WORKSHOP ON H2020 FISHERIES TOPICS
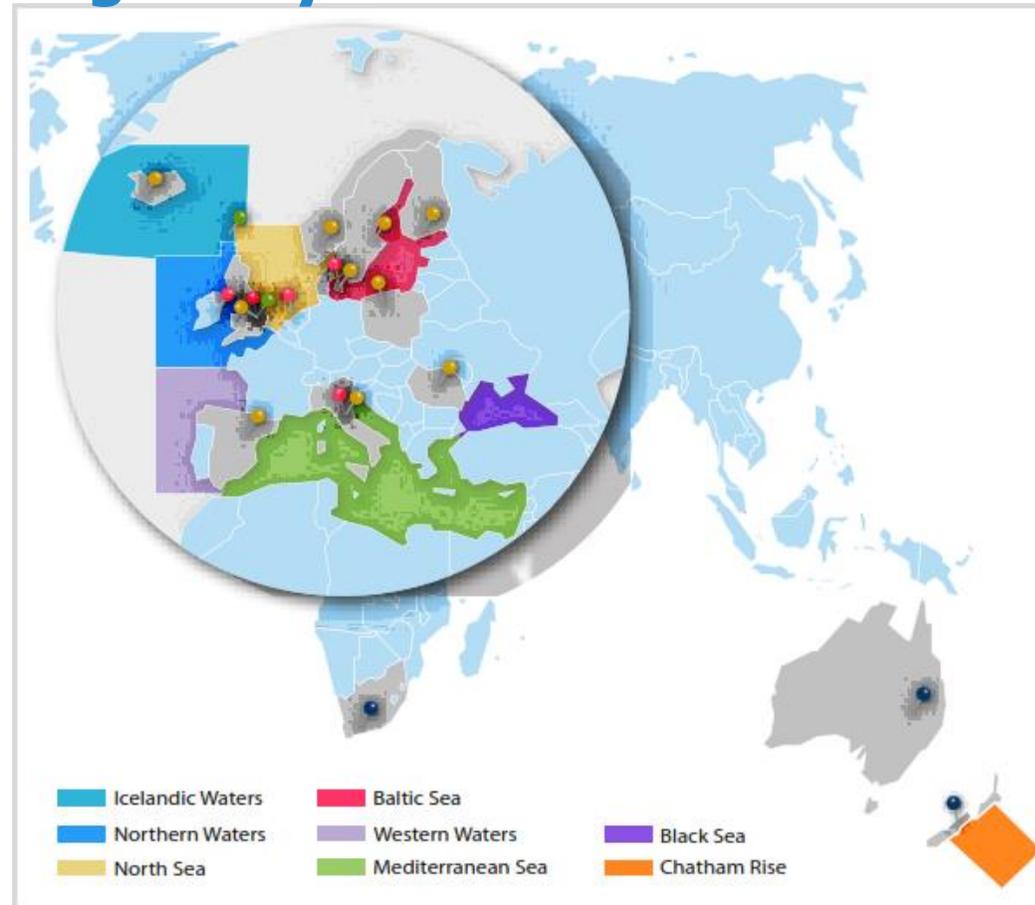
23 March 2018
European Commission´s building COV2, Brussels
Chairs: European Commission: Directorate General for Research and Innovation and
Directorate General for Maritime Affairs and Fisheries

MareFrame

Co-creating Ecosystem based Fisheries management Solutions

Icelandic Waters
Northern Waters
North Sea
Baltic Sea
Western Waters
Mediterranean Sea
Black Sea
Chatham Rise

@MareFrame
@MatisIceland
@Haskoli_Islands
@EUScienceInnov
@EU_MARE

Coordinator: Anna Kristín Daníelsdóttir – MATIS   **@DanielsdottirK**
Scientific Manager: Gunnar Stefánsson – UI   **@gstefans**
Administrative Manager: Oddur Már Gunnarsson – MATIS   **@OddurMar**

