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CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE
AND NATURAL HABITATS

Standing Committee

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**DOCUMENT CONTAINING
ALL DRAFT TEXTS
PRESENTED TO THE STANDING COMMITTEE
FOR POSSIBLE ADOPTION**

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This document has been prepared to facilitate examination of draft recommendations (DR), of a draft resolution and of draft guidance (DG) by Standing Committee delegations. Only draft texts prepared by groups of experts and consultants are grouped here. Draft recommendations presented by NGOs are not included as they require a proposal from a Party to be discussed by the Committee.

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Convention on the Conservation
of European Wildlife and Natural Habitats

Standing Committee

**Draft Recommendation No. X (2012) of the Standing Committee, adopted on, on
Conservation translocations under changing climatic conditions**

The Standing Committee of the Convention on the Conservation of European Wildlife and Natural Habitats, acting under the terms of Article 14 of the Convention;

Having regard to the aims of the Convention to conserve wild flora and fauna and its natural habitats;

Aware that the conservation of natural habitats is a vital component of the protection and conservation of wild flora and fauna;

Recalling that Article 2 of the Convention requires Parties to take requisite measures to maintain the populations of wild flora and fauna at a level which corresponds in particular to ecological, scientific and cultural requirements, while taking account of economic requirements;

Recalling that Article 3 of the Convention requires Parties to undertake to have regard to the conservation of wild fauna and flora in their planning and development policies, and in their measures against pollution;

Recalling that Article 4 of the Convention requires Parties to take appropriate measures to ensure the conservation of the habitats of wild flora and fauna species as well as of endangered natural habitats; and give particular attention to the protection of areas of importance for migratory species;

Recognising that climate change affects biological diversity in the territory covered by the Convention, including species, habitats and the Areas of Special Conservation Interest of the Emerald Network;

Recognising the need to adapt conservation work to the challenges of climate change so as to minimise its impacts on the species and natural habitats protected under the Convention;

Noting that conservation is becoming increasingly interventionist, actively managing biodiversity wherever it occurs, particularly in a climate change context;

Welcoming the scientific progress which has allowed for an increase in the numbers of thoroughly designed and assessed, carefully implemented and monitored plant and animal reintroductions, with an associated increase in the understanding of scientific principles, ethics and practical issues associated with successful reintroductions;

Further noting that assisted colonisations are expected to be increasingly used in future biodiversity conservation though they remain largely untested;

Emphasising that any conservation introduction (outside indigenous range) brings additional risks, due to the record of species moved outside their indigenous ranges that have become invasive aliens, often with extreme adverse impacts on native biological diversity, ecological services or human livelihoods health and economic interests;

Aware that management solutions based on historical precedence may not always be adequate for future biodiversity conservation needs, particularly because of the lack of certainty over ecological relationships, inability to predict ecological outcomes, and the increasing complexity of global change;

Recalling the CBD Conference of the Parties Decision X/33 on Biodiversity and climate change which invites Parties and other Governments, according to national circumstances and priorities, as well as relevant organizations and processes, bearing in mind that under climate change, natural adaptation will be difficult and recognizing that *in situ* conservation actions are more effective, *to also consider ex situ measures, such as relocation, assisted migration and captive breeding, among others, that could contribute to maintaining the adaptive capacity and securing the survival of species at risk, taking into account the precautionary approach in order to avoid unintended ecological consequences including, for example, the spread of invasive alien species;*

Recalling the EU “Our life insurance, our natural capital: an EU biodiversity strategy to 2020”, and more particularly its Target 5 aimed at tighter controls on invasive alien species;

Recalling AEWA “Guidelines for the Translocation of Waterbirds for Conservation Purposes: Complementing the IUCN Guidelines”;

Further recalling ACCOBAMS Guidelines for the release of captive cetaceans into the wild;

Recalling recommendations No. 122 (2006) of the Standing Committee, on the conservation of biological diversity in the context of climate change; No. 135 (2008) and No. 143 (2009) of the Standing Committee, on addressing the impacts of climate change on biodiversity;

Further recalling Recommendation No. 142 (2009) of the Standing Committee, recommending Parties and inviting Observers to the Convention to interpret the term “alien species” for the purpose of the implementation of the European Strategy on Invasive Alien Species as not including native species naturally extending their range in response to climate change;

Welcoming and bearing in mind, for the implementation of the present Recommendation, IUCN guidelines for Reintroductions and Other Conservation Translocations, developed by the IUCN SSC Reintroduction Specialist Group and IUCN SSC Invasive Species Specialist Group in 2012;

