WGCERP - Working Group on Common Ecosystem Reference Points

2018/MA2/IEASG05 A **Working Group on Common Ecosystem Reference Points (WGCERP)**, chaired by Mary Hunsicker, USA, Xiujuan Shan, China, Benjamin Planque, Norway, and Saskia Otto, 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 2019	September 2019	Gothenburg, Sweden	Interim report by 1 December 2019 to IEASG	
Year 2020	November 2020	EU Joint Research Center (JRC), Ispra, Italy	Interim report by TBD 2020 to IEASG	
Year 2021	To be decided	To be decided	Final report by 31 December 2021 to IEASG	Election of new chairs

ToR descriptors

ToR	Description	Background	Science Plan codes	Duration	Expected Deliverables
a	Review regional and national policy and management drivers for the establishment of reference points across ICES member nations.	The motivations behind establishment of reference points vary between nations. This needs to be described and understood before developing common reference points.	6.2, 6.3	year 1	Report of the review in ICES or as peer reviewed publication. Combined review based on ToRs a-e
b	Review previous efforts to identify suitable ecological/ecosystem indicators relevant to fisheries management in the ICES areas. (Year 1)	Some reference points for ecological/ecosystem indicators already exist. They need reviewing in the light of ToR a) before developing common reference points.	5.3, 6.1	Year 1	Report of the review in ICES or as peer reviewed publication. Combined review based on ToRs a-e
c	Produce shortlist a set of indicators that are applicable in most systems studied and cover: single populations, communities, trophic interactions, food webs and spatial distributions.	Some indicators have been (or have the potential to be) used in many different ecosystems. Building on work by e.g. WGECO, HOLAS II, OSPAR, these key indicators need to be shortlisted before reference points can be evaluated.	1.3, 6.2, 6.6	Year 1	Report of the review in ICES or as peer reviewed publication. Combined review based on ToRs a-e
d	When ecosystem reference points already exist, identify the methodology used for their determination.		1.3, 6.2	Year 1	Report of the review in ICES or as peer reviewed publication. Combined review based on ToRs a-e

e	When ecosystem reference points already exist, identify if they could change (or have already changed) under different climatic or ecological regimes		1.3, 2.2, 6.2	Year 1	Report of the review in ICES or as peer reviewed publication. Combined review based on ToRs a-e
f	Develop conceptual models to examine ecosystem drivers (climate forcing, fishing) and responses using selected ecosystem reference points.	Ecosystem indicators are attached to mental (conceptual) models of ecosystems. The conceptual models need to be explicitly presented together with the reference points.	1.3, 2.2, 6.2	Year 2	Contribution to ICES ecosystem overviews through the provision of conceptual models of ecosystem functioning.
g	Establish a framework to test the performance of the selected indicators and of the calculation of the associated reference points, using simulated data.	Similar to what is done in MSE (management strategy evaluation), ecosystem reference points need to be evaluated through simulation studies…	4.1	Year 2	Report within ICES and as peer reviewed publication. Combined with ToR h.
h	Evaluate the performance of selected - existing and proposed - ecosystem refer-ence points for single species populations, communities, trophic interactions, food webs and spatial distributions in the ICES areas.	…and these simulation studies should be performed on a set of representative case studies.	4.1, 5.1, 5.3	Year 3	Report within ICES and as peer reviewed publication. Combined with ToR g.
i	Identify ecosystem components that respond rapidly to changes in biophysical drivers and could potentially serve as indicators of loss of resilience and ecosystem change.		1.3	Year 3	
j	Provide a set of recommendations for integrated assessment working groups and Ecosystem overviews for the definition of ecosystem indicators and their limit reference points.	IEA groups thrive to produce quantitative assessments of ecosystem state that are well grounded in policy, scientificaly sound, experimentally tested and interpretable in a management context.	6.1, 6.3, 6.6	Year 3	Recommendations to ICES IEA groups and for the further development of Ecosystem Overviews. Peer review publication.

Summary of the Work Plan

Year 1	Review and synthesis of existing policy drivers and methodological developments for ecosystem indicators and associated reference points to support EAFM/EBFM in the ICES areas.
Year 2	Develop methodologies to assess the performance of ecosystem indicators and associated reference points.

Year 3	Evaluate the the performance of ecosystem indicators and associated reference points in selected case studies. Use the results as a basis to provide guidelines to IEA groups for establishing ecosystem reference points.

Supporting information

Priority	Legal national and international frameworks such as the EU MSFD , HELCOM and OSPAR convention require the determination of ecosystem status based on indicators and their reference points. While the selection of suitable indicators has advanced substantially the determination of reference points is still debated and presently lacking clear management and scientific underpinning. Thus the priority should be considered high. The work planned in WGCERP will directly address ICES science priority area 6 Developing tools, knowledge and evidence for effective conservation and management and some elements of prioty are 2 (Understanding ecosystems) and 3 (Impacts of human activities).
Scientific justification	ICES groups on integrated ecosystem assessment provide a number of indicators of ecosystem status and trend to support ecosystem based fisheries management, also through inclusion in the Ecosystem Overviews. Earlier, ICES Expert Groups have recognised that for these indicators to be used in a management framework, there is a need for the establishment of reference points. The scientific background for reference points is well established for single species. A similar scientific effort is required to support the establishment and evaluation of reference points for ecosystem/ecological indicators.
Resource requirements	No major resourcing
Participants	Researchers from across the ICES network.
Secretariat facilities	Support for meetings at ICES HQ, when appropriate.
Financial	No financial implications for ICES.
Linkages to ACOM and groups under ACOM	Link to ACOM through the development of Ecosystem Overviews and advice.
Linkages to other committees or groups	Within ICES links across all ICES IEA working groups and to WGECO, WGBIODIV, JWGBIRD, WGCOMEDA. The planned work of WGCERP build up from previous ICES workshop, namely WKFooWI, WKFISHDISH and WKECOFRAME.
Linkages to other organizations	Links to PICES Working Groups working on similar topics (WG36 WG28, WGCEP, S-CCME WGNPESR).