

WGMEGS – Working Group on Mackerel and Horse mackerel Egg Surveys (WGMEGS)

2014/MA2/SSGIEOM06

The **Working Group on Mackerel and Horse Mackerel Egg Surveys (WGMEGS)**, chaired by Cindy van Damme, The Netherlands and Finlay Burns, Scotland UK, will work on ToRs and generate deliverables as listed in the Table below.

| | Meeting dates | Venue | Reporting details | Comments (change in Chair, etc.) |
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| Year 2015 | 20-24 April | ICES Headquarters, Copenhagen | Interim report by 1 June 2015 to SSGIEOM, SCICOM, WGISUR, ACOM, & WGWIDE | |
| Year 2016 | via correspondence | | Interim report by 1 June 2016 to SSGIEOM, SCICOM, WGISUR, ACOM & WGWIDE | 2 nd meeting of group via correspondence as it falls within the year of the triennial MEGS Survey. |
| Year 2017 | 24-28 April | Vigo, Spain | Final report by "DATE" to SSGIEOM, SCICOM, WGISUR, ACOM & WGWIDE | |

ToR descriptors

| ToR | DESCRIPTION | BACKGROUND | SCIENCE PLAN TOPICS ADDRESSED | DURATION | EXPECTED DELIVERABLES |
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| a | Coordinate the timing and planning of the 2016 Mackerel/Horse Mackerel Egg Survey in the ICES Sub-areas VI to IX. | The egg survey provides important fishery-independent stock estimates for Northeast Atlantic mackerel and for both the western and the southern horse mackerel stocks. The survey is based on a time-series since 1977. For calculating SSB from egg surveys it is important to cover the entire spawning season and area. The egg survey needs a good, timely planning in order to be able to cover the entire spawning season and area from Portugal to Iceland. | | year 1 | Planning description and updated manuals for the survey in 2016 for WGMEGS |
| b | Coordinate the planning of the sampling programme for mackerel/horse mackerel fecundity and atresia. | In order to recalculate the egg production estimate into a SSB estimate a reliable estimate of realised fecundity is needed. It is therefore important to plan a good sampling of potential fecundity and atresia sampling. | | Year 1 | Planning description and updated manuals for the survey in 2016 for WGMEGS |
| c | Review and report on procedures for egg sample | To get a good estimate of the egg production of | | Year 1 | Updated manual for the survey in |

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| | sorting, species identification and staging. | mackerel and horse mackerel it is vital to have good descriptions for sampling, sorting and identification and staging of the eggs. Since the survey is carried out once every 3 years, it is important to refresh participants prior to the survey. | | 2016 for WGMEGS |
| d | Review and report on procedures for fecundity and atresia estimation. | Techniques for fecundity and atresia estimation are developing quickly. Since the survey is carried out once every 3 years it is important to update the protocols on the estimation of fecundity and atresia. | Year 1 | Updated manual for the survey in 2016 for WGMEGS |
| e | Update the survey manual and make recommendations for the standardization of all sampling tools, survey gears and procedures. | Standardisation of sampling and sampling gear is important in surveys to produce a reliable estimate of SSB for stocks. As MECS is a triennial survey it is important to update manuals in order to get as much standardisation as possible. | Year 1 | Updated manual for the survey in 2016 for WGMEGS |
| f | Analyse and evaluate the results of the 2014 mackerel egg survey in the North Sea. | The North Sea mackerel egg survey is the only available information on the state of the North Sea mackerel. Currently the North Sea survey is carried out in the year after the Atlantic survey. Results of the survey should be evaluated and finalised during the WGMEGS meeting. | Year 1 | Final estimate of North Sea mackerel SSB for WGMEGS. |
| g | analyse and evaluate the suitability of the spawning fraction and batch fecundity data collected during the 2013 enhanced DEPM sampling programme within periods 3 and 5 for both species; | Mackerel and horse mackerel are most likely indeterminate spawners, the results of the AEPM and DEPM should be compared in order to assess the difference in variation in the SSB estimate of both methods | Year 1 | Final estimate of the DEPM results for mackerel and horse mackerel and comparison of AEPM and DEPM estimates for WGMEGS. |
| h | Examine the results of the Hamburg and Bergen workshops (October and November 2015) on mackerel and horse mackerel egg staging and identification and fecundity and histology, and incorporate these into the Survey Manual for the 2016 | For quality assurance in the year before the Atlantic survey a workshop (WKFATHOM) is organised in which survey participants are obliged to participate in order to standardise egg identification and staging and fecundity estimation. | Year 2 | Updated manual for the survey in 2016 for WGMEGS |

