model (De Oliveira et al., 2013).
- 19) Consistency: There was a substantial improvement in data available for the assessment. The benchmarked assessment has resulted in a changed perception of the stock.
- 20) Stock status: Fishing pressure on the stock is below HR_{MSY} and spawning-stock size is above $MSY B_{trigger}$, B_{pa} , and B_{lim}
- 21) Management plan: ICES is not aware of any agreed management plan for this stock.

General comments

Assessment sections in the report are well documented and explain the model, results and corrections made to input data. Some minor issues were detected and were reported to the author.

Technical comments

The advice sheet has been updated as required and is in agreement with the report.

Conclusions

The assessment has been performed correctly and all requested information is provided in the advice sheet.

Review of ICES Scientific Report, *WGEF/Working Group on Elasmobranch Fishes, 2022, 14–23 June*
 Stock: Porbeagle (*Lamna nasus*) in subareas 1–10, 12, and 14 (the Northeast Atlantic and adjacent waters)
 Reviewers: Loïc Baulier
 Expert group Chairs: Jurgen Batsleer and Pascal Lorange
 Secretariat representatives: Iñigo Martinez and Jette Fredslund

Audience to write for: advice drafting group, ACOM, and next year's expert group

General

- Porbeagle *Lamna nasus* in the North-East Atlantic is considered to constitute a single stock that occupies the entire ICES area (Subareas 1–14) and extends southward to 5°N. Its western limit is 42°W.
- The time series of available landing data starts in 1926. Landings of porbeagle from EU waters stopped in 2010 as a result of a zero TAC. In 2021, landing data only originate from Norwegian vessels operating in Norwegian waters. They correspond to a fraction of individuals observed dead at the time of gear retrieval. These individuals correspond to a bycatch, as no directed fishery prevail.
- Current discards are unknown
- This stock was benchmarked in 2022 (WKELASMO, ICES 2022), with an assessment based on the stochastic surplus production model SPiCT
- Following the 2022 benchmark, the stock of porbeagle in NE Atlantic is assessed as a category-2 stock following a MSY approach
- The assessment is based on landings only. Dead discards before 2010 are considered negligible.
- Four biomass indices covering different years, seasons and areas are used for the assessment. Three are standardized catches per unit effort from directed (Norway: 1950–1972 with years 1965–67 missing, France: 1972–2009) and bycatch longline fisheries (Spain: 1986–2007), while the last one is a composite CPUE series combining data from a French directed fishery (2000–2009) and a survey with a chartered commercial vessel (2018–2019). 2019 is thus the most recent year, all series considered.
- Based on medium-term projections, the recommended catch corresponds to the 15th percentile of the predicted target catch distribution when the stock is exploited at F_{MSY} . The 15th percentile was preferred to the default 35th percentile because it corresponded to a probability of 95% of the stock biomass being over B_{lim} after two generation times (reference year: 2053).
- In addition to 2-year short-term projections, medium-term projections (corresponding to two generation times) with constant F are presented in the stock advice sheet (Table 10)

For single-stock summary sheet advice

Porbeagle (*Lamna nasus*) in subareas 1–10, 12, and 14 (the Northeast Atlantic and adjacent waters)

Short description of the assessment as follows:

- 22) Assessment type: first assessment following a benchmark
- 23) Assessment: accepted
- 24) Forecast: accepted (short-term)
- 25) Assessment model: SPiCT – benchmarked in 2022 (WKELASMO)
- 26) Consistency: First year with SPiCT assessment
- 27) Stock status: $MSY\ B_{trigger} > B > B_{lim}; F_{MSY} < F$
- 28) Management plan: ICES is not aware of any agreed management plan for porbeagle in Northeast Atlantic

General comments

ICES advises that when the MSY approach is applied, catches in 2023 and 2024 should be no more than 222 tonnes and 234 tonnes respectively. The use for advice of the 15th percentile of the predicted target catch distribution is justified in the advice sheet. This justification required the inclusion of an extra table (Table 10) into the advice sheet.

Since the EU zero TAC was introduced in 2010, discards are likely to be a large proportion of the catches, but they are unquantified. The stock annex offers a comprehensive description of the various data sets used for the assessment.

SPiCT model specifications and input data are all included in a single R script (SPiCT_Porbeagle_WGEF_2022_assess_st_forecasts.r) available on the WGEF sharepoint at [Porbeagle - Allitems \(ices.dk\)](#). A separate R script has been provided for medium-term forecasts.

Technical comments

Advice sheet:

- The reference cited in Table 4 in relation to reference points differ from the ones used for other category-2 stocks assessed by WGEF (rjc.27.8abd, rjn.27.678abd, rju.27.7de). Harmonization of references is needed between the advice sheets.
- A few typos and figure rounding were corrected during the audit (with tracked changes)
- Pedersen and Berg 2017 added to reference list

Stock annex:

- The data used for the assessment are well described, but some model specifications (priors used, observation error) are lacking.
- Section G. Quality of assessment refers to previous exploratory assessments and needs updating

SAG:

The various CPUE series used as biomass indices should be reported in the SAG xls folder (at the date of the audit these series were only accessible through the SPiCT_Porbeagle_WGEF_2022_assess_st_forecasts.r script) for transparency (e.g. as custom series).

Conclusions

The assessment was carried out according to the ICES guidelines for category-2 stocks with SPiCT-based assessment. The rationale for the use of the 15th percentile of the predicted catch distribution under F_{MSY} instead of the 35th percentile is provided in the advice sheet.

References

ICES. 2022. Benchmark Workshop for selected elasmobranch stocks (WKELASMO). ICES Scientific Reports. XX pp. <http://doi.org/XXX>

Review of ICES Scientific Report, (*WGEF/ Working Group on Elasmobranch Fishes*) (2022) (14-23 June)
 Stock: Rjc.27.6. (Thornback ray (*Raja clavata*) in Subarea 6 (West of Scotland))
 Reviewers: Laura Lemey
 Expert group Chair: Jurgen Batsleer and Pascal Lorange
 Secretariat representative: Inigo Martinez and Jette Fredslund

Audience to write for: advice drafting group, ACOM, and next year's expert group

General

Raja clavata is a coastal and shelf species that is caught as bycatch in trawl and gillnet fisheries. As one of the larger species in the skate complex, it is also targeted in some local, seasonal fisheries with trawls and static nets.

This stock was assessed using the new ICES rfb rules in 2022.

Because of insufficient length data provided by member states, the length data from 2019-2021 were combined.

For single-stock summary sheet advice

Rjc.27.6. (Thornback ray (*Raja clavata*) in Subarea 6 (West of Scotland))

Short description of the assessment as follows:

- 29) Assessment type: update
- 30) Assessment: Category 3 assessment
- 31) Forecast: no forecast
- 32) Assessment model: Category 3 assessment rfb rule
- 33) Consistency: First year application of the rfb rule
- 34) Stock status: Stock size is above I_{trigger} , and fishing pressure is below $F_{\text{MSY proxy}}$.
- 35) Management plan: ICES is not aware of any agreed precautionary management plan for thornback ray in this area.

