

# OSPAR Framework and Related Indicators

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**DEVOTES**



**IndiSeas meeting, 10<sup>th</sup>-13<sup>th</sup> December 2013**

# MSFD and regional seas conventions

## **Marine Strategy Framework Directive**

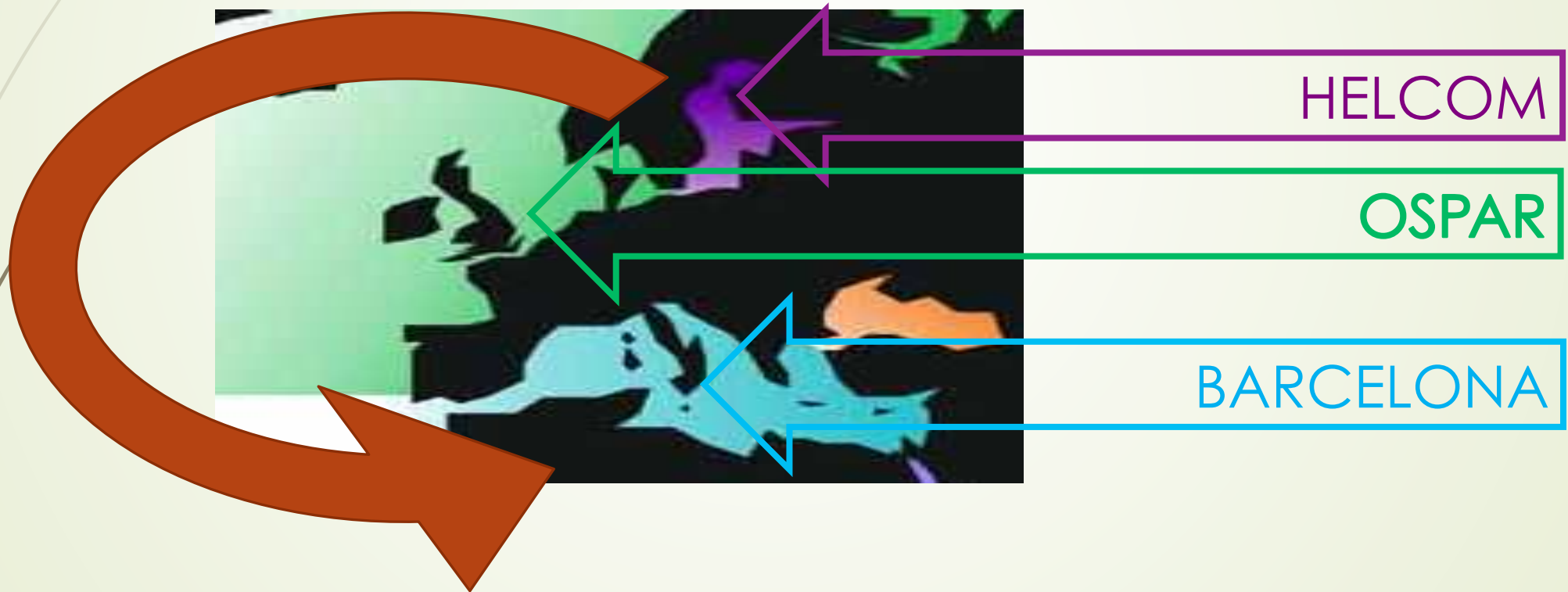
“ ...aims to achieve Good Environmental Status of the EU's marine waters by 2020 and to protect the resource....”

