

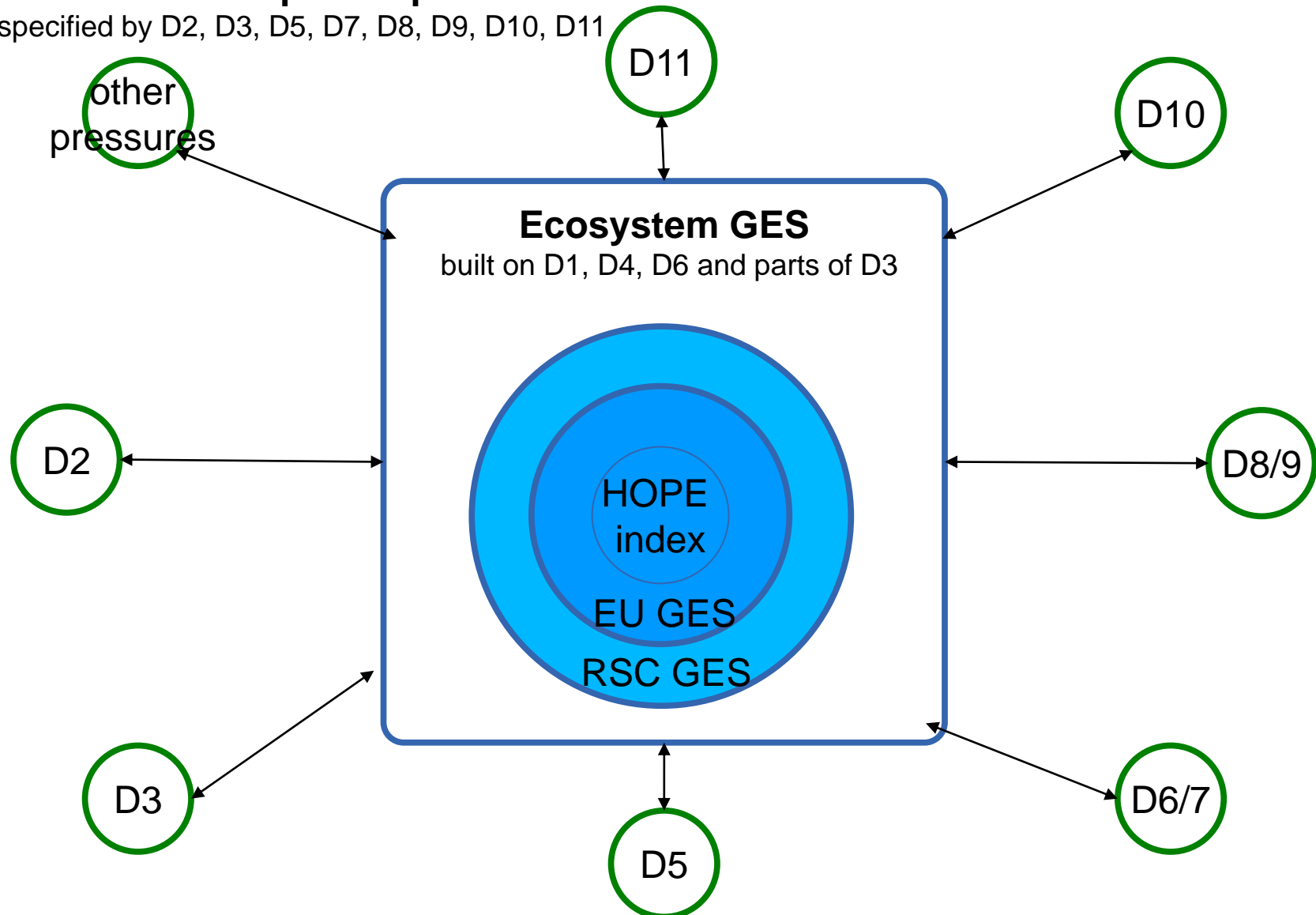
Review of the GES Decision

Some cross-cutting / conceptual reflections

GES review – conceptual approach

GES linked to specific pressures

specified by D2, D3, D5, D7, D8, D9, D10, D11



We want the new GES Decision to be:

- Simpler
- Clearer
- Introducing minimum requirements (to be enhanced by regions and MS, if necessary)
- Self-explanatory
- Coherent with other EU legislation
- Coherent with regional assessment methods (where EU does not exist)
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- Have a clear and minimum list of parameters per descriptor (which contaminants?, which species?, which litter types?...)

