




DG ENV/MSFD Second Cycle/2016

**MARINE STRATEGY FRAMEWORK DIRECTIVE**  
Background material-scientific game



## Authors

This booklet serves as background material to be used in the context of MEDCIS project - Activity 5: Promotion and dissemination. The editorial project has been produced by Salento University.



Find more information on the project website [www.medcis.eu](http://www.medcis.eu).

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## Background material on Marine Strategy Framework Directive

Many young would become researchers in the field of the sciences. And you? Are you going to apply scientific methods to answer challenging questions? Join with us – we will get there together.

Using Scientific Game, of the MEDCIS project, you will discover the excitement of scientific research applied to address a major ecological challenge in the Mediterranean Region, i.e. monitoring and protecting the health of the Mediterranean Sea.



### PART I

#### 1 - WHAT IS THE MARINE STRATEGY FRAMEWORK DIRECTIVE (MSFD)?

The human species has always preferred to live near to aquatic ecosystem.

Oceans and seas, in the course of history, have been important channels for trade and transport.

The oceans (their temperature, chemical composition, lives etc.) influence the ecosystems on a global scale. Rainwater, water we drink, climate, our food and oxygen are elements regulated by the sea. A careful management of this global resource, the sea, is very relevant.

The European Commission has made rules to protect our seas and oceans.

The rules (called articles in the Directive) are included in a document which is the *Marine Strategy Framework Directive* (MSFD).



Earth appears as a blue planet because of the oceans covering about 71% of the Earth's surface

This Directive includes 28 articles and it is addressed to Member States of the Union European (art. 28). The Commission will review this Directive by 15 July 2023 and, if necessary, propose any amendments (art.23).

## Keep in mind...



The European Union is not a state but a unique economic and political partnership between 28 European countries, building their future all together.

### 1 - Key concepts:



- What is the Marine Strategy Framework Directive?
- To whom the Directive is directed?
- How many articles does the Directive include?

## 2 – WHICH SEAS DO WE PROTECT?

Marine waters under the jurisdiction of Member States of the European Union include waters in the Mediterranean Sea, Baltic Sea, Black Sea and North-east Atlantic Ocean, including the waters surrounding the Azores, Madeira and the Canary Islands.

The Directive divides European marine waters in four marine regions:

- ✓ Baltic sea
- ✓ North-east Atlantic Ocean;

- ✓ Mediterranean Sea;
- ✓ Black Sea.

Some regions have been further subdivided, considering the specificities of particular areas, into specific subregions. In the Mediterranean, four subregions have been identified:

- ✓ Western Mediterranean Sea;
- ✓ Adriatic Sea;
- ✓ Ionian Sea and the Central Mediterranean Sea;
- ✓ Aegean-Levantine Sea.



### MARINE REGION

Marine regions and their subregions are designated for the purpose of facilitating implementation of this Directive and are determined taking into account hydrological, oceanographic and biogeographic features.

Member States, sharing a marine region or subregion, cooperate (art.5.2) to ensure, within each marine region or subregion, the achievement of the objectives of this Directive and, for this reason, they can use existing regional institutional cooperation structures (art.6).



### REGIONAL COOPERATION

'Regional cooperation' means cooperation and coordination of activities between Member States and, whenever possible, third countries sharing the same marine region or subregion, for the purpose of developing and implementing marine strategies.



Mediterranean Sea is a large sea that separates Europe from Africa. It stretches from the Atlantic Ocean in the west to Asia in the east. Many early civilizations developed in the Mediterranean region.

## 2 - Key concepts:



- The Directive divides European marine waters in four marine regions. Why?
- The Directive identified four subregions in the Mediterranean. What are they?
- When do the Member States cooperate to achieve the objectives of this Directive?

## 3 - SCOPE OF THE MARINE STRATEGY FRAMEWORK DIRECTIVE 🔍

The Directive asks Member State to develop a marine strategy for its marine waters aiming to protect and preserve the marine environment, prevent its deterioration or, where practicable, restore marine ecosystems in areas where

they have been adversely affected, in order to achieve or maintain good environmental status (GES) of European seas and oceans by 2020.



### MARINE WATERS

Waters, the seabed and subsoil on the seaward side of the baseline from which the extent of territorial waters is measured extending to the outmost reach of the area where a Member State has and/or exercises jurisdictional rights (...); and coastal waters as defined by Directive 2000/60/EC.



### MARINE STRATEGY

'Marine strategy' is the strategy to be developed and implemented in respect of each marine region or subregion.



### ENVIRONMENTAL STATUS

'Environmental status' means the overall state of the environment in marine waters, taking into account the structure, function and processes of the constituent marine ecosystems together with natural physiographic, geographic, biological, geological and climatic factors, as well as physical, acoustic and chemical conditions, including those resulting from human activities inside or outside the area concerned.