General comments

The stability clause was considered and applied to limit the reduction in landings advice to 30%.

Discarding is known to take place, but ICES cannot quantify the corresponding dead catch.

Management of skates and rays under a combined TAC prevents effective control of single-stock exploitation rates and could lead to overexploitation of some species.

The advice sheet contains all the information required.

Technical comments

- Units of index are different throughout the advice, sometimes the unit is kg km^{-2} or kg hr^{-1} .
- Check if applied multiplier value is correct.
- Check the table numbering.
- Check the ICES rounding rules.
- Some textual suggestions were made with track changes or in the comments of the advice.

Conclusions

The assessment has been performed correctly, following ICES guidance for assessing data limited stocks. Comments were made in the advice sheet.

Review of ICES Scientific Report, (*WGEF/Working Group on Elasmobranch Fishes*) (2022) (14-23 June)
 Stock: Thornback ray (*Raja clavata*) in Division 8.abd (Bay of Biscay waters) (rjn.27.8abd)
 Reviewers: Cristina Rodríguez-Cabello
 Expert group Chair: Jurgen Batsleer and Pascal Lorange
 Secretariat representative: Iñigo Martínez and Jette Fredslund

Audience to write for: advice drafting group, ACOM, and next year's expert group

General

- Stock identity of thornback ray in the Bay of Biscay was considered in the Benchmark WKE-LASMO and as result the stock was split in two stock units: rjc.27.8abd and rjc.27.8c.
- Therefore no previous assessment is available for this stock. Last assessment was in 2020 for rjc.27.8
- A close-kin mark-recapture (CKMR) estimate of abundance was presented for this stock
- The stock is assessed in the ICES stock data category 2 using a tailored Bayesian Surplus Production Model (BSPM).
- The assessment is based on the biomass index obtained from the EVHOE-WIBTS-Q4 survey using a swept area approach.
- Dead discards are considered negligible (estimated to be 0.2-3%)..
- This stock is under a combined TAC

For single-stock summary sheet advice

Thornback ray (*Raja clavata*) in Division 8.abd (Bay of Biscay waters) (rjn.27.8abd)

Short description of the assessment as follows (examples in grey text):

- 36) Assessment type: benchmark
- 37) Assessment: accepted
- 38) Forecast: short term forecast accepted
- 39) Assessment model: Bayesian Surplus Production Model (BSPM)
- 40) Consistency: Yes
- 41) Stock status: B >Blim proxy; F> Fmsy
- 42) Management plan: ICES is not aware of any agreed management plan for thornback ray in this area

General comments

ICES advises that when the MSY approach is applied, landings should be no more than landings should be no more than 255 tonnes in 2023 and no more than 257 tonnes in 2024.

Technical comments

The advice sheet contains all the information required and the numbers are consistent in both the report and the advice sheet.

A close-kin mark-recapture (CKMR) derived estimate of the biomass is integrated in this assessment. There is no retrospective pattern as this is the first advice based on the category 2 assessment.

Conclusions

(Single tables or figures can be added in the text, longer texts should be added as annexes.)

The assessment follows ICES guidance for assessing category 2 stocks. All the information is included in the corresponding stock annex.

Review of ICES Scientific Report, (*WGEF/Working Group on Elasmobranch Fishes*) (2022) (14–23 June)

Stock: rjc.27.8c – Thornback ray (*Raja clavata*) in divisions 8.c (Cantabrian Sea)

Reviewers: Catarina Maia

Expert group Chair: Jurgen Batsleer and Pascal Lorange

Secretariat representative: Iñigo Martinez and Jette Fredslund

Audience to write for: advice drafting group, ACOM, and next year's expert group

General

Recommendations, general remarks for expert groups, etc. (use bullet points and subheadings if needed)

- As a category 3 stock, a new ICES framework was applied in 2022 (MSY approach using the rfb rule).
- No previous advice is available for this stock since thornback ray in Division 8.c was previously assessed at the level of Subarea 8. The stock unit rjc.27.8 was split between divisions 8.abd and 8.c as evidence suggests minimal exchange between the two.

For single-stock summary sheet advice

rjc.27.8c – Thornback ray (*Raja clavata*) in divisions 8.c (Cantabrian Sea)

Short description of the assessment as follows (examples in grey text):

- 43) Assessment type: update
 - 44) Assessment: accepted
 - 45) Forecast: no forecast
 - 46) Assessment model: category 3 assessment using rfb rule. Input data includes trends from biomass index (Survey: SpGFS-WIBTS-Q4 [G2784]) and length-based indicator.
 - 47) Consistency: No previous advice is available for this stock. rfb rule applied for the first time in 2022. Survey index for 2021 was not used for the assessment due to the uncertainty on the higher value obtained that could be a result of the use of a different vessel.
- 1) Stock status: Stock size is above $MSY B_{trigger\ proxy} (I_{trigger})$, and the fishing pressure is below $F_{MSY\ proxy}$
 - 2) Management plan: There is no management plan for this stock.

General comments

- Catches should be no more than 193 tonnes of which no more than 165 tonnes should be landed.
- The stability clause was considered and applied to limit the reduction in the catch advice to 30%.
- The discard rate (average 2019-2021) was 14%.

Technical comments

- Table 8: Catch data for 2015 and 2016 to be confirmed.

Conclusions

The assessment was carried out according to the new ICES guidelines for data-limited stocks.

Review of ICES Scientific Report, (*WGEF/Working Group on Elasmobranch Fishes*) (2022) (14-23 June)
 Stock: Thornback ray (*Raja clavata*) in Division 9.a (Atlantic Iberian waters)
 Reviewers: Régis Santos
 Expert group Chair: Jurgen Batsleer and Pascal Lorance
 Secretariat representative: Inigo Martinez and Jette Fredslund

Audience to write for: advice drafting group, ACOM, and next year's expert group

General

Raja clavata landings are mainly derived from the Portuguese polyvalent fleet which represents around 80% of the total annual landed weight of the species. Spanish landings only represent up to 29%.

This is a category 3 stock and the rfb rule (method 2.1) + SPiCT assessment model were presented during the WGEF in 2022.

A standardized LPUE from the Portuguese polyvalent fleet has been developed and used as stock-size indicator for the rfb rule.

Commercial landings, SpGFS-GC-WIBTS-Q1&Q4 (G7511 and G4309) abundance indices, commercial catch and effort from Portuguese polyvalent segment were used as input data for the SPiCT model.

Discards are known to take place but are not fully quantified and information available is insufficient to estimate discards of the species.

