European Ocean Observing System

Strategy 2023-2027 launch

Organised by:

EuroGOOS
European Global Ocean Observing System

European MARINE BOARD
Advancing Seas & Ocean Science

Marine biodiversity observing

Isabel Sousa Pinto
Ciimar and University of Porto
Co-chair of MBON

Thuesday, 2 March 2023

Agenda for Biodiversity 2030

- UN Convention on Biological Diversity – Post 2020 framework
- UNCLOS Biodiversity in Areas Beyond National Jurisdiction
- UN Decade of Ocean Sciences for Sustainable Development
- UN Decade for Ecosystem Restoration (including marine)
- UN Sustainable Developmental Goals

- EU Biodiversity Strategy 2030
- EU Habitats, Birds, Water and Marine Strategy Framework Dire
- EU Restoration Law
- EU GREEN DEAL

Organised by:

EOOS Strategy 2023-2027 launch

Global community(ies) of practice

EOOS European Ocean Observing System

GEO BON

MBON Marine Biodiversity Observation Network

Marine Life 2030

GOOS Biology and Ecosystems Panel

OBIS OCEAN BIODIVERSITY INFORMATION SYSTEM

ipbes Science and Policy for People and Nature

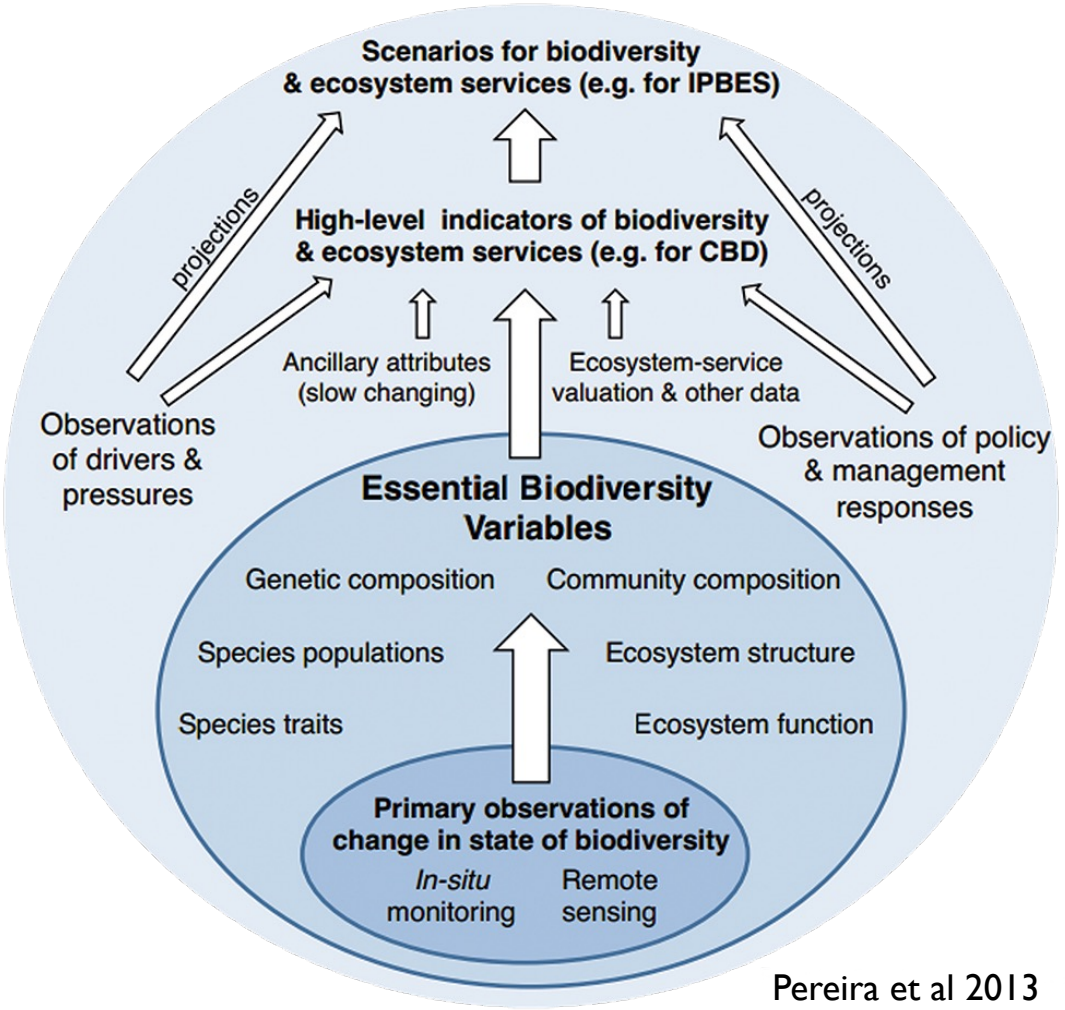
25 YEARS Convention on Biological Diversity SAFEGUARDING LIFE ON EARTH

