

# AD HOC GROUP ON DRAFTING THE STRATEGIC INITIATIVE ON THE HUMAN DIMENSION IN INTEGRATED ECOSYSTEM ASSESSMENTS (SIHD)

## 1 Background

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*“A Strategic Initiative is a mechanism to introduce innovative and interdisciplinary thinking to ICES, on topics that are crosscutting and requiring additional partners outside the ICES constituency”*

Integrated Ecosystem Understanding and Integrated Ecosystem Assessments are core elements of the ICES Strategic and Implementation Plan<sup>1</sup>. The integration encompasses ecological, social and economic considerations. Whereas the ecological sciences are well developed within ICES, the inclusion of social and economics sciences has not been fully done yet. The aim of the proposed ICES Strategic Initiative on the Human Dimension in Integrated Ecosystem Assessments is to develop strategies to support the integration of social and economic science into ICES work.

However some activities have been already initiated and a first step is to i) identify and harmonize existing initiatives within ICES, ii) identify gaps and iii) identify activities outside ICES, which could help in filling these gaps. The SI should address current research needs, based on the ICES Strategic Plan and existing knowledge on the topic.

Points identified are the following:

- Include the approach of human geography, which already makes use of a diverse set of methodologies from sociology, economics, history and more.
- Not necessarily separate between the different social sciences, but to use the term Human Dimension in its broad definition to guide the work.
- Develop social indicators as a tool to make drivers visible, but to extend the use of quantitative methods towards qualitative ones.
- Scope if the DPSIR-framework might be useful.
- The science-policy interface is important.
- What are constraints of the existing activities in translating science into policy relevant advice.
- Develop participatory approaches.
- Social sciences are also needed to help in stakeholder engagement.

The establishment of linkages to other organisations, which complement the expertise within ICES, has been started by initiating a collaboration with the International Institute for Fisheries Economics and Trade (IIFET) through joint chairmanship of the Working Group on Integrating Ecological and Economic Models (WGIMM) and sev-

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<sup>1</sup> <http://www.ices.dk/explore-us/what-we-do/Pages/Our-strategy.aspx>

eral joint theme sessions at the IIFET conference, the World Fisheries Congress and this year for the Annual Science Conference (ASC).

A landmark activity, which is well along the lines of the proposed SI, will be the Symposium “Understanding marine socio-ecological systems: including the human dimension in Integrated Ecosystem Assessments” taking place early 2016 in Brest, France (Conveners: David Smith (CSIRO), Olivier Thebaud (IFREMER) and Jason Link (NOAA)).

The following chapters list activities within (2) and outside (3) ICES including relevant organisations, institutes, programmes and projects and relevant research questions (4).

## 2 Activities within ICES

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### 2.1 Expert Groups

Working Group on the History of Fish and Fisheries (WGHIST) - providing a platform for multidisciplinary discussion to scientists from a variety of disciplines and institutions working on the history of fish and fisheries; supporting the development of historical ecological baseline development in the context of the MSFD including indicators of Good Environmental Status (GES) and aim at primary publications resulting from such analyses.

Working Group on Maritime Systems (WGMARS) - a forum to articulate interdisciplinary perspectives regarding sustainable ecosystem science, advice and governance.

Working Group on Socio-Economic Dimensions of Aquaculture (WGSEDA) - special focus on the identification of the direct socio-economic benefits of aquaculture through its supply of highly nutritious foods and other commercially valuable products whilst providing jobs and creating incomes.

Working Group on Integrating Ecological and Economic Models (WGIMM) - explore alternative modelling approaches that bring the multiple disciplines of economics, ecology, and stock assessment into integrated ecosystem models.

Working Group on the Northwest Atlantic Regional Sea (WGNARS) - develop scientific support for Integrated Ecosystem Assessments (IEAs) of the Northwest Atlantic region and to support ecosystem approaches to science and management.