For single-stock summary sheet advice

Thornback ray (*Raja clavata*) in Division 9.a (Atlantic Iberian waters)

Short description of the assessment as follows (examples in grey text):

- 1) Assessment type: Update
- 2) Assessment: Category 3 assessment (rfb rule, method 2.1) + category 2 assessment (SPiCT).
- 3) Forecast: Not presented
- 4) Assessment model: Category 3 assessment (rfb rule, method 2.1) + category 2 assessment (SPiCT).
- 5) Consistency: First year application of the rfb rule and SPiCT
- 6) Stock status: Stock size index is above MSY Btrigger proxy (Itrigger) and the fishing pressure on the stock is below the FMSY proxy
- 7) Management plan: ICES is not aware of any agreed precautionary management plan for spotted ray in this area.

General comments

The report was well documented and with updated data.

Technical comments

Conclusions

The assessment has been performed correctly, following the ICES guidelines.

Review of ICES Scientific Report, ((WGEF/ Working Group on Elasmobranch Fishes) (2022) (14-23 June))
 Stock: Small-eyed ray *Raja microocellata* in the English Channel (Divisions 7.d-e)
 Reviewers: Klara Jakobsdóttir
 Expert group Chair: Jurgen Batsleer and Pascal Lorange
 Secretariat representative: Inigo Martinez and Jette Fredslund

Audience to write for: advice drafting group, ACOM, and next year's expert group

General

Recommendations, general remarks for expert groups, etc. (use bullet points and subheadings if needed)

Small-eyed ray *Raja microocellata* in the English Channel (Divisions 7.d-e) is an occasional bycatch species in most fisheries operating in the English Channel. It has a patchy distribution, which may relate to its habitat preferences, and is observed infrequently in trawl surveys
 This is a category 5 stock i.e. only landings data available

There is no specific TAC for this stock. Fishing opportunities are managed through an overall TAC by management unit, which includes all species of skates and rays. Since 2016 small-eyed ray in Division 7.e has been subjected to a non-retention policy, whilst landings of this stock are allowed from Division 7.d (and Division 4.c).

Discarding is known to take place; however, ICES cannot quantify the corresponding dead catch.

For single-stock summary sheet advice

Small-eyed ray *Raja microocellata* in the English Channel (Divisions 7.d-e)

Short description of the assessment as follows (examples in grey text):

- 1) Assessment type: Update -advice basis on Precautionary approach.
- 2) Assessment: No analytical assessment
- 3) Forecast: Not presented
- 4) Assessment model: None
- 5) Consistency: Consistent
- 6) Stock status: Unknown, information to define reference points is unavailable
- 7) Management plan: No management plan in this area.

General comments

The advice sheet contains all the information required. Information has been updated from available datasets.

Last advice for rje.7.d-e was published in 2020 and applied for 2021 and 2022. This year's advice applies for 2023-2024. ICES advises that the catches should be 32 tonnes in each of the years 2023 and 2024. The precautionary buffer was applied (not applied in latest advice from 2020).

Management of skates and rays under a combined TAC prevents effective control of single-stock exploitation rates, and could lead to overexploitation of some species

Conclusions

The assessment has been performed correctly and all requested information is provided in the advice sheet.

Review of ICES Scientific Report, (*WGEF/Working Group on Elasmobranch Fishes*) (2022) (14-23 June)
Stock: Shagreen ray (*Leucoraja fullonica*) in subareas 6-7 (West of Scotland, southern Celtic Seas, English Channel), rjf.27.67

Reviewers: Katinka Bleeker

Expert group Chair: Jurgen Batsleer, Pascal Lorange

Secretariat representative: Inigo Martinez, Jette Fredslund

Audience to write for: advice drafting group, ACOM, and next year's expert group

General

- Previous advice was given in 2020 for years 2021 and 2022.
- There is no assessment for this species in this area
- Fishery-independent data are limited for this species
- Stock-specific landings data are not available before 2009. Misidentification at the species level is possible for this species.
- Management of skates and rays under a combined TAC prevents effective control of single-stock exploitation rates and could lead to overexploitation of some species.

For single-stock summary sheet advice

Shagreen ray (*Leucoraja fullonica*) in subareas 6-7 (West of Scotland, southern Celtic Seas, English Channel), rjf.27.67

Short description of the assessment as follows:

- 3) Assessment type: update
- 4) Assessment: no assessment
- 5) Forecast: no forecast
- 6) Assessment model: no assessment
- 7) Consistency: following the advice rules for Category 5 stocks
- 8) Stock status: unknown (information to define reference points are not available)
- 9) Management plan: ICES is not aware of any agreed precautionary management plan for shagreen ray in this area

General comments

- Landings should be no more than 134 tonnes in each of years 2023 and 2024. The advice is 20% lower than advised landings for 2021 and 2022 (168 tonnes).
- The precautionary buffer was applied in this years advice.
- Stock-specific landings data are not available before 2009.
- Discarding is known to take place, however, ICES cannot quantify the corresponding dead catch.

Technical comments

- The advice sheet contains all the information required and the numbers are consistent in both the report and the advice sheet.

Conclusions

The assessment has been performed correctly following ICES guidelines for assessing Category 5 stocks.

Review of ICES Scientific Report, (*WGEF/Working Group on Elasmobranch Fishes*) (2022) (14-23 June)
 Stock: Rjh.27.9a (Blonde ray *Raja brachyura*) in division 9.a (Atlantic Iberian waters)
 Reviewers: Wendell Medeiros-Leal
 Expert group Chair: Jurgen Batsleer and Pascal Lorange
 Secretariat representative: Inigo Martinez and Jette Fredslund

Audience to write for: advice drafting group, ACOM, and next year's expert group

General

Blonde ray is a coastal species, usually taken as bycatch in the polyvalent Portuguese fleet, caught mainly by gillnets and trammel nets and has a high market value.

This stock was assessed using the new ICES rfb rules in 2022.

Because of insufficient length data provided by member states, the length data from 2019-2021 were combined.

For single-stock summary sheet advice

Rjh.27.9a (Blonde ray *Raja brachyura*) in division 9.a (Atlantic Iberian waters)

Short description of the assessment as follows (examples in grey text):

- 10) Assessment type: update
- 11) Assessment: Category 3 assessment
- 12) Forecast: no forecast
- 13) Assessment model: Category 3 assessment rfb rule
- 14) Consistency: First year application of the rfb rule
- 15) Stock status: Stock size is above I_{trigger} and fishing pressure is below $F_{\text{MSY proxy}}$
- 16) Management plan: ICES is not aware of any agreed precautionary management plan for blonde ray in this area.

General comments

The increase in the stock biomass could reflect the effect of the Portuguese management measures which prohibits the catch, retention on board, and landings of skates between May and June (spawning season).

The quality of landings data has improved after the Portuguese pilot study on skates (2010-2013) and the WKSHARK2 workshop, where ICES revised elasmobranch landings data (2005-2015).

Discarding is known to take place, but ICES cannot quantify the corresponding dead catch.

The advice sheet contains all the information required.

