EU's legal Instruments for the protection of our seas, their historical review and key concepts on policy and science

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Policies in Action for coastal and marine environment protection/management

Habitats (EC, 1992) and **Birds** (EC, 1979 and 2009) **Directives**:

protect certain species and habitats, as part of the **EU Natura 2000's network of protected areas**

1990s

EU policies

UWWT, Nitrates(EC, 1991) **IPPC** (EC, 1996) **Directives**: addressing:
- **Waste Water** Treatment,
- **Land-Based** Pollution,
- Pollution Prevention in **Maritime Transport**
- **Environmental Impact Assessment**

Water Framework Directive (EC, 2000)

achieve a good ecological status of all surface waters

Bathing Water Directive (EC, 2006)

Monitoring of bathing water quality complementing WFD

Common Fishery Policy (EC, 2002)

promotes conservation and sustainable exploitation of fisheries resources

2000s

ICZM Reccommendation (EC, 2002)

Priority Substances Directive (EC,2008)

Environmental quality standards amending WFD

Integrated Maritime Policy (EC, 2007)

Marine Strategy Directive (EC, 2008)

Integrate marine protection and management, considering all pressures on the whole marine ecosystem

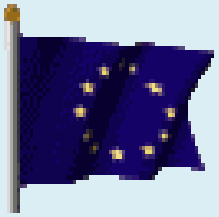
International agreements

OSPAR COMMISSION
Protecting and conserving the North-East Atlantic and its resources

HELCOM

UNEP
MAP
United Nations Environment Programme Mediterranean Action Plan

Commission on the Protection of the Black Sea Against Pollution
Permanent Secretariat



1990s Legislations

Focused on particular situation/points

- Control of discharges/emissions

water treatment: **Urban Wastewater**, establishes treatments (limit values) based on source "weight" and sensitivity of areas

better agricultural practice: **Nitrates** (eutrophication)

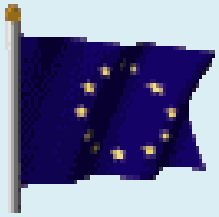
Industrial and agricultural activities potentially polluting: **IPPC** (Integrated Pollution Prevention Control): limit, measures,authorizations

Species/specific areas protection:

Habitat: protected areas →

Birds: species →

Natura 2000 network



New Phase: 2000

Integrated approach towards environmental protection

Ecological status: analysis of various components of the all ecosystem
Objective: environmental status quality (good)

WFD

Bathing Waters ← → **Dangerous Substance**

Ecosystem Based Approach

Marine Strategy Directive

International Sea Conventions
programs/protocols

Common Fishery Policy
Fishery management at Community level
Regional specific regulations

ICZM

Integrated Maritime Policy

EU water-nature Policies related to Coastal and Marine waters

1991 Urban Waste Water Treatment

Nitrate Directive

1992 **HABITATS and BIRDS Directives**

2000 Water Framework Directive

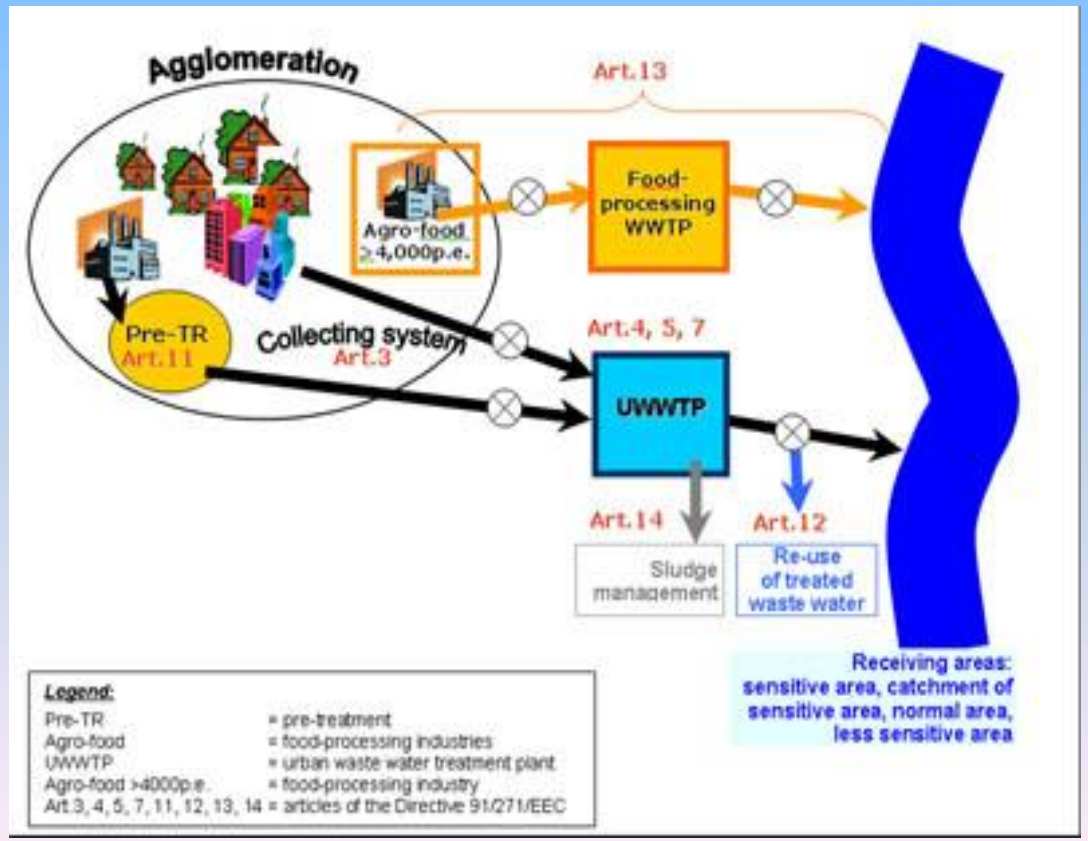
2006 Bathing Water Directive

2008 Environmental quality standards in the field of Water policy

Urban Waste Water treatment Directive 91/271/EEC (UWWTD)

Scope and scale of application

Addresses the **major point sources**, in particular municipal waste water discharges. In addition, through the **identification of sensitive areas**, it provides for measures to combat eutrophication, particularly in regards to freshwaters, estuaries and coastal waters.



Environmental objectives

Aims to protect the environment from **adverse effects of urban waste water discharges** and **direct discharges from certain** (food processing) **industries**.

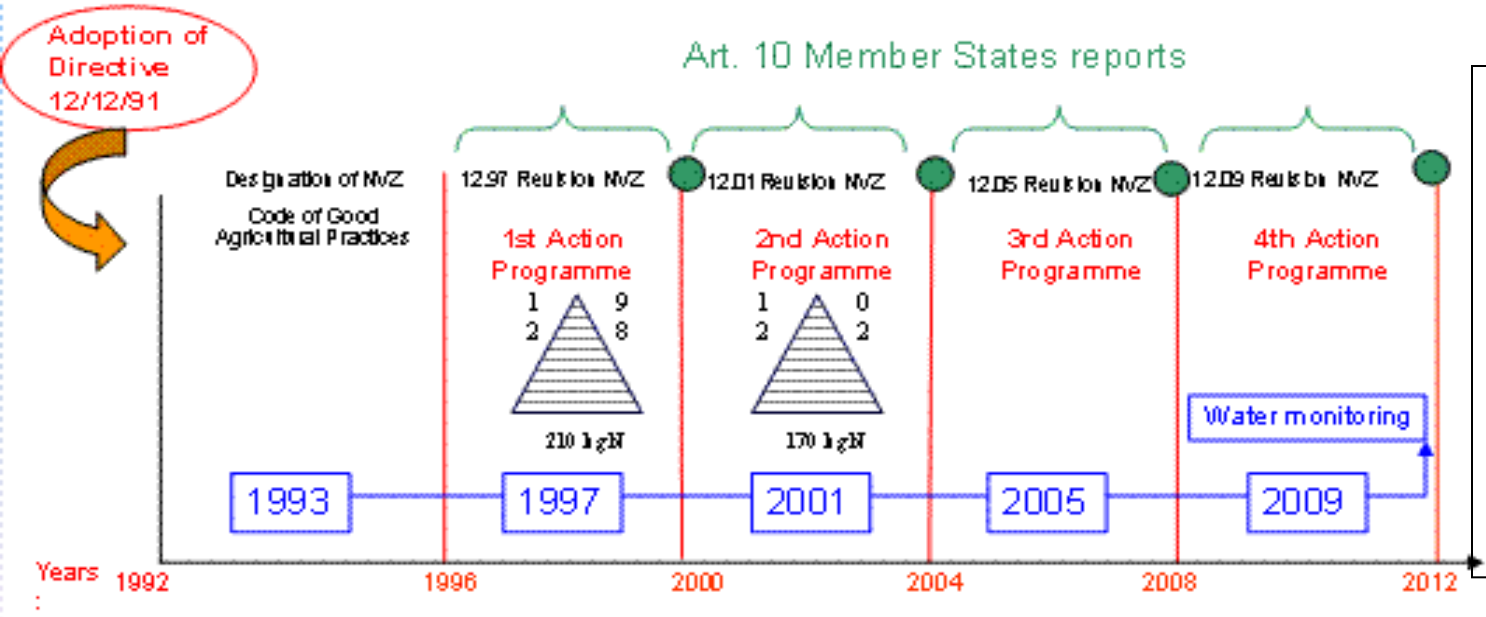
Sets **treatment levels** on the basis of the **agglomeration size** and the **sensitivity of waters** receiving the discharges

Nitrates Directive 91/676/EEC

Deals with **diffuse pollution of nitrogen from agriculture**. In addition, through the **designation of Nitrates Vulnerable Zones** and application of **action programmes**, it provides for measures to combat eutrophication

Environmental objectives

Vulnerable zones cover all land draining to identified waters, including natural freshwater lakes, other freshwater bodies, **estuaries, coastal waters and marine waters** which are eutrophic or may become so in the near future if protective action is not taken.



