

Working Group on Spatial Fisheries Data (WGSFD)

2015/MA2/SSGEPI08 Working Group on Spatial Fisheries Data (WGSFD), chaired by Niels Hintzen, the Netherlands, and Christian von Dorrien, Germany, will work on ToRs and generate deliverables as listed in the Table below.

	MEETING DATES	VENUE	REPORTING DETAILS	COMMENTS (CHANGE IN CHAIR, ETC.)
Year 2016	17–20 May	Brest, France	Interim report by 1 August to SSGEPI	
Year 2017	29 May–2 June	Hamburg, Germany	Interim report by 1 August to SSGEPI	Change of Chairs: <u>Outgoing:</u> Josefine Egekvist, <u>Incoming:</u> Niels Hintzen and Christian von Dorrien
Year 2018	11–15 June	Aberdeen, UK	Final report by 1 August to SCICOM	

ToR descriptors

ToR	Description	Background	Science Plan topics	Duration	Expected Deliverables
a	Completed - Develop robust methods to calculate DCF environmental indicators 5, 6 and 7.	WGSFD has in 2013–2015 worked on method to calculate DCF indicators 5, 6 and 7. This output can be used for ICES ecoregion advice. The method could be implemented by the ICES data centre as a standard output for the ICES ecoregion advice, depending on conditions on use of VMS data. This work fit into ICES science plan Ecosystem Pressures and Impacts (EPI)	11	3 years	Method to make output on DCF indicators 5, 6 and 7 for ICES ecoregion advice
b	Work on standardized methods to analyse, and produce products that describe, the fishery in space and time	Products on spatial fishery distribution have been requested by OSPAR, HELCOM and by ICES expert groups as input fisheries impact assessments. WGSFD wants to continue to work on standardized methods and data products.	11	3 years	Method to be implemented by the ICES Data Centre Maps and data products to be used by ICES expert groups
c	Review ongoing work for analyzing spatial fisheries data.	As input for ToR's a and b, WGSFD need to keep up to date with ongoing work for analyzing spatial fisheries data.		3 years	Reporting on yealy basis
d	Initiate innovative methods to analyze spatial fisheries data.	To make use of the expertise in the WGSFD group to develop methods/analysis on spatial fisheries		3 years	Manuscript submitted to a peer-reviewed

	<p>data of value for the ICES community. To ensure scientific excellence investments needs to be made to stay a relevant group for the future.</p>	<p>scientific journal, initiate research project ideas</p>	
e	<p>Completed - 2016/1: Further development of fishing intensity/ pressure mapping.</p> <p>Following on from the format of the previous OSPAR requests; OSPAR requests ICES, using the latest versions of the indicator description/summaries of the 'Extent of Physical damage indicator' (BH3), to:</p> <ul style="list-style-type: none"> • Collect relevant national VMS and logbook data for 2014. The data request should follow same format as last's year and include any amendments following the WG SFD meeting in June 2015; • Estimate the proportions of total fisheries represented by the data; • Using methods developed in previous advice, where possible, collect other non-VMS data for 2014 to cover other types of fisheries (e.g. fishing boats < 12m length); • Prepare maps for the OSPAR maritime area (including ABNJ) on the spatial and temporal intensity of fishing using mobile bottom contacting gears; • Provide advice on the development and application of alternative smaller grids (smaller resolution than 0.05°) to improve the analysis of fishing abrasion data: <ul style="list-style-type: none"> ○ What data and methods can be used for regional assessments, including pros and cons on data accessibility, and costings, if possible; ○ Explore any alternative approaches such as the "Nested grid approach", to ascertain if it can be used to provide supporting data to refine and calibrate the abrasion fishing layers. This can be done using a case study or pilot area. • Provide advice on the applicabil- 	<p>The advice requested is only focused on the fishing abrasion layers underpinning the OSPAR 'Extent of Physical damage indicator'. The indicator leads will provide the latest technical specification with the methods for analysis, and the results from the first round of assessments produced by the OSPAR benthic expert group. The fishing abrasion layers are used for spatial analysis combining habitat distribution and their associated sensitivity ranges for the calculation of a physical damage index for predominant and special habitats.</p>	<p>1 year</p>

ity and use of AIS data, in particular to:

- o Ascertain if it can be used as supporting information for the spatial analysis of fisheries data;
- o Indicate if it can be used as an alternative source of data to VMS;
- o Indicate potential costing for the collation and management of AIS data;
- o Advice can be based on a case study or pilot area.

f	<p>Completed -Produce spatial fishery distribution product on a specific fishery - (Advisory request)</p>	<p>WGSFD will use the sandeel fishery in the North Sea as a case study, analyzing the spatial and temporal fishery distribution (2009-2015) (by month and at a resolution of 0.05x0.05 degrees). The results will be provided to WKSand, the sandeel benchmark, that is proposed to meet immediately after WGSFD to evaluate data and work to incorporate these results into the sandeel assessments.</p>	1 year	<p>Spatial fishery data product to support the North Sea sandeel assessments and advice.</p>
g	<p>Completed -Produce impact maps by combining and evaluating benthic information on sensitivity (from WGDEC, BEWG, WGMHM) together with fishing pressure maps (fishing abrasion, weight and value of landed catch), taking into account differences in benthic impact of the various fishing gears / metiers.</p>	<p>ICES has been asked by the EU (DGENV) to provide guidance in the interpretation of fishing pressure maps in relation to impacts on benthic habitats and the related indicators. WGDEC and BEWG will provide recommendations for scoring the sensitivity of habitats; these recommendations should preferably be compatible with each other. WGMHM will incorporate information on sensitivity of the benthic community of the various seafloor habitats, and will produce habitat sensitivity maps for at least one demonstration area of NW European waters (MSFD region/subregion). WGFSD will produce impact maps by combining and evaluating the benthic information on sensitivity and fishing pressure maps (fishing abrasion, weight and value of landed catch), taking into account differences in benthic impact of the various fishing gears / metiers. Following this, an ICES Workshop on guidance on how pressure maps of fishing intensity contribute to an</p>	1 year	<p>WGSFD will report on this ToR as soon as possible but at the latest by 25 May 2016 for the attention of WKFBI (and of ACOM).</p>