Technical comments

- Check Graham's comment in *stock development over time* section.
- Check the information on *catch scenarios* section about the biomass index used as indicator of stock development.
- What year or years correspond the length data used?
- Check the legend of table 7. The ICES landings are not presented on the table.
- Some textual and comments were made with track changes or in the comments of the advice.

Conclusions

The assessment has been performed correctly, following ICES guidance for assessing data limited stocks. Comments were made in the advice sheet.

Review of ICES Scientific Report, (*WGEF/Working Group on Elasmobranch Fishes*) (2022) (14-23 June)
 Stock: Rjh.27.7e Blonde ray (*Raja brachyura*) in division 7.e (western English Channel).

Reviewers: Wendell Medeiros-Leal

Expert group Chair: Jurgen Batsleer and Pascal Lorance

Secretariat representative: Inigo Martinez and Jette Fredslund

Audience to write for: advice drafting group, ACOM, and next year's expert group

General

Blonde ray is an important commercial species, accounting for about one third of the skate landings in 7e. It is a bycatch in demersal fisheries, but may be target in areas with high abundance due to the large size and market value.

The stock was assessed using the category 5 ICES assessment in 2022 – precautionary approach.

The landings data between 2009-2015 was revised in the WKSHARK2 workshop.

For single-stock summary sheet advice

Rjh.27.7e Blonde ray (*Raja brachyura*) in division 7.e (western English Channel).

Short description of the assessment as follows (examples in grey text):

- 1) Assessment type: update
- 2) Assessment: no assessment
- 3) Forecast: no forecast
- 4) Assessment model: no assessment
- 5) Consistency: Assessment have been accepted but a precautionary buffer was applied.
- 6) Stock status: ICES cannot assess the stock status relative to MSY
- 7) Management plan: ICES is not aware of any agreed precautionary management plan for blonde ray in this division.

General comments

Restrictions on fishing from 2009 onwards may have re-directed fishing effort to this species.

The stock structure of blonde ray in the western English Channel is unknown.

Management of skates and rays under a combined TAC prevents effective control of single-stock exploitation rates and could lead to overexploitation of some species.

Technical comments

No technical comments.

Conclusions

The assessment has been performed correctly, following ICES guidance for assessing data limited stocks.

Review of ICES Scientific Report, (*WGEF/ Working Group on Elasmobranch Fishes*) (2022) (14-23 June)
Stock: Rji27.67. (Sandy ray (*Leucoraja circularis*) in subareas 6-7 (West of Scotland, southern Celtic Seas, English Channel))

Reviewers: Laura Lemey

Expert group Chair: Jurgen Batsleer and Pascal Lorange

Secretariat representative: Inigo Martinez and Jette Fredslund

Audience to write for: advice drafting group, ACOM, and next year's expert group

General

There is no targeted fishery for sandy ray in the subareas of 6-7.

The Spanish Porcupine Bank survey covers an important part of the habitat of the sandy ray, however the survey only covers a small proportion of the stock range, which is insufficient to describe stock status. Consequently, this is a category 5 stock, using only landings data.

The landings estimated by WGEF are lower than national estimates, as WGEF considers nominal landings of 'sandy ray' from outside their main range to refer to small eyed ray (*R. microocellata*).

For single-stock summary sheet advice

Rji27.67. (Sandy ray (*Leucoraja circularis*) in subareas 6-7 (West of Scotland, southern Celtic Seas, English Channel))

Short description of the assessment as follows:

- 17) Assessment type: update
- 18) Assessment: no assessment
- 19) Forecast: no forecast
- 20) Assessment model: no assessment
- 21) Consistency: Consistent, the precautionary buffer was last applied in 2018 and its application was considered and implemented this year. Which led to a decrease in the advice of 20%.
- 22) Stock status: Unknown (information to define reference points are not available).
- 23) Management plan: ICES is not aware of any agreed precautionary management plan for sandy ray in this area.

General comments

The precautionary buffer was last applied in 2018 and its application was therefore considered this year. The advised landings for 2023 and 2024, are 20% lower than advice for 2021 and 2022 because the precautionary buffer has been applied.

Management of skates and rays under a combined TAC prevents effective control of single-stock exploitation rates and could lead to overexploitation of some species.

The advice sheet contains all the information required.

Technical comments

- Some textual suggestions were made with track changes or in the comments of the advice sheet.
- In Table 7, history of the landings, the calculation of total landings of 2021 does not add up.
- Check the table numbering.
- Add a footnote explaining what an empty cell or – means in the tables.

Conclusions

The assessment has been performed correctly, following ICES guidance for assessing data limited stocks. Minor comments were made in the advice sheet.

Review of ICES Scientific Report, (*WGEF/Working Group on Elasmobranch Fishes*) (2022) (14-23 June)
 Stock: Spotted ray (*Raja montagui*) in Subarea 6 and divisions 7.b and 7.j (West of Scotland, west and southwest of Ireland)

Reviewers: Thomas Barreau

Expert group Chair: Jurgen Batsleer and Pascal Lorance

Secretariat representative: Inigo Martinez and Jette Fredslund

Audience to write for: advice drafting group, ACOM, and next year's expert group

General

- Last advice was from 2020, this advice apply for 2023-2024.
- This is a category 3 stock
- This stock is under a combined TAC
- This stock was assessed using the new ICES rfb rules in 2022
- The low landings in 2020 and 2021 could be explain by covid issues.
- The biomass index is based on individuals over 50 cm in total length caught during IGFS-WIBTS-Q4 survey [[G7212]
- Length data from 2019-2021 had to be combined to obtain a proper length distribution
- Length over 90cm have been removed because they are considered to be misidentification
- Discards estimate are not available

For single-stock summary sheet advice

Spotted ray (*Raja montagui*) in Subarea 6 and divisions 7.b and 7.j (West of Scotland, west and southwest of Ireland)

Short description of the assessment as follows (examples in grey text):

- 24) Assessment type: update
- 25) Assessment: Category 3 assessment
- 26) Forecast: No forecast
- 27) Assessment model: Category 3 assessment rfb rule
- 28) Consistency: First year application of the rfb rule
- 29) Stock status: Stock size is above $MSY_{Btrigger\ proxy}$ ($I_{trigger}$), and the fishing pressure is below $F_{MSY\ proxy}$
- 30) Management plan: ICES is not aware of any agreed precautionary management plan for spotted ray in this area.

General comments

Change in advice is over 30% decrease so stability clause have been applied to -30%.

This year's advice applies for 2023-2024. ICES advises that the catches should be 36 tonnes in each of the years 2023 and 2024.

Discarding is known to take place, but ICES cannot quantify the corresponding dead catch.

Management of skates and rays under a combined TAC prevents effective control of single-stock exploitation rates, and could lead to overexploitation of some species

The advice sheet contains all the information required but several number must be checked and correction made on the advice and the review (See technical comments).