National monitoring and reporting every 4 years:

- Nitrates concentrations
- Eutrophication
- Assessment of Action Programmes impact
- Revision of NVZs and Action Programmes

HABITATS and BIRDS DIRECTIVES

(HD - **92**/43/EEC) (BD -**79**/409/EEC- **2009**/147/EC)

Maintenance of biodiversity through the conservation of **natural habitats** and of **wild fauna and flora** in Member States.

Selected habitats & species maintained or restored to a "**favourable conservation status**"

SAC: **Special Areas of Conservation**

Closely linked with Birds Directive: SACs are to complement the **Special Protection Areas (SPAs)** established under BD

To establish a coherent European **ecological network of protected sites** of **Community interest** known as '**Natura 2000'**

A **guidance on the establishment of the Natura 2000 for the marine environment** has been developed (2007). It covers both the inshore and offshore marine environments.

http://ec.europa.eu/environment/nature/natura2000/marine/docs/marine_guidelines.pdf

Water Framework Directive (WFD)
Directive 2000/60/EC

Integrated approach towards environmental protection

General discipline for the protection of all surface waters:
- rivers, lakes, **transitional waters, coastal waters**
- enhancing the status of aquatic ecosystems

Integrated management of waters based on River Basin Management Plan

- Environmental objectives for the **status** of **aquatic ecosystems:** new concept of **environmental quality** of the water body, **based on the ecological and chemical status**

-**Water bodies** considered **as integrated and complex ecosystems,** to be **monitored in each** of their **components**

Water quality target, requiring a **quality classification** for each water body

Pressure and **impacts** analysis (risk analysis)

Key objective:

Achievement of "*good water status*" for all waters by 2015

Timetable of Implementation of the Water Framework Directive

Year	Requirements
2000	**Directive Adopted**
2003	**Transpose into National law** Identify River Basin Districts and Competent Authorities **Identify draft register of intercalibration sites**
2004	Characterisation of water bodies, including Heavily Modified water bodies Review pressures and impacts and identify sites at risk of not meeting the environmental objective of 'good status' Establish register of Protected Areas Undertake economic analysis of water use **Final register of intercalibration sites**
2006	**Comprehensive monitoring programmes operational**
2007	Repeal some Directives
2008	Publish Draft River Basin Management Plans which will include a first draft of the classification of water bodies
2009	River Basin Management Plans produced to include final classification of the ecological status of water bodies Programme of measures for each RBD
2010	Water pricing policies contribute to environmental objectives
2013	Repeal some Directives
2015	**"Good" Status to be achieved**

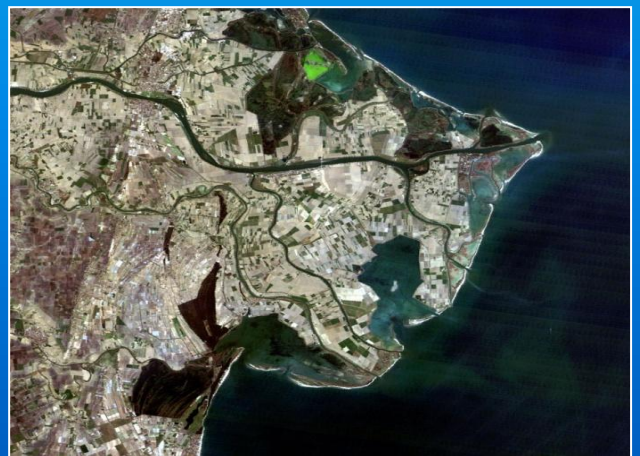
COASTAL WATERS Definition, according to the Directive (Art. 2)

*"'Coastal water ' means **surface water on the landward side** of a line, every point of which is **at a distance of one nautical mile on the seaward side** from the nearest point of the **baseline** from which the breadth of territorial waters is measured, extending where appropriate up to the outer limit of transitional waters."*

TRANSITIONAL WATERS Definition

Transitional waters are bodies of surface water in the **vicinity of river mouths** which are:

- **partly saline** in character as a result of their **proximity to coastal waters**
- but which are **substantially influenced by freshwater flows**



Quality elements (QE)

for classification of **COASTAL WATERS** ecological status, **Directive 2000/60/EC** ***(Annex V:1.1.4)***

BIOLOGICAL ELEMENTS

Composition, abundance and biomass of **phytoplankton**

Composition and abundance of other **aquatic flora**

Composition and abundance of **benthic invertebrate fauna**

HYDROMORPHOLOGICAL ELEMENTS (supporting the biological QE)

Morphological conditions

Depth variation

Structure and substrate of the coastal bed

Structure of the intertidal zone

Tidal regime

Direction of dominant currents

Wave exposure

CHEMICAL AND PHYSICO -CHEMICAL ELEMENTS (supporting the biological QE)