		assessment of the state of seabed habitats (WKFBI) on 31 May - 1 June 2016 will develop indicator principles and good practices for use regionally when assessing the impact of fishing on the seafloor. The workshop outputs will then be used in the ICES advisory process.		
h	<p>Completed -Using NEAFC VMS and catch data, describe “fisheries activities in and in the vicinity of such (VME) habitats” (areas defined by WGDEC) within the NEAFC Convention Area in 2015. If possible, descriptions should be made of each area near such habitats, and separate each bottom contact gear type (e.g. static or mobile gears).</p> <p>Provide a technical document that can be used to discuss a revision of the NEAFC VMS agreement with ICES, and ANNEX VII (4) of the NEAFC Scheme of Control and Enforcement (Jan–Jun 2015).</p>	<p>The response to this ToR will be used to answer part of the NEAFC request “NEAFC requests ICES to continue to provide <u>all available new information on distribution of vulnerable habitats in the NEAFC Convention Area and fishing activities in and in the vicinity of such habitats, and provide advice....</u>”. WGDEC will supply a list of areas where such habitats occur.</p> <p>This aims to improve quality/ resolution of raw VMS and linked catch data with the purpose to better facilitate future analysis of fisheries activities in and in the vicinity of such (VME) habitats within the NEAFC Convention Area.</p>	1 year	WGSFD will report on this ToR by 20 May 2016 for the attention of ACOM.
i	Develop methods to estimate fishing activity and/or effort of static gears using from positional data, logbook data, observer data and questionnaires	Little is known about spatial-temporal dynamics of static gears, i.e. where do shoot their gear, how long are gears in the water, what are the gear dimensions used. Using a variety of data sources we aim to develop standardized methodology to improve on estimating the high spatial-temporal impact of static gears	year 3	Section in WGSFD report.
j	Quantify and explain the spatio-temporal variability of fishing fleets across the ICES areas.	For ToRs j) and k): A decadal view on fisheries distribution and variability over time is lacking from the literature. This information has however now become available through the ICES datacalls on VMS and logbook data and therefore makes a valuable data source to investigate, describe and explain the spatio-temporal use of the European seas by the different fisheries.	year 3	Draft manuscript to be submitted in peer-reviewed journal.
k	Present best-practices on how to analyse and use VMS data from a world-wide perspective.	Analyses performed using VMS and Logbook data have been published for almost two decades. Within ICES different standardized methodology has been developed, but worldwide many scientists have undertaken similar activities. To improve the activities within ICES we review literature and describe best practices in analysing VMS and	year 3	Draft manuscript to be submitted in peer-reviewed journal.

		logbook data.	
1	WGSFD 2018 is requested to do preparatory work for the EU request to ICES on advising on <i>“appropriate methods to assess the spatial extent and distribution of physical disturbance pressures on the seabed (D6C2 of the Commission Decision 2017/848/EU)”</i> .	Advice request	Dedicated chapter in the WGSFD 2018 report.

Summary of the Work Plan

Year 1	Continuing WGSFD work from 2013–2015 on improving methods and ensuring high quality of VMS/logbook data processing from data request formats, quality checks and processing data to be implemented by the ICES data centre. Improving methods to calculate fishing intensity and initiate development of innovative methods to analyse spatial fisheries data, including the sandeel fishery in the North Sea as a case study. A request from OSPAR is expected again in 2016. Invite an expert on DCF indicators.
Year 2	Continuing WGSFD work from 2013–2015 on improving methods and ensuring high quality of VMS/logbook data processing from data request formats, quality checks and processing data to be implemented by the ICES data centre. Improving methods to calculate fishing intensity and initiate development of innovative methods to analyse spatial fisheries data.
Year 3	Continuing WGSFD work from 2013–2015 on improving methods and ensuring high quality of VMS/logbook data processing from data request formats, quality checks and processing data to be implemented by the ICES data centre. Improving methods to calculate fishing intensity and initiate development of innovative methods to analyse spatial fisheries data. Advisory request under ToR 1)

Supporting information

Priority	WGSFD work in 2013-2015 has proven that there is a demand for fine scaled spatial fisheries information. Outputs on fishing intensity from WGSFD have been requested by OSPAR and HELCOM for work on MSFD descriptor 6. Outputs can also be used for ecoregion advice as well as in descriptions of fisheries activity. WGSFD will in 2016-2018 focus on standardized methods that can be implemented by the ICES data centre but also on initiating development of innovative methods to analyze spatial fisheries data.
Resource requirements	VMS/Logbook data requested in ICES data calls
Participants	The Group is normally attended by around 15 members and some guests.
Secretariat facilities	Assistance from ICES data centre in hosting VMS/logbook data as well as quality checking and implementation of methods developed by WGSFD. Possibly meeting facilities.
Financial	Resources for ICES datacentre to host and process VMS/logbook data.
Linkages to ACOM and groups under ACOM	ACOM
Linkages to other committees or groups	WGDEC, DIG, WGBYC, WGECO, WGMHM, BEWG
Linkages to other organizations	OSPAR, HELCOM, EU FP-7 BENTHIS project