SCIENCE FOR SUSTAINABLE SEAS
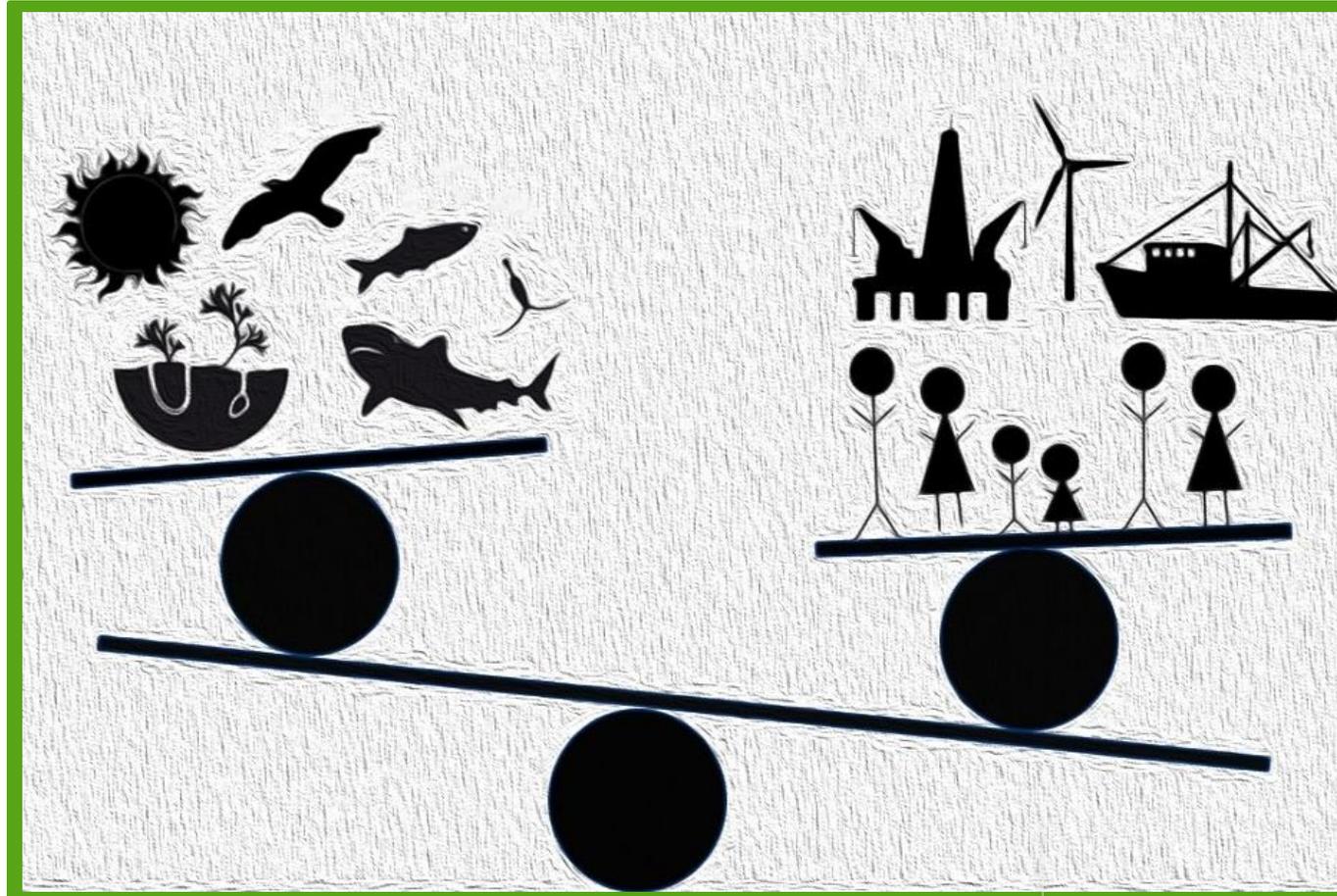
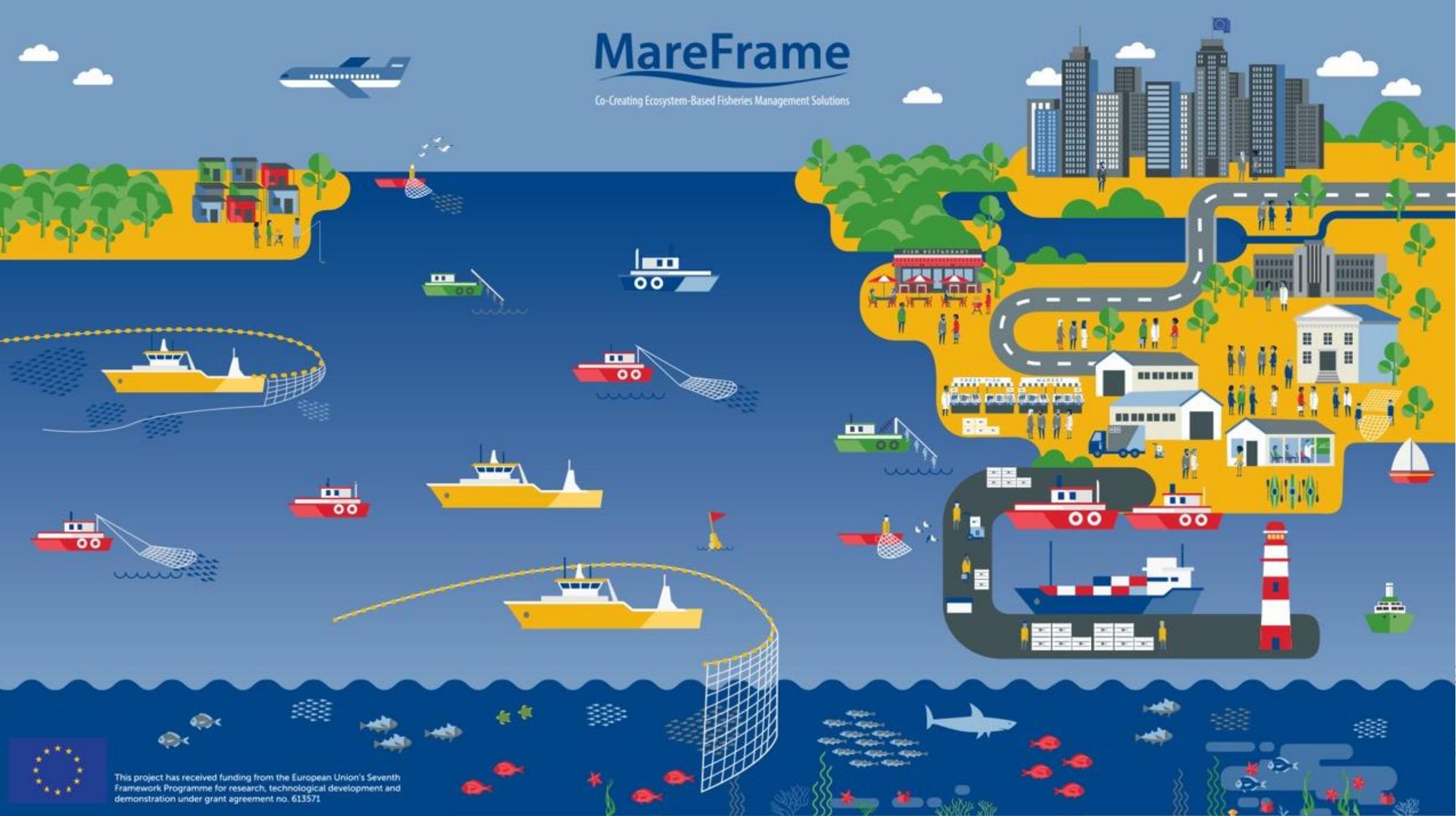Reference: ICES/AORA + FAO workshop on making the ecosystem approach operational 2016