General

Transparency

Thermal conditions

Oxygenation conditions

Salinity

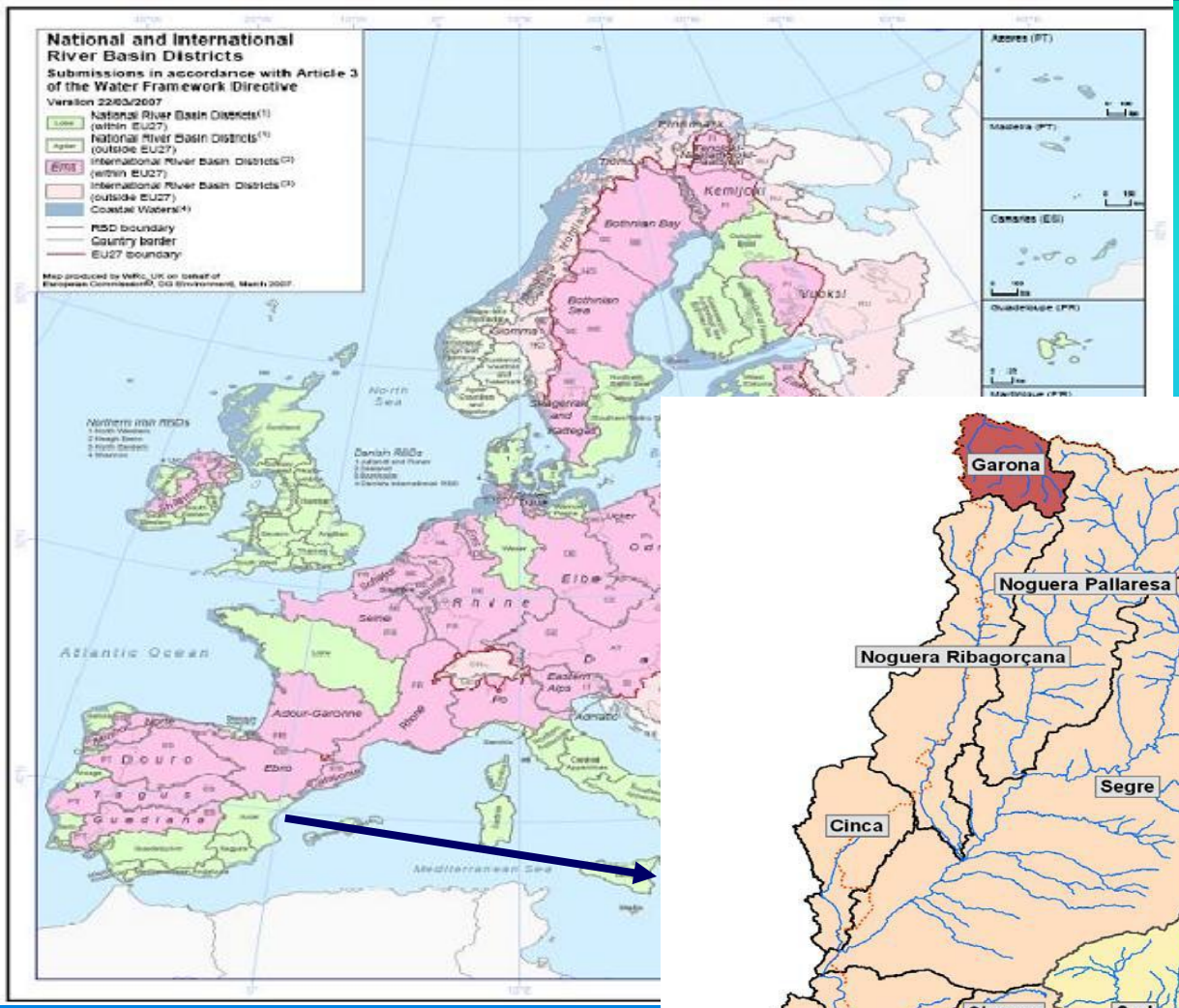
Nutrient conditions

Specific pollutant

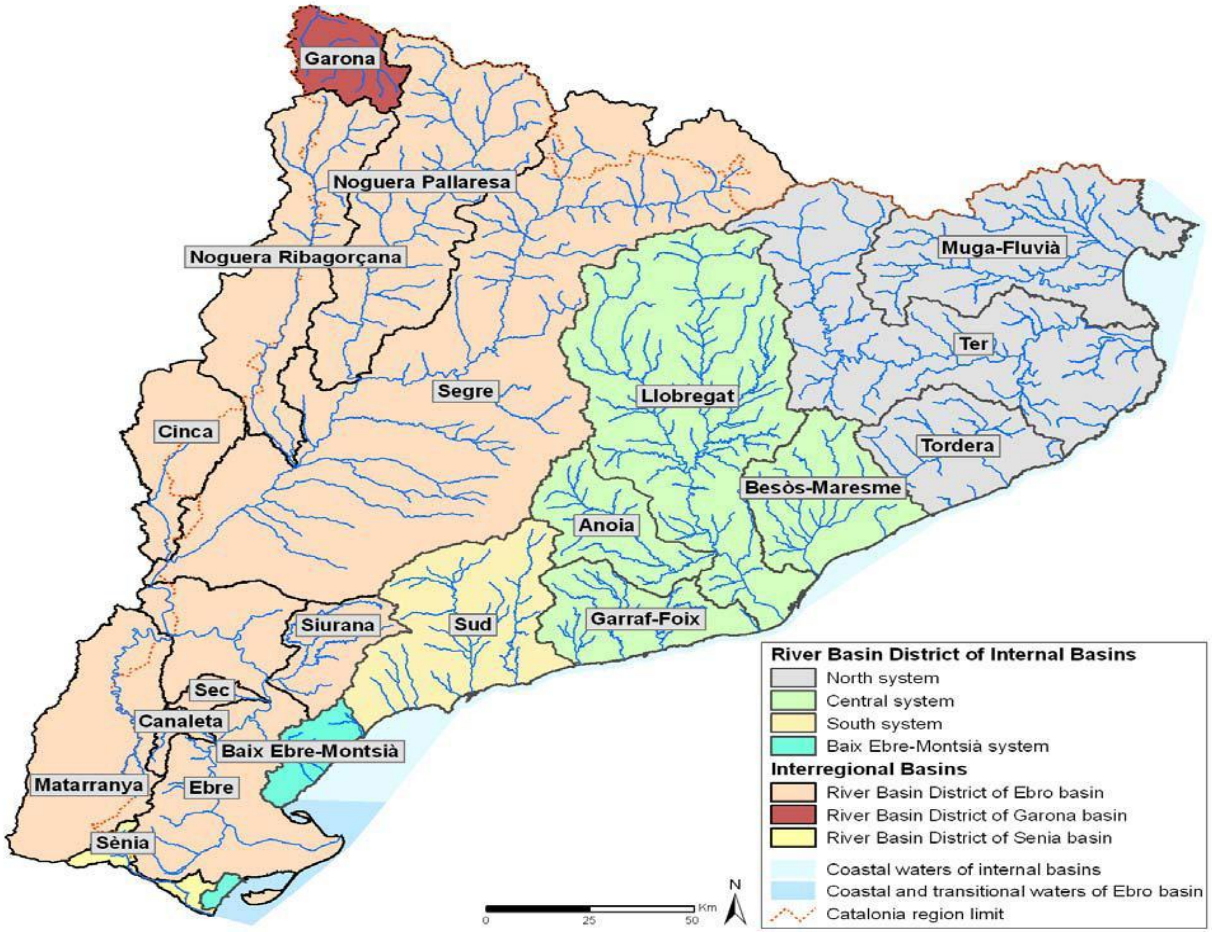
Pollution by all priority substances identified as being discharged into the body of water

Pollution by other substances identified as being discharged in significant quantities into the body of water

Integration of Water cycle: River Basin Management

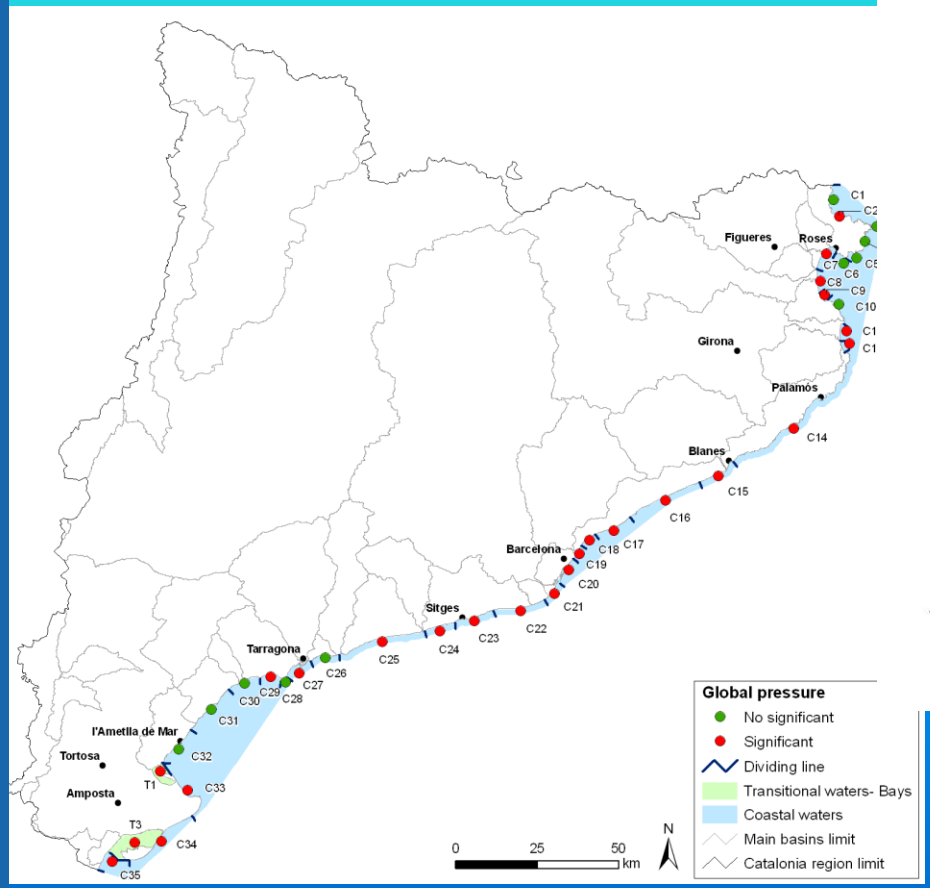


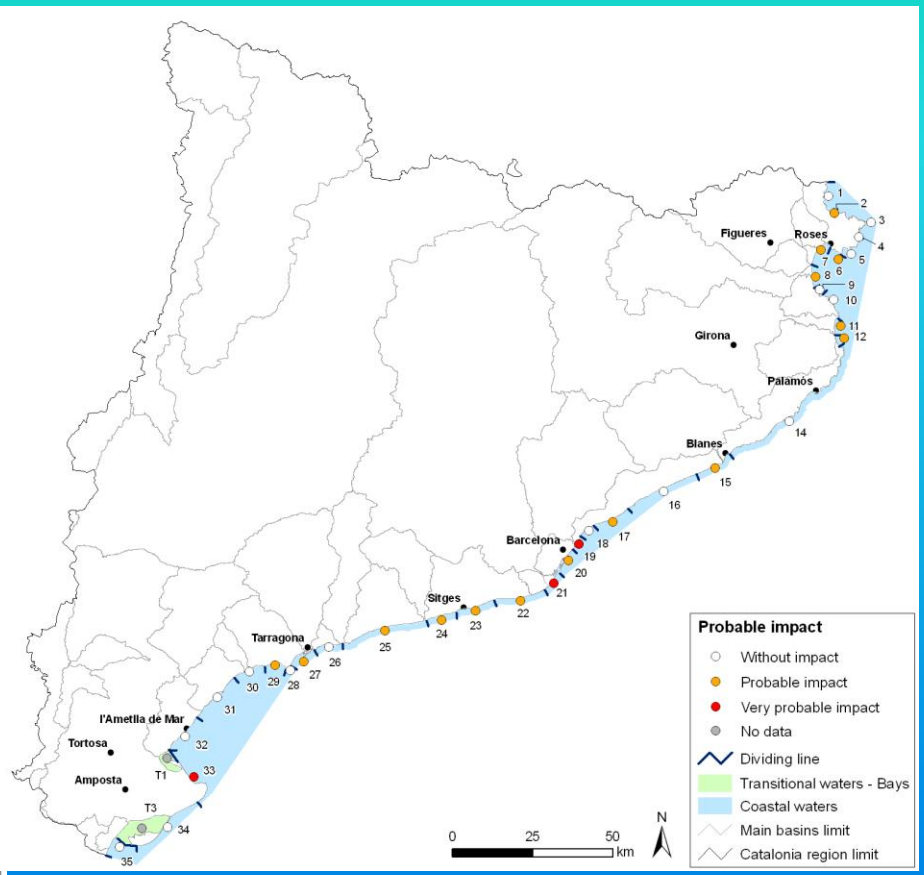
- All waters assigned to River Basin Districts (RBDs)
- RBD is the administrative arrangement for the WFD application
- RBD to be characterised for pressure, impacts & economics of water use



Application at a national/regional level

All policies require **pressure and impact analysis** on the area to be monitored and controlled, through a series of analysis



