

CONFERENCE DOCUMENT

HOPE

Healthy Oceans
Productive Ecosystems

A European Conference for the marine environment

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Foreword by Janez Potočnik, European Commissioner for the Environment

How inappropriate to call this planet Earth when it is quite clearly Ocean.

Arthur C Clarke

Our vast and beautiful oceans and seas have always been an endless source of inspiration and recreation while sustaining the livelihoods of millions. They provide us with numerous resources and services, of which oxygen, food, energy, transport and tourism are just a few examples.

For too long, we have taken it all for granted and little attention has been paid to our unsustainable use of these resources. Today, the degradation caused by the inefficient growth model we have been locked into is threatening many marine ecosystems, though this may sometimes be masked by the immensity of the sea itself.

The EU's Marine Strategy Framework Directive (MSFD) aims to ensure that our seas and oceans are healthy, that is in 'Good Environmental Status' by 2020, so they can continue to deliver the benefits so many jobs and lives depend on. With this Directive, the EU aims at protecting the whole of the marine environment: from the majestic top predators right down to the smallest vital single-cell microorganism, from some of the world's deepest marine habitats in the Atlantic to the vast areas of seagrass meadows in the Mediterranean. It does so by requiring Member States to reduce pressures from human activities, such as underwater noise, contamination by dangerous substances, marine litter, or eutrophication.

In 2014, we are halfway between the adoption of the MSFD in 2008 and the 2020 deadline. EU Member States have completed the first steps of their marine strategies: they have set their overall level of ambition for the oceans, assessed the current state of the marine environment and defined environmental targets to achieve Good Environmental Status by 2020. We now have a better view of the main challenges we face and the potential solutions to address them.

There is little time left to reach our goal of healthy oceans and seas by 2020. The HOPE (Healthy Oceans – Productive Ecosystems) conference, is an opportunity to assess what we have achieved so far, and rekindle our efforts, and commit to combine them to save our marine ecosystems.

I am therefore glad that you are joining us to identify the best way to deliver HOPE!

Jame Pito Po

The Marine Strategy Framework Directive (Marine Directive or MSFD, 2008/56/EC¹) was adopted on 17 June 2008. The Directive provides the legal impetus for the European Union (EU) to protect and restore its seas and oceans as part of an integrated strategy that will enable us to use them sustainably.

The aim of the conference "Healthy Oceans – Productive Ecosystem" (HOPE) is to take stock of more than five years' of work since the adoption of the Directive, and to reflect on the contribution that healthy oceans can make to sustainable Blue Growth².

Healthy European seas and oceans: the Marine Strategy Framework Directive

The MSFD establishes an ecosystem-based approach to the management of activities affecting and using our oceans and seas, providing an integrated response and a long-term policy vision for Europe's marine environment. The Directive sets the goal to achieve 'Good Environmental Status' (GES) for European marine waters by the year 2020, thus protecting the resources on which marine-related economic and social activities depend. The Directive defines GES as 'the environmental status of marine waters where these provide ecologically diverse and dynamic oceans and seas which are clean, healthy and productive'. Thus GES means that the different uses made of marine resources are at a sustainable level ensuring their availability for future generations.

Member States must adopt common approaches and work to an ambitious timeline in order to achieve GES by 2020. This involves developing Marine Strategies in cooperation with neighbouring countries including by using existing regional cooperation structures - such as the Regional Sea Conventions (RSCs). They will adopt an adaptive management approach so that these strategies are kept up-to-date and reviewed every six years, to take account of evolutions in the state of the seas. These steps will maintain or improve the status of the marine environment through conservation and restoration of its ecosystems. By establishing more effective management of marine-related activities Member States should secure the sustainable use of the marine environment, which respects the limits of marine ecosystems. The environmental impacts of these activities must be taken into account when assessing whether GES has been achieved and will be addressed through the programmes of measures that will be adopted by each Member State as part of its marine strategy (Article 13). Another key challenge in the coming years will be to improve and enrich our scientific knowledge of the marine environment.