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| | survey; | The WGMEGS manual needs to be updated with the results from the WKFATHOM workshop. | | |
| i | Fine-tune survey execution in 2016. | Not all institutes have the vessel planning ready one year before the Atlantic survey. Hence it is necessary to fine-tune and finalize the planning of the survey in the actual survey year. | Year 2 | Finalized planning for the survey in 2016 for WGMEGS |
| j | <p>Analyse and evaluate the results of the 2016 mackerel and horse mackerel egg surveys in the western and southern areas;</p> <p>calculate the total seasonal stage 1 egg production estimates for mackerel separately for the western and southern areas;</p> <p>calculate the total seasonal stage 1 egg production estimates for the western horse mackerel stock (AEPM) and for southern stock (DEPM);</p> <p>analyse and evaluate the results of the mackerel and horse mackerel fecundity and mackerel atresia sampling in the western and southern areas;</p> <p>provide estimates of the spawning-stock biomass of mackerel, using stage 1 egg production estimates and the estimates of fecundity and atresia, separately for the western and southern areas;</p> <p>provide estimates of the spawning-stock biomass of horse mackerel using production estimates and the estimates of batch fecundity and spawning frequency for southern stock;</p> <p>evaluate the quality and reliability of the 2016 survey in the light of the previous surveys and to evaluate the reliability of the preliminary estimates calculated in 2016 against the final estimates.</p> <p>evaluate</p> | Provisional estimates of mackerel SSB, and egg production of horse mackerel are delivered to WGWIDE in the year of the survey. The estimates however are finalised during the WGMEGS meeting in the year after the Atlantic survey. | Year 3 | Finalized results of the mackerel SSB index, western horse mackerel egg production and southern horse mackerel SSB index for WGWIDE. |
| k | Plan and coordinate the 2017 North Sea mackerel egg | Currently the North Sea mackerel egg survey is | Year 3 | Planning of the North Sea |

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| survey. | carried out in the year after the Atlantic survey. Careful planning is necessary in order to get a reliable North Sea mackerel SSB estimate with the limited resources available. | mackerel egg survey for WGMEGS. |
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Summary of the Work Plan

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| Year 1 | Planning of the egg survey in 2016 and reporting on the North Sea egg survey of 2014. |
| Year 2 | Survey year, the Atlantic survey is conducted in 2016, no meeting takes place in year 2. A report, by correspondence, with the updated planning and manuals is published. |
| Year 3 | Reporting and finalizing of the results of the 2016 egg survey. Planning of the 2017 North Sea egg survey. |

Supporting information

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| Priority | Essential. The egg survey provides important fishery-independent stock data used in the assessment for Northeast Atlantic mackerel and for both the western and the southern horse mackerel stocks. As part of the multiannual management plan the index for horse mackerel is directly used for the calculation of the TAC. |
| Resource requirements | None. The surveys are all part of the national programs. The surveys and associated meetings are also partially funded under the EU fisheries data directive. |
| Participants | Usually ca. 15–20 participants from ICE, Far, N, NL, P, ESP, UK (E), UK (Scot), G, IRL. |
| Secretariat facilities | None. |
| Financial | No financial implications. |
| Linkages to ACOM and groups under ACOM | The survey data are prime inputs to the assessments carried out by WGWIDE which provide ACOM with information required for responding to requests for advice/information from NEAFC and EC DG MARE. |
| Linkages to other committee: or groups | WGWIDE, WKFATHOM, WGALES. |
| Linkages to other organizations | There have been a number of associated EU funded projects in the past. |