Referring to the definitions used in the IUCN guidelines for Reintroductions and Other Conservation Translocations and namely:

Conservation translocation: the human-mediated movement of living organisms from one area, with release (applicable to individuals of any taxon) in another, where the primary objective is a conservation benefit; this covers:

1. Population restorations: any conservation translocation to within indigenous range. This comprises two activities:
 - Reinforcement: the intentional movement and release of an organism into an existing population of conspecifics;
 - Reintroduction: the intentional movement and release of an organism inside its indigenous range from which it has disappeared;
2. Conservation introduction: the intentional movement and release of an organism outside its indigenous range. Two types of conservation introduction are recognised:
 - Assisted colonisation: the intentional movement and release of an organism outside its indigenous range to avoid extinction of any/all populations of the target species;
 - Ecological replacement: the intentional movement and release of an organism outside its indigenous range to perform a specific ecological function.

Recommends Contracting Parties to the Convention and invites Observer States to:

1. Undertake conservation translocations only if aimed to ensure a demonstrable conservation benefit in terms of species viability or ecological function. Translocation should therefore be justified, with development of clear objectives, a long-term or permanent management plan, identification and assessment of risks, and with the specification of unambiguous measures of performance;
2. Consider alternative solutions before starting a conservation translocation. In particular, there should be confidence (e.g. via peer-reviewed evidence and in absence of this consideration of best available expert knowledge) that alternative solutions are not more appropriate, including in particular:
 - a. Increased habitat availability (area-based solutions);
 - b. Management of the species or its habitat (species-based solutions);
 - c. Social or indirect solutions, either in isolation or in combination with the above (e.g. habitat restoration and mitigation of pressures);
 - d. Doing nothing, which may carry lower risks of extinction compared to those of alternative solutions.
3. Carefully assess in advance the full array of possible hazards both during a translocation and after release of organisms, including the transboundary impact, taking into account that any translocation bears risks that it will not achieve its objectives and/or will cause unintended damage;
4. Combine proportional risk analysis with conclusions from the feasibility study before deciding whether a translocation should proceed or not. Where possible, formal methods for making decisions based on best evidence should be used. As a general principle, where there is inadequate information to assess that a translocation outside indigenous range bears low risks, such a translocation should not be carried out;
5. Consider particularly the ecological risks, including the risk of gene escape in any risk analysis;
6. Where relevant, prioritise the species or populations to be translocated, based on criteria such as their ecological role, their evolutionary distinctiveness or uniqueness, their role as flagship species, their threatened status, or potential as ecological replacements; where species are extinct, consequent changes in the ecosystem can indicate a need to restore the ecological function provided by the lost species, which can constitute justification for exploring an ecological replacement;
7. Strictly follow the revised IUCN guidelines for Reintroductions and Other Conservation Translocations, developed by the IUCN SSC Reintroduction Specialist Group and IUCN SSC Invasive Species Specialist Group when operating translocations;
8. Inform the Standing Committee of measures taken to implement this recommendation.



Convention on the Conservation
of European Wildlife and Natural Habitats

Standing Committee

**Draft Recommendation No. ... (2012) of the Standing Committee, adopted on
..... 2012, on the effective implementation of guidance for Parties on biodiversity and
climate change**

The Standing Committee of the Convention on the Conservation of European Wildlife and Natural Habitats, in accordance with Article 14 of the Convention,

Having regard to the aims of the Convention to conserve wild flora and fauna and its natural habitats;

Aware that the conservation of natural habitats is a vital component of the protection and conservation of wild flora and fauna;

Recalling that Article 2 of the Convention requires Parties to take requisite measures to maintain the populations of wild flora and fauna at a level which corresponds in particular to ecological, scientific and cultural requirements, while taking account of economic requirements;

Recalling that Article 3 of the Convention requires Parties to undertake to have regard to the conservation of wild fauna and flora in their planning and development policies, and in their measures against pollution;

Recalling that Article 4 of the Convention requires Parties to take appropriate measures to ensure the conservation of the habitats of wild flora and fauna species as well as of endangered natural habitats; and give particular attention to the protection of areas of importance for migratory species;

Recognising that climate change affects biological diversity in the territory covered by the Convention, including species, habitats and the Areas of Special Conservation Interest of the Emerald Network;

Recognising the need to adapt conservation work to the challenges of climate change so as to minimise its impacts on the species and natural habitats protected under the Convention;

Bearing in mind that climate change mitigation has a key role in reducing the impacts of climate change on biodiversity and the need for further adaptation measures;

