

MIO-ECSDE Position Paper on 'Biodiversity in the Mediterranean region'

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Introduction

Biodiversity is a crucial natural asset and component of terrestrial and marine ecosystems directly or indirectly providing or contributing to the maintenance of important ecosystem services and thus it is also inextricably linked with human well-being.

The Mediterranean region is considered to be one of the world's hotspots where exceptional concentrations of biodiversity occur. However, the region's unique wealth is critically endangered as biodiversity continues to decrease rapidly, due to human-induced pressures which result in the fragmentation, degradation and loss of habitat and extinction of species. As biodiversity loss proceeds our knowledge of its importance is growing, highlighting the fact that urgent actions should be undertaken at all levels to tackle this critical issue in the Mediterranean Region.

The present Position Paper is intended to present MIO-ECSDE's collective views on Biodiversity and to propose a set of actions that should urgently be taken in order to respond to biodiversity threats and challenges in the Mediterranean region, including threats from climate change. It also aims to assist MIO-ECSDE members in their advocacy and policy formulation efforts at regional, national and local level regarding biodiversity issues.

This paper has been drafted on occasion of the UN Year of Biodiversity and the regrettably poor results in achieving the objectives previously set to preserve biodiversity at International, European and Mediterranean level and particularly:

- to achieve the 2010 biodiversity target to significantly reduce the rate of biodiversity loss adopted by the 2000 UN General Assembly as a target of Millennium Development Goal 7, "to ensure environmental sustainability".
- to halt the decline of biodiversity in the EU by 2010 and to restore habitats and natural systems, a target adopted by EU Heads of State and Government in 2001. The new objective set aims to halt the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, restore them insofar as feasible, while stepping up the EU contribution to averting global biodiversity loss.
- to fulfil the aims and targets of the Mediterranean Strategy for Sustainable Development (MSSD) and the Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean (SPA/BD Protocol) of the Barcelona Convention.

1. The Mediterranean: A biodiversity hotspot under threat

The Mediterranean basin is recognised as a biodiversity hotspot. Its flora diversity is outstanding with 15000 to 25000 species, 60% of which are unique to the region. About one-third of the Mediterranean fauna is endemic (IUCN, 2008).

Although in many cases information is incomplete regarding biodiversity and related trends (in particular regarding marine biodiversity) in the Mediterranean region, there is enough data demonstrating the fact that biodiversity in the region is under severe risk.

According to the IUCN Red List of Threatened Species (2008) 19% of fauna species (amphibians, birds, cartilaginous fishes, endemic freshwater fishes, crabs and crayfish, mammals, dragonflies and reptiles) are threatened with extinction (5% Critically Endangered, 7% Endangered and 7% Vulnerable). In addition at least 16 irreplaceable species are already extinct, including some endemics such as the *Hula Painted Frog* *Discoglossus nigriventer*, the Canary Islands Oystercatcher *Haematopus meadewaldoi* and the Sardinian *Pika Prolagus sardus*.

2. Direct and indirect drivers of biodiversity loss in the Mediterranean region

According to the findings of the Millennium Ecosystem Assessment (2005), “changes in biodiversity due to human activities were more rapid in the past 50 years than at any time in human history, and the drivers of change that cause biodiversity loss and lead to changes in ecosystem services are either steady, show no evidence of declining over time, or are increasing in intensity”. The Living Planet Report (WWF, 2010) and its findings, clearly demonstrate that the unprecedented drive for wealth and well-being of the past 40 years is putting unsustainable pressures on our planet. Specifically, one of the longest-running measures of the trends in the state of global biodiversity, the Living Planet Index (LPI)-which provides information on trends in the abundance of the world’s vertebrates- shows a global decline of almost 30% between 1970 and 2007. The Ecological Footprint –which tracks the area of biologically productive land and water required to provide the renewable resources people use, and includes the space needed for infrastructure and vegetation to absorb waste carbon dioxide (CO₂)- shows also a consistent trend: one of continuous growth. In 2007 the Footprint exceeded the Earth’s biocapacity — the area actually available to produce renewable resources and absorb CO₂ — by 50 per cent. Overall, humanity’s Ecological Footprint shows a doubling of our demands on the natural world since the 1960s. The Water Footprint of Production -which provides a measure of human demand on renewable resources- shows that 71 countries are currently experiencing some stress on blue water sources.