DITTO REAL TWIN OBSERVATIONS SENSOR DATA MODELS VISUALISATIONS INSIGHTS DECISIONS INTERVENTIONS OUTCOMES

What do we need to know to determine health of life on earth and how is changing

GEO BON Essential Biodiversity Variables

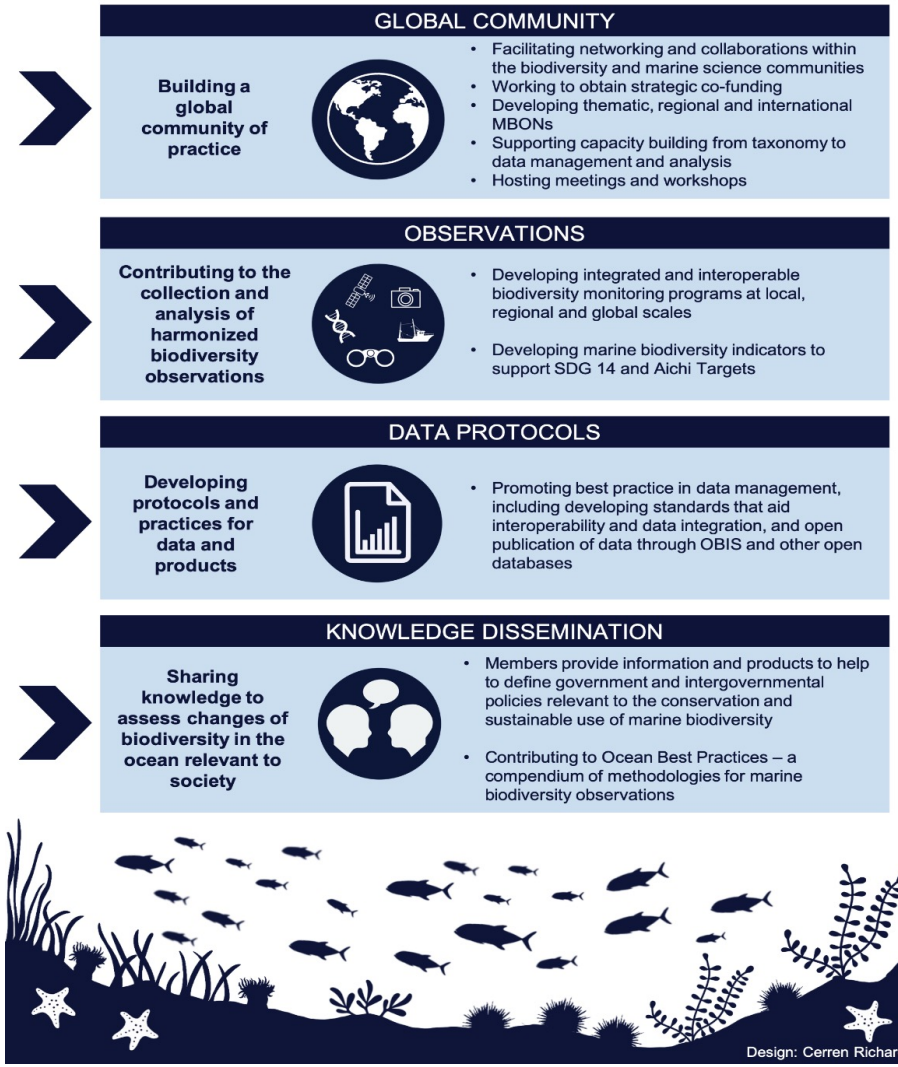
EBV classes	Candidates
Genetic composition	Co-ancenstry Allelic diversity Population genetic differentiation Breed and variety diversity
Species populations	Species distribution Population abundance Population structure
Species traits	Phenology Body mass Natal dispersion distance Migratory behavior Demographic traits Physiological traits
Community composition	Species richness Species interactions
Ecosystem function	Net primary productivity Secondary productivity Nutrient retention Disturbance regime
Ecosystem structure	Habitat structure Ecosystem extent and fragmentation Ecosystem composition by functional type