### 3 - Key concepts:



- What is the scope that the marine strategy Directive requires to the Member States of the European Union?
- What the Member States of the European Union have to do to achieve good environmental status?
- What is the deadline for achieving the good environmental status?

### 4 – GOOD ENVIRONMENTAL STATUS (GES) END DESCRIPTOR

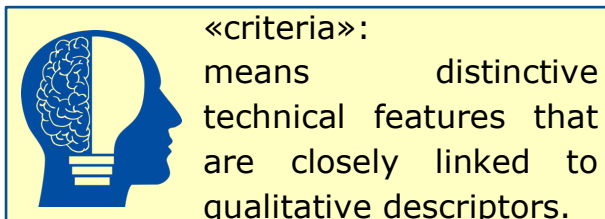
'Good environmental status' is the environmental status of marine waters in which they maintain

ecological diversity, the properties of oceans and seas in order to be clear,

healthy and productive for a sustainable use for current and future generations. The concept of 'good environmental status' is very important and you can deepen it reading the articles 3 and 9.

The Directive developed 11 qualitative descriptors for determining good environmental status. These descriptors are specified in the annex I of the Directive and they are listed below in this document.

The European Commission specified further the 11 descriptor, defining 26 criteria and 56 indicators (listed on the official journal of the European Union L234/14). For each descriptor there are one or more criteria and the criteria are accompanied by a list of related indicators, to make such criteria operational and allow subsequent progress.



To understand better the relation between descriptor and criterion you can read the following example.

Two criteria were associated to the descriptor 10:

- the first concerns the characteristic of litter in the marine and coastal environments;
- the second concerns the impacts of litter on marine life.

To understand better the relation between criteria and indicators, referring to the previous example, three indicators were identified for the first criterion:

- trends in the amount of litter washed ashore and/or deposited on coastlines, including analysis of its composition, spatial distribution and, where possible, source;
- trends in the amount of litter in the water column (including floating at the surface) and deposited on the sea-floor, including analysis of its composition, spatial distribution and, where possible, source;
- trends in the amount, distribution and, where possible, composition of micro-particles (in particular micro-plastics).

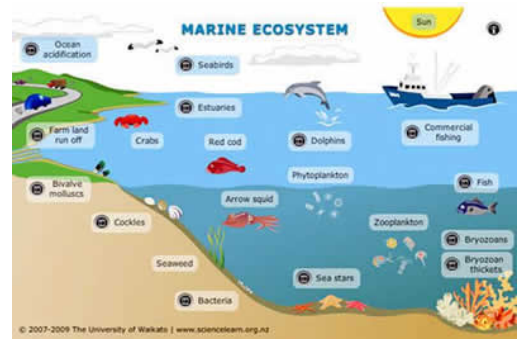
In the second criteria (impacts of litter on marine life), one indicator was defined:

- trends in the amount and the composition of litter ingested by marine animals (e.g., stomach analysis).

11 qualitative descriptors for determining good environmental (Articles 3(5), 9(1), 9(3) and 24) are listed below.

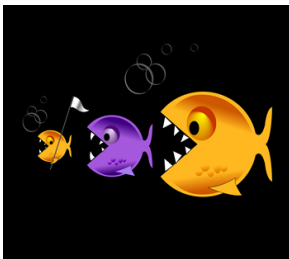
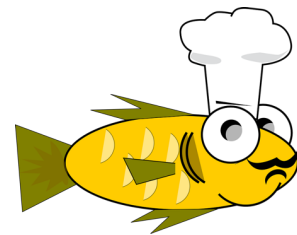


**Descriptor 1** - Biological diversity is maintained. The quality and occurrence of habitats and the distribution and abundance of species are in line with prevailing physiographic, geographic and climatic conditions.



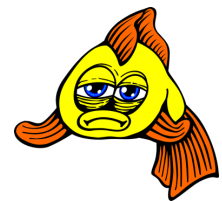
**Descriptor 2** - Non-indigenous species introduced by human activities are at levels that do not adversely alter the ecosystems.

**Descriptor 3** - Populations of all commercially exploited fish and shellfish are within safe biological limits, exhibiting a population age and size distribution that is indicative of a healthy stock.



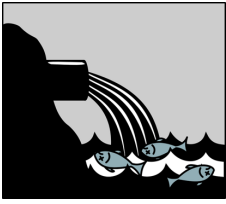
**Descriptor 4** - All elements of the marine food webs, to the extent that they are known, occur at normal abundance and diversity and levels capable of ensuring the long-term abundance of the species and the retention of their full reproductive capacity.

**Descriptor 5** - Human-induced eutrophication is minimised, especially adverse effects thereof, such as losses in biodiversity, ecosystem degradation, harmful algae blooms and oxygen deficiency in bottom waters.



