

WGACEGG - Working Group on Acoustic and Egg Surveys for small pelagic fish in NE Atlantic

2020/FT/EOSG17 A Working Group on Acoustic and Egg Surveys for small pelagic fish in NE Atlantic (WGACEGG), chaired by Jeroen van der Kooij*, United Kingdom and Maria Manuel Angélico*, Portugal, will work on ToRs and generate deliverables as listed in the Table below.

	MEETING DATES	VENUE	REPORTING DETAILS	COMMENTS (CHANGE IN CHAIR, ETC.)
Year 2020	16 -20 November	Online meeting	Interim report by 11 December 2020 to EOSG	Incoming Chairs: Jeroen van der Kooij, U.K and Maria Manuel Angélico, Portugal
Year 2021	November	TBA	Interim report by February to EOSG	
Year 2022	November	TBA	Final report by February to EOSG	Select new chairs for net term (2023-2025)

ToR descriptors¹

TOR	DESCRIPTION	BACKGROUND	SCIENCE PLAN CODES	DURATION	EXPECTED DELIVERABLES
a	Evaluate and provide echo-integration and/or Daily Egg Production Method (DEPM) estimates for sardine, anchovy horse mackerel, boarfish, herring, and sprat in ICES sub-Areas 6, 7, 8 and 9	a) Data provide backbone of relevant stock assessments for key species at relevant WGs (Advisory Requirements) b) Requirements from other EGs	3.1	annually	Abundance and biomass estimates by age and/or length group . Fish spatial distribution will be provided to WGHANSA, WGWIDE, HAWG by the end of the WGACEGG meeting. Datasets will be published in the ICES repository when available.
b	Analyse sardine and anchovy (adults and eggs), spatial and temporal distribution and their habitats in European waters	a) Surveys collect additional data on the wider ecosystem; interannul variation in sardine and anchovy biomass and distribution will be studied in relation to ecological processes. Science Requirements b) Requirements from other EGs	1.5	Year 2	Aim to publish results in a peer reviewed paper and/or CRR in 2021; with decision to be made following review of results and progress in 2020.

¹ Avoid generic terms such as “Discuss” or “Consider”. Aim at drafting specific and clear ToR, the delivery of which can be assessed

c	Provide ecosystem data such as temperature, salinity, plankton diversity, top predators abundances, egg densities and backscattering for sardine, anchovy and other small pelagic fish for pelagic ecosystem monitoring (e.g. MSFD)	a) Combining the data from concurrent surveys (e.g. spring) provides improved insight into large scale features potentially affecting local survey observations and will ultimately help improve (understanding of both) the stock assessment and ecosystem dynamics. (Science Requirements) b) Requirements from other EGs	1.4, 1.5	annually	Gridded maps updated every year. Datasets will be published in the ICES repository when available
d	Assess developments in the technologies and data analyses for the application of both acoustics and the DEPM (on egg production or adult parameters).	a) Ensure best practise is applied. Science Requirements b) Advisory Requirements c) Requirements from other EGs	3.3	3 years	Report relevant new methodologies in annual WG report, available to the public one month after the meeting.
e	Improve and assess the suitability of CUFES data for anchovy and sardine egg production estimates in areas 8 and 9.	a) Science Requirements b) Advisory Requirements c) Requirements from other EGs	3.3	3 years	
f					
f	Develop and standardization of data processing methods for DEPM and acoustics for surveys in Atlantic and Mediterranean waters	a) Science Requirements b) Advisory Requirements c) Requirements from other EGs	3.1, 3.2	3 years	Updated data processing protocols shared with the MEDIAS group (Mediterranean acoustic survey group)
g	Provide echo-integration estimates for other species (mainly blue whiting, mackerel, herring, sprat, horse mackerel, chub mackerel and boarfish) ICES sub-Areas 6, 7, 8 and 9	a) Surveys collect additional distribution, abundance and biological data on pelagic fish species, that are not currently used in stock assessment – make available for studies and possible future inclusion in assessment. Advisory Requirements b) Requirements from other EGs	3.5	3 years	Biomass per age group when available otherwise per length classes and spatial density distribution, provided to WGWIDE and HAWG before the WG annual meeting. Datasets will be published in the ICES repository when available.
h	Develop, coordinate and review survey protocols for WGACEGG surveys (DEPM: BIOMAN, SAREVA, PT-DEPM-PIL, BOCADEVA; Acoustic: PELAGO, PELACUS, PELGAS, ECOCADIZ, WESPAS, ECOCADIZ RECLUTAS, IBERAS-JUVESAR, JUVENA, PELTIC, CSHAS) in line with ICES QAQC procedures	ICES aims to have a quality assurance process for data collections used in the provision of advice. One element of this is that all procedures describing the data collection are adequately described.	3.1	annually	Publication of survey manual, TIMES (SISP) for the data collection and product specification conducted under the auspices of WGACEGG (2020); review document annually and, if required, submit new version in 2022 for publication..

