FRAMEWORK FOR COLLABORATION BETWEEN ICES AND NWWRAC IMPROVING DATA DEFICIENCIES FOR NORTHERN HAKE IN 2012-2013

April 2012

1. TIMEFRAME AND OVERVIEW OF WORK PROGRESS MADE IN 2010 AND 2011

<u>In February 2010,</u> a meeting took place to review data and methods for the assessment of the Northern Hake stock. These types of ICES meetings are called "*Benchmarks*". At the review meeting it was agreed that the ageing procedure used for hake (reading of otoliths) resulted in erroneous age estimations. In addition, the tagging experiments showed that growth rate was much faster, approximately double, of what it had been identified according to the "traditional" ageing model (reading of otoliths). At that time, as there were no other ageing methods to age the hake, it was an option to use another model type (SS3: Stock Synthesis) which only required structured data by size.

Consequently during the benchmarking process, the only data used (landings, discards) were by quarterly sizes and by fleet. Data from 7 fleets were included in the model: "Spanish trawl in VII"–FU4; "Spanish trawl in VIII"–FU14; "French *Nephrops* trawling in VIII"–FU9; "all other trawling in VII and VIII"–FU5+6+8+10; "gillnetters"–FU 3+13; "longliners"–FU 1+2+12; and "others" FU 15+16+00). Four scientific campaigns were also included (the French EVHOE, the Irish IGFS, the Spanish Porcupine; and the French RESSGASC which ended in 2002).

<u>May 2010 - Working Group on Hake, Monk and Megrim (WGHMM)</u>

Data series were updated for one year in respect of the Benchmark. It was found that the assessment resulted in imprecise estimates of the abundance of the stock and fishing mortality. This was due to the selected period for assessment (1990-2009), in which no strong contrasts could be observed with the available data and also there was scarce information about the larger specimens. This gave rise to considerable uncertainty on the spawning biomass, the recruitment and the fishing mortality. Uncertainty was especially perceived regarding the decreasing rate of fishing mortality (F) and the increase of spawning biomass (SSB).

<u>January and March 2011</u> - **First and second coordination meetings on data deficiency among scientists, the industry and administrations (ICES WKDDRAC1-2)**

The scientists in charge of the hake assessment explained their concerns to the attending representatives of the industry and the administrations regarding the lack of certain important data to further improve hake assessment.

Basically, **the list of data to be improved where perhaps the RACs could support was**:

- **Abundance index for the larger individuals in stock**: there are almost no abundance indexes (CPUE: catch per unit effort) which inform on the evolution of larger individuals within the stock. An abundance index of this type could increase confidence on biomass estimates. The fleets likely to provide this data would be longliners, with the data series as large as possible (starting in 1990 or even earlier) with and indication of the effective effort (number of hooks, etc.). In addition, all qualitative information on possible changes of effort, technological improvements to the fleet, changes in fishing tactics over the historic time series are also of interest.

- **Catch data**: given that scientific surveys indicate the abundance of the youngest, and if the commercial catch is underestimated, this results in an increase of the spawning biomass and an artificial decrease of the fishing mortality. These are the trends we have observed in the last 3 or 4 years of assessment which results in the suspicion that catches could be underestimated, particularly in most recent years due to the increase of the stock. Catch data should be obtained as accurately as possible.

- **Discard data**: Presently, the assessment incorporates discard data originating from 3 fleets: "Spanish trawl in VII", "Spanish trawl in VIII" and "the French *Nephrops* trawling in VIII". Nevertheless, it is hoped that discards occur in other trawling fleets also. Still there are some fleets, for which discards data are not available, for example French Nephrops trawlers in the Celtic Sea (VII) (FU8). It is also known that there is also a problem with discards at the sampling level. Perhaps industry representatives may help by providing the presence of observers on board. It should be emphasized the value in collecting this data as rigorously as possible in order to substantially improve the assessment. It is true that it would be desirable to have alternative discard methods to that of the traditional presence of observers on board.

- **Effort data**: for certain particular fleets, it might be useful to have information on technological improvements which allows the same level of effort for catch efficiency, i.e., income per effort unit, become higher with the same effort level. This is highly valuable information in relation to fishing mortality.

<u>May 2011</u> - Working Group on Hake, Monkfish and Megrim (ICES WGHMM).

Following this data identification, and due to the short interval between the two groups, there was no time to obtain the above mentioned data by WGHMM.

The conclusions of the ICES Working Group were:

- There has been an improvement on the knowledge of the stock; the period of years of data for evaluation is extended back to 1978. This in turn improved the assessment, allowing for the impact level of different fishing mortalities on different stock abundances to be examined over half of the 80's and 90's. This assessment, based on an extended time series showed a clear vision of stock historical development. Consequently, the assessment quality improved substantially and uncertainty reduced on the fishing mortality and spawning biomass.

- Nevertheless, scientists continue to detect and underline the scarce data available from fleets over the first years of the time series in the zones outside of VII and VIII, especially for larger individuals in the stock. In addition, whilst the assessment continues to include discards, there is still great uncertainty associated with these estimates.

2. PROPOSED WORK PLAN FOR JOINT COLLABORATION BETWEEN ICES AND THE NWWRAC IN 2012

In order to give the best answer to the data requirements, the following work plan has been put forward:

February 2012
First contact with scientists in charge of hake in member States.

1. The first contact is made with AZTI (Basque Country, Spain) for proximity reasons.

2. This working program is approached including regular contacts and ad hoc meetings.

3. The following scientists have been identified for contact purposes: Marina Santurtun (AZTI - Spain), (IEO - Spain), Michel Bertignac (IFREMER - France), Colm Lordan (Marine Institute - Ireland), Rob Scott (CEFAS - UK), and scientific representatives from IEO (Spain) and ILVO (Belgium).

4. An introductory email is sent to the scientists including a summary approach of this working program.

5. This work plan is presented to the NWWRAC and data requirements identified previously are conveyed to the NWWRAC.

6. A contingency plan (data requirements) is designed in the NWWRAC: data and shipment authorisations must be made it clear so that the industry representatives can pass it on to their members.

March – April 2012
Feed back to scientists on NWWRAC conclusions

1. The scientists will be contacted for transmission of NWWRAC conclusions in relation to the previous point.

2. To establish together with scientists when and how the data should be delivered, if available. Scientists will also be informed of the persons from each association (in Spain, France, Ireland, Belgium and UK) to obtain information (qualitative data) in relation to effort, improvement in fleet technologies, etc.

May 2012
ICES WGHMM Working Group

June-July 2012

The ICES Review Group/ACOM is expected to reveal the outcome of the assessment.

Presentation to the NWWRAC of the ICES Advice for 2012

1. Ad hoc meeting with scientists in charge of Hake stock to explain in detail the outcome of the assessment and the first advice on management.

2. 2012 Plan will be assessed for data collection.

3. To continue to identify necessary data and information should no progress have been achieved over the last 6 months.

4. To propose a new Working Plan for 2013 based on the lessons learned in 2012.

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