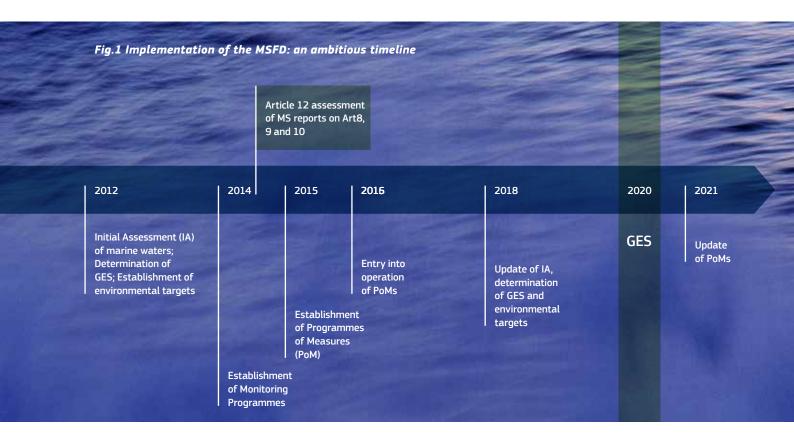
The achievement of the objectives of the MSFD will support the Blue Growth agenda, which is the long-term strategy to support sustainable growth in the marine and maritime sectors as a whole. They will also support the objectives of the Integrated Maritime Policy³ (IMP), which establishes a framework for maritime spatial planning and integrated coastal management in the form of a systematic, coordinated, inclusive and trans-boundary approach to integrated maritime governance.

The implementation timeline for the MSFD is ambitious:

- 2012: initial assessment of marine waters (Article 8), definition of GES (Article 9) and establishment of environmental targets (Article 10);
- 2014: establishment and entry into operation of monitoring programmes (Article 11);
- 2015: establishment of the programmes of measures (Article 13)
- 2016: entry into operation of the programmes of measures:
- 2018: update of the initial assessment, definition of GES and environmental targets;
- · 2020: achievement of GES;
- 2021: update of the programmes of measures.

Member States were required, by mid-October 2012, to conduct an initial assessment of the features, characteristics, and current environmental status of their marine waters (Article 8); to define the characteristics of 'Good environmental Status' for their marine waters according to 11 qualitative descriptors (Article 9); and to adopt a set of environmental targets and associated indicators (Article 10) which would be necessary to achieve GES. In response, the Commission has assessed whether or not the outcomes of the exercise constitute an appropriate framework to meet the requirements of the Directive in each Member State and across the EU (Article 12).

The HOPE conference provides an opportunity for the Commission, Member States and other stakeholders to discuss the outcomes of the first major phase of the Directive (the 2012 reports from Member States on Articles 8, 9 and 10 across the range of descriptors) and the Commission's assessment of these – see the *parallel sessions* of Day 1. Furthermore, the conference is a platform to discuss the next steps in the implementation of the Directive, in particular, the monitoring programmes and programmes of measure – see the *parallel sessions* of Day 2.



Day 1 - The challenges

The first day of the conference will open with discussions on the challenges faced by the marine environment and the current state of our seas. The conference will move onto its core parallel sessions which will give opportunities to discuss growing concerns about specific pressures and threats and their combined effects that have significant presence in our seas.

'Wake-up Call' - the global challenge

The world's oceans – their temperature, chemistry, currents, and biodiversity – drive global systems that make the Earth habitable for humankind. They provide us with a wealth of nutritious food, recycle the oxygen in the air we breathe and play a vital role in keeping our climate system in balance. Our seas also offer major economic opportunities both in well-established industries such as fisheries, transportation and coastal tourism and newer areas of activity like offshore wind and wave energy production and blue biotechnology. Careful management of this essential global resource is a key feature of a sustainable future⁴.

However, according to the International Programme on the State of the Ocean (IPSO) which released a report in 2013⁵,

the ocean's health is in a *critical state* and this has been known for a very long time. There is still much to do to protect and restore it and this must start now.

All of the stressors we have put on our oceans and seas – from over-fishing to sea-floor damage and pollution, – have contributed to their ill-health. We have, and are, still altering the chemistry of our marine waters, through acidification from greenhouse gases, with significant impacts on marine life and the functioning of marine ecosystems. The situation is now severe.

Marine waters have already buffered/absorbed more than 80% of the heat fluctuations added to our climate system since the early 1960's (IPCC direct observations, 2007), and around 30% of the carbon dioxide emitted by humans. Such warming and greater acidity is threatening marine ecosystems, all over the world but also in Europe, as species are pushed to extinction when their natural habitats are destroyed.

Although long overdue, we have to act now to guarantee sustainable reconciliation between our oceans and seas and the human economic activities which use and depend upon them, to stop this decline before we reach a point where our oceans and seas can no longer function effectively and our planet will be unable to sustain the ecosystems that also support humankind. The speakers in this **Panel** will introduce their experiences, views and possible solutions.