**Descriptor 6** - Sea-floor integrity is at a level that ensures that the structure and functions of the ecosystems are safeguarded and benthic ecosystems, in particular, are not adversely affected.

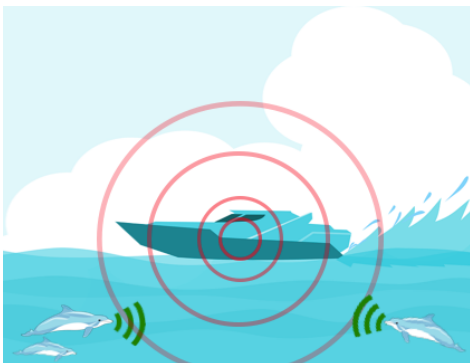
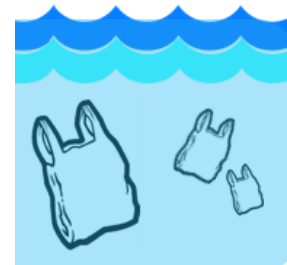
**Descriptor 7** - Permanent alteration of hydrographical conditions does not adversely affect marine ecosystems.



**Descrittore 8** - Concentrations of contaminants are at levels not giving rise to pollution effects.

**Descrittore 9** - Contaminants in fish and other seafood for human consumption do not exceed levels established by Community legislation or other relevant standards.

**Descrittore 10** - - Properties and quantities of **marine litter** do not cause harm to the coastal and marine environment.



**Descrittore 11** - - Introduction of energy, including **underwater noise**, is at levels that do not adversely affect the marine environment.

MEDCIS project, will address most of descriptors at Mediterranean level (all subregions) with a focus on the following:

- ✓ biodiversity including NIS and seafloor integrity;
- ✓ marine litter;
- ✓ noise.



#### **4 – Key concepts:**

- ✓ Definition of “good environmental status”.
- ✓ The annex I includes 11 qualitative descriptors. What are they for?
- ✓ What are the differences between criteria and indicators?

## PART II

### 5 – THE MARINE STRATEGY

Now... we have clear the scope of the Directive, how can we reach it? The Directive helps us! Each Member State should develop a marine strategy for its marine waters, a plan of action organised in two consecutive phases: a first phase of preparation, and a second phase called "Programme of measures". Each phase includes intermediate steps.



#### 5.1 I PHASE OF IMPLEMENTATION OF THE MARINE STRATEGY

The first phase of the Directive consists of a "preparation phase" including:

- initial assessment of the current environmental status of the waters;
- determination of good environmental status for the waters and definitions of environmental targets and related indicators;
- establishment and implementation of a monitoring programme for ongoing assessment and regular updating of targets.

##### a) Initial assessment

The first action to carry out is to investigate and define if the marine waters are in "bad" or "good" environmental status. How to do this? Sometimes, the assessment of the environmental status could be very difficult while in other cases it is easy, as in the case in which we observe plastic material in sea water (see the picture). In most cases it is

necessary to do a deep investigation about the state of the considered marine ecosystem.



In the Table 1 of Annex III the characteristics, pressures and impacts relevant for the assessment of the environmental status, are reported:

- physical and chemical features (topography, nutrients, oxygen ecc...);
- habitat types (the predominant seabed and water column habitat type(s) with a description of the characteristic physical and chemical features, such as depth, salinity, etc.);

- biological features (information on the structure of fish populations, the population dynamics, etc.);
- Other features (chemicals, including chemicals giving rise to concern, hotspots, etc.).

Another important aspect is the analysis of the environmental impact, including human activities on waters such as the underwater noise, marine litter, discharge from power stations, pesticides, marine litter, pollution by ships, etc. For this aspect the European Directive produced a table (Table 2 of Annex III) reporting pressures and impacts to be considered for the initial assessment of the environmental status of marine waters.

#### **b) Determination of a good environmental status**

After the initial assessment, the Member States, for each marine region or subregion, determine a set of characteristics for good environmental status for marine waters, taking into consideration the qualitative descriptors listed in Annex I (art.9).

#### **Environmental targets**

Taking into account the initial assessment, the Member States establish a comprehensive set of environmental targets and associated indicators for marine waters in order to achieve a good environmental status of the marine environment, taking into account the indicative lists of pressures and impacts reported in Table 2 of Annex III, and the characteristics reported in Annex IV (art. 10).

#### **c) Monitoring programmes**

Member States shall establish and implement coordinated monitoring programmes for the ongoing assessment of the environmental status of their marine waters on the basis of the indicative lists of elements set out in Annex III and the list set out in Annex V, and by reference to the environmental targets established pursuant to article 10 (art.11).



#### **ENVIRONMENTAL TARGET**

'environmental target' means a qualitative or quantitative statement on the desired condition of the different components of, and pressures and impacts on, marine waters in respect of each marine region or subregion. Environmental targets are established in accordance with Article 10.