Recalling the CBD Conference of the Parties Decision X/33 on Biodiversity and climate change and its guidance;

Recognising the EU 2020 Biodiversity Strategy, namely the strategic objective aiming at a more climate resilient, low-carbon economy;

Recalling recommendations of the Standing Committee to the Bern Convention: No. 122 (2006), on the conservation of biological diversity in the context of climate change; No. 135 (2008) and No. 143 (2009) on addressing the impacts of climate change on biodiversity; No. 145 (2010) on guidance for Parties on biodiversity and climate change in mountain regions; No. 146 (2010) on guidance for Parties on biodiversity and climate change in European islands, No. 147 (2010) on guidance for Parties on wildland fires, biodiversity and climate change; and No. 152 (2011) on Marine Biodiversity and Climate Change;

Welcoming and bearing in mind the conclusions of the monitoring assessment presented in the report “An analysis of the implementation of recommendations made by the Group of Experts on Biodiversity and Climate Change (2006-2010)”, by Prof. Brian Huntley [doc T-PVS/Inf (2012) 11];

Acknowledging that most parties already recognises the need to take action in relation to the conservation of biodiversity in the face of climatic change;

Noting that although many of the parties reported actions relating to the development of policies, strategies or legislative measures designed to address specifically the issue of biodiversity conservation in the face of climatic change, only a small minority provided evidence of legislative or other measures adopted to ensure that the need to consider the issue of biodiversity conservation is embedded across other sectors;

Welcoming in particular many excellent examples of good practice which were identified, especially those where the embedding of consideration of biodiversity issues cross-sectorally has already been achieved, where win-win solutions are being adopted for adaptation and/or mitigation, where the development of ecological networks already is underway, where the need to embed national actions in their international context has been recognised, where systematic evaluations of species' vulnerability to climatic change have been made using species' distribution models, and where a national vision underpins a series of coherent actions aimed at addressing both the limitation of climatic change and its inevitable impacts;

Worried by the gaps identified with regards to those concrete and practical actions most directly related to minimising the negative effects of climatic change on biodiversity, and especially upon species and ecosystems already under threat from other pressures;

Recalling the desirability and benefits of adopting adaptive management practices;

Stressing that many of the actions recommended, but as yet rarely implemented, can almost certainly be commenced under existing conservation legislation in the parties:

Recommends Contracting Parties to the Convention and invites Observer States to:

1. Urgently implement the practical conservation measures that have been recommended by the Group of Experts and encourage appropriate national bodies involved in nature conservation to adopt and use them as resources permit; urgent action should more particularly focus on implementing adaptive management practices and strategies, enhancing the adaptive capacity of vulnerable species (rare/endemic/threatened), minimising pressures and threats on species and habitats that are most vulnerable to climatic change, and implementing monitoring of inter alia species' population trends, species behaviour, including phenology, and climatic change impacts upon critical areas;
2. Take further steps to develop ecological networks, to enhance the permeability of landscapes generally, and also enhance their protected areas networks, as appropriate, by increasing the extent of existing sites, designating new sites and establishing buffer zones, and ensuring they are sustainably managed;
3. Take an appropriately long-term view, based on adaptive management methodologies, when formulating management plans and strategies for protected areas management;
4. Adopt, as appropriate, a more holistic approach when formulating strategies and plans for ecological networks or protected areas, and when developing conservation or recovery plans for individual species. In particular, encourage the general adoption of the examples of good practice reported, especially by Switzerland and Ukraine, with respect to taking into account their international context when planning ecological networks, and to developing networks and protected areas in partnership with their neighbours;
5. Adopt measures that encourage that biodiversity conservation is embedded across other sectors and taken into account when formulating policies or strategies for those sectors, also by informing policy-

makers across the Parties about the opportunities for win-win solutions when developing strategies for adaptation to climatic change by their sector as well as for mitigation measures;

6. Undertake knowledge transfer activities using existing mechanisms, to encourage awareness by other stakeholders and the general public of the challenges posed and opportunities present by climatic change when considering biodiversity conservation, including its links to other sectors and the opportunities for win-win solutions;
7. Take in due account the potential increased risk of wildfires as a result of climate change and embed, as appropriate, consideration of this risk into protected area management plans;
8. Adopt the good practice, identified in the case of the United Kingdom, of implementing measures for the assessment of introductions that include assessment of the impacts of projected climatic changes on species' invasion potential;

Further instructs the Bern Convention Group of Experts on biodiversity and climate change to:

1. Take all necessary steps to ensure that the importance of the issue of climate change on biodiversity and understanding the role of biodiversity in adapting to and mitigating the effects of climate change is well recognised by all Contracting Parties;
2. Promote awareness among Contracting Parties of the examples of good practice identified and urge their implementation;
3. Ensure that those persons preparing reports from parties for the Group of Experts are fully informed about relevant activities, for example monitoring activities, being undertaken in their country, thus avoiding spurious identification of gaps in the activities of that Party or of priorities for new actions by the Party;
4. Work towards assessing the potential for introduced species already present in the national territory of Contracting Parties to become invasive under future climatic conditions, in close co-operation with the Group of Experts on Invasive Alien Species, and using information and methodologies developed in other *fora*, where appropriate;
5. Inform the Standing Committee on the progress made in the implementation of this Recommendation.



Convention on the Conservation
of European Wildlife and Natural Habitats

Standing Committee

**Draft Recommendation No. ... (2012) of the Standing Committee, adopted on,
on the European Code of Conduct for Botanic Gardens on Invasive Alien Species**

The Standing Committee of the Convention on the Conservation of European Wildlife and Natural Habitats, in accordance with Article 14 of the Convention,

Having regard to the aim of the Convention which is notably to ensure the conservation of wild flora and fauna, by giving particular attention to species, including migratory species, which are threatened with extinction and vulnerable;

Recalling that under Article 11, paragraph 2.b of the Convention, each Contracting Party undertakes to strictly control the introduction of non-native species;

Recalling Decision VI/23 of the 6th Conference of the Parties of the Convention on Biological Diversity, on Alien species that threaten ecosystems, habitats or species, and the definitions used in that text, as well as the conservation guidelines of the Africa-Eurasian Migratory Waterfowl Agreement;

Recalling its Recommendation No. 99 (2003) on the European Strategy on Invasive Alien Species;

Recalling its Recommendation No. 134 (2008) on the European Code of Conduct on Horticulture and Invasive Alien Plants;

Noting the need to co-operate with Botanic Gardens and Arboreta in the prevention on new invasive alien species into the territory of the Convention;

Referring to the European Code of Conduct for Botanic Gardens on Invasive Alien Species [document T-PVS/Inf (2012) 1];

Recommends that Contracting Parties:

1. draw up national codes of conduct for botanic gardens on invasive alien species taking into account the European Code of Conduct mentioned above;
2. collaborate as appropriate with the botanic gardens and arboreta in implementing and helping disseminate good practices and codes of conducts aimed at preventing release and proliferation of invasive alien species;
3. keep the Standing Committee informed of measures taken to implement this recommendation.

Invites Observer States to take note of this recommendation and implement it as appropriate.



Convention on the Conservation
of European Wildlife and Natural Habitats

Standing Committee

Draft Recommendation No. ... (2012) of the Standing Committee, adopted on, on the European Code of Conduct for Zoological Gardens and *Aquaria* on Invasive Alien Species

The Standing Committee of the Convention on the Conservation of European Wildlife and Natural Habitats, in accordance with Article 14 of the Convention,

Having regard to the aim of the Convention which is notably to ensure the conservation of wild flora and fauna, by giving particular attention to species, including migratory species, which are threatened with extinction and vulnerable;

Recalling that under Article 11, paragraph 2.b of the Convention, each Contracting Party undertakes to strictly control the introduction of non-native species;

Recalling Decision VI/23 of the 6th Conference of the Parties of the Convention on Biological Diversity, on Alien species that threaten ecosystems, habitats or species, and the definitions used in that text, as well as the conservation guidelines of the Africa-Eurasian Migratory Waterfowl Agreement;

Recalling its Recommendation No. 99 (2003) on the European Strategy on Invasive Alien Species;

Noting the need to co-operate with Zoological Gardens and *Aquaria* in the prevention on new invasive alien species into the territory of the Convention;

Referring to the European Code of Conduct for Zoological Gardens and *Aquaria* on Invasive Alien Species [document T-PVS/Inf (2011) 26 rev];

Recommends that Contracting Parties:

1. draw up national codes of conduct for zoological gardens and *aquaria* on invasive alien species taking into account the European Code of Conduct mentioned above;
2. collaborate as appropriate with the zoological gardens and *aquaria* in implementing and helping disseminate good practices and codes of conducts aimed at preventing release and proliferation of invasive alien species;
3. keep the Standing Committee informed of measures taken to implement this recommendation.

Invites Observer States to take note of this recommendation and implement it as appropriate.