Human actions are fundamentally and to a significant extent irreversibly responsible for the changes caused to the diversity of life on Earth. The most important indirect drivers of biodiversity loss and ecosystem service changes in the Mediterranean region include overpopulation, urbanization, littoralisation and unsustainable modes of consumption, trade, tourism, etc. while the direct ones are marine, freshwater and terrestrial habitat fragmentation and destruction caused by overexploitation of natural resources, rapid and large scale land use changes, physical modification of and water withdrawal from rivers, damage to sea floors due to dredging, drilling and trawling, various types of pollution including biological/microbial pollution, introduction of non indigenous species, and unsustainable use/removal of wild living resources (hunting, fishing, etc.).

Of particular significance for Mediterranean biodiversity are climate change impacts since the region is predicted to become one of the most severely affected regions. Climate change models indicate that the Mediterranean region will experience decreasing rainfall, increasing land and sea temperatures as well as progressive desertification which will have an impact on both the distribution and survival of species (Bates, et al 2008). The poleward shift of flora and fauna induced by temperature rise will pose particularly dramatic problems for the Mediterranean's many islands, whilst also threatening the future prospects for the continued cultivation of many traditional staple crops and trees. Their eventual and progressive adaptation and/or replacement by other strains or cultivars are key coping strategies which are only beginning to be addressed in some countries.

3. The main legal biodiversity related instruments for the Mediterranean region

Mediterranean countries have recognized the imperative need for biodiversity preservation and ecosystems balance, in order to avoid the severe consequences of biodiversity loss. This is clearly reflected in the fact that most countries within the Mediterranean region are contracting parties to major international/regional conventions, agreements and legislative frameworks that deal with or are closely related to biodiversity issues. These legal instruments are presented in the table below.

Table 1. *Main legal instruments for the Mediterranean region aiming at the conservation of biodiversity*

International Level	<ul style="list-style-type: none"> – the UN Convention on Biological Diversity (CBD) and the CBD Cartagena Protocol on Biosafety; – the Ramsar Convention on Wetlands of International Importance; – the Convention on International Trade in Endangered Species of Wild Fauna and Flora; – the Bonn Convention on the Conservation of Migratory Species of Wild Animals, including several Agreements (binding instruments) and Memoranda of Understanding (not binding) to conserve particular species relevant to the Mediterranean Region e.g. a special agreement under the Bonn Convention was made in 1996 for the Conservation of Small Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic area (ACCOBAMS).
Mediterranean Level	<ul style="list-style-type: none"> – the Barcelona Convention for the Protection of The Mediterranean Sea Against Pollution (1976) and its relevant protocols such as the Protocol Concerning Specially Protected Areas and Biological Diversity (SPA/BD) in the Mediterranean (adopted in 1995); – the Protocol on Integrated Coastal Zone Management (adopted in 2008).
European Level	<ul style="list-style-type: none"> – the EU Birds Directive 79/409/EEC and the Habitats Directive 92/43/EEC establishing respectively Special Protection Areas (SPAs) for birds and Special Areas of Conservation (SACs). The Natura 2000 network, an EU wide network of nature protection areas includes both SPAs and SACs; – the Bern Convention on the Conservation of European Wildlife and Natural Habitats; – the EU Marine Strategy Framework Directive; – the EU Water Framework Directive; – the European Landscape Convention; – The Pan-European Biological; – Landscape Diversity Strategy.

4. Proposed actions to address biodiversity loss in the Mediterranean region

In order to achieve greater progress towards biodiversity conservation and avert the accelerating, catastrophic loss of the variety of life forms in the Mediterranean region there is an urgent need for a set of actions and responses closely linked with ambitious short- and long-term post-2010 targets, aiming to tackle sufficiently and effectively the indirect and direct drivers of biodiversity loss in the Mediterranean region.