Technical comments

- Data on length showed on the review document do not correspond to the actual data and results
- After checking landing table, landings in 2021 should be 36 tonnes instead of 33 tonnes. It seems that landings from 27.6.b.2 is missing.
- Graphic on landings must be redone as the landings in 2021 should be 36 tonnes an error was done into the SAG file
- Add a comment to explain the low landings for 2020 and 2021
- Table1 – Index A: it has been calculated from years 2020 and 2021 but only 2021 is written in the brackets
- Table 1 - Mean catch Length : After calculation, mean catch length found was 55.98 cm instead of 56.8. Need to be checked.
- Table 1 – Landings advice : applying the stability clause, landings advice should be 35.7 tonnes so rounded to 36 tonnes following ICES rules.
- Table 3 – $L_{mean}/L_{F=M}$ decimal of the value is missing
- Table 5 - landings in 2021 should be 36 tonnes instead of 33 tonnes
- Table 5 – If landing advice is fixed at 36 tonnes after rounding, MSY approach should be 36 instead of 35 for 2023 and 2024 Tonnage in “ICES advice on fishing opportunities” should be changed according to the rounding.
- ICES advice on
- Table 6 – Landings percentage should be 99 % Bottom trawl for 1 % other and total 36 tonnes
- Table 6 should be changed into table 7
- Table 6 – UK : Data per country should be checked, Uk ladings should be 31 after rounding (=31.479 tonnes). It seems that landings from 27.6.b.2 is missing.
- Table 7 should be changed into Table 8
- Table 7 – Low95% CI : values from 2055,2006,2007and 2008 must be rounded
- Sources and references : “ICES. 2012....” Should be remove as it does not appear into the advice

Conclusions

The assessment has been performed correctly, following ICES guidance for assessing category 3 stock.

Stability clause $\min[\max(0.7C_y, C_{y+1}), 1.2C_y]$

Review of ICES Scientific Report, (*WGEF/Working Group on Elasmobranch Fishes*) (2022) (14–23 June)
Stock: rjm.27.7ae-h - Spotted ray (*Raja montagui*) in divisions 7.a and 7.e–h (southern Celtic Seas and western English Channel)

Reviewers: Joana Silva

Expert group Chair: Jurgen Batsleer and Pascal Lorance

Secretariat representative: Iñigo Martinez and Jette Fredslund

Audience to write for: advice drafting group, ACOM, and next year's expert group

General

Recommendations, general remarks for expert groups, etc. (use bullet points and subheadings if needed)

- Spotted ray in this area are managed under a combined TAC for skates and rays. ICES considers that management of the catches of several stocks under a combined TAC prevents effective control of single-stock exploitation rates and could lead to overexploitation of some stocks.
- The quality of commercial landings and discards may be hampered by confounding issues of *Raja montagui* with the larger-bodied but morphologically similar *Raja brachyura*.
- As a category 3 stock, a new ICES framework was applied in 2022 (MSY approach using the rfb rule).
- The biomass index is based on the UK(E&W)-BTS-Q3 survey [B6596] in 7.afg, as the mean cpue of the exploitable biomass ($\text{kg}\cdot\text{hr}^{-1}$, individuals of ≥ 50 cm in total length).
- Survey index estimates provided to WGEF 2022 have been revised for the entire time-series, with these now based on ICES DATRAS (contrary to previous meetings, when indices were estimated using data held on a national database) (Silva, 2022).
- Survey data for 2020 were not considered in the assessment as the survey was limited to the Bristol Channel (divisions 7.f-g) due to the COVID-19 pandemic, with the Irish Sea (7.a) not sampled, where this species is known to occur (Silva, 2022).
- As data for 2020 data were not used in the assessment the stock biomass trend is based on the index A of one year (2021) over Index B of the three preceding years (2017, 2018 and 2019).
- Discard estimates available are highly variable and considered unreliable and were therefore not used in the assessment.
- Length data (landings and discards) from France (2019-2020), Spain (only 2021), Ireland and UK for 2019-2021. Lengths above 90 cm total length were excluded as considered likely to relate to *R. brachyura*.
- The life-history parameter on L_{∞} used and available in FishBase of 78.4 cm (Gallagher *et al.*, 2005) is lower than the maximum length considered on the length data used in the assessment. However, the quality of data may have been hampered by confounding issues of *R. montagui* with *R. brachyura* within the dataset, and reallocation of these may be difficult to ascertain.

For single-stock summary sheet advice

rjm.27.7ae-h - Spotted ray (*Raja montagui*) in divisions 7.a and 7.e–h (southern Celtic Seas and western English Channel)

Short description of the assessment as follows (examples in grey text):

- | | |
|-----|---|
| 31) | Assessment type: Update. |
| 32) | Assessment: Accepted. |
| 33) | Forecast: Not applicable. |
| 34) | Assessment model: category 3 assessment using rfb rule. |
| 35) | Consistency: rfb rule applied for the first time in 2022. |
| 36) | Stock status: Stock size is above MSY $B_{\text{trigger proxy}}$ (I_{trigger}), and the fishing pressure is below $F_{\text{MSY proxy}}$ |
| 37) | Management plan: ICES is not aware of any agreed management plan for spotted ray in this area. |

General comments

ICES advises that when the MSY approach is applied, landings should be no more than 860 tonnes in each of the years 2023 and 2024. ICES cannot quantify the corresponding catches.

The stability clause was not applied because the advised landings have decreased by less than 30%.

Technical comments

- Landings data for 2017 to be confirmed.
- Biomass indicator for UK(E&W)-BTS-Q3 survey [B6596] in 7.afg and associated confidence intervals updated accounting for ICES rounding.
- Figures to be revised by assessor pending confirmation of values for both landings and biomass indicator.
- Length data used considered data available from France, Spain, Ireland, UK for 2019-2021 for both landings and discards. Lengths above 90 cm total length were excluded as considered likely to relate to *R. brachyura*. However, data used would have to be confirmed by assessor prior to ADGEF as slight differences to some length classes observed to the data within the review document for the application of the rfb rule for this stock.
- The application of the multiplier m should be changed from 0.95 to 0.90 as von Bertalanffy k used within $-0.2 \leq k < 0.32 \text{ yr}^{-1}$.
- Table 1, advice for 2023-2024 and text updated accordingly though final values to be confirmed by assessor prior to ADGEF.
- Table numbers updated.
- Suggested potential changes to the text on other surveys, including references if deemed applicable.
- To be confirmed Irish groundfish survey acronym to be used.
- SAG file could benefit from having data used in the calculations of the rfb rule in separate tabs (e.g. landings, surveys, length data) to assist ADGEF.
- Suggestions made within report chapter.

Conclusions

The assessment was carried out according to the new ICES guidelines for data-limited stocks. Suggestions were made available on the advice sheet, including update of values according to ICES rounding rules. Updates and other checks (incl. SAG, report, review documents) to be done prior to the ADGEF.