Pereira et al 2013

MBON | Marine Biodiversity Observation Network

Fostering sustained standardised measurements of marine biodiversity from local to global scales



EOOS European Ocean Observing System

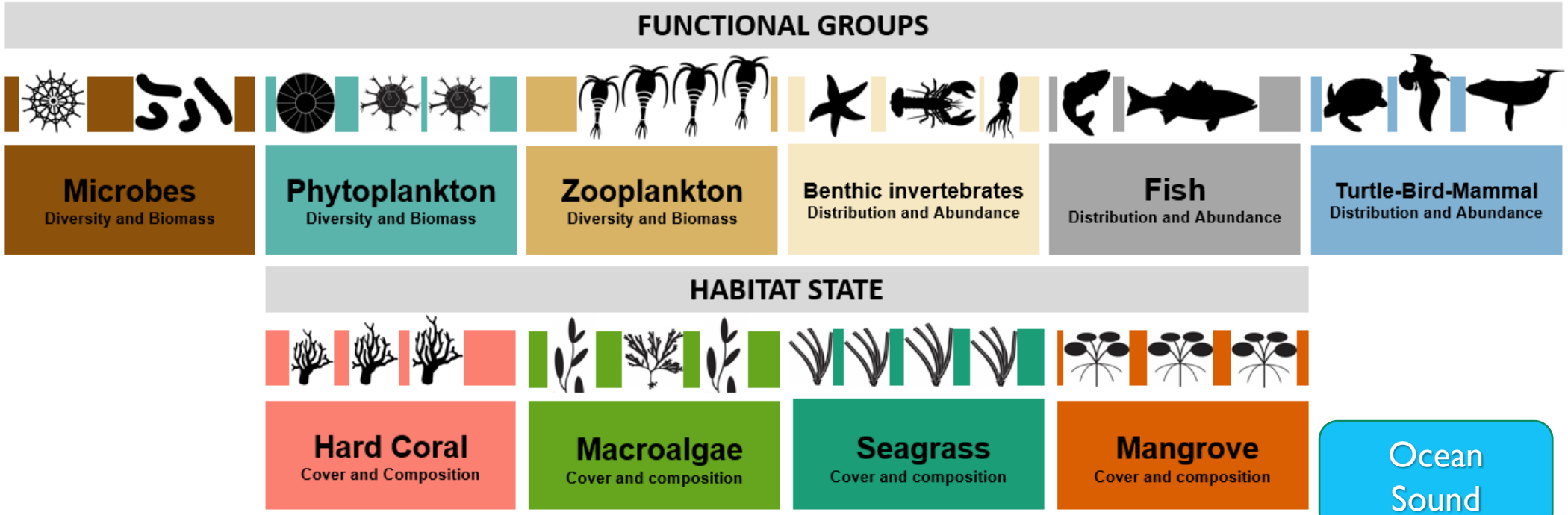
MBON is the marine thematic network of GEO BON

A community of practice to characterize how marine life is changing

Major goals:

- Collaborations
- Promote interoperability (data formatting standards)
- Sharing data openly
- Sharing capacity
- Promote more and better marine biodiversity monitoring

Biology and Ecosystem Essential Ocean Variables (EOVs)



Many Bio-Eco EOVs are now also Essential Climate Variables adopted by
https://gcos.wmo.int/en/essential-climate-variables

EOOS European Ocean Observing System

2021 2030 United Nations Decade of Ocean Science for Sustainable Development

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EOOS Strategy 2023-2027 launch