The state of our European marine environment

Europe's seas⁶ cover approximately 11,220,000 km² – more than the land territory of Europe – and are under tremendous strain. In 2010, the European Environment Agency (EEA) illustrated this state of play in its report 'The European environment – state and outlook 2010' (SOER 2010)⁷. The report was compiled on the basis of information extracted from a growing body of evidence, and aimed to involve policymakers in Europe and beyond, with framing and implementing policies that could support marine environmental improvements.

In 2010, the EEA concluded that it is fundamental to progress towards the full implementation of the MSFD and its ambition to achieve a coherent policy framework to better allow for sustainable development of sea-related activities.

Building on this report, the EEA is compiling a 'marine baseline assessment', due for publication in November 2014. As a preview to this work, the EEA's "Marine Messages Briefing" makes an assessment of the state of the marine environment, the pressures acting upon it, and the activities causing them. The brief builds upon the information reported by Member States under the Initial Assessment of the Marine Strategy Framework Directive (Article 8), as well as a range of other sources to complement the Member

States' information. It also addresses and highlights the relevance of healthy marine ecosystems to society, and the potential costs of degradation to humans in terms of well-being and wealth. In addition to its assessment of the state of the marine environment of the EU-28, it also provides a wider regional perspective on areas relevant to other neighbouring countries.

The **Panel** will give the opportunity to discuss the current state of our European seas and ocean, progress made since 2010 and areas where further work is needed.

"We therefore have the opportunity to rewrite the narrative with which we use and live our seas. One that offers hope to our future generations but one that can also deliver HOPE – Healthy oceans, Productive Ecosystems – to the present one"

EEA, State of European Seas - Marine Messages Briefing, 2014

Fig.2 Some key facts from EEA SOER 2010 report (www.eea.europa.eu/soer).

of Europe's fish stocks are fished outside safe biological levels

only 100/0
of marine habitats and
of species
are found to
be in good
condition

Almost 500 new non-indigenous species have been reported since 2000

88% of marine species in the Mediterranean and Black

Seas are overfished

Human pressures and their main impacts

Our seas and oceans have brought benefits to mankind for generations, supplying nutritious food, vital transport routes and a source of recreation. Alongside these traditional uses, technological developments have meant we can now exploit the potential of our oceans as a source of secure, renewable energy. The recent Commission Communication on Blue Energy outlines how the development of this sector can lead to meeting greenhouse gas reduction targets and promote economic growth through innovation, by creating new, high-quality jobs⁸.

However, all kinds of human activities can have a negative effect the marine ecosystem, whether land-, sea- or

air-based, including agriculture; fisheries and aquaculture; industry; shipping; urbanisation; tourism; space demand for ports and off-shore structures; and oil, gas and other mineral extraction. Negative impacts include eutrophication and acidification, the introduction of non-indigenous species, the generation of marine litter and underwater noise, the loss of marine biodiversity, and the destruction of habitats. Many of these impacts are also exacerbated by climate change.

In each one of the related parallel sessions the impacts of certain human-induced pressures on the marine environment will be discussed. The three parallel sessions will then reconvene in the Plenary to bring feedback from the designated rapporteurs.



BIODIVERSITY AND FISHERIES

- > The main reported pressures on marine habitats and ecosystems are: nutrient enrichment (Baltic), physical loss and damage (all seas), and fisheries (Atlantic and Mediterranean).
- At least 193 different new invasive species were reported to be present in the Mediterranean.
- Within the next 20 years, ocean acidification has the potential to fundamentally alter conditions for all life in the sea
- The assessments of the level of pressure of fisheries were very diverse and difficult to summarise and compare.



EUTROPHICATION AND POLLUTANTS

- > The results of the HELCOM assessment on eutrophication found that in 2007-2011 almost the entire open Baltic Sea was assessed as being eutrophied.
- In the Mediterranean Sea, more than a third of stations record high concentrations of lead, lindane, DDT and PCB.
- > Few assessments on the contamination level of seabed habitats or other ecosystem components have been conducted.



DISTURBANCE (MARINE LITTER AND UNDERWATER NOISE)

- Marine litter has an impact on biota, in particular on sea turtles, whales and dolphins. Plastics are also commonly found in the stomachs of the Northern Fulmar.
- Microplastics accumulate toxins and may be absorbed upwards throughout the food chain.
- Underwater noise produced by human activities has increased significantly since the mid-20th century.
- Noise has been documented to negatively impacts marine mammals, fish and even shellfish in the form of behavourial as well as physiological changes.

