REPORT

ICES Seabass Benchmark Working Group (WKSeabass)

Copenhagen (Denmark)
21-23ᵗʰ February 2018

Introduction

Bev O'Kane (Observer on behalf of Marine Conservation Society for Seas at Risk) attended the ICES benchmark meeting on seabass in Copenhagen on 21-23ᵗʰ February, 2018. This meeting was chaired by Mickael Drogou (IFREMER) and Lisa Readdy (CEFAS).

For recurring advice ICES has implemented a benchmark process in which assessment methods and data series are evaluated by the expert groups. The results from the benchmarks are subjected to a peer-review process similar to the process for non-recurring requests.

Summary of the Meeting

The aim of the meeting was to:

- Evaluate the appropriateness of data and methods to determine stock status for the Northern (Divisions 4b and c, 6a, and 7d–h) and Bay of Biscay (Divisions 8a,b) Seabass (*Dicentrarchus labrax*) stocks
- Agree and document the preferred method for evaluating stock status and where applicable conduct short term forecast
- Re-examine and update appropriate MSY and Precautionary Approach reference points according to ICES guidelines
- Address the main issues with the Landings Per Unit Effort (LPUE)series as highlighted by the ICES Working Group on the Celtic Seas
- Explore the impacts of the LPUE revision in the benchmark-agreed stock assessment method
- Explore and agree on how to include recreational catches in the assessment
- Agree on the forecast assumptions and method.

Data issues:

Limited progress has been made on the status of the stock due to the lack of data for both stocks. The main data source is Landings Per Unit Effort (LPUE). In addition the Northern stock has a recruitment index from the French Ground fish survey. There is no scientific survey available for the Biscay stock.

Observer data are really limited, which will be apparent in the uncertainty of the assessment. French catch data quality is better than British, most likely due to the UK's 30kg exception rules which allows to catch and retain this amount for personal consumption. To estimate catch level France uses 3 data sources, however this excludes inshore VMS.

Main Discussion Topics

1. **Landings Per Unit Effort (LPUE) time series and its issues**

LPUE time series are not a good indicator for stock abundance, as it may reflect market demands, is subject to management restrictions, environmental impact and in particular for LPUE changes when bass is caught during spawning season.

2. **Using long-term or short term data**

The time series dates back to 2001 however, there was a change in how the data were recorded in 2009. Using long-term time series from industry data is problematic because of changes in effort and selectivity over time. The meeting agreed to use the combined series for both long and short term data series.

3. **Including/ excluding "zero"-catch days from data**

Although the zero catches skew the data the meeting agreed to include zero catch days as this impacts how the lower values in the time series are seen.

4. **Including 2016/ 2017 data in time series**

It was decided not to include 2016 and 2017 LPUE data in the time series. This was due to much more stringent management measures in those years. This would skew the catch data and subsequently impacts the LPUE series. More fishery-independent data is needed to have improved data for abundance e.g. French trawl groundfish survey.

5. **Estimating fishing mortality for the recreational fleet (for both stocks)**

Recreational catch data is only available for 2012, which is extrapolated to estimate the recreational catch for subsequent years based on the respective year's estimated biomass. Kieran Hyder (CEFAS) presented his calculations for estimates of fishing mortality for the recreational fleet in recent years.

6. **Tagging**

Electronic tagging studies from CEFAS and IFREMER show movements around the North Sea throughout the year. Dutch data shows large numbers of adult seabass over the winter period, confirming results from CEFAS but the sexes are unknown. Only bass of >40 cm can be tagged which limits the understanding of Post Release Mortality. The long-term health of tagged fish is unknown but they are likely impacted if compared to studies on striped bass.

7. **Discard data**

Discards are assumed to be low and have not been put into models. The meeting agreed that there is a need to incorporate commercial fleet discard data in the Biscay stock even if they are small. Discarded bass will normally be undersized.

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8. Model assumptions

The model has been adjusted to correct for the following assumption:
- Data on selectivity and retention from observers is noisy and sporadic
- Recreational catches are limited to fish <90cm as bigger fish are found further offshore (not confirmed by data).

9. Setting MSY

The meeting discussed whether the current MSY level is set too low. Strong year classes were observed in 1997 and 2001 which are now falling out of the stock through mortality and a decline in stock biomass is starting to be seen.

The two seabass stocks have never collapsed so examples of biomass reference points from other seabass stocks around the world when collapsed are being used. It is advised that B_{lim} (Limit reference point for spawning stock biomass) is set as the average of the last 3 years.

10. Other

The effect of environmental parameters on the stocks has been evaluated. Temperature appears the most significant indicator (see Tinker *et al.* 2018) and should be added into models. There are still uncertainties on the stock structure and more genetic information is needed, however it should be flagged for the next benchmark.

Conclusions

There are no real changes to the general perceived state of stock. Due to the high levels of uncertainty the stocks are considered data-limited. The meeting will investigate new methods to reflect the uncertainties in the model (e.g. based on NOAA methods). The reference points for the stocks has been modelled.[1]

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[1]ICES. 2018. Report of the Data Evaluation meeting for the Benchmark Workshop on Sea Bass (DEWKBASS), 10–12 January 2017, Copenhagen, Denmark. ICES CM 2017/ACOM:32. 139 pp. http://www.ices.dk/sites/pub/Publication%20Reports/Expert%20Group%20Report/acom/2017/WKB ASS/dewkbass_2017.pdf