References

- Gallagher, M.J., Nolan, C.P. and Jeal, F. 2005. Age, growth and maturity of the commercial ray species from the Irish Sea. *J. Northw. Atl. Fish. Sci.*, 35: 47-66. <https://doi.org/10.2960/J.v35.m527>
- Silva, J. F. 2022. Rajidae in the Irish Sea (ICES Division 7.a) and Bristol Channel (ICES divisions 7.f-g). Working Document to the ICES Working Group on Elasmobranch Fishes, June 14–23 2022, 23 pp.

Review of ICES Scientific Report, (*WGEF/Working Group on Elasmobranch Fishes*) (2022) (14-23 June)

Stock: Spotted ray (*Raja montagui*) in Subarea 8 (Bay of Biscay)

Reviewers: Sophy Phillips (*nee McCully*)

Expert group Chair: Jurgen Batsleer and Pascal Lorange

Secretariat representative: Inigo Martinez and Jette Fredslund

Audience to write for: advice drafting group, ACOM, and next year's expert group

General

Recommendations, general remarks for expert groups, etc. (use bullet points and subheadings if needed)

- Last advice was from 2020, this advice apply for 2023-2024.
- This is a category 3 stock
- This stock is under a combined TAC
- This stock was assessed under the MSY approach using the new ICES rfb rules in 2022.
- The biomass index is based on all individuals (kg haul⁻¹; not exploitable biomass), from the SpGFS-WIBTS-Q4 [G2784] survey.
- The survey index in 2021 was disregarded following a vessel breakdown. A vessel replacement after several weeks may have impacted the catchability, and therefore as for other skate stocks in this area the index for year 2021 was not used in the assessment.
- As a result of the lack of an index in 2021, the advice is based on an index A of one year (2020) versus and index B of the standard three years preceding (2017, 2018 and 2019).
- Discard estimates are highly variable and considered unreliable and were therefore not used in the assessment.
- Length data from 2019 and 2021 from France and 2019 – 2021 from Spain were available from Intercatch. The group excluded length distributions of discards from the assessment and therefore the rfb rule was based on landings data only (2019 – 2021).

For single-stock summary sheet advice

Spotted ray (*Raja montagui*) in Subarea 8 (Bay of Biscay)

Short description of the assessment as follows (examples in grey text):

- 1) Assessment type: update
- 2) Assessment: accepted
- 3) Forecast: No forecast
- 4) Assessment model: Category 3 assessment rfb rule
- 5) Consistency: First year application of the rfb rule
- 6) Stock status: Stock size is above MSY $B_{trigger\ proxy}$ ($I_{trigger}$), and the fishing pressure is below $F_{MSY\ proxy}$.
- 7) Management plan: ICES is not aware of any management plan for spotted ray in this area.

General comments

This year's advice applies for 2023-2024. ICES advises that the catches should be 103 tonnes in each of the years 2023 and 2024. The change in advice is -20% so the stability clause was not applied.

The advice sheet contains all the information required and all numbers have been checked. A few very minor edits carried out (see technical comments).

Technical comments

- Header of Table 4 subarea incorrect

- Table number 8 incorrectly numbered in draft advice
- Footnotes and icons for Table 1 edited to remove repeats and unnecessary footnotes.
- Removal of ICES (2020) as a reference.

Please note that all of these comments have been addressed in the advice sheet accordingly, so no action required from the assessor.

Conclusions

The assessment has been carried out in accordance with ICES guidelines for category 3 rfb rules and presented accurately in the draft advice. The SAG file, chapter and accompanying review document all correspond to the advice given.

Review of ICES Scientific Report, (*WGEF/Working Group on Elasmobranch Fishes*) (2022) (14-23 June)
 Stock: Spotted ray (*Raja montagui*) in Division 9.a (Atlantic Iberian waters)
 Reviewers: Régis Santos
 Expert group Chair: Jurgen Batsleer and Pascal Lorance
 Secretariat representative: Inigo Martinez and Jette Fredslund

Audience to write for: advice drafting group, ACOM, and next year's expert group

General

Raja montagui landings are mainly derived from the Portuguese polyvalent fleet which represents between 67 and 90% of the total annual landed weight of the species. Spanish landings only represent up to 17%.

A standardized LPUE from the Portuguese polyvalent fleet has been developed and used as stock-size indicator.

Discards are known to take place but are not fully quantified and information available is insufficient to estimate discards of the species.

This is a category 3 stock and the rfb rule (method 2.1) was applied in 2022.

For single-stock summary sheet advice

Spotted ray (*Raja montagui*) in Division 9.a (Atlantic Iberian waters)

Short description of the assessment as follows (examples in grey text):

- 1) Assessment type: update (Trends from LPUE and length-based indicators)
- 2) Assessment: Category 3 assessment (rfb rule, method 2.1)
- 3) Forecast: Not presented
- 4) Assessment model: Category 3 assessment (rfb rule, method 2.1)
- 5) Consistency: First year application of the rfb rule
- 6) Stock status: Stock size index is above MSY Btrigger proxy (ltrigger) and the fishing pressure on the stock is below the FMSY proxy
- 7) Management plan: ICES is not aware of any agreed precautionary management plan for spotted ray in this area.

General comments

The report was well documented and with updated data.

Technical comments

Conclusions

The assessment has been performed correctly, following the ICES guidelines.

Review of ICES Scientific Report (*WGEF/Working Group on Elasmobranch Fishes*) (2022) (14-23 June)

Stock: Cuckoo ray (*Leucoraja naevus*) in subareas 6 and 7, and in divisions 8.a–b and 8.d (West of Scotland, southern Celtic Seas, and western English Channel, Bay of Biscay)

Reviewers: José De Oliveira

Expert group Chair: Jurgen Batsleer and Pascal Lorange

Secretariat representative: Inigo Martinez and Jette Fredslund

Audience to write for: advice drafting group, ACOM, and next year's expert group

General

- First assessment after the 2022 benchmark.
- During the benchmark, the model was upgraded from category 3 to category 2 and advice is now based on application of the 35th percentile of predicted landings distribution under $F = F_{MSY}$, based on a SPiCT fractile forecast
- The SPiCT assessment is based on a combined swept-area biomass index derived from five surveys that cover extensive shelf areas of the stock range. Catchability of the gears are unknown and currently assumed to be similar. The data were normalized to the long-term mean.
- Discarding is known to take place but cannot be quantified, so the assessment is based on landings only, and the advice is landings only.

For single-stock summary sheet advice

Cuckoo ray (*Leucoraja naevus*) in subareas 6 and 7, and in divisions 8.a–b and 8.d (West of Scotland, southern Celtic Seas, and western English Channel, Bay of Biscay)

Short description of the assessment as follows:

- 38) Assessment type: first application following 2022 benchmark
- 39) Assessment: accepted
- 40) Forecast: accepted
- 41) Assessment model: SPiCT assessment.
- 42) Consistency: different method used for providing advice compared to previous advice.
- 43) Stock status: Fishing pressure on the stock is below F_{MSY} and spawning-stock size is above $MSY B_{trigger}$ and B_{lim}
- 44) Management plan: ICES is not aware of any agreed management plan for this stock.