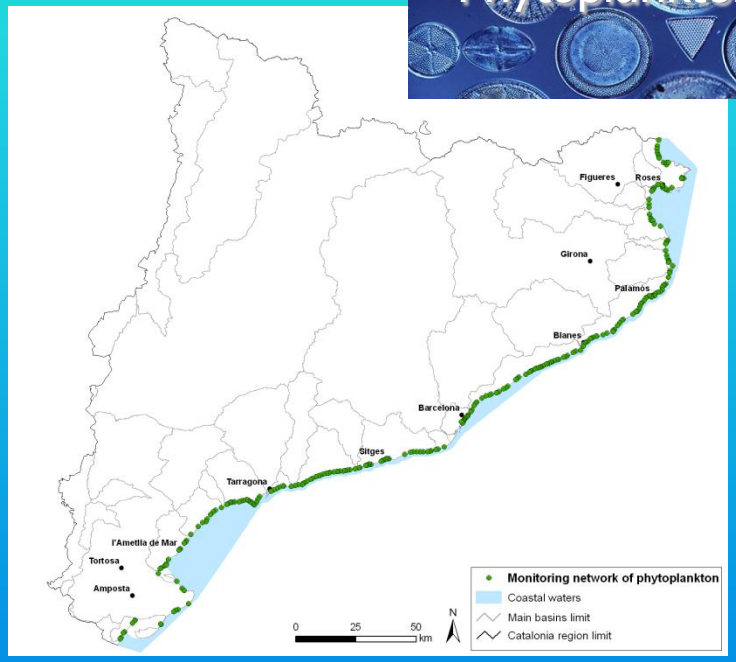


Agència Catalana de l'Aigua

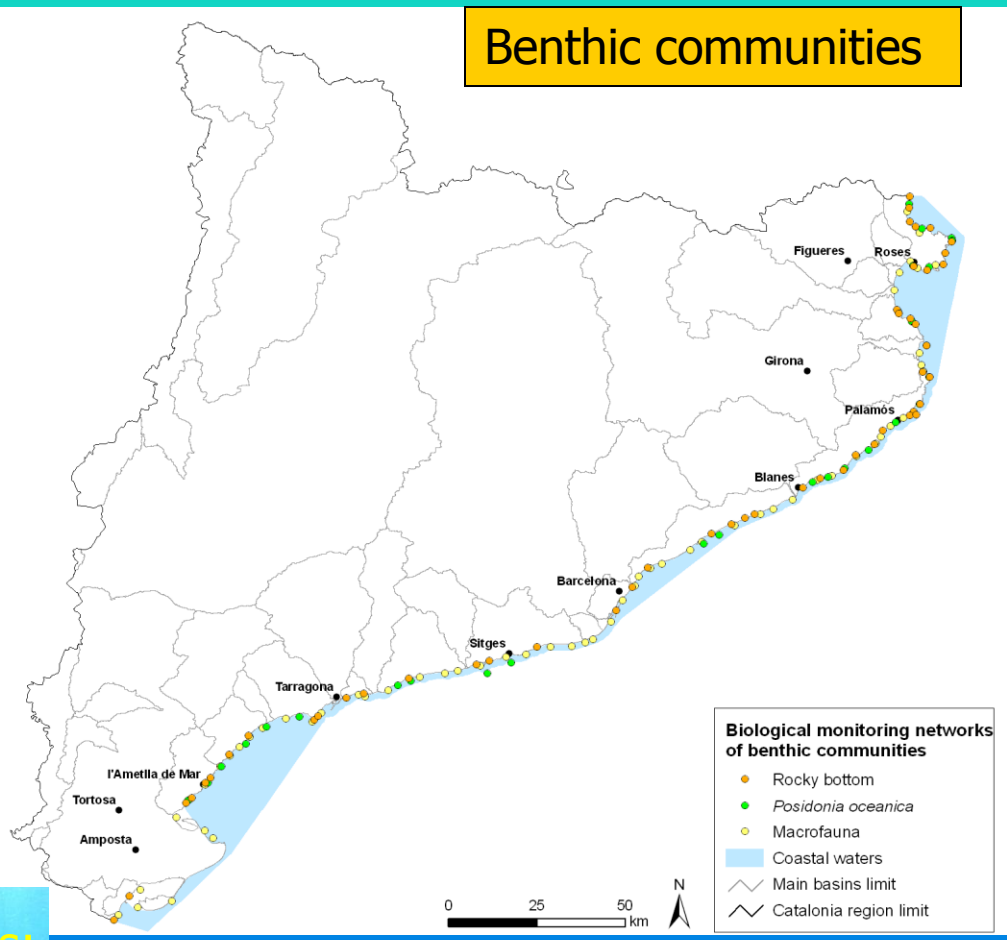
From IMPRESS document (WFD)

Biological Elements Analysis

Phytoplankton

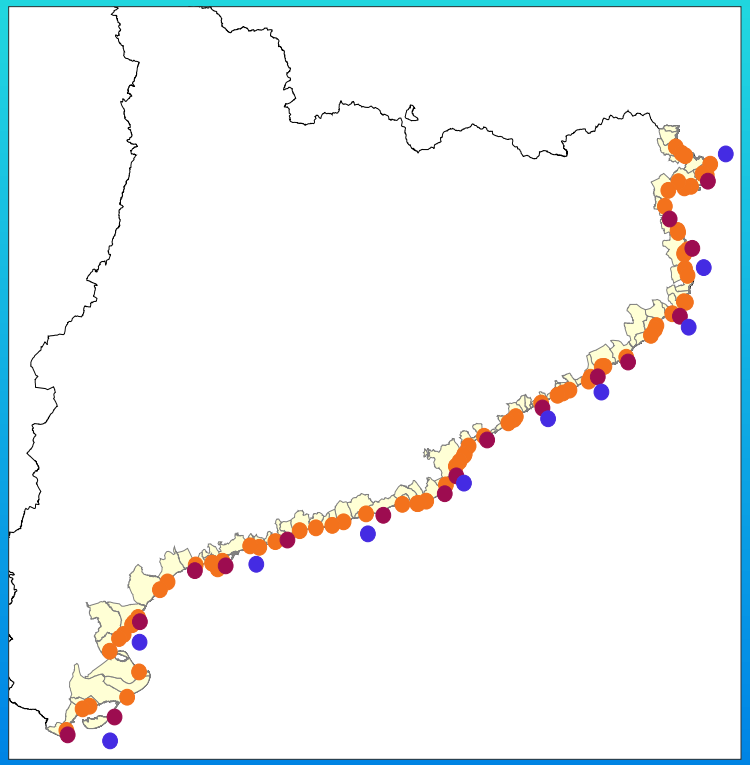


Benthic communities



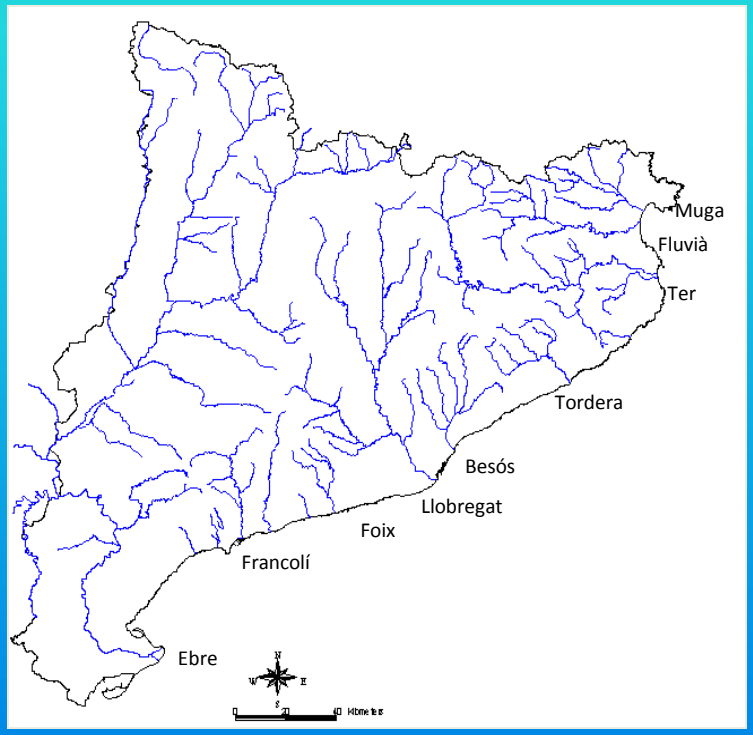
Physico-chemical and chemical

Physical-chemical surveillance monitoring of coastal waters



Indicators: temperature, salinity, oxygen, chlorophyll a, nitatres, nitrites, ammonium, phosphates and silicates, DBO5 (in the near field), Secchi disc depth

Prioritary Organic Pollutants (POPs) and metals
(mostly measured in the sediments)



sampling points in front of every river mouth

Indicadors: POPs: biphenyl polychlorides (PCBs), organochloride pesticides (POCs), polycyclic aromatic hydrocarbons (PAHs) and others (dioxins, chloroparaffins, nonylphenols...)