Convention on the Conservation
of European Wildlife and Natural Habitats

Standing Committee

Draft Recommendation No. ... (2012) of the Standing Committee, adopted, on the conservation of large carnivores populations in Europe requesting special conservation action

The Standing Committee of the Convention on the Conservation of European Wildlife and Natural Habitats, acting under the terms of Article 14 of the Convention;

Having regard to the aims of the Convention to conserve wild flora and fauna and its natural habitats;

Wishing to promote co-existence of viable populations of large carnivores with sustained development of rural areas in appropriate regions;

Aware that the drafting and implementation of Action Plans may be a useful tool to redress the situation;

Recalling its Recommendations No. 115 (2005) on the conservation and management of transboundary populations of large carnivores, and No. 137 (2008) on population level management of large carnivores population;

Recommends that:

1. Brown bear in Central Italy

- Italy implements without delay the Action Plan for the Conservation of the Marsican brown bear, encouraging closer cooperation among the different national and regional authorities involved well as the Abruzzi National Park.

2. Wolf in Italy

- Italy pursues efforts to control hybrids, drafting and implementing a strategy aimed to reduce progressively the genetic pollution affecting wolf in Italy.

3. Bear in the Balkans

- Bosnia and Herzegovina, and Montenegro urgently draw up management plans for brown bear carrying out the necessary surveys and relaying on the expertise of other countries of the region so as to integrate their conservation efforts in a wider South-East context.

4. Eurasian lynx in the Balkans

- Albania and “the former Yugoslav Republic of Macedonia” draw up and implement, as a matter of urgency, action plans for the last remaining autochthonous population of lynx in the region, using as appropriate the strategy for the Conservation of the Balkan lynx in Albania and “the former Yugoslav Republic of Macedonia”;

- “the former Yugoslav Republic of Macedonia” assesses the environmental impact on lynx population of the dams in the Mavrovo National Park, a site identified as a candidate for the Emerald Network, considering the abandonment of the project if the dam risks to endanger lynx.

5. Large carnivores in South-East Europe

- Albania, Bosnia and Herzegovina, and “the former Yugoslav Republic of Macedonia”: assess the effect of new transport infrastructures on large carnivores, introducing corrective measures whenever they are likely to produce new fragmentation of large carnivores’ populations that may endanger them.

6. Large carnivores in Eastern Alps

- Austria and Italy establish and implement more stringent conservation measures of large carnivores in the Eastern Alps, controlling the high death rate of carnivores in that area, so that natural colonisation by wolf, lynx and bear may continue in the favourable habitat available for those species.

7. Wolf in the Iberian Peninsula

- Spain urgently carries a survey of wolf in Sierra Morena, taking all the necessary steps to avoid the decline and disappearance of that important population;
- Portugal and Spain carry out national surveys of wolf, mapping packs with the standard agreed methodology for the whole Iberian Peninsula.

8. Large carnivores in the Caucasus

- Armenia, Azerbaijan and Georgia implement, without delay, Recommendation N° 148 (2010) on the conservation of Large Carnivores in the Caucasus, paying special attention to carry out the necessary surveys, improve herbivore densities, devote efforts to train the necessary experts and consider-as appropriate the launch of a survey programme for leopard;
- Armenia, Azerbaijan and Georgia identify, in new territories, areas, which have favourable habitats for large carnivores and that, are at present not colonised.

9. Large carnivores in the Carpathians

- Concerned States strengthen cooperation, adopt a population level management approach and ameliorate as needed their monitoring systems so as to improve management through the use of better assessment tools; cooperate, as appropriate, with the Alpine Convention.

10. Large carnivores in Slovak Republic

- Slovak Republic continue to present participatory efforts to conclude and implement a national action plan for brown bear; consider drafting and implementing action plans for lynx and wolf.



Convention on the Conservation
of European Wildlife and Natural Habitats

Standing Committee

**Draft Recommendation No. ... (2012) of the Standing Committee, adopted on,
on the management of expanding populations of large carnivores in Europe**

The Standing Committee of the Convention on the Conservation of European Wildlife and Natural Habitats, acting under the terms of Article 14 of the Convention;

Having regard to the aims of the Convention to conserve wild flora and fauna and its natural habitats;

Welcoming the natural expansion of population of large carnivores in Europe, as these species play a key ecological role in natural and semi-natural habitats;

Wishing to promote co-existence of viable populations of large carnivores with sustained development of rural areas in appropriate regions;

Noting that expanding populations of large carnivores may cause problems with livestock rising, particularly in area where their colonization is recent;

Recalling its Recommendations No. 115 (2005) on the conservation and management of transboundary populations of large carnivores, and No. 137 (2008) on population level management of large carnivores population;

Recommends that Contracting Parties to the Convention:

1. Address the issue of expanding large carnivores populations, *inter alia* by :
 - Improving social acceptance of large carnivores;
 - Addressing conservation of large carnivores in an a temporal and geographical scale;
 - Establishing the necessary partnerships with different interest groups;
 - Promoting appropriate predation – avoiding methods and practices.