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Co-Creating Ecosystem-Based Fisheries Management Solutions

The MareFrame Legacy

Decision Support Framework

Co-Creation

Models

Educational Resources

Decision Support Tools
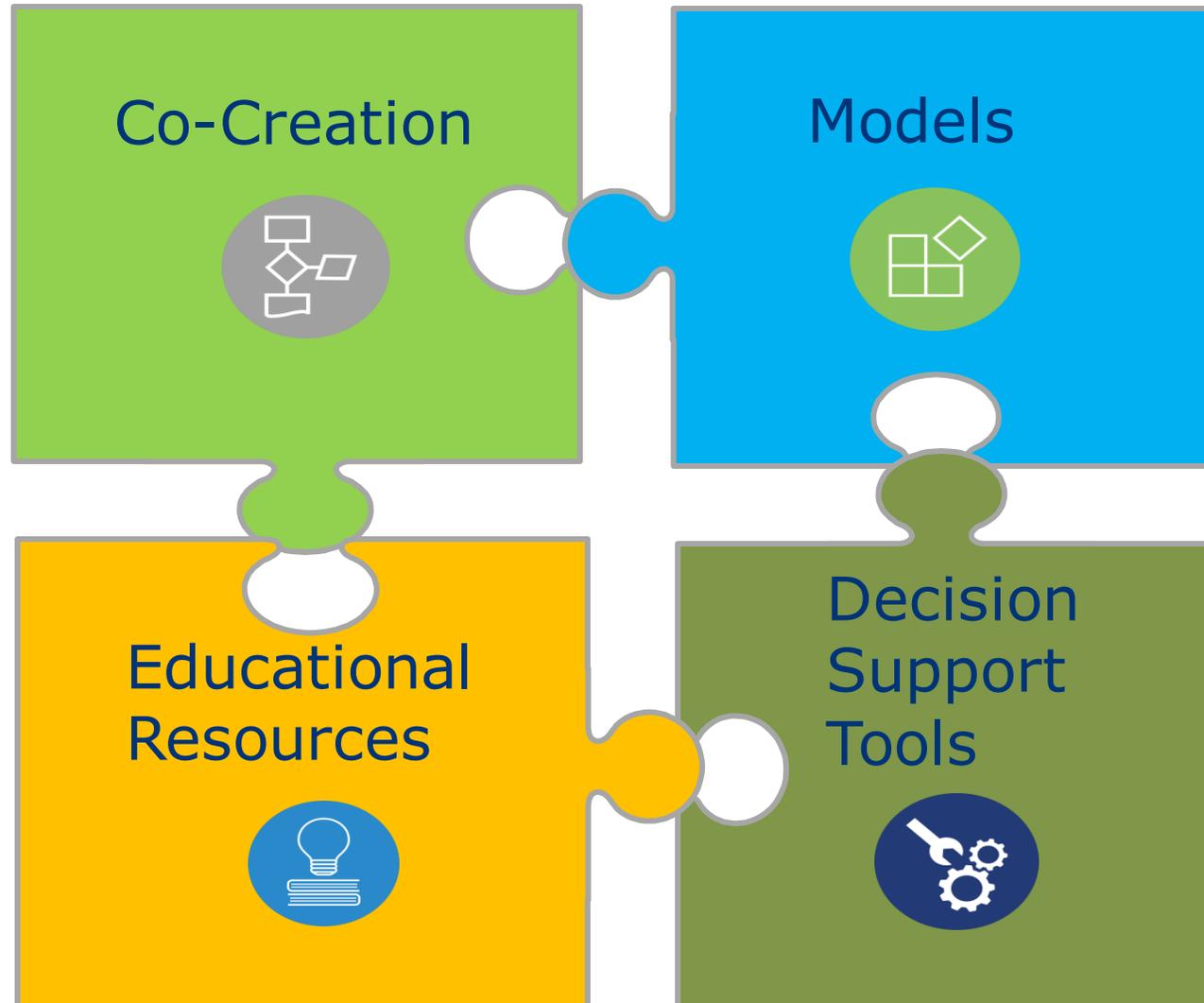
Take what you need

Use it!