GES review – which criteria to use from other legislation (linked to geographic scope)

	Coastal waters	Territorial waters	EEZ	Cont. shelf
Biodiversity (D1)	GES = N2K habitats and species in FCS + identification of additional list of species and habitats per marine region (which have to be in FCS)			
Non-indigenous species (D2)	GES = list of marine species in new IAS Regulation + identification of additional list of species per marine region			
Fish (D3)	GES = MSY for all species + Spawning Stock Biomass (SSB)			
Eutrophication (D5)	GES = WFD GecS (phytoplankton+Macroalgae and angiosperms)			
Seafloor habitats (D6)	GES = WFD GecS (Benthic invertebrate fauna)	GES = WFD GecS (Benthic invertebrate fauna) + ???	GES = WFD GecS (Benthic invertebrate fauna) + ???	GES = WFD GecS (Benthic invertebrate fauna) + ???
Hydrological changes (D7)	GES = WFD GecS (Hydromorphological conditions)			
Contaminants (D8)	GES = WFD GChS	GES = WFD GChS	GES build on WFD GchS (mainly biota + sediments)	GES = WFD GchS (sediments)

Comments to previous slide

D1 - Harmonising GES for species to FCS is OK in principle as the criteria are essentially the same – has benefits too in giving the same methodology across all species and all habitats, and having a defined aggregation method (OOAO). However, use of FCS methodology in wider marine context of MSFD needs some reflection on the use of the baseline, clarity on the criteria and the threshold values.

D3 – achieving MSY/SSB could be a first goal but it may not achieve the ‘healthy stock’ aspect - criterion 3.3 could become part of ecosystem GES.

D6 – use WFD benthic indicators/quality levels to define the quality needed for habitats (= MSFD 'condition' = HD 'structure and function' criterion), but use the FCS methods to assess D6, equating 'substrate types' of D6 to 'predominant habitat types' of D1. This will mean only a single assessment per seabed habitat is needed to cover D1 and D6.

GES review – ideas for combined GES ecosystems

(D1, D3, D4, D6, D7)

- **COMBINED LIST OF SPECIES:** Distribution of pelagic, benthic and commercial fish/shellfish species including large fish/predators (for food webs):
- **GES assessment to be harmonised with favourable conservation status (FCS)**
- **ONLY 3 criteria for species building on existing Decision:**
 - **Criterion 1:** Distributional range (or area covered by the species (for sessile/benthic species)) for defined list of species (N2K Directive, commercial fish/shellfish + regional species lists)
 - **Criterion 2:** Population size , Population abundance and/or biomass, as appropriate
 - **Criterion 3:** Population condition, Population demographic characteristics (e.g. body size or age class structure, sex ratio, fecundity rates, survival/mortality rates)
- **similar approach for habitats** (regarding list of habitats and criteria and link to FCS)
- Ecosystem level? - aggregation of criteria 1-3 (species and habitats) – "ONE OUT-ALL OUT" ?
- Overall presentation: **% of species and habitats on the pre-defined list in GES = FCS**

GES – assessment scales and aggregation

- **GES must be assessed at a (sub-) regional scale but GES must be met at every local point within the region.**
- **We need a “nested approach” (cf. HELCOM)**

