

ICES WGCSE REPORT 2012

ICES ADVISORY COMMITTEE

ICES CM 2012/ACOM:12

Report of the Working Group for the Celtic Seas Ecoregion (WGCSE)

9–18 May 2012

Copenhagen, Denmark



ICES

International Council for
the Exploration of the Sea

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Recommended format for purposes of citation:

ICES. 2012. Report of the Working Group for the Celtic Seas Ecoregion (WGCSE), 9–18 May 2012, Copenhagen, Denmark. ICES CM 2012/ACOM:12. 1747 pp.

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1 Executive summary

The ICES Working Group for the Celtic Seas Ecoregion (WGCSE) met from 9th–18th May 2012 at ICES Headquarters in Copenhagen. There were 22 participants from six countries (Belgium, France, Ireland, Norway, the Russian Federation and the UK) present at the meeting and an additional six who contributed by correspondence. The WG was also attended by three members of the ICES secretariat (who assisted the WG with their advice drafting tasks) and by a European Commission observer. The meeting was chaired by Helen Dobby (UK) and Joël Vigneau (France).

In total the WG provided assessments and draft advice for 37 demersal fish and *Nephrops* stocks across ICES Subareas VI and VII (with the distribution of megrim extending into Division IVa and anglerfish into Subarea IV and Division IIIa). This includes four cod, haddock and whiting stocks, five sole and plaice stocks, two megrim stocks, one anglerfish, ten *Nephrops* stocks, one of pollock and one of grey gurnard which was a new addition to the WG this year.

Seven stocks within the remit of the WG went through the benchmarking process in 2012 and one through an Inter-benchmark Protocol. Of these, analytical assessments were agreed for cod-scow, cod-7e-k, had-7b-k, meg-46a, sol-echw and whi-scow. An interim assessment was agreed for cod-iris (while further work is being carried out) to be used to provide advice on stock status and total mortality. Little progress was made on ang-46.

For those stocks with an agreed full analytical assessment, an update assessment was carried out according to the stock annex (with some deviations detailed in the stock sections). For some of the more data limited stocks (without agreed approaches) a more exploratory approach was taken often using new methods, and the WG presented the results of these investigations. The type of final assessments presented at the WG are summarised as follows:

- Full analytical age-based assessments and forecasts were conducted for cod-scow, had-scow, whi-scow, had-rock, cod-7e-k, had-7b-k, whi-7e-k, sol-iris, sol-celt, sol-echw, ple-echw;
- Bayesian surplus production model for meg-46a;
- Catch-at-age based assessments with caveats i.e. used for trends only/without forecasts for cod-iris, ple-iris, ple-celt;
- Assessments based on survey data were presented for ang-46, meg-rock, had-iris, whi-iris;
- The UWTV survey approach was used for nep-11, nep-12, nep-13, nep-14, nep-15, nep-17, nep-19 and nep-22;
- The *Nephrops* data limited approach was applied to nep-20–21;
- Analysis of catch data only was presented for pol-celt, nep-16, ple-7bc, sol-7bc (DCAC), sol-7h-k, ple-7h-k (catch curves);
- No assessments were carried out for cod-rock, gug-celt, whi-rock.

The WGs conclusions on stock status across the ecoregion were mixed. With the exception of had-scow and had-iris, the outlook for gadoids in the northern part of the Celtic Seas ecoregion is assessed as being extremely poor with many stocks suffering a series of particularly low recruitments. In addition, the mortality of both cod-scow and cod-iris shows little sign of significant decline. In contrast the northern *Nephrops* stocks are at relatively high levels and are being fished sustainably (or only slightly

above sustainable levels). The assessment of megrim in Divisions IVa and VIa showed that the stock is exploited well below F_{MSY} and has a biomass well above $B_{trigger}$. Northern Shelf anglerfish stock has declined and uncertainties in catch data and general biological parameters still prevent the estimation of exploitation rate.

Further south in the Celtic Sea and West of Ireland areas, the biomass of gadoid stocks has increased substantially in recent years following some high or moderate recruitments. Cod and whiting are assessed as being fished at or below F_{MSY} while the exploitation rate of haddock is still above this level. The *Nephrops* stocks in this area which are assessed using the UWTV survey method appear at stable levels and are fished at harvest rates below the F_{MSY} proxy. Although nep-16 remains a data limited stock, there was sufficient information available to the WG to conclude that stock biomass has increased from the very low levels of a number of years ago following recent good recruitment and a reduction in exploitation rate.

Three of the four major sole stocks in the region are assessed as being exploited at or below F_{MSY} . The exception is Irish Sea sole which has also seen a continuous decline in biomass over the last decade following a series of low recruitments and F remaining above the precautionary value.

