WGCOMEDA – Working Group on Comparative Analyses between European Atlantic and Mediterranean marine ecosystems to move towards an Ecosystem–based Approach to Fisheries

2016/MA2/SSGIEA05

The **Working Group on Comparative Analyses between European Atlantic and Mediterranean marine ecosystems to move towards an Ecosystem-based Approach (WGCOMEDA)**, chaired by Manuel Hidalgo, Spain, Marta Coll, Spain, Hilmar Hinz Spain, and Christian Möllmann, 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 2017	24-28 April	Lisbon, Portugal	Interim report by 1 July 2017 to SSGIEA	Christian Möllmann enters as a new co-chair for the period 2017-2019. Back-to-back meeting with WGEAWESS and WGIAB.
Year 2018	29–31 May	Sète, France	Interim report by 29 June to IEASG.	
Year 2019	8-12 April	Palma de Mallorca, Spain	Final report by 29 May to IEASG.	

ToR descriptors

ToR	Description	Background	Science Plan topics addressed	Duration	Expected Deliverables
a	Provide a more complete understanding of the structural and funtional role of **ecological stability** across different types of ecosystems.	a) The scientific and applied development of this ToR is sustained by the all the outcomes obtained in the previous 3-years of WG, that evidence which are the strategic and needed lines to follow up the research on this topic, and combining information from both seas (Atlantic and Mediterranean). b) The ecological and applied importance of understanding the mechanisms affecting the stability of natural systems for IAF justifies the work and research to be developed in this ToR. c) The ToR will benefit from the attendance of	1 and 3	3	Scientific collaborative papers for several **scientific questions**: **1.** The relative influence **drivers and structural properties** of communities for different type of ecosystems both in both seas (Atlantic and Mediterranean). **2.** The relative **contribution of different functional groups** to the stability of different systems. **3.** Mechanims affecting the **non-stationary pattern on stability**.

			1 and 3	3	
		scientists from other WGs from IEASG such as WGIAB or WGEAWESS, and the designed back-to-back meetings with WGIAB and WGEAWESS. This guarantees a good coordination with other WGs of IEASG.			**4.** Realtionship between **temporal and spatial** stability. **5.** Mechanisms affecting ecological **stability in the pelagic realm**.
b	Use of **functional traits information to assess the structure and functioning** of demersal and benthic communities across Mediterranean and Altalntic systems; and to predict their vulnerabiltiy to fishing disturbance.	a) This topic is directley addressing two main themes of ICES Strategic Science plan i.e. EFD Ecosystem Process and Dynamics and EPI Ecosystem pressures and Impacts. The TOR will provide futher insights into the development of indicator that may help with the manamgent of ecosystem goods and services and help to devise managemenet strategies that may help to mitigate human impacts on these. b) The TOR is direcly related to outcomes obtained in the previous 3-years of WG, where the genearl ideas and work flows have been developed. Based on these previous outcomes the current TOR aims to complete a cross Mediterranean Atlantic comparison	1 and 3	3	**1. Database** on demersal fish and benthic invertebrate traits for species used within the analyses including where possible real data from a regional scale data e.g. median size, maturity etc. **2.** Methodology to assess the **resitance/resilence** of demersal and benthic communities with respect to their trait composition to fishing. **3.** Collaborative scientifc papers **comparing funtional propperties of demersal and benthic communities** across reginal seas and their vulnerability to fishing disturbance.
c	Further develop the analysis of the link between **ecological stability** across different ecosystems types **and ecosystem properties** (structure and functioning)	a) The scientific development of this ToR is sustained by the outcomes from the previous 3-years of WG with the aim to follow up in the research on this topic. It will combine information from both seas (Atlantic and Mediterranean).	1 and 3	3	**1. Database** on ecosystem properties of Mediterranean and Atlantic marine ecosystems **2. Methodology** to assess the links between ecological stability and ecosystem

		a) This topic is addressing several main themes of ICES Strategic Science plan i.e. EFD Ecosystem Process and Dynamics and EPI Ecosystem pressures and Impacts. The TOR will provide insights into the knowledge needed to understand ecosystem dynamics that could help with guidelines needed for the manamegent of marine resources.			properties. **3.** Collaborative scientifc papers comparing **ecosystem stability and ecosystem properties** across reginal seas and their vulnerability to fishing disturbance and environmental factors.
d	Identify **ways and products to support the implementation of IEA** in regional ecosystems	Scientific results achieved under ToRs a, b and c will be translated into products that can be used in regional IEA implementation; i.e. better ecosystem indicators, models for indicator testing or management strategy evaluation.	3	3	**Scientific report** on potentials to use WGCOMEDA results for regional IEA implementantion (addressed towards regional IEA groups)

Summary of the Work Plan

Year 1	WGCOMEDA will be based on the results achieved during its first 3 years to define which are the research topics that will continue and which are the new ones for the ToRs A, B, and C. An important element in this new cycle is the work to be developed in the ToR D that will be done in close collaboration with members of WGIAB or WGEAWESS. It aims at identifying the main elements of the work developed in progress by COMEDA that may have potential implementation in ICES IEA programme. The group will focus in identifying potential to use the scientific results of WGCOMEDA in the work of the regional IEA expert groups. This will be achieved by back-to-back meetings (with WGIAB and WGEAWESS) and direct communication with chairs.
Year 2	Develop the analyses and modelling defined for each ToR The group will use the knowledge obtained in previous research, and the new scientific objectives agreed in the discussions of the first year to develop the statistical analysis and ecological modelling required. This will be developed for each research topic agreed. During the second year the group will start developing products derived from the scientific results of WGCOMEA for regional IEA implementation.
Year 3	Final discussion and synthesis of all the research topics The group will discuss the final results and outcome for the different research topics along the ToR A, B, C and D. Implementation of the strategic knowledge gained in the WG into the ICES IEA programme The group will produce a document outlining the use of WGCOMEDA scientific results in the regional IEA contexts.