"Co-creation is OK"
"Turn Stakeholders into Takeholders"
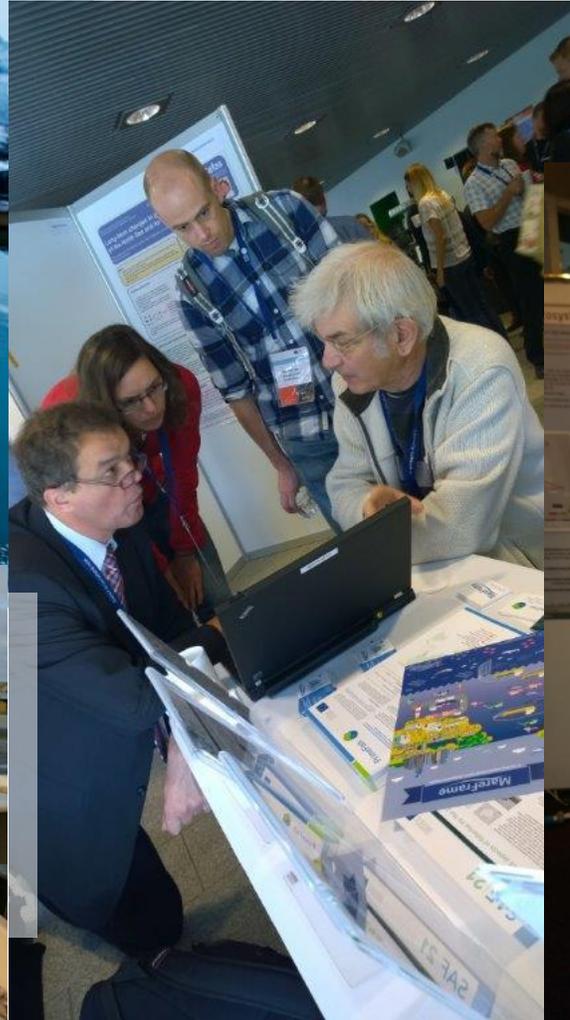
CO-CREATION = IMPACTFUL SCIENCE

Roadmaps for exploitation of MareFrame outputs

MareFrame on-going inputs for ICES

SINGLE SPECIES

WGBIE Working Group on Bay of Biscay and Iberian Waters Ecoregion
WGDEEP Working group on biology and assessment of deep-sea fisheries resources
WGHANSA Working Group on Southern Horse Mackerel, Anchovy and Sardine
WGMIXFISH Working Group on Mixed Fisheries Advice

West of Scotland Biomass-based indicators and Trophic level based indicators
Baltic Pressure descriptor
North Sea Pressure descriptor
South Western Waters Cetaceans in WGMME
South Western Waters Pressure descriptor Anchovy

GES DESCRIPTORS

MODEL ADVANCES

Gadget Working document: "A GADGET Multi-species models for cetacean and hake interactions in the Iberian Peninsula"
Atlantis, Ewe Icelandic continental shelf-area Multi-species presentation
EwE West of Scotland Multi-species key run
EwE Baltic Sea Multi-species key run
ToR d Investigate the performance of multi-model ensemble in comparison to single model approach for the Baltic Sea
Green Model Presentation: "Green Model for the North Sea"

INTEGRATED ADVICE

WKDEICE Working Group on DEveloping Integrated AdviCE for Baltic Sea ecosystem-based fisheries management
WGMME Working Group on Marine Mammal Ecology

MareFrame alternatives for ICES

TRAINING COURSES (e.g. Gadget)
AD HOC WORKSHOPS 2017 (e.g. from WGs findings)
JOINT SESSIONS ICES-STECF 2018 Decision Support Tools for the EAFM
ASC 2017 ICES ECOSYSTEM APPROACH Meeting Point

GFCM RoadMap

SINGLE SPECIES

CoC
Working group on IUU fishing (WGIUU)

WGBS
Sixth meeting of the Working Group on the Black Sea (WGBS)

WGSAD
Working Group Stock Assessment Demersal Species (2017)

SAC
SubCommittee Central Mediterranean (2017-2018)

GES DESCRIPTORS

NW Black Sea
Biomass-based indicators and Trophic level based indicators

Mediterranean (Strait of Sicily)
Biomass-based indicators and Trophic level based indicators

MODEL ADVANCES

Gadget
Presentation of Gadget modeling results for BS and Med during planned GFCM events)

Atlantis
Presentation of Atlantis modeling results for Med during planned GFCM events

EwE
Presentation of EwE modeling results for BS and Med during planned GFCM events

INTEGRATED ADVICE

WGBS
Sixth meeting of the Working Group on the Black Sea (WGBS)

WGSAD & SUBCOMMITTEE SAC
Working Groups in stock assessment for demersal species & Sub-Com on Central Mediterranean