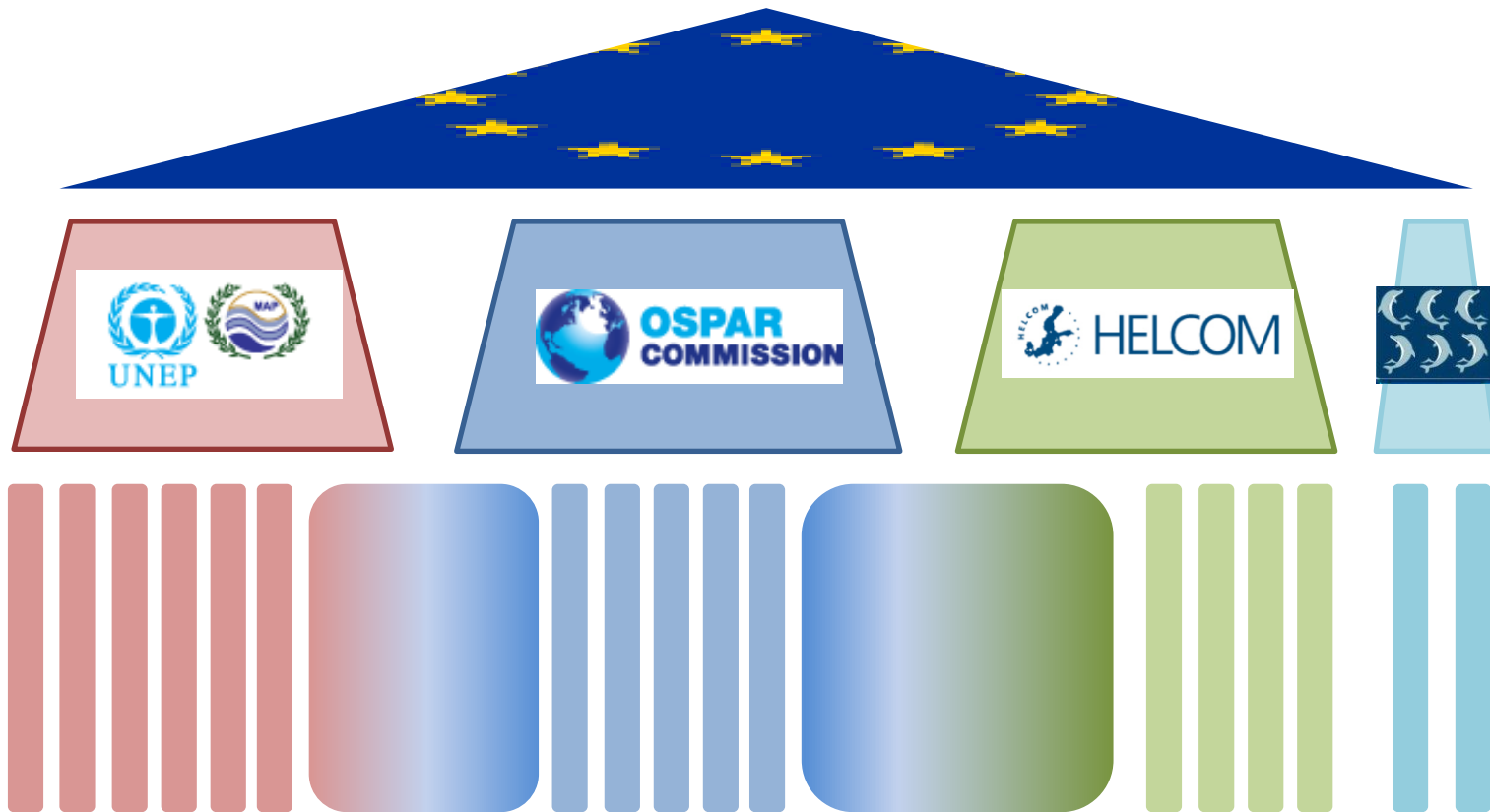
Example: X% of the marine region are polluted by eutrophication (i.e. not meeting D5) – a particular location must also be assessed against D5 GES criteria and methodological standards

- **Scaling and aggregation rules must not be used to hide environmental degradation through statistics!**
- **Applying averaging such as annual mean and geographic mean allows for significant degradation.**

Questions:

- *What is the smallest entity (eg. Water body, grid cell, ...?)*
- *Does this mean that we apply the “one-out, all out” or at least some kind of agreed percentile?*
- *How is GES assessment considered in a local context (e.g. permitting procedures?)*

MSFD "house" – GES review



EU minimum requirements = EU coherence
RSC minimum requirements = regional coherence

National requirements (including but not limited to EU+RSC) = full compliance

**Examples on relationship between
articles and annexes, with worked examples**

Good environmental status

Role/content

Example

GES definition (Art. 3 (5))

“the environmental status of marine waters where ...”