Day 2 - The Solutions

Day two of the conference will focus on possible solutions for the challenges discussed on the first day. The first session will focus on how to fund protection of the marine environment. The following core parallel sessions will look more specifically at the obligations of the Member States to monitor their marine environment and to develop the coherent programmes of measures required by the Directive.

Funding the protection of the marine environment: what's out there for marine policy?

The sea and the coasts are drivers of the economy. Ports and coastal communities have traditionally been centres for new ideas and innovation due to their outward-looking geography. This **Plenary** session will give an overview of the different initiatives in place, at EU level, which provide financial support for the process of collection, assembly, processing and dissemination of marine research and good practices. Those initiatives include:

LIFE

The European Commission's LIFE Programme – a
 Financial Instrument for the Environment – has
 contributed to the conservation of highly endangered
 marine species and habitats. It has also supported
 the gathering of information and experience for the
 establishment and implementation of the Natura 2000
 protected sites network in the marine environment,
 and has promoted the implementation of the Habitats
 and Birds Directives in the European seas and oceans.

EMFF

The European Maritime and Fisheries Fund (EMFF) is
the successor fund to the European Fisheries Fund and
covers the period 2014-2020. The EMFF will support
the objectives of the reformed Common Fisheries
Policy (CFP) to better conserve marine biological
resources through the promotion of sustainable
fisheries and aquaculture.

Horizon 2020

 The Europe 2020 flagship initiative Horizon 2020 is aimed at securing Europe's global competitiveness.
 Running from 2014 to 2020 with an €80 billion budget, it will combine all research and innovation funding currently provided through the Framework Programmes for Research and Technical Development, the innovation related activities of the Competitiveness and Innovation Framework Programme (CIP), and the European Institute of Innovation and Technology (EIT).

ERDF & Cohesion Funds

 DG REGIO is developing a series of macro-regional strategies to frame their funding instruments. The Baltic Sea strategy (adopted in 2009, updated in 2012) was the first of these, and provides a strategic orientation for spending for all of the countries with access to the Baltic. Marine protection is a key pillar of this, including "Save the Sea" as one of three core objectives. A similar strategy for the Adriatic-Ionian is also currently under development.

Taking efficient, sustainable and coordinated steps

One of the key objectives of the MSFD is to provide a comprehensive framework for the protection of the marine environment, which is fully coherent with other policies of the European Union, as well as relevant international and regional agreements. Recital 16 of the MSFD, in particular, recognises the role of the Directive in improving the coherence of the contribution of the EU and Member States to international commitments.

To address the shortcomings and gaps identified in the Article 12 assessment, the European Commission recommends that Member States recognise the need for *greater coordination* of monitoring programmes and programmes of measures – this represents the minimum necessary for the EU to be successful in implementing the MSFD. Two sets of *parallel sessions* will give the opportunity to discuss how Member States can achieve this overall objective.

MONITORING OUR MARINE ENVIRONMENT

According to the Directive, monitoring programmes should be compatible across marine regions and sub-regions, and should build upon, and be compatible with, the relevant provisions for assessment and monitoring laid down by Union legislation or under international agreements.

The Commission's 'Marine Knowledge 2020' Green Paper¹⁰ shows that greater monitoring coordination would contribute towards the Europe 2020 targets on employment, innovation, education, social inclusion and climate by improving the competitiveness and efficiency of industry, public authorities and researchers. The Marine Knowledge agenda brings together marine data from different sources with the aim of helping industry, public authorities and researchers find the data and make more effective use of them to develop new products and services and improve our understanding of how the seas behave.

EXAMPLES OF MONITORING PROGRAMMES AND PROJECTS

The Global Monitoring for Environment and Security program (Copernicus , formerly called GMES) consolidates past efforts in the pre-operational phase of ocean monitoring (transition from the research phase to fully operational) and forecasting capacity in Europe; the information collected by the different EU projects include observations, analysis and forecasts describing the physical state of the oceans and their primary biogeochemical parameters which are useful for consistent monitoring of the role of the oceans in many of Earth's systems. For example, the main objective of the MyOcean project (April 2009-March 2012) was to deliver and operate a rigorous, robust and sustainable Ocean Monitoring and Forecasting System to the GMES Marine Service (OMF/GMS) for users in all marine applications, i.e. maritime safety, marine resources, marine and coastal environment and climate. seasonal and weather forecasting.