Relations between Biological EOVs and Marine EBVs

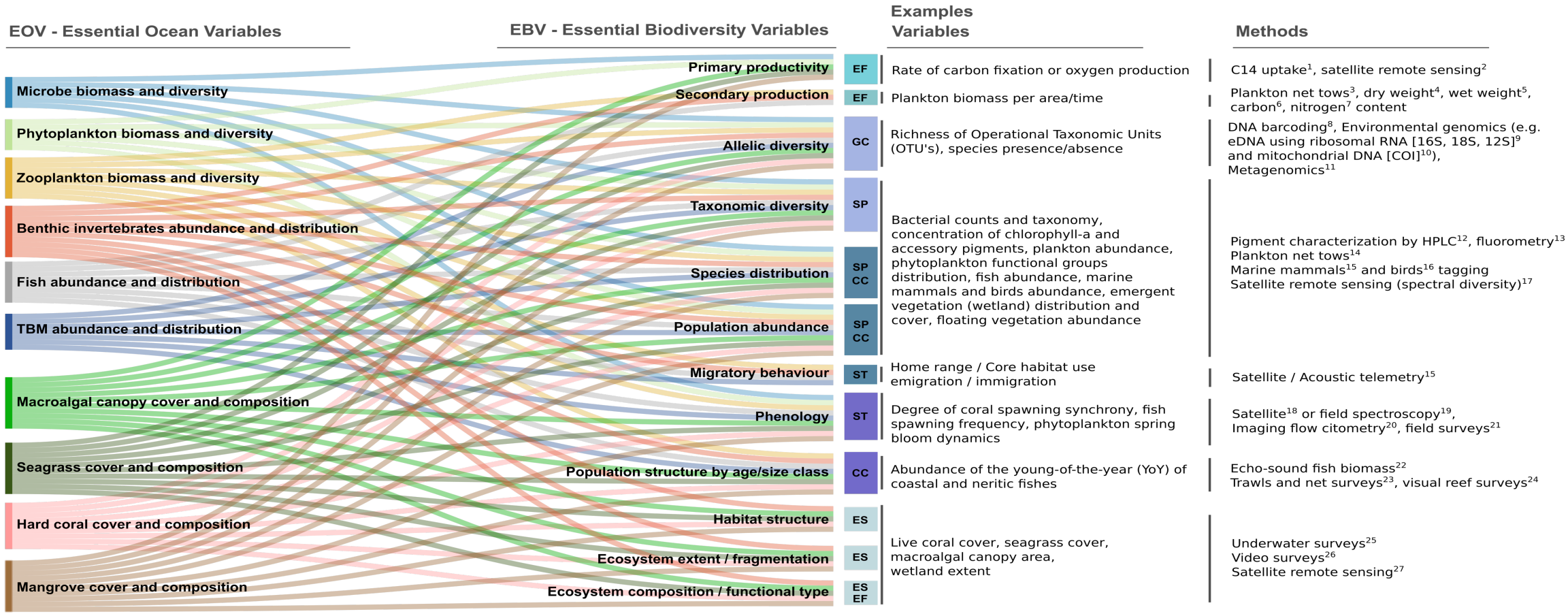


Figure 1. Conceptual relationship between EOVs and EBVs

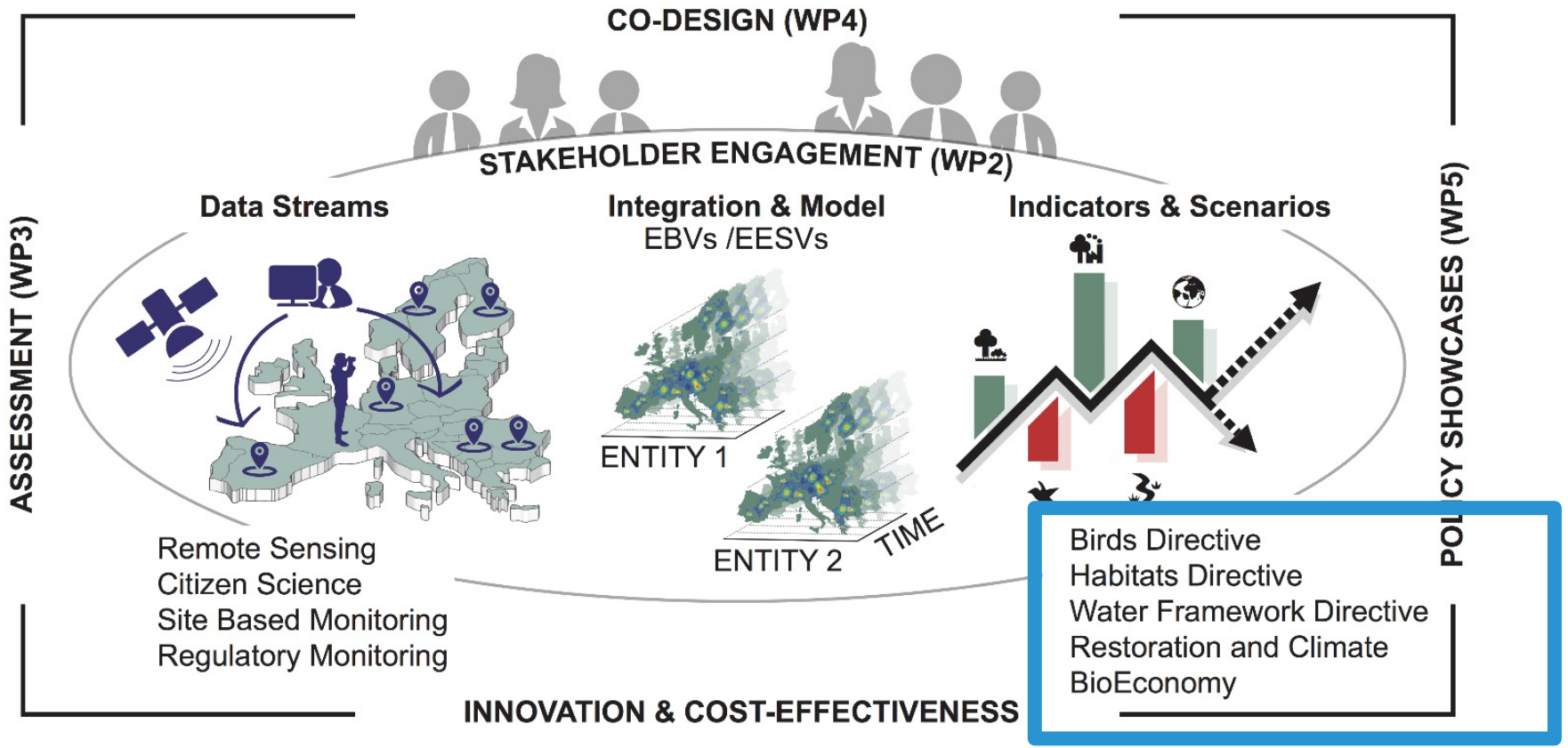
(Muller-Karger et al. 2018)

Horizon 2020 Programme