Based on marine regions = Regional Sea Conventions

=> **List of common indicators**

**+ a shared monitoring strategy**

# MSFD and regional seas conventions



# MSFD and regional seas conventions

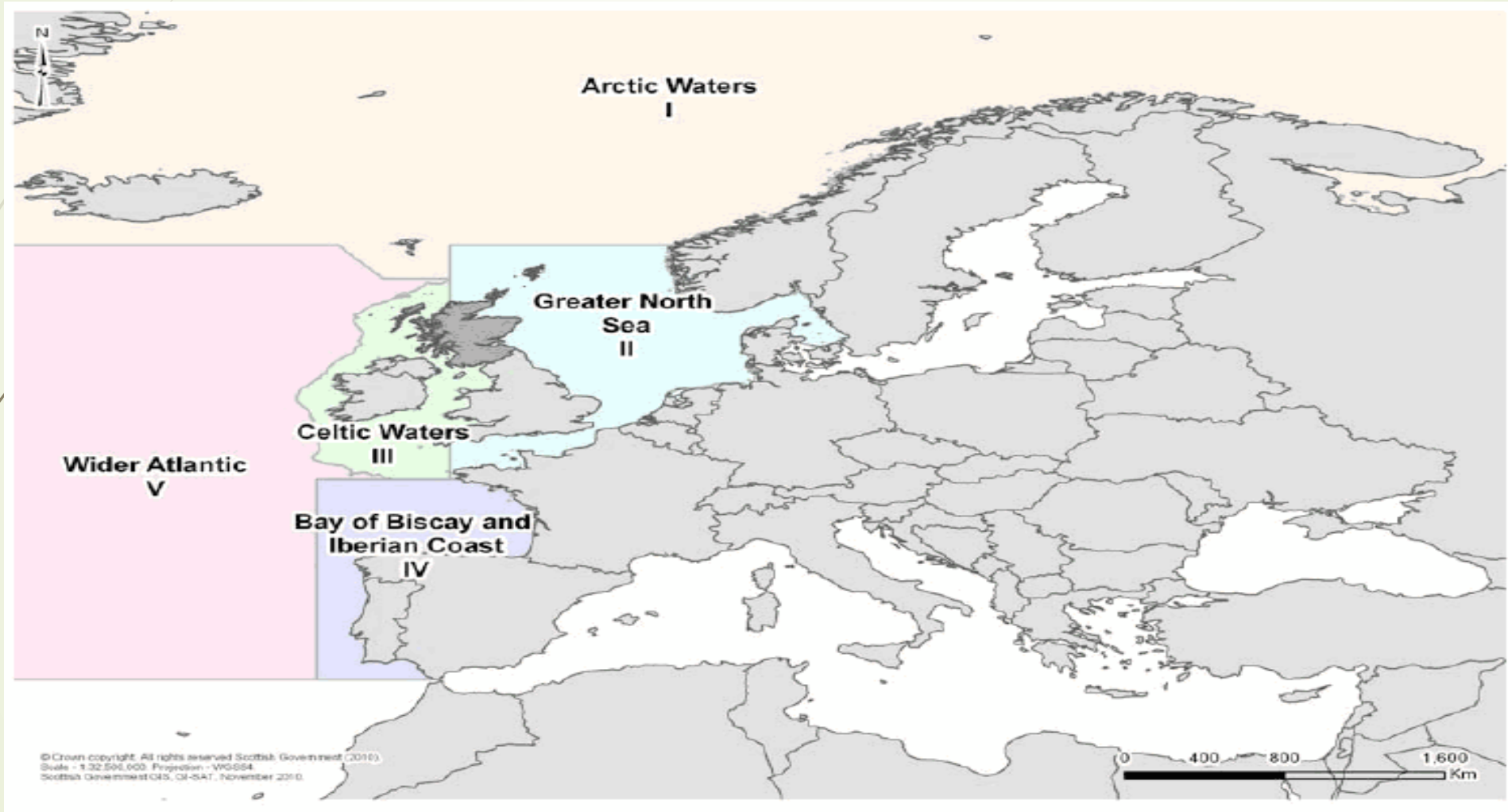


**DEVELOPMENT OF innovative TOOLS FOR UNDERSTANDING MARINE BIODIVERSITY AND ASSESSING GOOD ENVIRONMENTAL STATUS.**

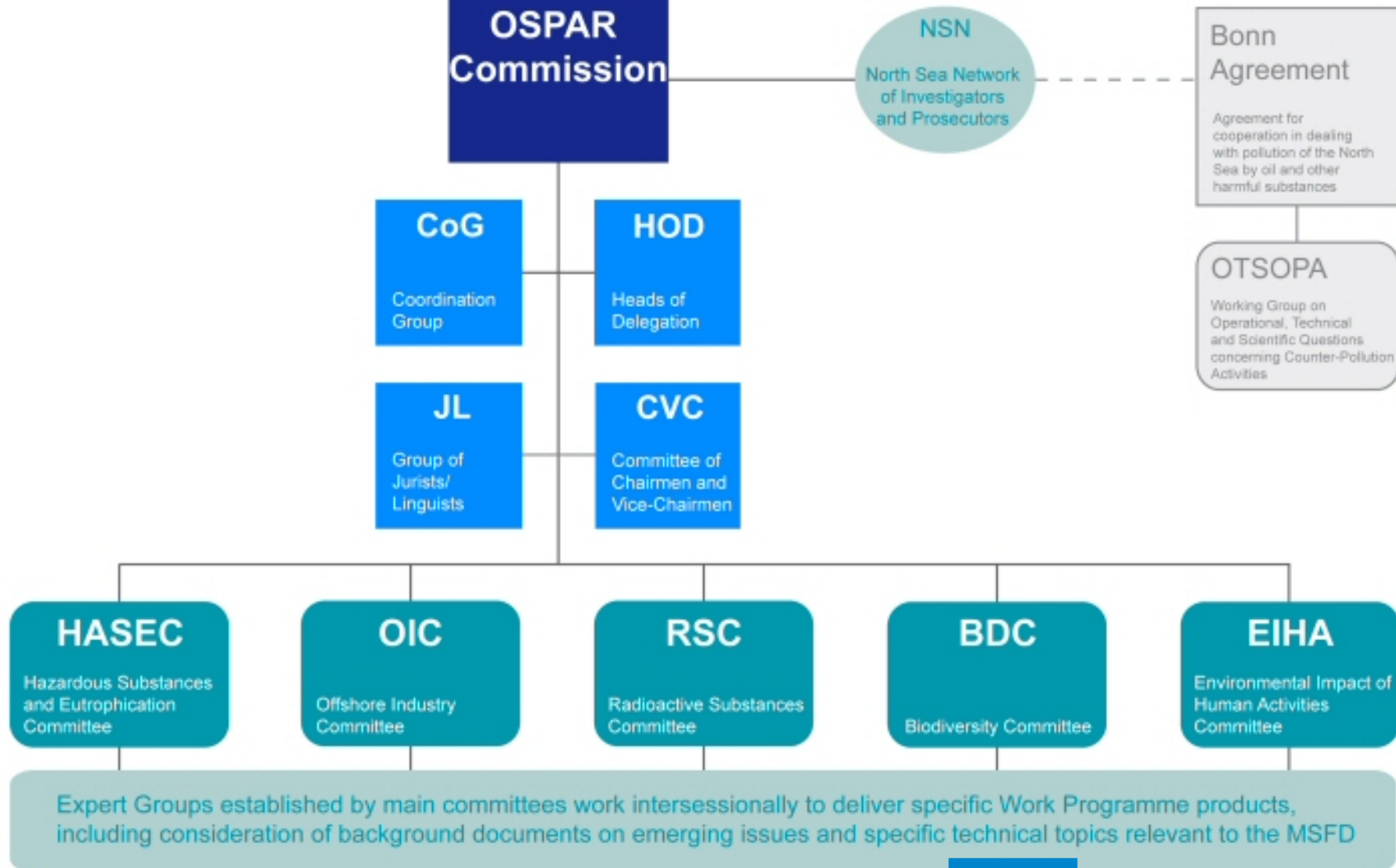
- improve **understanding of human activities impacts and variations due to climate change on marine biodiversity**
- **test the indicators proposed by the EC**, and develop new ones for assessment at species, habitats and ecosystems level, for the status classification of marine waters,





# OSPAR : 5 regions







 OSPAR Commission and advisory groups  
 Main Committees

**COBAM = Correspondence Group on the Coordination of Biodiversity Assessment and Monitoring**



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Coordination of Biodiversity  
Assessment and Monitoring**