The initial step should be the setting of ambitious but realistic and measurable short-, medium and long-term targets. These targets should be based on current scientific evidence, taking into account related existing and emerging challenges and opportunities, while actively engaging all stakeholders.

The post-2010 overarching goal towards the protection of biodiversity in the Mediterranean should be coherent with commitments made by the Contracting Parties to the UN Convention on Biological Diversity at their 10th session (Nagoya, Japan 18-29 October 2010), while going beyond halting the loss of regional biodiversity by also including actions towards restoring its integrity and variety -thus ensuring the continued provision of goods and services related to it- and the considerable expansion of protected areas in the region.

The new Strategic Plan for Biodiversity for the period 2011-2020 *“Living in harmony with Nature”* may serve as a good basis for facilitating the mainstreaming of biodiversity into broader national and global agendas and by promoting actions at multiple entry points towards achieving the overall vision of the plan according to which *“By 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people.”*

Herewith are listed MIO-ECSDE’s general recommendations as well as those specific to the different fields of action:

4.1. General Recommendations

Increased efforts should be made towards the protection of terrestrial, freshwater and marine habitats and species by: tackling the major sources of pollution (solid waste, waste water, industrial emissions) including contamination and all forms of biological destruction by preventing the introduction of non-indigenous species; eliminating unsustainable fishing practices; stopping overharvesting of species; avoiding unsustainable agriculture, aquaculture and forestry practices, avoiding soil degradation activities, etc.

The current scope and effectiveness of existing legal instruments under the Barcelona Convention should be critically reviewed in this light and if necessary amended by the Contracting Parties to ensure effective protection.

In this respect, biodiversity protection concerns should be mainstreamed into all relevant national level sector policies and development plans.

In view of the looming threat of climate change, mitigation and adaptation responses should urgently be implemented. Healthy ecosystems can contribute in many ways to climate change mitigation, e.g. providing protection against natural hazards aggravated by climate change, limiting atmospheric greenhouse gas concentrations through terrestrial carbon storage, etc. In this context, Mediterranean peatlands and forests (above all those comprising mixed indigenous species, whose carbon storage potential much exceeds monostand plantations) should be recognized as important carbon sinks and increased efforts should be undertaken towards their protection and restoration.

The major potential contribution of soil carbon storage should be thoroughly reviewed and translated into a modification of current agricultural and land management practices. Full use should be made of research and project activities developed within existing institutions, international organizations and programmes. Wetlands and forests are also among the most useful systems for appropriate adaptation to climate change, reducing runoff, erosion and floods that will result from the expected increased frequency of extreme events (such as heavy rainfalls, melt of mountain ices caps, etc.). Plant cover, forests in particular, and wetlands are closely connected with the water cycle and the improvement of the quality and quantity of water, which is most vulnerable to climate change.

The prevention of fires and the promotion of sustainable grazing management are essential to achieve the effective conservation of forests as well as prevent the exacerbation of soil degradation and erosion in the region.

In addition there is also an apparent need to identify priority sites for biodiversity protection in the Mediterranean region and increase the number of protected habitats and the quality of protection in underrepresented Mediterranean areas and habitats of special ecological importance.

Reflecting the highlighted importance of biodiversity and the growing political commitment to halt its decline, increased governmental and EU funding needs to be earmarked for the establishment of a considerable number of new protected areas (core protected areas, buffers, corridors) in the region, while further biodiversity-related research, conservation, and uninterrupted management of established protected areas is needed, including systematic education and awareness raising activities.

4.2. Recommendations on policy/governance issues

There is a growing recognition that effective policies and concrete measures for biodiversity conservation need to be urgently undertaken with focus on the reduction of socio-economic pressures on biodiversity, either directly or through modification of their underlying driving forces.