Options – Strategic Actions

AD HOC WORKSHOPS 2017
JOINT SESSIONS GFCM-STECF 2018
TWINNING WITH BLACK SEA4FISH PROJECT

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HOW TO ADVANCE TOWARDS AN ECOSYSTEM-BASED APPROACH TO FISHERIES MANAGEMENT (EAFM) IN THE EUROPEAN UNION

The widespread implementation of an EAFM is a central goal for the EU. Although there have been significant advances, is wider implementation still faces structural and institutional challenges. MareFrame has identified four central challenges: policy harmonization of the CFP and MSFD; inadequate platforms for meaningful participation; insufficient frameworks for balancing objectives; and the need of capacity building for advice and uptake.

MareFrame has designed a *Decision Support Framework* (DSF) to address these challenges in cooperation with stakeholders. The DSF includes:

(1) a co-creation process, involving cooperation with stakeholders to identify, analyse, and explore how to address the problem;
(2) ecosystem models, to understand the likely consequences of management options
(3) a set of computerized Decision Support Tools that aid complex planning and decision-making
(4) educational resources to facilitate the use of the DSF

Challenge	Component of the MareFrame DSF addressing specific challenge			
	Co-creation	Ecosystem Model	Decision Support Tools	Education materials
Policy harmonization of the CFP and MSFD	✓	✓		
Inadequate platforms for meaningful participation	✓		✓	
Insufficient frameworks for balancing objectives		✓	✓	✓
Capacity building needed for advice and uptake	✓	✓		✓

The findings of MareFrame advocate that managers adopt all four components of the DSF together for best practice, but the components can be implemented piece by piece in the case of scarce resources or context-dependent circumstances.

1. Policy harmonization of the CFP and MSFD

There is room for improving the CFP and the MSFD coherence associated to the interplay of the multilevel governance (Member States and EU level), facilitating how decision makers, science advisors, and stakeholders should analyse trade-offs.

What MareFrame has done	Barrier Remaining	Recommended Action
Identified institutional and legal barriers and challenges	Sector/area based policies may slow down advances towards EAFM (fisheries, environmental)	Enhance regional policy structures and strengthen links with Regional Sea Conventions
Analysed the advisory system for an EAFM	Lack of resources/ resource optimization; fragmentation of the knowledge pool, piecemeal advice	Allocate resources strategically to broaden the scope of science processes
Used scoping exercises to address cross policy issues (e.g. joint consideration of GES Descriptors 3, 4 and 6)	Different users request different advice	Enhance capacity of the advisory system to support cross-policy cooperation (involving ICES, GFCM, STECF, JRC)

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2. Inadequate platforms for meaningful participation

There are many stakeholder forums in the EU, but their activities are in many cases weakly connected to decision-making. Meaningful participation with regard to EAFM requires platforms that foster iterative scoping of problems for adaptive planning and management.

What MareFrame has done	Barrier Remaining	Recommended Action
Enhanced participatory processes with facilitators and scientific support	Lack of funding and awareness (resources and commitment)	Integrate structured dialogue in existing work programs
Analysed the relationship between Advisory Councils and Member States Regional Groups	Underdeveloped links between (some of) the ACs and the MSRGs	Provide guidance on best practice for cooperation
Analysed the science-policy-society gaps and the need for multiple sources of knowledge connected to relevant policy fora	Stakeholder fatigue and "misuse" of consultative processes detached from decision-making; overlapping work and underestimation of requirements and workloads; legitimacy of constituencies; differences in capacity to influence the dialogue	Use the regionalization process to support scoping exercises. Regionalization should include management at regional, sub-regional and supra-regional levels

3. Insufficient frameworks for balancing objectives

EAFM requires the capacity to address and balance a number of conflicting ecological, economic, and social objectives in a fair, transparent, and legitimate manner where costs and benefits of specific options on the various dimensions of sustainability are described systematically.