i	Compare acoustic and DEPM biomass estimates of anchovy and sardine and evaluate their respective bias and precision with a view to providing improved data to stock assessment WGs	a) Currently, DEPM and acoustic derived indices for anchovy and sardine are presented separately to stock assessment working groups. Data from either methods may be used to interpretate the other method and improve information provided to assessment WGs. Science Requirements b) Advisory Requirements c) Requirements from other EGs	-	3 years	
j	Develop the use of image recognition techniques to characterise the distribution of surface mesozooplankton and possibly microplastics in areas 7, 8 and 9, based on CUFES and/or plankton nets.	a) Science Requirements b) Requirements from other EGs	1.2	3 years	
k	Collaborate with groups wishing to utilize available timeseries from WGACEGG coordinated surveys.	a) Science Requirements	3.2	Years 1-3	Facilitate collaborative activities with WGSPF and other groups, by contributing expertise and data to large scale studies on small pelagic fish.

Summary of the Work Plan

Annual meeting, including, if possible, a joint session with MEDIAS (Mediterranean acoustic survey group):

Year 1

- Evaluation of echo-integration and/or Daily Egg Production Method (DEPM) estimates for sardine, anchovy horse mackerel, boarfish, herring, and sprat in ICES sub-Areas 6, 7, 8 and 9
- Update of gridded maps of ecosystem data derived from surveys, and assessment of feasibility of production of megafauna and mesozooplankton grid maps for ecosystem assessment
- Session on historic data series consolidation and storage
- Update of the WGACEGG DEPM and acoustic Survey Protocols (TIMES) if required
- Session on acoustic data collection and analysis, including a topic on the analysis of acoustic data in presence of mixed mesopelagic and juvenile anchovies assemblages
- Session on DEPM data collection and analysis
- Session on comparison of acoustic and DEPM indices
- Session on results of the analysis on time series of gridded maps of species-and ecosystem data
- Session to analyse progress on sardine and anchovy egg production estimates from CUFES

Annual meeting:

- Year 2**
- Evaluation of echo-integration and/or Daily Egg Production Method (DEPM) estimates for sardine, anchovy horse mackerel, boarfish, herring, and sprat in ICES sub-Areas 6, 7, 8 and 9
 - Update of gridded maps of ecosystem data derived from surveys, historic data series consolidation and storage
 - Session on historic data series dissemination and valorisation
 - Update of the WGACEGG DEPM and acoustic Survey Protocols (SISP) if required
 - Session on acoustic data collection and analysis
 - Session on DEPM data collection and analysis
 - Session on comparison of acoustic and DEPM indices
 - Session to analyse progress on sardine and anchovy egg production estimates from CUFES

Annual meeting, including a joint session with MEDIAS (Mediterranean acoustic survey group):

- Year 3**
- Evaluation of echo-integration and/or Daily Egg Production Method (DEPM) estimates for sardine, anchovy horse mackerel, boarfish, herring, and sprat in ICES sub-Areas 6, 7, 8 and 9
 - Update of gridded maps of ecosystem data derived from surveys, historic data series consolidation and storage
 - Update of the WGACEGG DEPM and acoustic Survey Protocols (SISP) if required
 - Session on developments in acoustic data analysis
 - Session on developments in DEPM data analysis
 - Session on the use of image recognition techniques to characterise the distribution of (surface) mesozooplankton communities
 - Session on comparison of acoustic and DEPM indices
 - Session to analyse progress on sardine and anchovy egg production estimates from CUFES

Supporting information

Priority	<p>The current activities of this Group will ensure the provision and the quality of the data provided to ACOM advisory groups in charge of the assessment of anchovy, sardine, blue whiting, Atlantic and horse mackerels, boarfish, herring and sprat in ICES sub-Areas 6, 7, 8 and 9.</p> <p>The activities of the group will also lead to the provision and analyses of a series of gridded maps of data on the hydrology, phytoplankton, small pelagic fish and megafauna of the North Eastern Atlantic pelagic ecosystem. Those spatially explicit data will be useful to any group interested in assessing the state of the North Eastern Atlantic pelagic ecosystem.</p> <p>Consequently, these activities are considered to have a very high priority.</p>
Resource requirements	The research programmes which provide the main input to this group are already underway, and resources are already committed. The additional resource required to undertake additional activities in the framework of this group is negligible.
Participants	The Group is normally attended by some 15–30 members and guests.
Secretariat facilities	None.
Financial	No financial implications.
Linkages to ACOM and group under ACOM	<p>WGACEGG is cooperating with the following advisory structures</p> <p>a) ICES Assessment Working groups: WGHANSA, WGWIDE, HAWG together with related Benchmark WG and Workshops</p> <p>b) Advice drafting Groups: ADGHANSA</p>
Linkages to other committees or groups	There is a close working relationship with the following SCICOM groups: WGFAS, WGALES WGEAWESS and WGMEGS. Similarly, it is anticipated that close collaboration will be created with WGSPF, which will benefit from WGACEGG's expertise and data.

Linkages to other organizations

A joint session is held every two years during WGACEGG annual meeting with the survey group MEDIAS in charge of the coordination of acoustic surveys in the Mediterranean Sea.