General comments

The report section currently appears to be incomplete. The Audit was therefore conducted by referencing the advice sheet the draft benchmark report, and the draft stock annex.

Technical comments

Several issues were noted with the advice sheet, and it is recommended that a published 2022 advice sheet using a similar approach (category 2 advice, SPiCT fractile rule) be consulted (e.g. tur.27.3a). Comments have been made in the draft advice sheet.

Stock development over time

- Figure 1 legend does not match the plots shown
- The two bottom plots should be shown as relative to their respective MSY values (made clear in the plot titles and axes), and the reference points should be emphasised (e.g. hashed lines for $MSY B_{trigger}/B_{MSY}=0.5$ and $F/F_{MSY}=1$)
- Since this is now a category 2 assessment, there is no need to show the “2 over 3” horizontal lines in the biomass plot

“Catch” Scenarios

- Reference should really be to landings scenarios because discards are not included, so e.g. the “total catch” header of Table 2 should be changed to “Landings”
- Table 1 projected landings should be for 2022, not 2023, because Table 1 is about forecast assumptions, particularly for the intermediate year
- Table 2 Stock size column should be B2024/BMSY because B2023/BMSY is already shown in Table 1. In any case, the interest here is in the impact of the catch scenario on subsequent biomass
- The Fsq scenario makes no sense because the F is the same as the headline (0.26), yet with vastly differing landings
- The “% biomass change” column should not be “NA” and should be 2024 relative to 2023.

Reference points

- Table 4 “value” column, should say B/BMSY=0.5 and F/FMSY=1 (see e.g. tur.27.3a advice sheet)

History of the advice, catch, and management

- First Table 6, the values in the “ICES landings” column do not always tally with subsequent tables (check comments in advice sheet).

History of the catch and landings

- From this section onwards, the Table numbering should be increment by 1
- The landings values in the second Table 6 and Table 7 do not always tally with the first Table 6 and Table 8

Summary of the assessment

- The Landings column (check the label, which has a stray L) does not always agree with earlier tables (first and second Table 6, and Table 7).
- Since this is a category 2 assessment (relative), the final column (“Survey Index”) which gives absolute values, is likely not needed.
- It would be useful to have a footnote to the 2005-2008 landings to indicate that they were reconstructed.

Conclusions

I was not able to find and run the forecast, so these need to be checked carefully, and the correct inputs and outputs used in the advice sheet. As noted above, there are currently problems with these.

Review of ICES Scientific Report (WGEF/Working Group on Elasmobranch Fishes) (2022) (14-23 June)
 Stock: Cuckoo ray (*Leucoraja naevus*) in Division 9.a (Atlantic Iberian waters) (rjn.27.9a)
 Reviewers: Teresa Moura
 Expert group Chair: Jurgen Batsleer and Pascal Lorange
 Secretariat representative: Inigo Martinez and Jette Fredslund

Audience to write for: advice drafting group, ACOM, and next year's expert group

General

- Category 3 stock, assessment based on survey trends and one LPUE series
- The LPUE series (from the Portuguese polyvalent fleet) was introduced in 2022 after discussion in WSKATE and subsequent revision
- In 2022, this stock was assessed using the new ICES rfb rule
- Discards estimates are only available for the Spanish fleets
- This stock is under a combined TAC

For single-stock summary sheet advice

Cuckoo ray (*Leucoraja naevus*) in Division 9.a (Atlantic Iberian waters) (rjn.27.9a)

Short description of the assessment as follows (examples in grey text):

- 45) Assessment type: update; new LPUE series included after discussion in WSKATE.
- 46) Assessment: accepted
- 47) Forecast: not applicable
- 48) Assessment model: application of the rfb rule; trends-based (one survey index and one commercial index) and length-based indicators.
- 49) Consistency: yes.
- 50) Stock status: $B > B_{lim}$ proxy; $F < F_{lim}$ proxy
- 51) Management plan: ICES is not aware of any agreed management plan for cuckoo rays in this area.

General comments

Some issues were detected in the advice and were reported to and corrected by the author.

Technical comments

The advice sheet has been updated as required and covers the available information. The advice is given for catch based on Portuguese and Spanish landings and Spanish discards.

Conclusions

The assessment follows ICES guidance for assessing category 3 stocks.

Review of ICES Scientific Report, ((WGEF/ Working Group on Elasmobranch Fishes) (2022) (14-23 June))
Stock: Undulate ray (*Raja undulata*) in divisions 7.b and 7.j (west and southwest of Ireland)
Reviewers: Marlén Knutsen Myrlund
Expert group Chair: Jurgen Batsleer and Pascal Lorange
Secretariat representative: Iñigo Martinez and Jette Fredslund

Audience to write for: advice drafting group, ACOM, and next year's expert group

General

The Undulate ray in division 7.b and 7.j is an isolated coastal stock with a very local distribution and there is no targeted fishery. The reported landings are from bycatch. Discarding is known to take place but has not been quantified and the survival rate is unknown. ICES considers it to be appropriate that the species continues to be promptly released if caught.

For single-stock summary sheet advice

Undulate ray (*Raja undulata*) in divisions 7.b and 7.j (west and southwest of Ireland)

Short description of the assessment as follows:

- 1) **Assessment type:** Update
- 2) **Assessment:** No assessment
- 3) **Forecast:** Not presented
- 4) **Assessment model:** None
- 5) **Consistency:** Consistent
- 6) **Stock status:** Unknown, information to define reference points is not available.
- 7) **Management plan:** ICES is not aware of any agreed precautionary management plan for Undulate ray in this area.

General comments

The last time advice was given for rju.27.7.bj was in 2020 and applied for 2021 and 2022. This year's advice applies for 2023-2024.

Technical comments

A simple comma error was discovered in table 4 and 6 for 2018, which also required an update of figure 1 in the advice sheet. These errors have now been corrected. An updated landing value from 2020 (0.06 t) and 2021 (0 t) was also added in table 4 and 6 and figure 1.

Apart from these small corrections, the advice sheet was updated as required. ICES advises that there should be zero catches in each of the years 2023 and 2024.

Conclusions

The assessment has been performed correctly.