GES descriptor (Annex I)

D1: Biological diversity

GES elements (Annex III)

Generic assessment elements

Mammals, birds, fish, seabed habitats

GES criteria & methodological standards (Art. 9(3) Decision)

EU-wide specification of:

- a. Assessment elements
- b. Assessment scales
- c. Assessment criteria
- d. Methodological standards

- a. Seals, small cetaceans
- b. Nested scales – subregional, national, subnational
- c. Distribution, population size, condition
- d. HD (FCS) thresholds & aggregation rules

GES determination (Art. 9(1))

(Sub)regional specification by MS of:

- a. Assessment elements (characteristics)
- b. Assessment areas
- c. Assessment methods (RSC indicators)

For NE Atlantic (North Sea, Celtic Seas):

- a. Harbour seal, grey seal
- b. OSPAR nested set of areas (to be defined)
- c. M-1 Distribution of seals, M-3 Abundance of seals, M-5 Seal pup production

Good environmental status

Role/content

GES definition (Art. 3 (5))

GES descriptor (Annex I)

GES elements (Annex III)

Generic assessment elements

GES criteria & methodological standards (Art. 9(3) Decision)

EU-wide specification of:

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GES determination (Art. 9(1))

(Sub)regional specification by MS of:

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Example

“the environmental status of marine waters where ...”

D5: Eutrophication

Nutrient and organic matter enrichment, impacts on water column and seabed

- a. N, P, Chl-a, water clarity, O₂
- b. Nested scales – subregional, national, subnational
- c. Level of concentrations (nutrients), level of impacts
- d. WFD/RSC thresholds & aggregation rules??

For Baltic:

- a. DIN, DIP, Chl-a (remote + in situ), water clarity, O₂
- b. HELCOM nested set of areas defined
- c. EUTRO-OPER core indicators: concentrations of DIN, DIP, Chl-a and O₂, secchi depth

Environmental targets

Role/content

Target definition (Art. 3 (7))

Target elements (Annex III)
Elements, pressures and impacts

Target characteristics (Annex IV)
Scope, characteristics, purpose

Environmental targets (Art. 10(1))
(Sub)regional- or MS-specific:

- Guide progress towards achieving GES (monitoring & assessment)
- Desired conditions of GES (characterising elements - properties and adequate coverage)
- Relate to and support achievement of measures

Associated indicators (Art. 10(1))
(Sub)regional- or MS-specific:

- Guide progress towards achieving GES
- Guide management

Example

“desired condition of different components of, and pressures and impacts on, marine waters ...”

Nutrient enrichment

Coverage, desired conditions, measurable, operational,

- Reduce pressure of N and P by X% or to Z levels (e.g. MAI/CART targets of HELCOM)
- Reduce impacts (Oxygen depletion) from nutrient enrichment to Y levels [is such a target feasible or just have pressure targets?]

- Level of land-based input of N and P
- Level of air-based inputs of N & P
- Level of bottom oxygen

Linking GES and targets

Example

D5 Eutrophication

GES criterion:
Level of pressure

GES criterion:
Level of impacts

GES definition:
Nutrient (N, P) levels in water are below X and Y (area specific) over Z% of each assessment area

GES definition:
Condition of plankton and benthos and oxygen concentrations are above area-specific levels (in relation to reference conditions) over Z% of each assessment area

Target 1: Reduce level of N by X% or to Z levels (e.g. MAI/CART targets of HELCOM)

Target 2: Reduce level of P by Y% or to W levels (e.g. MAI/CART targets of HELCOM)

Target 3: Reduce impacts (Oxygen depletion) from nutrient enrichment to Y levels

Indicator 1: Level of land-based input of N & P

Indicator 2: Level of air-based inputs of N & P

Indicator 3: Level of bottom oxygen

Conclusions

- The use of worked examples helps to clearly define the roles and relationships (and levels of detail) of the different articles and annexes concerning GES and targets
- The state descriptors which are linked to pressures (D2, 5, 8, 9, 10, 11) require a GES expression of the maximum level of concentrations (e.g. nutrients, contaminants, litter, noise) in the marine environment (linked where possible to the "desired" level of impacts) and translated into an operational pressure target which drives the measures
- Annex IV on targets needs further guidance on parts which refer to desired state (condition, elements) (not a substitute for defining GES) and how to use targets to focus on pressures (which lead to measures)