Metals: Hg, Cd, Pb, Cu, Cr, Zn, Ni, As, Se

Goal: Good Water Status

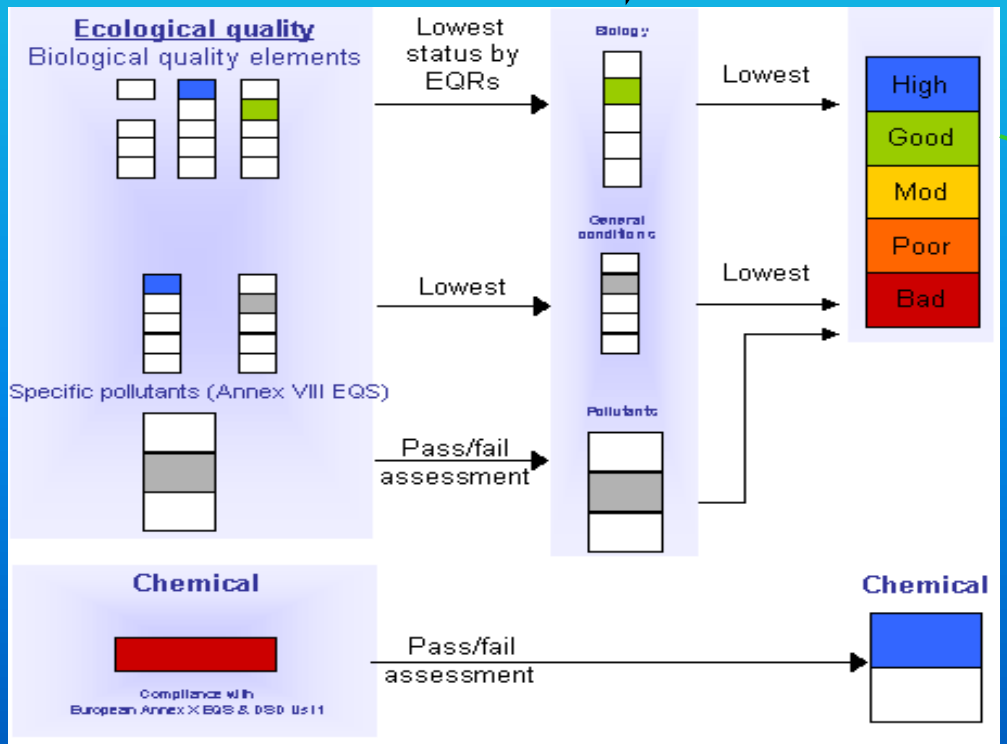
by 2015

ecological: **biological,** chemical and chemico-physical, hydromorphological

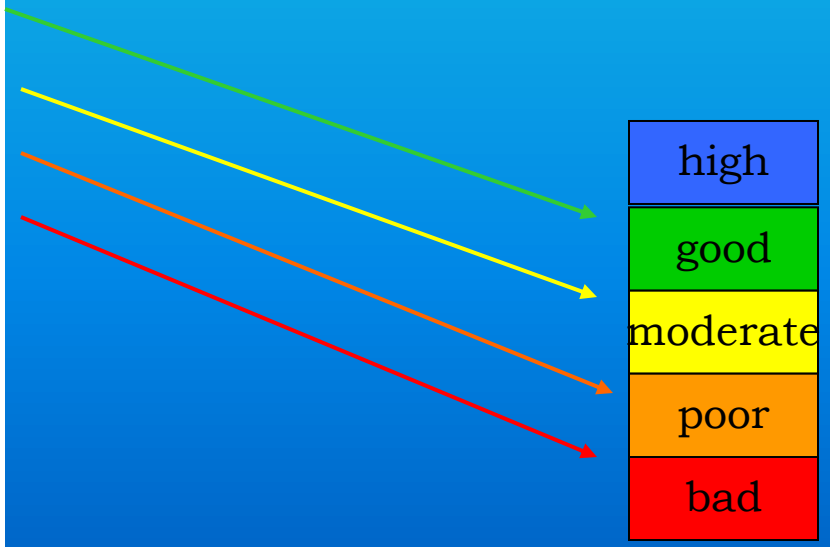
BQE:
phytoplankton
macroalgae,
angiosperm
benthic invertebrates

chemical: **environmental quality standards** (EQS) for hazardous substances, concentrations of pollutants in water, sediment and biota

CLASSIFICATION



Integration of results



Classification of ecological status

Assessment of the "**ecological status**" of water bodies within 5 "status" classes:

high

good

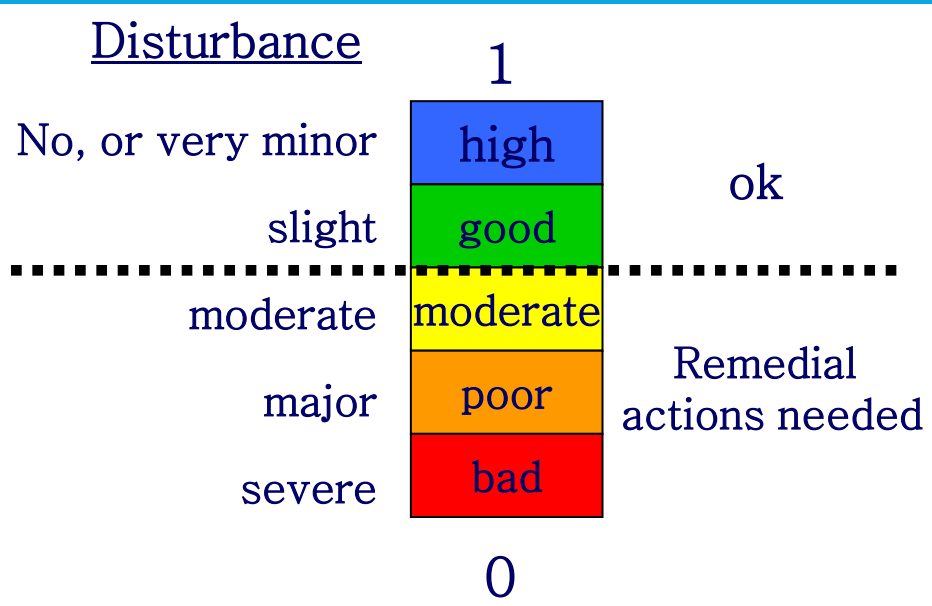
moderate

poor

bad

Environmental Quality Ratio (EQR)

$$\mathbf{EQR} = \frac{\textbf{observed} \text{ values of biological parameter}}{\textbf{reference} \text{ values of biological parameters}}$$



Implementation of the Directive: application at EU level

Implementation of the Directive **is the responsibility of individual Member States,** but

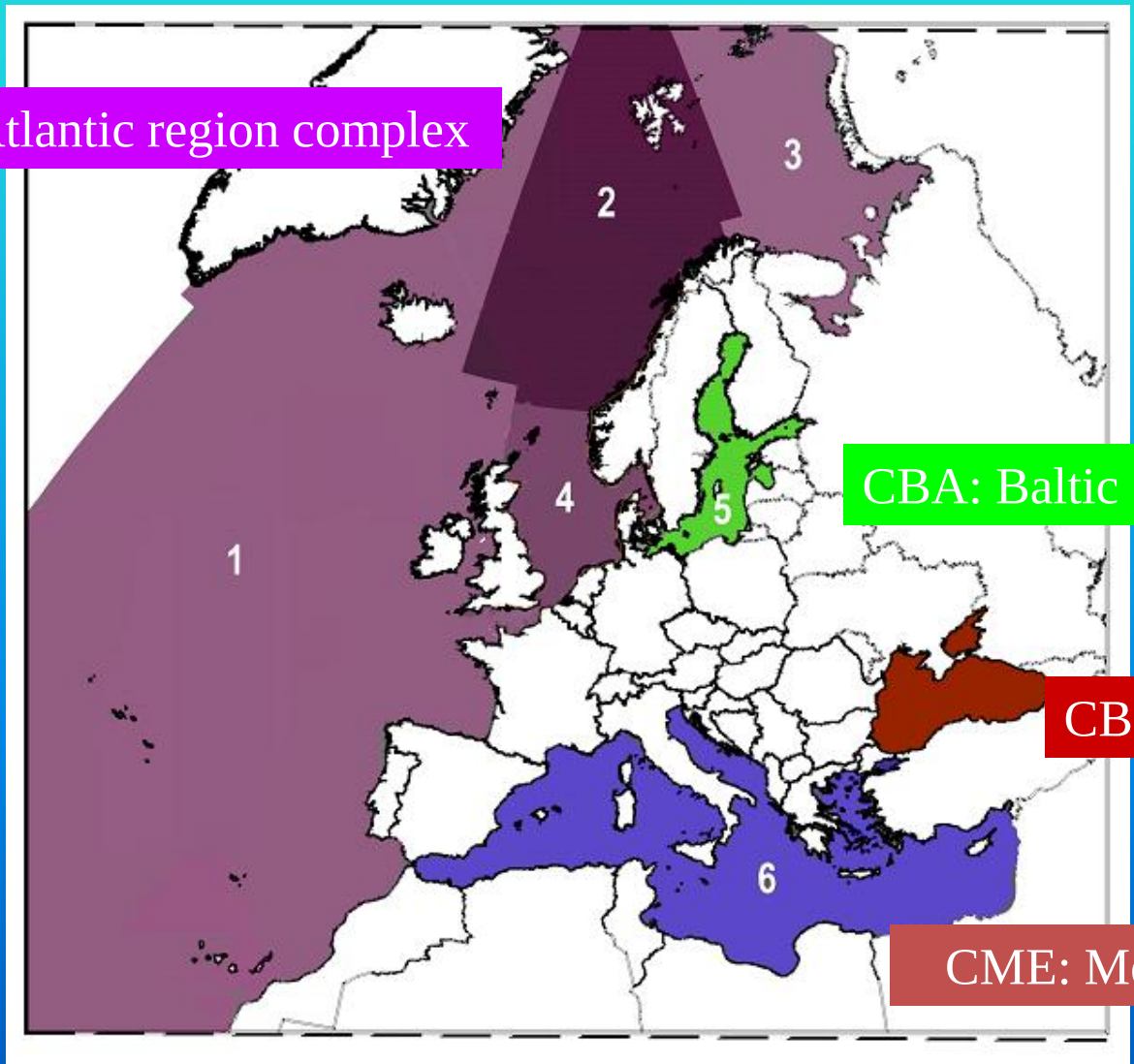
the implementation of the WFD raises **challenges common to all Member States**