EUROPABON Europa Biodiversity Observation Network : the project

European Ocean Observing System

The action should design an **EU-wide framework for monitoring biodiversity and ecosystem services**



Pereira, 2023

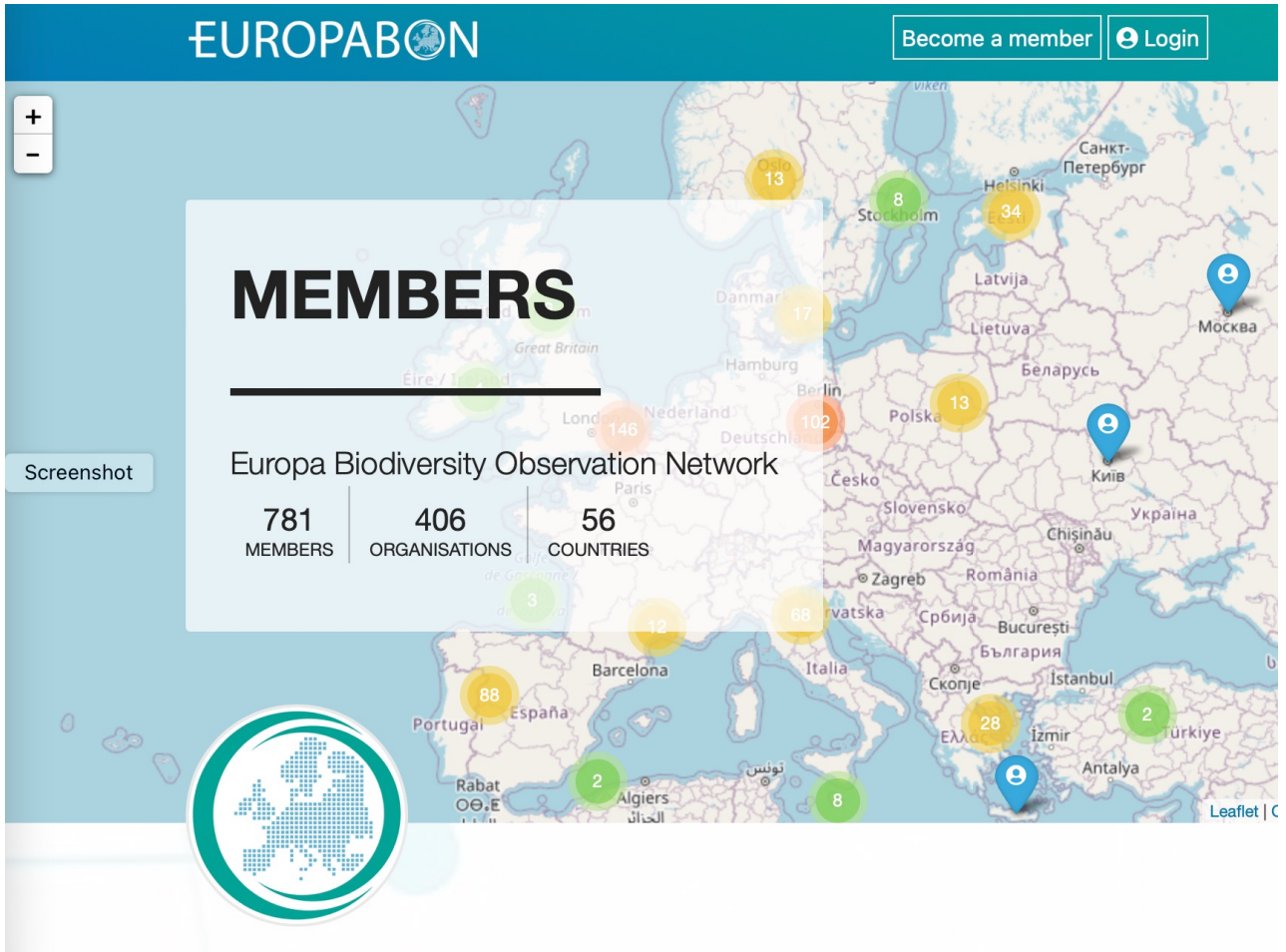
EUROPABON
Europa Biodiversity Observation Network