**Expert groups**

**Birds**

**Fish and  
cephalopods**

**Mammals  
and reptiles**

**Benthic  
habitats**

**Pelagic  
habitats**

**Non-  
indigenous  
species**

**Food  
Webs**

# FOOD WEBS

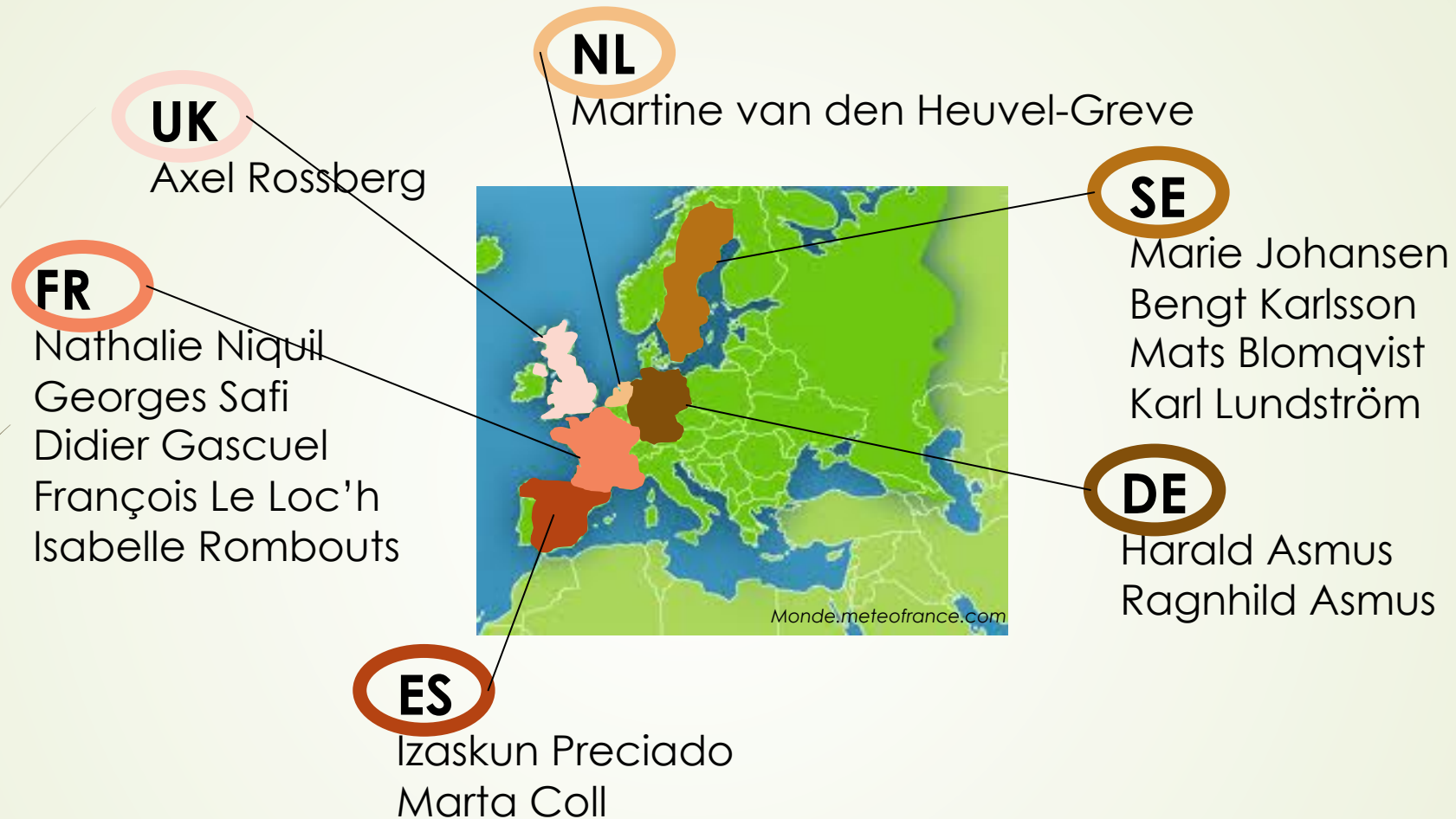
COBAM expert group

OSPAR Commission

Work Progress...



## I- FW expert group :



## II- FW indicators: Leadership and status

FOOD WEBS code	Indicators	CP (Leading)	Status (December 2013)
<b>FW1 (B3)</b>	Reproductive success of marine birds in relation to food availability	UK	Candidate
<b>FW2</b>	Production of phytoplankton	DE	Candidate
<b>FW3 (FC2)</b>	Size composition in fish communities (LFI)	UK – NL	<b>Common</b>
<b>FW4</b>	Changes in average trophic level of marine predators (cf MTI)	FR - ES	Candidate
<b>FW5 (PH1)</b>	Change of plankton functional types (life form) index Ratio between: Gelatinous zooplankton & Fish larvae, Copepods & Phytoplankton; Holoplankton & Meroplankton	UK	<b>Candidate PRIORITIZED</b>
<b>FW6</b>	Biomass, species composition and spatial distribution of zooplankton	SE	Candidate
<b>FW7</b>	Biomass and abundance of functional groups	UK – DE – ES	Candidate
<b>FW8</b>	Changes in the distribution of biomass and species over trophic levels and body size	FR – DE - UK	Candidate
<b>FW9</b>	Ecological Network Analysis indicator (e.g. trophic efficiency, flow diversity)	FR – DE - UK	Candidate