## POLLUTION

means the direct or indirect introduction into the marine environment, as a result of human activity, of substances or energy, including human-induced marine underwater noise, which results or is likely to result in deleterious effects such as harm to living resources and marine ecosystems, including loss of biodiversity, hazards to human health, the hindering of marine activities, including fishing, tourism and recreation and other legitimate uses of the sea, impairment of the quality for use of sea water and reduction of amenities or, in general, impairment of the sustainable use of marine goods and services;

## 5.2 PHASE II - IMPLEMENTATION OF THE MARINE STRATEGY

The second phase of the MSFD, called “Programme of measures”, is organised in two steps:

- a) development of a programme of measures designed to achieve or maintain good environmental status, in accordance with Article 13(1), (2), (3);
- b) entry into operation of the programme of measures in accordance with article 13 (10).

environmental status of their waters, as determined pursuant to Article 9(1), in their marine waters. Those measures are defined considering the initial assessment (art.8) and in relation to the environmental target (art.10) When drawing up the programmes of measures, Member States shall give due consideration to sustainable development and, in particular, to the social and economic impacts of the measures envisaged. Member States shall ensure that measures are cost-effective and technically feasible, and shall carry out impact assessments, including cost-benefit analyses.



“**Misure**” is a regional, national or union action to contribute to achieving good environmental status within 2020.

### a) Programmes of measures: development

The Member States identify the measures to be taken in order to achieve or maintain good



The **programmes** are the ways through which the measures contribute to the respect of the environmental target.

The programmes of measures include spatial protection measures, contributing to coherent and representative networks of marine protected areas, such as special areas of conservation pursuant to the Habitats Directive, special protection areas pursuant to the Birds Directive, and marine protected areas.

There are different typologies of measures: technical, legislative, financial and political (Annex IV).

Where the Member States consider that the management of human activity is likely to have a significant impact of marine environmental, they shall address the competent authority or international organisation concerned with a view

to the consideration and possible adoption of measures that may be necessary in order to achieve the objectives of this Directive.

The commission shall consider the coherence of programmes of measures within the different regions or subregions and across the Community (art.16)

### **b) entry into operation of the programme of measures**

Member state shall ensure that the programmes are made operational within one year of their establishment.

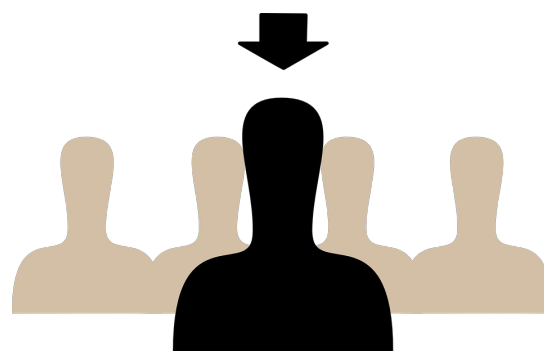
## **6 - EXCEPTIONS**

A Member State may identify instances, within its marine waters, where the environmental targets or good environmental status cannot be achieved. The reason can be (art.14):

- action or inaction for which the Member State concerned is not responsible;
- natural causes;
- force majeure;
- modifications or alterations to the physical characteristics of marine waters brought about by actions taken for reasons of overriding public interest which outweigh the negative

impact on the environment, including any transboundary impact;

- natural conditions which do not allow timely improvement in the status of the marine waters concerned.



## Join us, play the Scientific Game!



We are sure you agree that everyone should participate in protecting our sea. We could be much more effective if we know the ways to protect it.

Become researcher! Start with a research question, take samples, gather data and analyse them. Does this sound too complicated? Don't worry; we will lead you on this way.

The complete document of the Directive is available at link:

<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32008L0056>

### Useful links

#### MSFD website

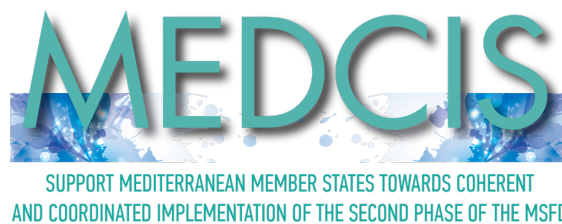
[http://ec.europa.eu/environment/marine/eu-coast-and-marine-policy/marine-strategy-framework-directive/index\\_en.htm](http://ec.europa.eu/environment/marine/eu-coast-and-marine-policy/marine-strategy-framework-directive/index_en.htm)

#### MSFD for young people:

[http://ec.europa.eu/environment/marine/young-people/index\\_en.htm](http://ec.europa.eu/environment/marine/young-people/index_en.htm)

#### MEDCIS website

[www.medcis.eu](http://www.medcis.eu)



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