

WGMEGS – Working Group on Mackerel and Horse mackerel Egg Surveys

2017/MA2/EOSG02 The Working Group on Mackerel and Horse mackerel Egg Surveys (WGMEGS), chaired by Matthias Kloppmann, Germany, and Gersom Costas, Spain, will work on ToRs and generate deliverables as listed in the Table below.

	MEETING DATES	VENUE	REPORTING DETAILS	COMMENTS (CHANGE IN CHAIR, ETC.)
Year 2018	9–13 April	Dublin	Interim report by 1 June 2018 to ACOM/SCICOM	Matthias Kloppmann and Gersom Costas confirmed as new chairs.
Year 2019	via correspondence		Interim report by 15 September 2019 to ACOM/SCICOM	Second meeting of group via correspondence as it falls within the year of the triennial MEGS Survey. The date for report delivery is set after the WG WIDE meeting to be able to include the preliminary results of the 2019 survey.
Year 2020	28 – 29 April 2020	By Correspondence/Webex	Final report by 11 December 2020 to ACOM/SCICOM	
Year 2020	4-6 November 2020	By Correspondence/Webex	Final report by 11 December 2020 to ACOM/SCICOM	

ToR descriptors

ToR	DESCRIPTION	BACKGROUND	SCIENCE PLAN CODES	DURATION	EXPECTED DELIVERABLES
a	Coordinate the timing and planning of the 2019 Mackerel/Horse Mackerel Egg Survey in the ICES areas 5 to 9.	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 part of a time-series that commenced in 1977. For calculating SSB from egg surveys it is important to cover the entire spawning season and area. In order to be able to cover the entire spawning season for both species a comprehensive survey plan is required that covers the area from Portugal to Iceland.	3.1	year 1	Planning description and updated manuals for the survey in 2019 for WGMEGS

b	Coordinate the planning of the sampling programme for mackerel/horse mackerel fecundity and atresia.	Reliable realized fecundity estimates are needed to convert the egg abundance data to SSBs. International coordination is needed to ensure that the samples collected on different survey are representative and collections efficient.	3.1	Year 1	Planning description and updated manuals for the survey in 2019 for WGMEGS through WKFATHOM2
c	Review and report on procedures for egg sample sorting, species identification and staging.	Well defined sampling procedures are necessary to properly interpret the monitoring data as well as ensure a rigorous and transparent QAQC procedure.	3.1, 3.2	Year 1	Updated manual for the survey in 2019 for WGMEGS through WKFATHOM2
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.	3.1, 3.2	Year 1	Updated manual for the survey in 2019 for WGMEGS through WKFATHOM2
e	Update the survey manual and make recommendations for the standardization of all sampling tools, survey gears and procedures.	Standardization of sampling and sampling gear is important in surveys to produce a reliable estimate of SSB for stocks. As MEGS is a triennial survey it is important to update manuals in order to provide as much standardization as possible.	3.2	Year 1	Updated manual for the survey in 2019 for WGMEGS through WKFATHOM2
f	Analyse and evaluate the results of the 2017 mackerel egg survey in the North Sea.	The North Sea mackerel egg survey is the only fisheries independent information used in the advice on North Sea mackerel.	3.1	Year 1	Final estimate of North Sea mackerel SSB for WGWIDE 2018.
g	Examine the results of the Bremerhaven, Germany and IJmuiden, The Netherlands workshops (8 – 12 October and 19 – 23 November 2018) on mackerel and horse mackerel egg staging and identification and	For quality assurance in the year before the Atlantic survey a workshop (WKFATHOM2) is organized in which survey participants are obliged to participate in order to standardize egg identification and	3.2, 3.3	Year 2	Updated manual for the survey in 2019 for WGMEGS

	fecundity and histology, and incorporate these into the Survey Manual for the 2019 survey;	staging and fecundity estimation. The WGMEGS manual is required to be updated with the results from the WKFATHOM2 workshop.			
h	Fine-tune survey execution in 2019.	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.	3.2	Year 2	Optimised plan for survey in 2019 for WGMEGS
i	Analyse and evaluate the results of the 2019 mackerel and horse mackerel egg surveys in the western and southern areas; <ol style="list-style-type: none"> 1. calculate the total seasonal stage 1 egg production estimates for mackerel separately for the western and southern areas; 2. calculate the total seasonal stage 1 egg production estimates for the western horse mackerel stock (AEPM); 3. analyse and evaluate the results of the mackerel and horse mackerel fecundity and mackerel atresia sampling in the western and southern areas; 4. 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; 	Provisional estimates of mackerel SSB, and egg production of horse mackerel are delivered in the year of the survey. The estimates however are finalized during the WGMEGS meeting in the year after the Atlantic survey.	1.3, 3.1, 5.1	Year 3	Finalized results of the mackerel SSB index, western horse mackerel egg production for WGWIDE.

	5. evaluate the quality and reliability of the 2019 survey in the light of the previous surveys and to evaluate the reliability of the preliminary estimates calculated in 2019 against the final estimates.				
j	Plan and coordinate the 2020 North Sea mackerel egg survey.	Currently the North Sea mackerel egg survey is 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.	3.1	Year 3	Planning of the North Sea mackerel egg survey for WGMEGS.
k	Review and reformat the historic time-series of North Sea mackerel egg surveys and upload data to the ICES egg and larvae database	The egg data of the North Sea mackerel egg survey were stored at the Norwegian institute in the past and since 2014 were handed to the Netherlands. The data needs to be checked and revised and put in the correct format to be uploaded to the ICES egg and larvae database	3.1	Year 3	Historic dataset of the North Sea mackerel egg surveys in the ICES egg and larvae database.

Summary of the Work Plan

Year 1	Planning of the egg survey in 2019 and reporting on the North Sea egg survey of 2017.
Year 2	Survey year, the Atlantic survey is conducted in 2019, no meeting takes place in year 2. A report, by correspondence, with the updated planning and manuals and the preliminary results of the 2019 survey, is published.
Year 3	Reporting and finalizing of the results of the 2019 egg survey. Planning of the 2020 North Sea egg survey.

Supporting information

Priority	Essential. The egg survey provides important fishery-independent stock data used in the assessment for Northeast Atlantic mackerel and for the western horse mackerel stocks.
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), DE, 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 committees or groups	WGWIDE, WKFATHOM2, WGALES, WGBIOP.
Linkages to other organizations	There have been a number of associated EU funded projects in the past.