The **DEVOTES** (Development of Innovative Tools for understanding marine biodiversity and assessing Good Environmental Status) programme involves 23 research centres consisting of both EU and non-EU countries that aim at improving the understanding of the impact of human activities, and variations due to climate change, on marine biodiversity using long-term time series. One of the major aims to achieve this objective is to test the environmental indicators proposed by the European Commission and to develop new ones to produce models that strengthen our understanding of ecosystem and biodiversity changes.

The Regional Sea Conventions have also developed monitoring guidance and environmental assessment schemes and recommend their Contracting Parties to use them for their monitoring and assessment. For example, the 2013 HELCOM Monitoring and Assessment Strategy¹¹ aims to support regionally coordinated activities of the HELCOM Contracting Parties regarding monitoring and assessment of the Baltic Sea.

The OSPAR Commission, protecting and conserving the North-East Atlantic and its resources, has developed eutrophication-monitoring guidelines for nutrients, phytoplankton species composition, and oxygen. In the framework of the Barcelona Convention (UNEP – Mediterranean Action Plan), the trophic index TRIX (Vollenweider et al., 1998), based on various eutrophication indicators, is applicable to coastal marine waters and therefore proposed to be used for assessment and monitoring of eutrophication in the Mediterranean Sea (UNEP, 2007).

THE NEED FOR COORDINATED MEASURES

Long before the MSFD was developed and adopted, European countries have addressed the need to coordinate action with their neighbours both within and beyond Europe's borders,

in order to protect the marine environment. The RSCs have repeatedly demonstrated the need for a coordinated intergovernmental approach to the protection of the marine environment at the regional level.

In substantive terms, the RSCs can support the implementation of the MSFD in at least three main ways:

- by improving intra-regional and inter-regional coherence of national implementation;
- by making the RSCs' long-standing experience and established structures for cooperation available to increase the efficiency and effectiveness of national implementation;
- by offering practical opportunities for the mobilisation and coordination of relevant third countries' activities.

The MSFD stipulates that 'where practical and appropriate' the RSCs should be used to ensure coordination amongst Member States, and with third countries, in the development of marine strategies. At the same time, the MSFD should contribute to the fulfilment of the 'obligations and important commitments' of the EU and/or its Member States under the RSCs.

On certain topics, Member States have cooperated well in their commitment to developing coordinated marine strategies.

This can be seen, for example, from the findings of the Article 12 assessment in relation to Descriptor 8 (contaminants) which show that eight Member States have made reference to the OSPAR standards in their GES definitions. However, only three Member States have made reference to the HELCOM standards and one Member State has made reference to the standards of the Barcelona Convention.

In addition to regional cooperation, the need to integrate the objectives of environmental protection into socio-economic activities and into other European policies is stressed in the MSFD, together with the necessity to manage the marine environment and coastal areas in an integrated manner.

By considering overall cumulative impacts, rather than regulating specific uses in isolation, the Marine Directive contributes to the integrated management of our marine activities. As such, programmes of measures should include spatial protection measures, contributing to coherent and representative networks of marine protected areas, adequately covering the diversity of the constituent ecosystems such as special areas of conservation pursuant to the Habitats Directive, special protection areas pursuant to the Birds Directive¹², and marine protected areas as agreed by the EU or Member States concerned in the framework of international or regional agreements to which they are parties¹³.

From 2011 to 2012, the overall area protected by OSPAR Marine Protected Areas (MPAs) increased by 1.7%, (approx. 225,000 km2) from 3.5% to 5.17% of the OSPAR maritime area.

The OSPAR region of the Greater North Sea has already reached the target agreed within the Convention of Biological Diversity (CBD) to have at least 10% of coastal and marine areas effectively protected by MPAs by 2020.

The establishment of MPAs is only an example of types of measures that Member States will need to implement in order to achieve GES. Other types of measures will target in particular land-based activities, to reduce pollution, and will also focus on the improved management of sea-based activities, especially fisheries.

The economics of marine protection

The seas and oceans are drivers for the European economy with great potential for innovation and growth; therefore the conservation objectives of marine policy must reflect multipleuse management. The **Plenary** session will discuss the economic implications of protecting our marine environment.