Member States and EC agreed a **Common Implementation Strategy (CIS)** for:
- developing coherent **common understanding** , **guidances** on key elements

Within the **CIS** a series of **Working Groups**: technical experts and regulators from EU Member States, Norway and some Accession States are acting

WFD Implementation: adequate application according to ECOREGIONS

Geographical Intercalibration Group areas (GIGs)



CNE: NE Atlantic region complex

CBA: Baltic Sea

CBL: Black Sea

CME: Mediteranean Sea

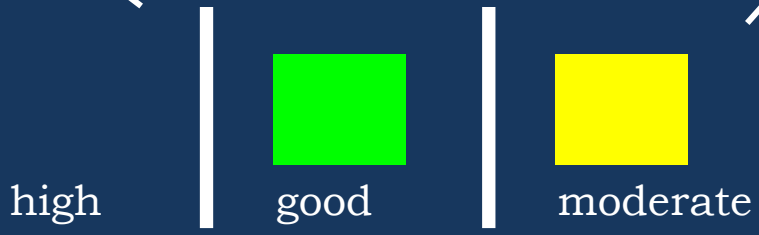
Intercalibration exercise
(Ecoregionally based)

High/Good

Good/Moderate

EQR values comparison between different MS

high
good
moderate
poor
bad



Result: define, through the harmonization of EQR values, the boundaries between high/good and good/moderate

COM Decision (**2008**/915/EC)

as a result of the

Intercalibration exercise

A new COM decision on the results of the 2° phase of IC is expected by **end 2012**

COMMISSION DECISION

of 30 October 2008

establishing, pursuant to Directive 2000/60/EC of the European Parliament and of the Council, the values of the Member State monitoring system classifications as a result of the intercalibration exercise

(notified under document number C(2008) 6016)

(Text with EEA relevance)

(2008/915/EC)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community,

Having regard to Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (1), and in particular section 1.4.1(iv) of Annex V thereof,

Whereas:

(1) Article 4(1)(a)(ii) of Directive 2000/60/EC requires the Member States to protect, enhance and restore all bodies of surface water with the aim of achieving good surface water status at the latest 15 years after the date of entry into force of the Directive, subject to certain exceptions, in accordance with the provisions laid down in Annex V thereto. Article 4(1)(a)(iii) of Directive 2000/60/EC requires the Member States to protect and enhance all artificial and heavily modified bodies of water, with the aim of achieving good ecological potential and good surface water chemical status at the latest 15 years from the date of entry into force of that Directive, subject to certain exceptions, in accordance with the provisions laid down in Annex V thereto. In accordance with point (i) of section 1.4.1 of Annex V to Directive 2000/60/EC the reference to ecological status should be construed as reference to ecological potential as regards artificial and heavily modified water bodies.

(2) Section 1.4.1 of Annex V to Directive 2000/60/EC provides a process to ensure the comparability between Member States of biological monitoring results, being a central part of the ecological status classification. This requires the results of the Member States' monitoring and classification systems to be compared through an intercalibration network comprised of monitoring sites in each Member State and in each ecoregion of the Community. Directive 2000/60/EC requires the Member States to collect, as appropriate, the necessary information for the sites included in the intercalibration network, in order to enable the assessment of the consistency of the national classification system with the normative definitions of section 1.2 of Annex V to Directive 2000/60/EC and the comparability of the results of classification systems between the Member States.

(3) Commission Decision 2005/646/EC of 17 August 2005 on the establishment of a register of sites to form the intercalibration network in accordance with Directive 2000/60/EC of the European Parliament and of the Council (2) established the register of sites to form the intercalibration network referred to in section 1.4.1(vii) of Annex V to Directive 2000/60/EC.

(4) In order to carry out the intercalibration exercise Member States are organised in Geographical Intercalibration Groups, consisting of Member States sharing particular surface water body types, as defined in Section 2 of the Annex to Decision 2005/646/EC. This has allowed each group to compare its results and to perform the intercalibration exercise among its members.

(5) The intercalibration exercise is carried out at biological element level, comparing the classification results of the national monitoring systems for each biological element and for each common surface water body type among Member States in the same Geographical Intercalibration Group, and assessing the consistency of the results with the aforementioned normative definitions.

(6) The 'Technical report on the Water Framework Directive intercalibration exercise' describes in detail how the intercalibration exercise has been carried out for the water categories and biological quality elements included in the Annex to this Decision.

(7) The Commission has facilitated the intercalibration exercise through the Institute of Environment and Sustainability of the Joint Research Centre in Ispra (Italy) that has coordinated the technical work.

(8) The intercalibration exercise is a complex scientific and technical task. The Geographical Intercalibration Groups have used different methodological options to carry out the exercise depending on the availability of monitoring data for the various biological quality elements and the status of development of the national monitoring and classification systems. In order to increase the statistical robustness of the

(1) OJ L 327, 22.12.2000, p. 1.

(2) OJ L 243, 19.9.2005, p. 1.

Priority Substances (Directive 2008/105/EC)

environmental quality standards in the field of water policy amending Directive 2000/60/E

Review of Annex X: "List of priority substances in the field of Water policy

Annex X to Directive 2000/60/EC is replaced by the following:

'ANNEX X

LIST OF PRIORITY SUBSTANCES IN THE FIELD OF WATER POLICY

ANNEX I

ENVIRONMENTAL QUALITY STANDARDS FOR PRIORITY SUBSTANCES AND CERTAIN OTHER POLLUTANTS

PART A: ENVIRONMENTAL QUALITY STANDARDS (EQS)

AA: annual average;

MAC: maximum allowable concentration.

Unit: [µg/l]

(1)	(2)	(3)	(4)	(5)	(6)	(7)
No	Name of substance	CAS number (1)	AA-EQS (2) Inland surface waters (3)	AA-EQS (2) Other surface waters	MAC-EQS (4) Inland surface waters (3)	MAC-EQS (4) Other surface waters
(1)	Alachlor	15972-60-8	0,3	0,3	0,7	0,7
(2)	Anthracene	120-12-7	0,1	0,1	0,4	0,4
(3)	Atrazine	1912-24-9	0,6	0,6	2,0	2,0
(4)	Benzene	71-43-2	10	8	50	50
(5)	Brominated diphenylether (5)	32534-81-9	0,0005	0,0002	not applicable	not applicable
(6)	Cadmium and its compounds (depending on water hardness classes) (6)	7440-43-9	≤ 0,08 (Class 1) 0,08 (Class 2) 0,09 (Class 3) 0,15 (Class 4) 0,25 (Class 5)	0,2	≤ 0,45 (Class 1) 0,45 (Class 2) 0,6 (Class 3) 0,9 (Class 4) 1,5 (Class 5)	≤ 0,45 (Class 1) 0,45 (Class 2) 0,6 (Class 3) 0,9 (Class 4) 1,5 (Class 5)
(6a)	Carbon-tetrachloride (7)	56-23-5	12	12	not applicable	not applicable
(7)	C10-13 Chloroalkanes	85535-84-8	0,4	0,4	1,4	1,4
(8)	Chlorfenvinphos	470-90-6	0,1	0,1	0,3	0,3
	s (Chlorpyrifos-ethyl)	2921-88-2	0,03	0,03	0,1	0,1
	pesticides: 309-00-2 60-57-1 72-20-8 465-73-6		Σ = 0,01	Σ = 0,005	not applicable	not applicable
	7) (8)	not applicable	0,025	0,025	not applicable	not applicable
	DT (7)	50-29-3	0,01	0,01	not applicable	not applicable
	oethane	107-06-2	10	10	not applicable	not applicable
(11)	Dichloromethane	75-09-2	20	20	not applicable	not applicable
(12)	Di(2-ethylhexyl)-phthalate (DEHP)	117-81-7	1,3	1,3	not applicable	not applicable
(13)	Diuron	330-54-1	0,2	0,2	1,8	1,8
(14)	Endosulfan	115-29-7	0,005	0,0005	0,01	0,004
(15)	Fluoranthene	206-44-0	0,1	0,1	1	1
(16)	Hexachloro-benzene	118-74-1	0,01 (9)	0,01 (9)	0,05	0,05
(17)	Hexachloro-butadiene	87-68-3	0,1 (9)	0,1 (9)	0,6	0,6

Directive 2006/7/EC

management of **Bathing Waters** quality, repealing Directive 76/160/EEC

Purpose and scope

1. This Directive lays down provisions for:

(a) the monitoring and classification of bathing water quality;

(b) the management of bathing water quality; and

(c) the provision of information to the public on bathing water quality.

2. The purpose of this Directive is to preserve, protect and improve the quality of the environment and to protect human health by complementing Directive 2000/60/EC.