Plaice in the Irish Sea are estimated to be fished below possible reference points and have a biomass above possible reference points (no quantitative estimates). The other major plaice stocks assessed by the WG are all fished at rates above F_{MSY} . Despite this, a single particularly high year class has meant that plaice in the western Channel have recovered from the lowest observed SSB to near the highest abundance in 2011. The assessment of plaice stocks is typically more uncertain than those for sole due the lack of precise discard data which represents a substantial component of the catch and only plaice in the western Channel have a full analytical assessment.

1.1 General

1.2 Terms of reference

2011/2/ACOM12 The **Working Group for the Celtic Seas Ecoregion** (WGCSE), chaired by Joel Vigneau (France) and Helen Dobby, UK, will meet at ICES Headquarters, 9–18 May 2012 to:

- a) Address generic ToRs for Fish Stock Assessment Working Groups (see table below);
- b) Assess the progress on the benchmark preparation of haddock and whiting in Division VIa and plaice in Division VIIa.

The assessments will be carried out on the basis of the stock annex in National Laboratories prior to the meeting. This will be coordinated as indicated in the table below.

Material and data relevant for the meeting must be available to the group no later than 14 days prior to the starting date.

WGCSE will report by 28 May 2012 for the attention of ACOM.

Fish Stock	Stock Name	Stock Coord.	Assessment Coord. 1	Assessment Coord. 2	Assessment Advice
ang-ivvi	Anglerfish (<i>Lophius piscatorius</i> and <i>L. budegassa</i>) in Division IIa, IIIa, Subarea IV, VI	UK (Scotland)	UK (Scotland)	Denmark, Norway	Update

Fish Stock	Stock Name	Stock Coord.	Assessment Coord. 1	Assessment Coord. 2	Assessment Advice
cod-iris	Cod in Division VIIa (Irish Sea)	UK (England)	UK (England)		Update
cod-rock	Cod in Division VIb (Rockall)	UK (Scotland)	UK (Scotland)		Update
cod-scow	Cod in Division VIa (West of Scotland)	UK (Scotland)	UK (Scotland)		Update
cod VIIe-k	Cod in Division VIIe-k (Celtic Sea)	France	France	Ireland	Update
gug-celt	Grey gurnard in Subarea VI and Divisions VIIa-c and e-k (Celtic Sea and West of Scotland)				Regional update
had-7b-k	Haddock in Divisions VIIb-k	Ireland	Ireland	France	Update
had-iris	Haddock in Division VIIa (Irish Sea)	UK (Scotland)	UK (Scotland)		Update
had-rock	Haddock in Division VIb (Rockall)	Russia	Russia	UK (Scotland)	Update
had-scow	Haddock in Division VIa (West of Scotland)	UK (Scotland)	UK (Scotland)		Update
meg-scrk	Megrim (<i>Lepidorhombus</i> spp) in Subarea VI (West of Scotland and Rockall) and Subarea IV (North Sea)	Ireland	Ireland	UK (Scotland)	Update
nep-11	<i>Nephrops</i> in Division VIa (North Minch, FU11)	UK (Scotland)	UK (Scotland)		Update
nep-12	<i>Nephrops</i> in Division VIa (South Minch, FU12)	UK (Scotland)	UK (Scotland)		Update
nep-13	<i>Nephrops</i> in Division VIa (Firth of Clyde and Sound of Jura, FU13)	UK (Scotland)	UK (Scotland)		Update
nep-14	<i>Nephrops</i> in Division VIIa (Irish Sea East, FU14)	UK (England)			Update
nep-15	<i>Nephrops</i> in Division VIIa (Irish Sea West, FU15)	UK (Northern Ireland)	UK (Northern Ireland)	Ireland	Update
nep-16	<i>Nephrops</i> in Division VIIb,c,j,k (Porcupine Bank, FU16)	Ireland	Ireland		Biennial 1st year
nep-17	<i>Nephrops</i> in Division VIIb (Aran Grounds, FU17)	Ireland	Ireland		Update
nep-19	<i>Nephrops</i> in Division VIIa,g,j (South East and West of IRL, FU19)	Ireland	Ireland		Biennial 1st year
nep-20-22	<i>Nephrops</i> in Divisions VIIfgh (Celtic Sea, FU 20-22)	France	France	Ireland	Update
ple-7b-c	Plaice in Division VIIb,c (West of Ireland)	Ireland			Update
ple-7h-k	Plaice in Divisions VIIh,k (Southwest of Ireland)	Ireland	Ireland	Belgium	Update
ple-celt	Plaice in Divisions VIIf,g (Celtic Sea)	UK (England)	UK (England)	Belgium	Update
ple-echw	Plaice in Division VIIe (Western Channel)	UK (England)	UK (England)	France	Update
ple-iris	Plaice in Division VIIa (Irish Sea)	UK (England)	UK (England)		Update