Review of ICES Scientific Report, (*WGEF/Working Group on Elasmobranch Fishes*) (2022) (14-23 June)
 Stock: Undulate ray (*Raja undulata*) in divisions 7.d-e (English Channel), rju.27.7de
 Reviewers: Katinka Bleeker
 Expert group Chair: Jurgen Batsleer, Pascal Lorange
 Secretariat representative: Inigo Martinez, Jette Fredslund

Audience to write for: advice drafting group, ACOM, and next year's expert group

General

- The stock was benchmarked in 2022 and moved from a category 3 stock to a category 2 stock assessment.
- During the benchmark assessment, total biomass was considered. The current assessment is based on exploitable biomass (individuals ≥ 50 cm TL)
- Discards are considered to be adequately estimated. Missing discard estimates were filled using other data available.
- Dead discards were derived from mortality rates of discards for each gear for undulate and thornback ray (*Raja clavata*) for the same area.
- Stock size is currently above MSY B_{trigger} and fishing pressure is below F_{msy}
- Catches were decreasing since 2018, but show a slight increase in 2021

For single-stock summary sheet advice

Stock: Undulate ray (*Raja undulata*) in divisions 7.d-e (English Channel), rju.27.7de

Short description of the assessment as follows:

- 52) Assessment type: update, the stock was benchmarked in 2022
- 53) Assessment: analytical
- 54) Forecast:
- 55) Assessment model: Surplus production model SPiCT (Stochastic Production model in Continuous Time).
- 56) Consistency: First advice based on a Category 2 assessment
- 57) Stock status: $F < F_{\text{msy}}$ and $B > \text{MSY } B_{\text{trigger}}$ and B_{lim} .
- 58) Management plan: ICES is not aware of any agreed precautionary management plan for undulate ray in this area.

General comments

- ICES advises that when the MSY approach is applied, catches should be no more than 6717 tonnes in 2023 and 6339 tonnes in 2024. This is an increase from previous advice (2552 tonnes in 2021 and 2022), however the previous advice included surviving discards.
- The advised catch is substantially larger than the previous advice, and it cannot be quantified how this increase will impact discard rates for this species.
- ICES framework for Category 2 stocks was applied (SPiCT) for the first time, therefore, no retrospective pattern was provided.

Technical comments

- Input data used for the assessment and R code are available on the SharePoint.

Advice sheet

- In the advice sheet it was stated that fishing pressure was above F_{msy} . However, it is below F_{msy} , this was updated using track changes.
- Some editorial comments were added to the advice sheet (e.g. missing survey numbers)

Report

- The draft report section for this stock was available at the time of the audit, however there was no information on the benchmark process and the surplus production model used for this assessment. This information was found in the stock annex.
- Biomass indices for each of the surveys (FR-CGFS-Q4, UK-Q1-SWBeam) used in the assessment are not in the annex of the draft report section.

Stock annex

- The stock annex was updated, containing information on the surplus production model and with the updated assessment (from total biomass during the benchmark to exploitable biomass).
- Biomass indices for each of the surveys used in the assessment were not available in the stock annex.

SAG template

- The survey indices used for the assessment are not available in the SAG template.

Conclusions

The assessment has been performed correctly, following ICES guidance for Category 2 assessments.

Review of ICES Scientific Report, (*WGEF/Working Group on Elasmobranch Fishes*) (2022) (14–23 June)
 Stock: rju.27.8ab – Undulate ray (*Raja undulata*) in divisions 8.a–b (northern and central Bay of Biscay)

Reviewers: Catarina Maia

Expert group Chair: Jurgen Batsleer and Pascal Lorance

Secretariat representative: Iñigo Martinez and Jette Fredslund

Audience to write for: advice drafting group, ACOM, and next year's expert group

General

Recommendations, general remarks for expert groups, etc. (use bullet points and subheadings if needed)

- This is a Category 6 stock and no quantitative stock assessment is carried out.
- The precautionary buffer was last applied in 2018 but was not applied in 2022 due to indication of increasing stock biomass based on an increasing trend in catches in a context of decreasing fishing effort (Mann-Kendall test for 2012–2021: tau= -0.911 p.value=0.0003).

For single-stock summary sheet advice

rju.27.8ab – Undulate ray (*Raja undulata*) in divisions 8.a–b (northern and central Bay of Biscay)

Short description of the assessment as follows (examples in grey text):

- 59) Assessment type: No assessment (ICES Category 6 stock)
- 60) Assessment: No assessment
- 61) Forecast: No forecast
- 62) Assessment model: No model is used in the assessment
- 63) Consistency: No comments
- 64) Stock status: The available scientific data for the stock are not sufficient to evaluate its status.
- 65) Management plan: There is no management plan for this stock.

General comments

- Catches should be no more than 202 tonnes of which no more than 12 tonnes should be landed.
- In 2018, estimates of discards derived from on-board observer programmes were available for the first time. The discards are considered to be adequately estimated. This allowed to derive estimates of total catch. Discard rate for this stock is very high (0.94) in the period 2017–2021.
- The precautionary buffer was last applied in 2018 but was not applied in 2022 due to indication of increasing stock biomass based on an increasing trend in catches in a context of decreasing fishing effort (Mann-Kendall test for 2012–2021: tau= -0.911 p.value=0.0003).

Conclusions

The assessment was carried out according to the new ICES guidelines for data-limited stocks. Suggestions were made available on the advice sheet, including sum of catch distribution by fleet for 2021 and landings data for 2015 (according SAG). The report is well written and data was correctly updated.

Review of ICES Scientific Report, ((WGEF/ Working Group on Elasmobranch Fishes) (2022) (14-23 June))
 Stock: Undulate ray (*Raja undulata*) in Division 8.c (Cantabrian Sea)
 Reviewers: Klara Jakobsdóttir
 Expert group Chair: Jurgen Batsleer and Pascal Lorange
 Secretariat representative: Inigo Martinez and Jette Fredslund

Audience to write for: advice drafting group, ACOM, and next year's expert group

General

Recommendations, general remarks for expert groups, etc. (use bullet points and subheadings if needed)

The Undulate ray (*Raja undulata*) in Division 8.c (Cantabrian Sea) is a species with a patchy and coastal distribution.

This is a category 6 stock i.e. negligible landings and stock caught in minor amounts as bycatch
 Discarding is known to take place but has not been quantified and the survival rate is unknown.

For single-stock summary sheet advice

Undulate ray (*Raja undulata*) in Division 8.c (Cantabrian Sea)

Short description of the assessment as follows (examples in grey text):

- 1) Assessment type: Update
- 2) Assessment: No assessment
- 3) Forecast: Not presented
- 4) Assessment model: None
- 5) Consistency: Consistent
- 6) Stock status: Unknown, information to define Reference points is unavailable.
- 7) Management plan: Currently no management plan

General comments

The last time advice was given for rju.27.8c was in 2020 and applied for 2021 and 2022. This year's advice applies for 2023-2024.

No Stock annex is available for this species.

ICES advises that there should be no targeted fisheries on this stock in each of the years 2023 and 2024. Close monitoring of the stock and the fishery should be implemented.

Technical comments

In 2022, EU regulations (Regulation (UE) 2022/515) allow limited exploitation of this stock with a specific TAC of 33 tonnes for all of Subarea 8, which includes both stocks of undulate ray in divisions 8.c and 8.a–b.

Conclusions

The assessment has been performed correctly.