## III- Indicators selection criteria:

### 1. Method development

- Indicator metrics
- Ecosystem components attributed (species/ habitat types)
- Applicability to sub-regions
- Assessment scales
- Monitoring parameter and frequency

### 2. Testing case studies

### 3. Operationality

- Testing of indicator soundness and suitability
- Monitoring development (cost-effective monitoring feasibility)
- Data management/ products for assessment
- Assessment stage

## III- Indicators selection criteria:

FW4 (MTI)

FW8 (BTS)

FW9 (ENA)

### 1. Method development

- Indicator metrics
- Ecosystem components attributed (species/ habitat types)
- Applicability to sub-regions
- Assessment scales
- Monitoring parameter and frequency

### 2. Testing case studies



IndiSeas

### 3. Operationality

- Testing of indicator soundness and suitability
- Monitoring development (cost-effective monitoring feasibility)
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## IV- Project plans:

Indicator	Timing/ Steps for development	Funding for development	Inputs from COBAM expert groups
<b>FW1</b>		Developed with B3	
<b>FW2</b> Prod Phy	Assessment of current state (case studies), baselines and report ready for January	Indicator developed through different projects (CHARM project, Pro-Tool FP7 project, SMILE project, AWI surveys, NIOZ surveys, Eastern EC surveys)	Supply data and conducting case study assessments.
<b>FW3</b> LFI	The LFI in its current definition is based on data available online from ICES (DATRAS database).	No external funds needed. Almost ready indicator.	Consultative role
<b>FW4</b> MTI	- IndiSeas: Tendencies and current state assessment (June 2014) - Extended area: January 2015	<b>Indicator mainly developed within IndiSeas</b>	Supply data and conducting case study assessments.
<b>FW5</b>		Developed with PH1	
<b>FW6</b>	X	X	X
<b>FW7</b> BTA	Deliverables posted on basecamp before July 2014	Scottish government funding (part 1) and, collaboration with DEVOTES project for R&D (part 2)	Input from CP are taken up and moderated by the project lead
<b>FW8</b> BTS	- Calculated trophic and body size spectra with case studies (June 2014) - Baselines and assessment of the current state (December 2014) - Report (January 2015)	- <b>Indicator developed within IndiSeas</b> - Further development using different data sources (e.g. EVHOE, DATRAS, trophic models available) – Volunteering work	Supply data and conducting case study assessments.
<b>FW9</b> ENA	- Calculated ENA indices with case studies (June 2014) - Pressure effects and characterization of associated uncertainty (January 2015)	- Indicator developed through different projects (DEVOTES, ANTROPOSEINE, INFOWEB, StopP) <b>- Possible role of IndiSeas</b>	Supply data and conducting case study assessments.

## MTI

$$MTI = \frac{\sum_{s / TL_s \geq 3.25} TL_s Y_s}{Y}$$

- Calculated on both landings and scientific surveys
- Still questions about the way to assess TL
  - for each species or even for size classes within a species ?
  - TL from Fishbase, from stomach contents, from stable isotopes, from Ewe ?
  - Same species TL for all ecosystem ?
- Can we assess MTI baselines ?

The work done in Indiseas on MTI could be quite easily transferred in OSPAR with the help of the Indiseas members

François Le Loc'h



# ENA

- Numerous possible indicators derived from ecological theories (FCI, SOI, Ascendency, H)
- First indicator under study = Trophic Efficiency (log mean across trophic levels)
  - from Level II or I or I+D ?
  - up to the top or level IV ?
  - is the mean TE over the food web the most informative level ?
- Trends seem to vary according to the pressure
- Differences among habitats

The larger the data base of models, the more pressure impacts may be studied.

Question of comparability and validation of the models.

Thank you for listening

Any questions?

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