In that context, welcome the natural expansion of large carnivores' populations, especially where this may help a population to reach a favorable conservation status and/or improve its genetic variability;

2. Cooperate as appropriate in the above with other states sharing the same population, thus implementing the population level management approach endorsed in its Recommendation 115 (2005);

3. Where large carnivores are hunted, carry out sound monitoring of those species and fix hunting quotas taking into account their conservation status, the sustainability of present population and their natural expansion.



Convention on the Conservation
of European Wildlife and Natural Habitats

Standing Committee

Draft Resolution No. (2012) of the Standing Committee, adopted on, on the national designation of adopted Emerald sites and the implementation of management, monitoring and reporting measures

The Standing Committee to the Convention on the Conservation of European Wildlife and Natural Habitats, acting under the terms of Article 14 of the Convention;

Considering Articles 3 and 4 of the Convention;

Having regard to its Resolution No. 1 (1989) on the provisions relating to the conservation of habitats;

Having regard to its Recommendation No. 16 (1989) on Areas of Special Conservation Interest (ASCI);

Having regard to its Resolution No. 3 (1996) on the setting-up of a pan-European Ecological Network;

Recalling its Resolution No. 5 (1998) concerning the rules for the Network of areas of special conservation interest (Emerald Network);

Bearing in mind the CBD Strategic Plan for Biodiversity 2011-2020, including the Aichi Biodiversity Targets, in particular the Target 11 establishing a conservation target of 17% of terrestrial and inland water areas and 10% of marine and coastal areas;

Reminding the Calendar for the implementation of the Emerald Network of Areas of Special Conservation Interest (2011-2020) [document T-PVS/PA(2010)8], committing Contracting Parties and Observer states to the Bern Convention to the completion of the Emerald Network constitution process by 2020;

Expressing its appreciation of the considerable efforts and on-going work of Contracting Parties and Observer states on the constitution of the Emerald Network on their territories;

Recognising the work of the European Union and its Member States on the development of the Natura 2000 Network and their current efforts on improving the management of the Network and achieving a favourable conservation status for threatened species and habitats;

Reminding Article 2c of Resolution No. 1 (1989), which interprets the term “conservation” as the “maintenance and, where appropriate, the restoration or improvement of the abiotic and biotic features which form the habitat of a species or a natural habitat,....., and includes, where appropriate, the control of activities which may indirectly result in the deterioration of such habitats ...”;

Considering that paragraphs 3a and 4a of Recommendation No. 16 (1989) on areas of special conservation interest recommend that steps are taken by Contracting Parties either by legislation or otherwise, to ensure that the areas “are the subject of an appropriate regime, designed to achieve the conservation of the areas” as well as to “draw up and implement management plans which will identify both short- and long-term objectives”;

Considering that Recommendation No. 16 (1989) further recommends Contracting Parties to “review regularly or continually in a systematic fashion their performance in the implementation of (...) the

Emerald Network” as well as that “appropriate ecological and other research is conducted, in a properly co-ordinated fashion, with a view to furthering the understanding of the critical elements in the management of such areas and to monitoring the status of the factors giving rise to their designation and conservation”;

Considering that Resolution No. 5 (1998) concerning the rules for the Network of areas of special conservation interest requests the Governments to “undertake surveillance of the conservation status of species and natural habitats in designated ASCIs” and “to inform the Secretariat of any important changes likely to affect negatively in a substantial way the ecological character of the designated ASCIs or the conditions having justified their designation”;

Conscious that monitoring and reporting of the management of the Emerald sites is essential for ensuring the efficiency of the Emerald Network in the long-term for achieving its objectives and that its features should be decided upon as soon as the national designation of the Emerald site as Area of Special Conservation Interest takes place;

Bearing in mind that for Contracting Parties which are Member States of the European Union, the Emerald Network sites are those of the Natura 2000 Network and that the procedures established under the European Union Directives 2009/147/EC (codified version of the amended Directive 79/409/EEC) and 92/43/EEC are those to apply for them;

Resolves to adopt hereby the rules for the national designation of Emerald sites:

1. National designation

1.1 Parties shall designate, by national legislation or otherwise, the sites on their territory adopted as Emerald sites by the Standing Committee to the Bern Convention, as foreseen in the Calendar for the implementation of the Emerald Network of Areas of Special Conservation Interest (2011-2020).