Working Group on Resilience and Marine Ecosystem Services (WGRMES – develop scientific support and ecosystem models to better understand the role of ecological, economic, social and cultural dimensions of marine ecosystem services (e.g., commercial fisheries, aquaculture, and other recreational activities) with the active participation of stakeholders. Special focus is given to the transformation towards sustainable uses of marine ecosystem services.

Workshop on Regional Seas Commissions and Integrated Ecosystem Assessment Scoping (WKRISCO) - summarise progress made and methods used across the ICES integrated ecosystem assessment (IEA) groups and scope with OSPAR and HELCOM the science needs for upcoming regional assessments (QSR and HOLAS).

### 3 Activities outside ICES

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#### 3.1 Organisations

PICES Section on Human Dimensions of Marine Systems (S-HD) - To better understand and communicate the societal implications of the conditions and future trends of North Pacific marine ecosystems (FUTURE vision), to provide a forum for the integration of FUTURE-related studies using social science approaches and tools, and to facilitate the close discussions and communications among researchers from both the natural and social sciences.

PICES SG\_SEES: Study Group on Socio-Ecological-Environmental Systems ([https://www.pices.int/members/study\\_groups/SG-SEES.aspx](https://www.pices.int/members/study_groups/SG-SEES.aspx))

International Institute of Fisheries Economics & Trade (IIFET) - promote interaction and exchange between people from all countries and professional disciplines about marine resource economics and trade issues.

The European Association of Fisheries Economists (EAFE) - promote co-operation in economic research in fisheries and aquaculture; assist in the dissemination of information about fisheries economics among members; undertake any activity deemed appropriate to further the understanding of fisheries economics; serve as a channel of communication with other interested bodies

The International Association for the Study of the Commons (IASC) - bringing together multi-disciplinary researchers, practitioners and policymakers for the purpose of improving governance and management, advancing understanding, and creating sustainable solutions for commons, common-pool resources, or any other form of shared resource.

The European Association of Environmental and Resource Economists (EAERE) - contribute to the development and application of environmental and resource economics as a science in Europe; encourage and improve communication between teachers, researchers and students in environmental and resource economics in different European countries; develop and encourage the cooperation between university level teaching institutions and research institutions in Europe.

NOAA's Integrated Ecosystem Assessment Program

(<http://www.noaa.gov/iea/index.html>)

IPBES (Intergovernmental Platform on Biodiversity and Ecosystem Services) ([www.ipbes.net](http://www.ipbes.net)) – it as an independent intergovernmental body open to all member countries of the United Nations. It provides a mechanism recognized by both the scientific and policy communities to synthesize, review, assess and critically evaluate relevant information and knowledge generated worldwide by governments, academia, scientific organizations, non-governmental organizations and indigenous communities.

Stockholm Resilience Centre (<http://www.stockholmresilience.org>) - Stockholm Resilience Centre advances research on the governance of social-ecological systems with a special emphasis on resilience - the ability to deal with change and continue to develop.

### 3.2 Projects and Programmes

IMBER Humand Dimension Working Group  
<http://www.imber.info/index.php/Science/Working-Groups/Human-Dimensions>)

INDISEAS (<http://www.indiseas.org>)

Coastal Climate Blueprint ([coastalclimateblueprint.org.au](http://coastalclimateblueprint.org.au))

GAP2 – Connecting Science, Stakeholders and Policy ([www.gap2.eu](http://www.gap2.eu))

MYFISH - Maximising Yield of Fisheries while Balancing Ecosystem, Economic and Social Concerns ([myfishproject.eu](http://myfishproject.eu))

SOCIOEC – Socio Economic Effects of Management Measures off he Future CFP (so-cioec.eu)

TooBigToIgnore (<http://toobigtoignore.net/>) - is a research network and knowledge mobilization partnership established to elevate the profile of small-scale fisheries (SSF), to argue against their marginalization in national and international policies, and to develop research and governance capacity to address global fisheries challenges.

### 3.3 Reading list

(Holling, 2001)- to integrate the essence of ecological, economic, and social theory to explain the functioning of socio-ecological systems across spatial and temporal scales.