Classification and quality status of bathing waters

1. As a result of the bathing water quality assessment carried out in accordance with Article 4, Member States shall, in accordance with the criteria set out in Annex II, classify bathing water as:

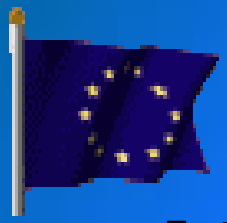
(a) 'poor';

(b) 'sufficient';

(c) 'good'; or

(d) 'excellent'.

2. The first classification according to the requirements of this Directive shall be completed by the end of the 2015 bathing season.



New Phase: 2000

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Ecological status: analysis of various components of the all ecosystem
Objective: environmental status quality (good)

WFD

Bathing Waters

Priority Substances (Directive 2008/105/EC)

Ecosystem Based Approach

Marine Strategy Directive

International Sea Conventions
programs/protocols

Common Fishery Policy
Fishery management at Community level
Regional specific regulations

ICZM

Integrated Maritime Policy

Ecosystem Based Approach

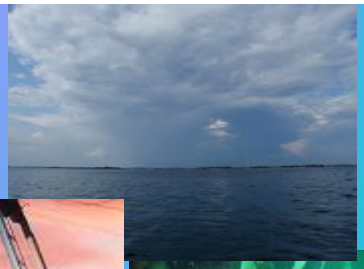
*"Strategy for the **integrated management of land, water and living resources** that promotes conservation and sustainable use in an equitable way and the ecosystem can be defined as **"an interacting complex of living communities and the environment, (…) where "humans (…) are an integral component of ecosystems"***
(Convention on Biological Diversity (CBD, 2000)

Most important principles of sustainable environmental management.

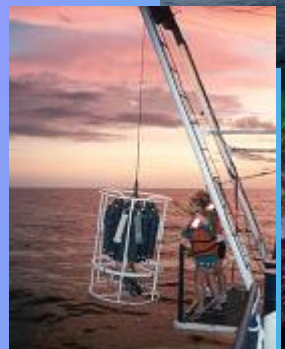
It is acknowledged by the EU as an overarching guiding principle, e.g. the IMP, MSFD, new draft CFP, MSP Roadmap, etc.

International organisations such as FAO and Regional Sea Conventions and several countries have adopted EA as an overarching principle









EU Policy Integrated Coastal Zone Management (ICZM)

Coastal management: policies mostly developed separately from each other and on sectorial basis.

More coherent, integrated approach to coastal planning and management can provide benefits from synergies and achieve more effective sustainable development

EU promotes ICZM on the basis of the **European Parliament and Council Recommendation 2002/413/EC:**

- how the COM promotes ICZM by using Community instruments and programmes

- outlines steps for Member States to develop national strategies for ICZM, involving all the coastal stakeholders

ICZM Protocol of the Barcelona Convention

EU ratification: 13/9/2010 (Council decision)

Further development of ICZM in EU:

-impact assessment: autumn 2010

-follow-up proposal, in 2011, to the EU ICZM Recommendation.

http://ec.europa.eu/environment/iczm/home.htm

Common Fishery Policy

European Union's instrument for the management of fisheries and aquaculture

1970 Starting principle: EU fishermen should have equal access to Member States' waters

After years of difficult negotiations the CFP was born in **1983** and then reformed in **2002**

<u>The objectives agreed in 2002 to achieve sustainable fisheries have not been met overall</u>

2008: Commission launched **a review of the Common Fisheries Policy** based on
- analysis of the achievements and shortcomings of the current policy,
- experiences from other fisheries management systems

to identify future action

Vessels are catching more fish than can be safely reproduced, thus exhausting individual fish stocks and threatening the marine ecosystem.
Today, **three out of four stocks are overfished**: **82%** of **Mediterranean stocks** and 63% of Atlantic stocks

By bringing fish stocks back **to sustainable levels**, the new CFP aims to:
- provide EU citizens with a **stable**, secure and **healthy food supply** for the **long term**,
- bring new **prosperity to the fishing sector**,
- **end dependence on subsidies**
- create **new opportunities for jobs** and growth in coastal areas.

2011: EC presented its **proposals for the reform** and proposed a **new fund for the EU's maritime and fisheries policies** for the period 2014-2020:
the European maritime and fisheries fund (**EMFF**).

Next steps

2012: the reform proposals will be discussed in the European Parliament and in the Council.

The **reformed CFP will enter into force in 2013**.

http://ec.europa.eu/fisheries/reform/index_en.htm

Integrated Maritime Policy

COM(2007)575

Communication: An Integrated Maritime Policy for the European Union ("**Blue Book**")

- accompanied by a related **Action Plan** SEC (2007) 1278

Two main components:

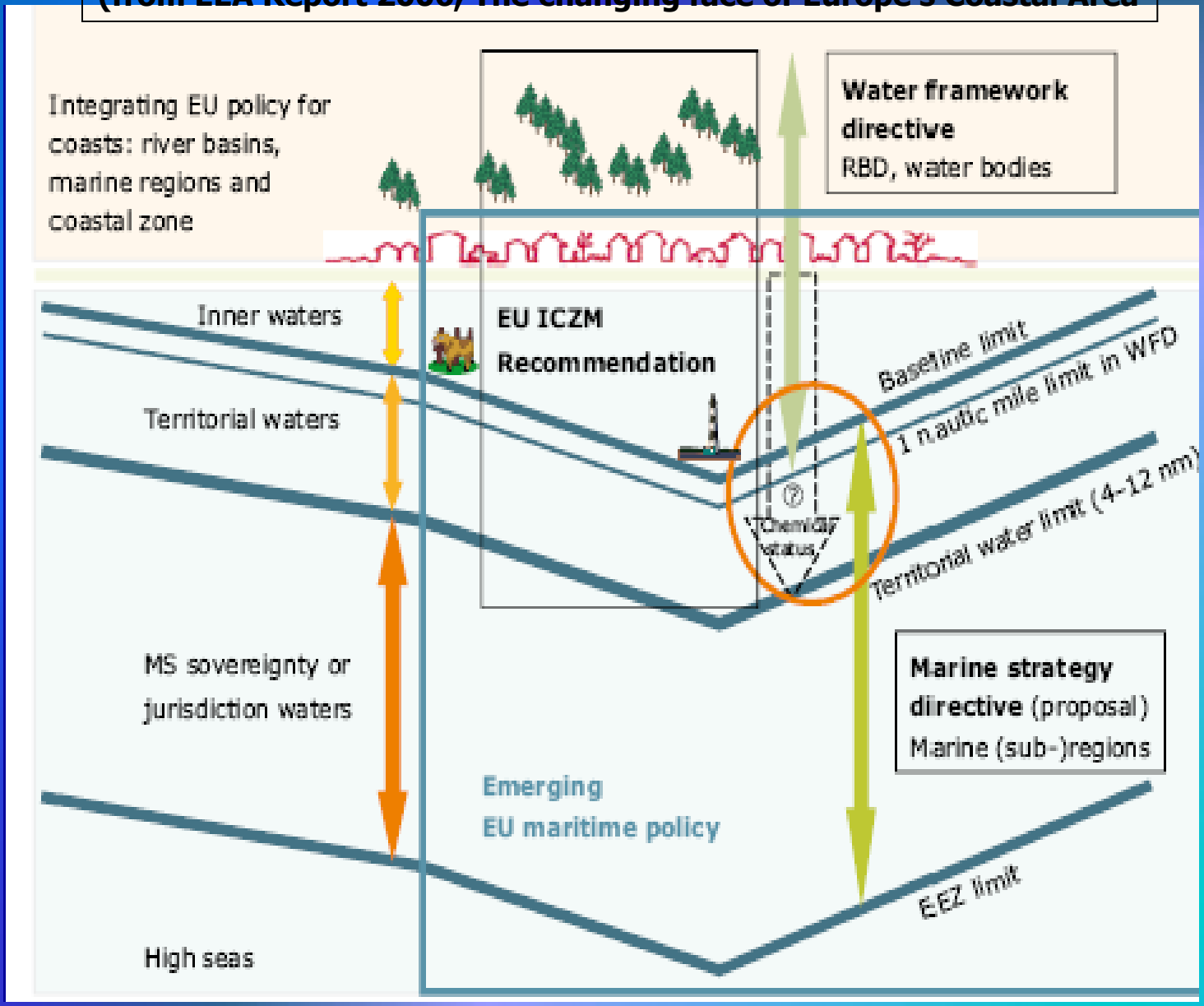
- Development of **integrated cross-cutting tools** to benefit a range of maritime policies:
  - **Maritime Spatial Planning**
  - European marine observation and data network (**EMODNET**)
  - Integrated maritime **surveillance**

- Series of **policy developments having a strong maritime component** (under responsibility of different DGs)
  - ex: ENV: coastal/marine adaptation to climate change, ICZM, air pollution from ships

The **Action Plan** will be **updated** (**2010-2015**) highlighting key actions to be undertaken