EOOS European Ocean Observing System

A network of members

- Over 1000 members in the EuropaBON members and stakeholders webpage, http://europabon.org

- Members receive project newsletter, are invited to stakeholder consultations, and will play a role in implementing EuropaBON in the future



Pereira, 2023

EUROPABON : implementation

Europa Biodiversity Observation Network

EOOS European Ocean Observing System

Knowledge broker

Horizon Europe

Policy making

ENV

Joint Research Centre JRC

European monitoring programs

European Environment Agency
European Topic Centre on Biological Diversity

Reporting

Biodiversity Information System for Europe

European Biodiversity Monitoring Center

EBV Data Portal

EBCC European Bird Census Council

National Monitoring Centers
National monitoring programs

GBIF

Pereira, 2023

biodiversa+ European Biodiversity Partnership

Funding research on monitoring

MBON Europe - Provide knowledge about marine life and how is changing in Europe

Working group

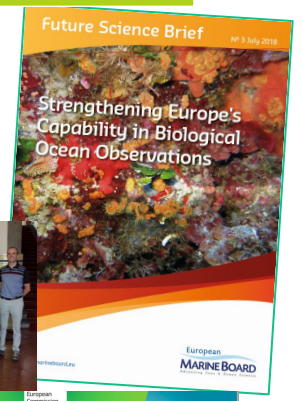
EOOS European Ocean Observing System

Mission Atlantic

All Atlantic IEA

MARCO-BOLO

EMBRC EUROPEAN MARINE BIOLOGICAL RESOURCE CENTRE



MARS

iAtlantic

ICES CIEM

EMODnet

JERICO RESEARCH INFRASTRUCTURE

AtlantECO
Atlantic Ecosystems Assessment, Forecasting & Sustainability

AIR CENTRE

LifeWatch ERIC

TRIATLAS

AtlantOS
An All-Atlantic Ocean Observing System – High-level Strategy –

EuroSea

- To **organise a community of practice** to support management of marine biodiversity in Europe
- **Capacity-building** on data standards (DarwinCore, EventCore)
- **Coordination** of data collection and communication
- **Gap analysis** and promotion of observations and monitoring
- Collaboration with Atlantic and Mediterranean efforts

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Vision

A European Ocean Observing System that is sustained and meets the specific needs of users.