Fish Stock	Stock Name	Stock Coord.	Assessment Coord. 1	Assessment Coord. 2	Advice
pol-celt	Pollack in Subareas VI and VII (Celtic Sea and West of Scotland)				Regional update
sol-7b-c	Sole in Division VIIb, c (West of Ireland)	Ireland			Update
sol-7h-k	Sole in Divisions VIIh-k (Southwest of Ireland)	Ireland			Update
sol-celt	Sole in Divisions VIIf,g (Celtic Sea)	Belgium	Belgium	UK (England)	Update
sol-echw	Sole in Division VIIe (Western Channel)	UK (England)	UK (England)	France	Update
sol-iris	Sole in Division VIIa (Irish Sea)	Belgium	Belgium		Update
whg-7e-k	Whiting in Divisions VIIe-k	Ireland	Ireland	France	Update
whg-iris	Whiting in Division VIIa (Irish Sea)	Ireland	Ireland	UK (Northern Ireland)	Update
whg-rock	Whiting in Division VIb (Rockall)	Ireland			Update
whg-scow	Whiting in Division VIa (West of Scotland)	UK (Scotland)	UK (Scotland)		Update

1.3 Overview sections

The overview sections have been missing from the WGCSE report since 2009, as a consequence of an overloaded working group focusing exclusively on stock assessment and preparation of advice. The group is willing to resume reporting on overviews if these are not simply a summary of information contained in the stock sections, but an added value to the single-stock analysis. It is also considered that it would be an ineffective use of time for assessment experts to be required to provide information on topics outside their competence area (mainly biology and modelling). Conversely, assessment experts may interpret other fields of expertise and put the findings in relation with their knowledge and current analysis. In order to draft overviews according to these ideas, the group proposed to divide the overview sections as follows:

- Subsection on ecosystem, using indicators and comments from ICES ecosystem expert groups (WGECO ...);
- Subsection on changes in fishing technology and fishing patterns, using the conclusions of the ICES WGFTFB;
- Subsection on fisheries to be drafted by WGCSE, including, spatial distribution of fisheries, mixed fisheries considerations, integrated indicators (effort, ...) and surveys;
- Subsection on regulations and their effects to be drafted by WGCSE.

The group believes that the overview sections deserve a special attention and would benefit from confronting broader views. Therefore, the group would welcome a dedicated workshop to share its proposal with other opinions.

1.4 General considerations

It is long known that assessing 37 stocks in an assessment working group is a difficult challenge, and solutions are sought to decrease the workload. Reading the working group report could lead to thinking that the challenge was successfully addressed in 2012. This has been done, thanks to the high commitment of the experts participating in the group. However the quantity of analysis was achieved only at the expense of thorough internal reviews, likely resulting in poorer quality assessments.

The challenge is also to address the extending demands of advice with dwindling resources in the European fisheries institutes, and the need to make room for new inexperienced experts in assessment working groups (rotating the assessments between experts, thorough reviews ...). This cannot be achieved by splitting the group in smaller units as this would likely lead to a diluting of expertise, or by expanding the use of work by correspondence. Additionally, the unconditional need for a normal preparation of the working group is to have the data compiled and sent to stock coordinators well in advance of the working group (see also Section 2 on data).

The WGCSE is of the opinion that the ecoregion entity must remain, and that other means to address the overload must be implemented. WGCSE has proposed for each of the stocks a duration of the advice, when drafting the advice summary sheet, choosing to start with a two-year period. In line with the conclusions of WKFREQ (ICES, 2012) the stocks concerned with a biennial advice were those where the status is unlikely to change in the very near future. These include stocks where current F and SSB are far from the MSY reference estimates, and stocks for which it is unlikely that more information will be available in the near future (data poor). For the WGCSE to gain time and expertise for focusing on more demanding stocks the group **recommends that ICES details the specific procedure to deal with stocks where no new advice will be proposed and draft terms of references accordingly.**

Work by correspondence has led to difficulties in exchanging views between the group and the remote expert. Lessons should be learnt from this experience, and **the group recommends that each expert participating by correspondence should be represented by one expert in the group** who is able to present the assessment and answer questions and has final responsibility for ensuring that the report and draft advice are available at the WG.

Assessment and advice for the new stocks (pollack and grey gurnard in 2012) are challenging. These assessments are meant to be prepared by WGNEW before being transferred to ecoregion working group. WGCSE tried to provide additional value to the WGNEW advices, but discovered that the main sources of information for these stocks were not fully utilised. These are, not exclusively, lpue series and maps of international effort and catches for pollack, survey indexes from the whole area and quantified discards information for grey gurnards. **The group recommends that a stock coordinator and a stock assessor be formally named to WGCSE for pollack.** For grey gurnards and all other bycatch species, **the group recommends WGSDAA to compile and process data from merged surveys, and ICES to propose simplified method to evaluate the status of stocks caught as bycatch and heavily discarded, by means of e.g. standard indicators.**