4.2.1. Synergies among existing policies, strategies and other instruments relevant to the Mediterranean region/countries, as well as management and implementation tools need to be developed/forged ensuring to the extent possible the necessary coherence and greater alignment with the identified biodiversity related priorities. In this sense, for example:

- the establishment of a network of marine conservation areas under EU's Natura 2000 aiming to halt the loss of biodiversity in the EU but also to enhance marine conservation and sustainable use objectives should be further strengthened by the timely implementation of the new EU Marine Strategy Framework Directive, calling for close cooperation among all countries sharing a marine region to achieve a good environmental status by 2020.
- the implementation of the MedPartnership's activities through the Mediterranean Marine Protected Area network (MedMPAnet) aiming to enhance the effective conservation of regionally important coastal and marine biodiversity features in areas under countries' national jurisdiction through the creation of an ecologically coherent MPA network in the Mediterranean region (as required by the SPA/BD Protocol), should be actively supported.
- the EU "Guidelines for the establishment of the Natura 2000 network in the marine environment" (2007) covering both the inshore and offshore marine environments should be considered in connection with on-going regional strategies set through the Barcelona Convention's SPA/BD Protocol and its Protocol on Integrated Coastal Zone Management (ICZM) adopted in 2008.
- elements of the Natura 2000 Network should also be used as a source of inspiration for the systematic protection of terrestrial habitats and species in the South Mediterranean countries, eventually through an expansion of the SPA/BD Protocol to cover terrestrial biodiversity.
- The development and restoration of ecological corridors which provide connectivity among protected areas, as well as the establishment of transboundary protected areas/biosphere reserves should be actively promoted in the Mediterranean region.

4.2.2. Biodiversity protection concerns and measures should be mainstreamed in all relevant sectoral policies and development plans.

Although some progress can be identified in this direction, for example at the EU level through the integration of biodiversity concerns into community policies and instruments such as the Common Agricultural Policy, the Water Framework Directive, the Marine Strategy Framework Directive, and at the wider Euro - Mediterranean level (UfM) through the implementation of de-pollution Initiatives such as the "Horizon 2020" initiative and the preparation of a Strategy on Water in the Mediterranean, increased political will is needed to enhance synergies and translate agreements into practice.

4.2.3. New instruments/strategies should be put in place to reinforce biodiversity conservation, where relevant.

Although there are many legal tools and instruments already in place aiming at the conservation of biodiversity in different policy areas there are still "gaps" in the regulatory framework that need to be addressed.

For example, at EU level, it seems very important to immediately advance (under the current EU Belgian Presidency) the discussion on the adoption of a Soil Framework Directive and achieve a compromise with the countries opposing its adoption. In order to achieve EU biodiversity targets it is vital to set out common principles for protecting soils across the EU. Non EU countries should also be encouraged to apply the same principles for a comprehensive regional approach to soil protection.

On the wider Mediterranean level a common strategy by governments of the region and competent international organisations (UN bodies, EC, etc.) to prevent and abate forest fires should be established. This recommendation has been proposed along with others more than 20 years ago within the framework of the Athens Declaration on forest fires (1987) and still remains very topical and urgent in view of the annual loss of Mediterranean forests and their biodiversity due to fires.

The EU Forest Action Plan (2007–2011) and its proposals for action, together with those outlined in the Declaration and the five Resolutions of the Fourth Ministerial Conference on the Protection of Forests (2003), represent a good example which could inspire a system of joint sustainable forest management in the Mediterranean, also in line with the CBD Expanded Programme of Work on Forest Biological Diversity and other global forest-related commitments.

4.2.4. Adequate assistance in terms of financial and capacity building support should be provided to countries in the region for the implementation of biodiversity conservation measures.

Additional support should be provided to the developing countries of the region for revising NBSAPs to include the integration of biodiversity targets into sectoral planning and policies. It is important to ensure that greater emphasis be given to environmental mainstreaming and to policy and institutional changes rather than projects.

4.2.5. Every environmental policy in the Mediterranean countries should be developed in such a way to ensure the implementation of the Ecosystem Approach (ECAP).