(Loomis *et al.*, 2014) - To determine and convey whether an ecosystem is in fact approaching this goal implies developing indicators that capture the status of both the natural and societal aspects of the system. That said, developing consistent and useful indicators for both societal and natural system aspects of the ecosystem requires both resolving disparate perspectives and inconsistent terminology between human dimensions and natural system scientists and keeping the number of indicators manageable few, without oversimplifying a highly complex ecosystem.

(Osterblom *et al.*, 2013) - The natural sciences have a long history of developing scenarios but rarely with an in-depth understanding of factors influencing human actions. Social scientists have traditionally investigated human behavior, but scholars often argue that behavior is too complex to be represented by broad generalizations useful for models and scenarios. This paper addresses this scientific divide with a framework for integrated marine social-ecological scenarios, combining quantitative process-based models from the biogeochemical and ecological disciplines with qualitative studies on governance and social change. The aim is to develop policy-relevant scenarios based on an in-depth empirical understanding from both the natural and the social sciences, thereby contributing to adaptive stewardship of marine social-ecological systems.

(Schwerdtner Máñez *et al.*, 2014) - This paper identifies the emerging research topics for future historical marine research. It elaborates on concepts and tools, which are expected to play a major role in answering these questions, and identifies geographical regions, which deserve future attention from marine environmental historians and historical ecologists.

#### 4 Research Questions (start of collection)

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S.V.: What are the social transformations needed to successfully address complex, multidimensional processes involving multiple actors at different spatial and temporal scales?

#### References

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## ANNEX 1: Timeline

ACTIVITY	PRODUCT
09.01.2015 first WebEx Core Group (CG1)	Minutes
19.01.2015 second WebEx Core Group (CG1)	Minutes + first set of goals and objectives
21.01.2015 Circular to CG1 and CG2	Collection of feedback based on action points (objectives and related activities)
30.01.2015 Deadline for comments	White document with all input (serves as background document to accompany the resolution)
Beginning of February WebEx with CG1 for prioritisation	First draft of resolution for SIHD
February 2 <sup>nd</sup> circular to CG1 and CG2	Collection of feedback on first draft resolution
end of February/beginning of March final WebEx with CG1	Final resolution + background document to be sent to SCICOM

## ANNEX 2: members

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**2015/X/SCICOMXX The ICES Strategic Initiative on the Human Dimension in Integrated Ecosystem Assessments (SIHD)**, chaired by XXX, will conduct activities over the period 2015 to 201x, coordinated by a core group to:

a) , b), c), ...

The inaugural meeting will be at the ICES ASC-in September 2015, followed by several workshops...

#### Supporting information

<b>PRIORITY</b>	High. ICES has put Integrated Ecosystem Understanding into the core of its Strategic Plan and the Implementation Plan. Integrated Ecosystem Assessments are the identified tool....
Scientific justification	<p><b>Goals</b></p> <p><b>TEXT here</b></p> <p>To achieve this overarching goal, the following actions should be addressed.</p> <p>i)</p> <p>ii)</p> <p>iii)</p> <p><b>Objectives:</b></p> <p>The success of this strategic initiative rests on:</p> <p>i)</p> <p>ii)</p> <p>iii)</p> <p><b>Key Questions</b></p> <p>The overarching goal of the initiative will be to answer the following linked questions.</p> <p>i)</p> <p>ii)</p> <p>iii)</p>
Resource requirements	Secretariat support for running theme sessions, workshops, and conferences
Participants	xxx core members
Secretariat facilities	Assistance with organising workshops
Financial	See category 4 resolution, 2011/4/SCICOM01.
Linkages to advisory committees	SCICOM
Linkages to other committees or groups	SSGIEA
Linkages to other organizations	EC, EEA, Regional Seas Conventions, FAO, World Bank, large marine science programs (e. g., IMBER), International Institute of Fisheries Economics and Trade (IIFET), EAFE, ....