What MareFrame has done	Barrier Remaining	Recommended Action
Developed methodology supporting joint consideration and evaluation of ecological, economic, and social objectives/ trade-offs	Lack of social and economic indicators and defined thresholds; limitations with regards to incorporate such indicators in ecosystem model frameworks; difficulties of reconciling multiple objectives with multiple decision makers at multiple levels	Support the collection of relevant data. Interdisciplinary collaboration to model full ecosystem by considering social, economic and environmental aspect. Define reference levels for ecosystem indicators; establish scoping processes involving all authority levels
Developed DSTs for informed decision-making	DSTs have not been tested in real planning decision-making	Facilitate the actual use of DSTs at local level to test suitability and usefulness

4. Capacity building needed for advice generation and uptake

There is a need to strengthen the supply of EA advice from scientists and stakeholders. In addition, capacity building is necessary for decision makers to better know how to handle EA advice.

What MareFrame has done	Barrier Remaining	Recommended Action
Cooperation between natural social sciences, transdisciplinary research to address uncertainty and complexity of social-ecological systems	Lack of skills for enhancing multi-disciplinary research approaches	Promote "a sustainability sciences approach," providing adequate resources and platforms for transdisciplinary cooperation in research
Assessed the role of the ACs in the EAFM and relevant fora for the exploration of trade-offs	Lack of availability of stakeholders to provide knowledge into a compatible and connected format within an EAFM	Conduct practical experimentation connected to ongoing activities with ICES and STECF to identify the benefits of an EAFM for the ACs

The MareFrame project contributed to a wider implementation of EAFM by developing processes, models, and tools to support scenario-based planning in iterative cooperation with stakeholders. The findings are of relevance for the future management of the marine living resources and for the supporting the implementation of the CFP, the MSFD, the Habitat Directive the Birds Directive, the Marine Spatial Planning Directive and the overall Blue Growth Strategy.

All the information and public deliverables are available at www.mareframe-fp7.org

Contact the MareFrame team: Anna Kristin Daníelsdóttir, project coordinator (annak@matis.is)

MAIN OUTCOMES

New tools and technologies

   indicators, MareFrame database incl. upload & extraction routines, evaluation tools

Extended ecosystem models and assessment methods

   tests and comparisons of models across ecosystems

New Decision Support Framework (DSF) that can highlight alternative management actions and their consequences

Development, acceptance and incorporation by stakeholders

   co-creation, training tools, visualization tools for different management scenarios

Support implementation of the Common Fisheries Policy (CFP), Marine strategy Framework Directive (MSFD), Habitats Directive (HD) and SA strategy on "Operation Phakisa Oceans Economy"

clear policy objectives, effective decision-making, industry that is ecologically, socially and economically sustainable.

Main findings

EcoFishMan

- **Holistic approach including environmental, economical, social and governmental/policy aspects**
- **Co-creation**
- **RFMS**
- **DST**
- **Agreed management plans and certified documentation systems**
- **Roadmap to guide decision-makers to implement RFMS**

MareFrame

- **Holistic approach including environmental, economical, social, governmental/policy aspects**
- **Co-creation**
- **Advanced ecosystem models**
- **DSF**
- **Policy recommendations – roadmap**
- **ICES and GFCM already using the MareFrame outcomes**

Main gaps

EcoFishMan

- **Holistic approach –a gap between social, natural and legislative scientist**
- **Lack of social indicators and data**
- **Coverage of management plans**
- **Further implementation of RFMS**

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- **Holistic approach – still a gap, but less than in EcoFishMan, between social, natural and legislative scientist**
- **Lack of social indicators and data - SAF21 (MSC-ITN)**
- **Data poor fisheries**
- **Further implementation of DSF and EAFM**
- **Visualisation and user-friendly tools to evaluate trade-offs**

ALL TOGETHER towards sustainable management, better use and economic sustainability of marine resources.......BLUE BIOECONOMY – BLUE GROWTH

The Sustainable Development Goals (SDGs) by 2030 (United Nations) and the Paris Agreement on Climate

Anna Kristín Daníelsdóttir   2018©Matís

Acknowledgements

EAG members and Stakeholders

www.mareframe-fp7.org/

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A consortium of 28 partners from 14 countries
Duration of four years: Jan. 2014 – Dec. 2017

Work Programme topic addressed: KBBE
2013.1.2-08: Innovative insights and tools to integrate
the ecosystem-based approach into fisheries advice