This approach was adopted by the Contracting Parties to the Barcelona Convention at their conference in Almeria in 2008 and aims at improving the way human activities are managed for the protection of the marine environment. This could be a starting point for a larger scale implementation of the ECAP towards the integrated management of land, water and living resources promoting conservation and sustainable use in an equitable way whilst progressively incorporating measures relating to climate change mitigation and adaptation.

The primary value of the Ecosystem Approach is that it puts people and their natural resource use practices squarely at the centre of decision-making. Because of this, the Ecosystem Approach can be used to seek an appropriate balance between the conservation and use of biological diversity in areas where there are both multiple resource users and important natural values.

4.2.6. Communication, coordination and cooperation within the Mediterranean region on protected areas should be enhanced.

Regional and sub-regional cooperation and networking in the fields of protected areas management should be promoted and facilitated, especially in the North African and Middle East countries, where most programmes are entirely country driven and there is lack of effective mechanisms for sharing experiences and knowledge, while trans-boundary cooperation and coordination is minimal.

4.3. Recommendations on awareness raising, education & communication

One of the key issues that need to be effectively addressed in the Mediterranean is the lack of awareness of the wider public and stakeholders about the role of biodiversity in relation to the survival and well-being of the people of the region. A recent EC report on the "Attitudes of Europeans towards biodiversity" confirms this need which is very obvious for the EU Mediterranean countries – expected to reflect also the rest of the region – and reveals that communication and outreach activities should become a high priority.

In this respect, combination of the United Nations Decade of Education for Sustainable Development (UNDESD) with the International Year of Biodiversity offers a unique opportunity and can be used to draw public attention to the value of biodiversity and the need to conserve it, as well as on the opportunities derived from its conservation and sustainable use. Biodiversity has been identified as one of the key areas of Education for Sustainable Development (ESD) in the framework of the ongoing UN Decade (2005-2014) on ESD, where MIO-ECSDE through its MEDIES programme is very active.

4.3.1. The wider public should be fully informed about the real implications of biodiversity losses for their daily lives and should be encouraged to commit themselves towards the conservation of biodiversity through various activities.

In this context, MIO-ECSDE will continue its long-standing efforts to enhance awareness raising on biodiversity issues through education (formal, informal and non formal), communication and capacity building actions.

4.4. Recommendations on research and monitoring

Scientific information on biodiversity, its value, functioning, status and trends, and the consequences of its loss is constantly being improved but there still are major gaps and deficiencies in the existing knowledge.

4.4.1. Mediterranean region research needs to focus on the assessment of the status and the underlying trends of threatened ecosystems which underpin conservation planning at regional and national level.

This will lead to the strengthening of the science - policy interface and the identification of emerging issues and will contribute substantially to effectively addressing biodiversity threats and driving forces.

4.4.2. Reliable, well-validated, easy to apply and robust tools (since the Mediterranean countries have limited human and financial resources) to measure the different components of biodiversity should be developed to achieve efficient assessment and monitoring.

It must be emphasized that the lack of scientific data or the existence of fragmented knowledge should not be used as an argument for inaction when it comes to the conservation, protection or management of habitats and species. As many Mediterranean countries cannot afford to carry out comprehensive research for all habitats and species a different pragmatic and effective approach is needed and therefore this should be thoroughly explored and addressed.

In 2008 the European Union published “The biodiversity action plan: Halting the loss of biodiversity by 2010 – and beyond” aiming to assist Members States in halting the loss of biodiversity. In this action plan are highlighted the main biodiversity related gaps in knowledge and research need and a set of very useful recommendations are being proposed which can be revisited and implemented for both EU and non-EU Mediterranean countries.

4.4.3. Research approaches should be broadened to ensure the integration of social sciences and economics with biodiversity research.

As in many other cases, the understanding of the link between socio-economic and cultural drivers and biodiversity pressures and impacts is incomplete and the related information is very scattered. An effort to connect marine biodiversity and ecosystem services with their economic value in order to highlight their importance for the sustainable development of the Mediterranean riparian countries was made by UNEP/MAP's Blue Plan in its report on “The economic value of sustainable benefits from the Mediterranean Marine Ecosystems”. Such research needs to be enhanced and deepened.