The European Union has set itself the objective to become a smart, sustainable and inclusive economy by 2020. Currently, Europe's 'blue' economy represents 5.4 million jobs and a gross added value of just under €500 billion a year. It can provide challenging, rewarding jobs that meet the expectations of our young people. Our seas and oceans can also provide the 'clean' energy that we need if we are to avoid a climate catastrophe, protein for healthy diets, and pharmaceuticals and other biotechnologies derived from the enzymes of organisms that inhabit the greatest extremes of temperature.

However an economically prosperous sea can only flourish if 'blue' activities are carried out within sustainable boundaries. A sea that is overfished, eutrophied or acidified is not a resource that can deliver to its full potential. Achieving a healthy marine environment is thus a prerequisite to ensure sustainable blue growth.

Several examples within the EU show that protecting our marine environment makes economic sense, too. In the Mediterranean, for example, over the last two decades, Marine Protected Areas (MPAs) in Spain, France, Italy and Greece have become tourist attractions, and important components of the local economy.

The international component

The EU has led the way in many aspects of marine protection. However, the EU and its Member States cannot act in isolation. Fostering a healthy and productive marine environment requires global cooperation. This *Plenary* session aims to incorporate the international component providing examples from outside the EU.

The 2012 Rio+20 conference represented a unique opportunity to drive forward implementation, and to take action, on ocean-related emerging issues. The conference coincided with the thirtieth anniversary of the adoption of UNCLOS14, and came out with a strong message in favour of the protection of our oceans and biodiversity, and making fishing activities more sustainable. The Rio+20 outcome, reaffirmed the goal to restore depleted fish stocks and committed to urgently take measures to maintain or restore fish stocks to at least levels that can produce maximum sustainable yield. In addition, among others measures needed, States also committed to achieve significant reductions in marine litter, eliminate illegal, unregulated and unreported fishing, implement science-based management and enhance the management of bycatch and discards. The EU must seize this critical opportunity to take meaningful action to ensure the long term conservation and sustainable use of the ocean and its resources.

Conclusion

The **H**ealthy **O**ceans – **P**roductive **E**cosystems conference is a unique opportunity to discuss progress made over the past 5 years, the problems that still remain and the solutions for improved coherence and better marine governance.

The **concluding panel** will draw on lessons learnt through the development and implementation of the MSFD and other national, regional and international processes and policies, notably those developed by the relevant RSCs, in order to achieve the good environmental status of Europe's seas and ocean and their sustainable use.

NOTES 1. http://ec.europa.eu/environment/marine/eu-coast-and-marine-policy/marine-strategy-framework-directive/index_en.htm 2. http://ec.europa.eu/maritimeaffairs/policy/blue_growth/ ${\bf 3.\ http://ec.europa.eu/maritimeaffairs/policy/index_en.htm}$ 4. See more at: http://www.uncsd2012.org/index.php?menu=123#oceans 5. http://www.stateoftheocean.org/pdfs/IPSO-Summary-Oct13-FINAL.pdf 6. The term "Europe's seas/Europe's oceans" is used to encompass the four regional sea basins which EU Member States share with their neighbours. 7. www.eea.europa.eu/soer

8. See the Commission's recent Communication: "Blue Energy Action needed to deliver on the potential of ocean energy in European seas and oceans

9. References for the facts included in Figure 3.: http://pubs.acs.org/doi/pdf/10.1021/es802970v; http://www.sciencedirect.com/science/article/pii/S0025326X11003055; http://www.sciencedirect.com/science/article/pii/S0269749113005411; http://cdr.eionet.europa.eu/nl/eu/msfd8910/

13. Links between the Marine Strategy Framework Directive (MSFD 2008/56/EC) and the Nature Directives (Birds Directive 2009/147/EEC (BD) and

14. The 1982 United Nations Convention on the Law of the Sea (UNCLOS), also called the 'Constitution of the oceans', has 161 parties including 135

coastal states, and sets out the legal framework within which all activities in the oceans and seas must be undertaken.

10. http://ec.europa.eu/dgs/maritimeaffairs_fisheries/consultations/marine-knowledge-2020/outcome_en.pdf 11. http://helcom.fi/action-areas/monitoring-and-assessment/monitoring-and-assessment-strategy

by 2020 and beyond", COM(2014) 8 final

Habitats Directive 92/43/EEC. (EC 2012)

 $msfd4 text/envunb36 g/Mariene Strategie Noordzee Eng102_PDF.pdf$

12. http://ec.europa.eu/environment/nature/legislation/birdsdirective/