2. Management

2.1 The national designation of the adopted Emerald sites shall ensure that they are subject to an appropriate regime for achieving the conservation of the factors for which they are designated, involving, if and where appropriate, management plans, administrative and contractual measures;

2.2 The authorities responsible for the implementation of the management measures and their monitoring shall be clearly identified;

2.3 Specific short and long-term site objectives shall be foreseen for the management of Emerald sites, in compliance with the national/regional conservation objectives of the country, in order to facilitate the monitoring of their implementation and the regular assessment of their achievement;

2.4 National, regional and local stakeholders shall be involved, if and where appropriate, in the planning of the management of the sites, as well as in the implementation of the conservation and protection measures foreseen, and in the monitoring of the sites’ management.

3. Monitoring

3.1 Parties shall ensure that a monitoring framework forms an integral part of the management plans and/or other administrative measures taken for the designation of Emerald sites;

3.2 The monitoring of the site’s management shall comprise regular surveillance of the conservation status of the species and natural habitats -in particular those listed in the Standing Committee’s resolutions no. 4 (1996) and no. 6 (1998)- and/or of other factors giving rise to the designation of the area as specified in paragraph 1 of Recommendation 16 (1989);

3.3 The regular surveillance of the conservation status of species and natural habitats for which the sites has been designated shall comprise appropriate scientific and ecological research, aiming at identifying whether it contributes to the long term survival of the species and habitats.

4. Reporting

- 4.1 Parties shall report to the Secretariat of the Bern Convention on the conservation status of species and habitats listed in Resolutions No. 6 (1998) and No. 4 (1996) of the Standing Committee to the Bern Convention;
- 4.2 The report shall be submitted in English, every six years from the date of the adoption of this Resolution and shall reflect the previous period of six years;
- 4.3 The Group of Experts on Protected Areas and Ecological Networks shall prepare an entry form to be used for the purposes of this reporting.



Convention on the Conservation
of European Wildlife and Natural Habitats

Standing Committee

**Draft Recommendation No. ... (2012) of the Standing Committee, adopted on.....,
on the European Charter of Fungi-gathering and biodiversity**

The Standing Committee of the Convention on the Conservation of European Wildlife and Natural Habitats, acting under the terms of Article 14 of the Convention;

Having regard to the aims of the Convention to conserve wild flora and fauna and their natural habitats;

Noting that integrated ecosystem management and habitat protection have great advantages for the preservation of biodiversity and should go hand in hand with species protection efforts;

Aware that the identification of processes and categories of activities which have or are likely to have significant adverse impact on the conservation and sustainable use of biological diversity (as stated in Article 7 of the Convention on Biological Diversity, CBD) are also of utmost importance for the preservation of threatened species;

Conscious that the Fungi of Europe face an ever increasing range of threats, due to the fragmentation of their habitats, changing climate, and changes in land use;

Stressing that Fungi have high species richness, are involved in many biological interactions, and are crucial to several ecosystem processes;

Welcoming the recent advance in knowledge of the taxonomy, distribution, ecology, and conservation status of European macro-Fungi, which now enables this large component of biodiversity to start being appreciated, considered and incorporated into conservation actions;

Regretting, however, the lack of adequate representation of Fungi in national and European conservation legislation, and noting that their importance in providing ecosystems services is not recognised adequately;

Noting that no fungal species are represented in the Appendices of the Convention or in the European Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (Habitats Directive);

Noting that commercial and non-commercial Fungi-gathering in Europe benefit people as a resource for food as well as other consumptive uses, as a source of income, through providing many cultural ecosystem services and motivating maintenance of the supporting and regulating services of ecosystems;

Stressing that sustainably managed Fungi-gathering contributes to the conservation of biodiversity, the preservation of rural lifestyles and local economies;

Desirous to avoid a further loss of biological diversity in Europe;

Recalling Decision VII/12 of the Conference of the Parties to the CBD on Sustainable Use, adopted in 2004, and including the Addis Ababa Principles and Guidelines for the Sustainable Use of Biodiversity;

Further recalling Decision IX/3 of the Conference of the Parties to the CBD on the “Global strategy for plant conservation”;

Referring to the joint Planta Europa/Council of Europe “European Strategy for Plant Conservation 2008-2014: A sustainable future for Europe” (document T-PVS/Inf(2008)14);