Supporting information

Priority	The priority of this working group (WG) will continue to be the integration of both cross-systems and system-specific key scientific questions to guide research and improve the ecosystem approach to management of living marine resources of the European Seas using existing data and analysis from regional systems at the East Atlantic Ocean and Mediterranean Sea. Particularly, the aim of this new cycle of the WG will be two-fold. First, we will continue developing fundamental research required to sustain the implementation of Integrated Ecosystem Approach (IEA) in the European Seas. Second, the WG will specifically address the challenge of a potential implementation of the research outcomes into the ICES IEA program.
	The working procedures will be based on developing and strengthening the scientific basis for regional and integrated ecosystem approach of coastal and marine living resources through a comparative platform of research. During the first three years, the WG COMEDA succeeded in the development of a network and platform of collaboration, and evidenced that a comparative approach of marine ecosystems is essential to learn on how Mediterranean and Atlantic ecosystems are structured, how they function, and which are the more sensitive species or ecological processes to be managed within the ecosystem dynamics. The close collaboration envisaged with other WG of IEASG such as WGIAB or WGEAWESS will provide a solid basis to develop the new objective, research topics and ToR of this new COMEDA cycle. During this new COMEDA cycle we will invite colleagues working in the Pacific ecosystems to the meetings and/or activities evidencing the commitment of the group to develop research and applied activities at a comparative large scale.
Resource requirements	Information from ICES and GFCM, and JRC databases were and will continue being the main input for this group. Outcomes from food web models from the Ecopath International Development and Research Consortium will be used, too. No additional resources are identified, although participation of some experts (especially young scientists) to working group meetings depends on funding availability. The participation of young scientits is capital for a development of activities of the WG, and will highly benefit by the back-to-back meetings with members of WGIAB or WGEAWESS.
Participants	The Group is normally attended by 20–25 members and guests.
	The preliminary list of possible (°) members is the following:
	Marta Coll (ICM-CSIC, Spain) – Chair and expert on Mediterranean ecosystems
	Manuel Hidalgo (IEO, Spain) – Chair expert on Atlantic and Mediterranean ecosystems
	Hilmar Hinz (IMEDEA-CSIC, Spain) – Chair and expert on Atlantic ecosystems
	Chirstian Möllmann (Univ. of Hamburg, Germany) – Chair and expert on Atlantic ecosystems
	Francoise Le Loch (IRD, France) – expert on Atlantic and Mediterranean ecosystems
	Konstantinos Tsagarakis (Greece) - expert on Mediterranean ecosystems (Aegean Sea)
	Martin Lindegrem (DYU-AQUA, Denmark) – expert on Atlantic ecosystems (Baltic Sea)
	Michele Casini (Swidish University of Agricultural Science, Sweeden) - expert on Atlantic ecosystems (Baltic Sea)
	Thorsten Bleckner (Stockolm Resilience Center, Stockolm Univversituy, Sweeden) - expert on Atlantic ecosystems (Baltic Sea)
	Henn Ojaveer (University of Tartu, Estonia) – expert on Atlantic ecosystems (Baltic Sea).
	Sheila Heymans (SAMS, UK) - expert on Atlantic ecosystems (Western Scotland).
	Marian Torres (University of Algarve , Portugal) - expert on Atlantic ecosystems.

	Eider Andonegi (AZTI, Spain) – expert on Atlantic ecosystems (Cantabric Sea).
	Joachim Claudet (CRIOBE, France) – expert on Pacific and Mediterranean ecosystems.
	Bastian Merigot (University of Montpellier, France) – expert on Atlantic and Mediterranean ecosystems.
	Evangelos Tzanatos (University of Patras, Greece) - expert on Mediterranean ecosystems.
	Heino Fock (Thuenen, Germany) - expert on Atlantic and Arctic ecosystems (Greenland).
	Ignasi Català (IMEDEA, Spain) – expert on Atlantic and Mediterranean ecosystems.
	Jaime Otero (IIM, CSIC, Spain) - expert on Atlantic and Arctic ecosystems.
	Lauréne Pécuchet (DTU-AQUA,Denmark) – expert on Atlantic and Mediterranean ecosystems.
	Mariano Koen-Alonso (DFO, Canada) – expert on Atlantic ecosystems (West Canada).
	Raul Primicerio (University of Tromsø, Norway) – expert on Arctic ecosystems (Barents Sea).
	Romain Frelat (University of Hamburg, Germany) – expert on Atlantic ecosystems (Barents Sea).
	Sofia Henriques (University of Lisbon, Portugal) – expert on Atlantic ecosystems and global meta-analysis.
Secretariat facilities	Report preparation and dissemination
Financial	No financial implications for ICES.
	Funding will be likely needed to facilitate the participation of young and early-career expert scientists. WG chairs will apply to marine research consortiums to find financial support for those early-career researchers who need travel funding.
Linkages to ACOM and groups under ACOM	There are no obvious direct linkages.
Linkages to other committees or groups	There is a very close working relationship with all the groups of IEASG. Indeed, there will be an effective and operational collaboration through back-to-back meetings planned with WGEAWESS and WGIAB.
Linkages to other organizations	