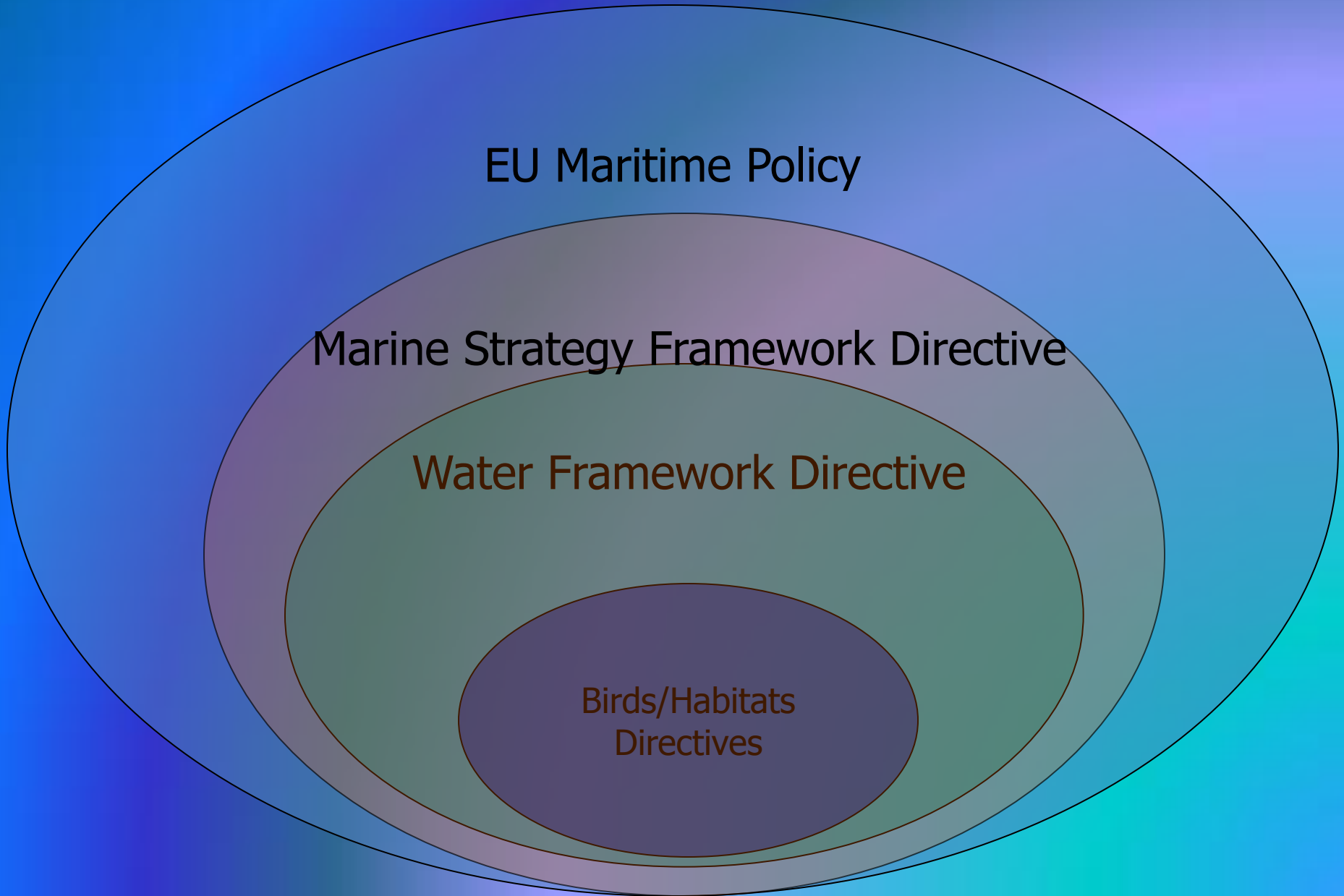
The **Marine Strategy Framework Directive** is the Environmental pillar of the **IMP**

(from EEA Report 2006, The changing face of Europe's Coastal Area



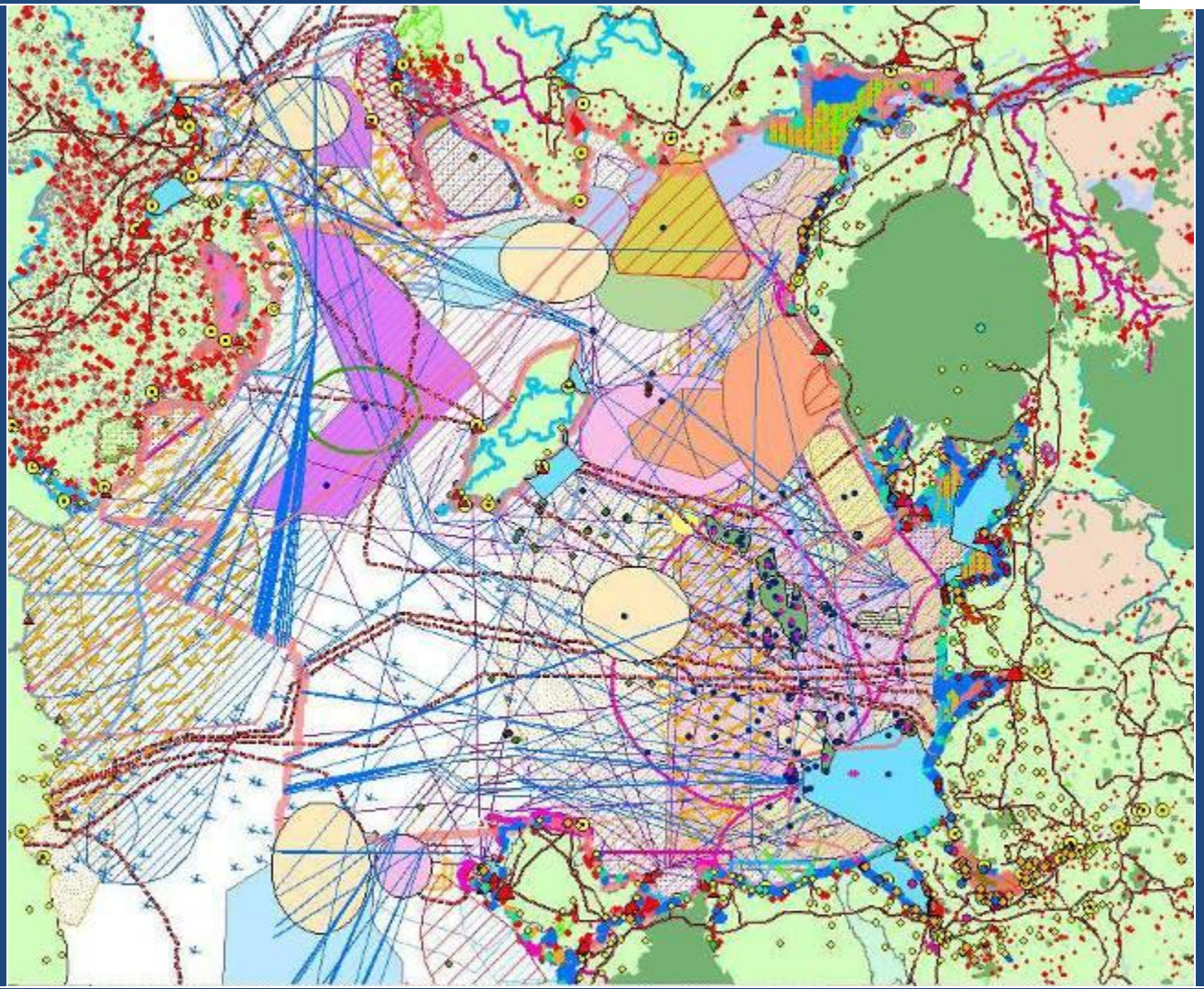
No comprehensive EU legislation to protect all marine waters of EU Member States from a cross-cutting perspective (ecosystem approach)

Looking for integration



Complexity of the coastal and marine management

- Landuse
- Tourism
- Oil &Gas
- Mariculture
- Coastal Defence
- Ports & Navigation
- Military Activities
- Culture
- Conservation
- Dredging & Disposal
- Submarine Cables
- Fishing
- Renewable Energy
- Marine Recreation
- Mineral Extraction



Marine Strategy Framework Directive

Directive 2008/56/EC

Integrate marine protection and management, considering **all existing** pressures, **and impacts,** with **economic and social analysis**

Member States to develop **National Marine Strategies**, reflecting overall perspectives of the **Marine Region** (or subregion), **coordinated** within the Marine Region (MSs and third countries)

-Where appropriate, existing Regional Institutional Structures (such as **Regional Sea Conventions**) to be used to ensure **coordination** (at the different stages of the Strategies)

GOAL: achieve **GOOD environmental status** by the year **2020**

Apply an **Ecosystem Based Approach** to management of human activities

Take into account the measures required under **existing legislations, such as**
Water Framework Directive
Habitat Directive
International agreements, i.e. HELCOM and OSPAR, UNEP/MAP, Black Sea Convention

MSFD is the **environmental pillar** of the **Integrated Maritime Policy**

Steps for National Marine Strategies development

Initial assessment: analysis of essential features/**characteristics**, (*Annex III, tab.I*) **pressures** and **impacts**, (*Annex III, tab.II)*, on marine waters **economic** and **social** analysis of their use and cost of degradation	**2012**
Determine **Good Environmental Status** (indicative list of elements: Annex I, and Annex III)	
Establishment of **Environmental Targets** and **indicators**	
Monitoring programmes: compatible with existing provisions, methods consistent across the Marine Region (comparability)	**2014**
Programmes of Measures to be taken	**2015**
Entry into operation of programmes	**2016**

Building upon existing activities developed within EU Directives and Regional Sea Conventions

2020

To achieve or maintain Good Environmental Status in the marine environment

Adaptive management , with regular review (every 6 years)