EOOS European Ocean Observing System

Need for EOOS: the European home for Ocean (biological) Observations

- Support the existing biodiversity/biological observation initiatives (sustainability) and their integration at European level
- Support their **alignment with the other ocean observation** and modelling **communities and infrastructures** at the European level
- Support their alignment with the **needs of the European Agenda**
- **Long-term** home for observation products and platforms produced by projects and other initiatives
- **Long-term strategy** and integrated gap analysis

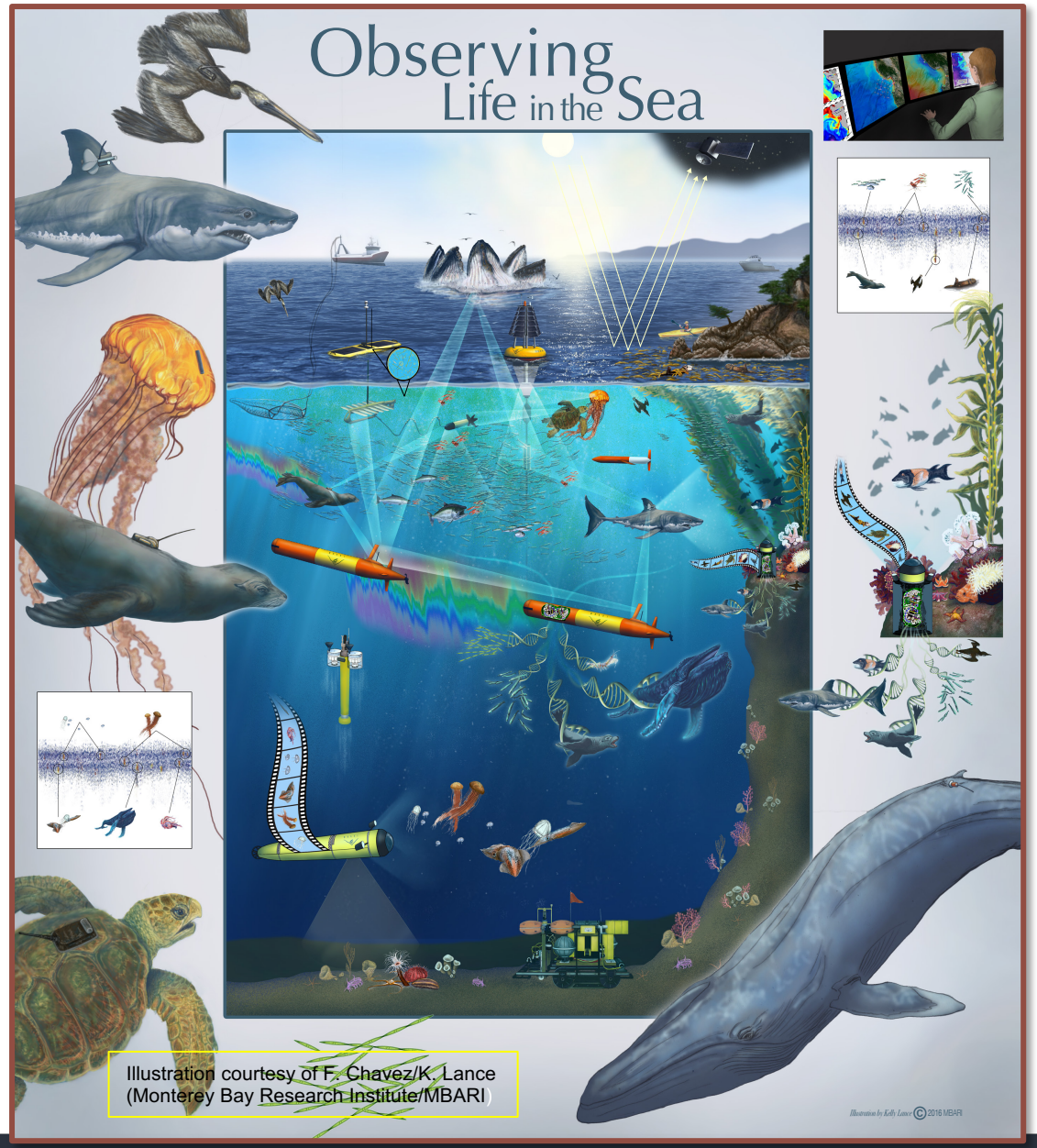

Illustration courtesy of F. Chavez/K. Lance (Monterey Bay Research Institute/MBARI)

EOOS European Ocean Observing System

MBON Marine Biodiversity Observation Network

GEO BON Group on Earth Observations Biodiversity Observation Network

Marine Life 2030

Thank you

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ciimar

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