Recalling IUCN Resolutions 2.29 “IUCN Policy Statement on Sustainable Use of Wild Living Resources”, 4.26 on “Trust Building for Biodiversity Conservation and Sustainable Use in line with the European Charter on Hunting and Biodiversity” and 5.40 on “Increasing the attention given to the conservation of fungi”;

Recalling the EU Sustainable Development Strategy, as updated in 2006, which aims “to identify and develop actions to enable the EU to achieve continuous improvement of quality of life both for current and for future generations, through the creation of sustainable communities able to manage and use resources efficiently and to tap the ecological and social innovation potential of the economy, ensuring prosperity, environmental protection and social cohesion”;

Recalling the 2010 Bern Declaration on the conservation and sustainable use of biodiversity in Europe: 2010 and beyond;

Recalling the “European Strategy for Plant Conservation 2008 – 2014” (ESPC) and its targets for that period;

Recalling recommendation No. 132 (2007) of the Standing Committee to the Bern Convention, on the conservation of Fungi in Europe, recommending Parties to address habitat management as a priority within different sectors, for the conservation of Fungi species in Europe; to take into consideration the Guidance for the Conservation of Mushrooms in Europe (document T-PVS(2007)13) and apply it in the elaboration and implementation of their national conservation policies for larger Fungi; to seek to engage all who benefit from Fungi in efforts to conserve their habitats;

Further recalling the Standing Committee recommendations No. 153 (2011) on the Charter on the Conservation and Sustainable use of Biological Diversity on European Islands; No. 150 (2010) of on the European Charter on Recreational fishing and Biodiversity; and N°128 (2007) on the European Charter on Hunting and Biodiversity;°

Acknowledging the complementarities of these different instruments;

Desirous to ensure that Fungi-gathering in Europe is practiced in a sustainable manner, making a positive contribution to the conservation of species and habitats;

Referring to the principles and guidelines included in the European Charter of Fungi-gathering and biodiversity (document T-PVS/Inf (2012) 12);

Considering this Charter as guidelines for competent national authorities and relevant stakeholders as appropriate;

RECOMMENDS Contracting Parties to the Convention, and **INVITES** Observer States and Organisations, to:

1. devote special attention to Fungi and micro-Fungi in the implementation of their international obligations and also in the achievements of the 2020 targets adopted in the framework of the Convention of Biological Diversity;
2. take into consideration the European Charter on Fungi-gathering and Biodiversity and apply its principles in the elaboration and implementation of their policies related to the sustainable use of biodiversity;
3. inform the Standing Committee on the measures taken on the implementation of this recommendation.



Convention on the Conservation
of European Wildlife and Natural Habitats

Standing Committee

Draft Guidance on Marine Biodiversity and Climate Change, endorsed on

Guidance

This guidance draws on the expert reports commissioned by the Council of Europe and discussed by the Group of Experts on Biodiversity and Climate Change at its meeting in 2011. The conclusions and recommended actions provided below stem from expert reports and the discussions on marine ecosystems in the Group of Experts. This guidance complements the suggested actions endorsed by the Standing Committee in 2011 (Recommendation No. 152), which in turn should be further completed and updated in the future, including a potential revision of the proposed recommendations. Measures that may be considered as appropriate for addressing the impacts of climate change on marine biodiversity, for the purposes of the application of the Convention, are listed for consideration by Contracting Parties.

This guidance aims at providing Parties and Observer States with suggestions of concrete conservation actions to be implemented voluntarily to deliver effectively against the objective of Recommendation No. 152 (2011). Other complementary measures may be identified by governments as equally appropriate to their particular circumstances and concerns. Notwithstanding these adaptation measures, there is an urgent need for climate change mitigation actions at local, regional, country and global levels. Effective mitigation is crucial to contain climate change to levels within which we may have a reasonable chance of achieving effective adaptation. However, addressing mitigation lies outside the scope of these recommendations.

The effects of climate change on marine ecosystems and their biological communities are complex. The impacts of a changing climate on the species and habitats protected by the Bern Convention may differ widely, depending on the species and the interactions with other species and/or their habitats, as well as according to location. The negative effects that climate change mitigation and adaptation measures, taken in other sectors, may have on species, habitats and ecosystems services provided, should also be considered in order to avoid further degradation.

I. Marine systems vulnerability to climate change

Climate change is one of the most critical issues currently facing biodiversity conservation, and marine ecosystems are among the most vulnerable to its impacts. Climate change impacts on the oceans are complex and diverse, and include changes in water temperature, salinity, sea level, ocean circulation and mixing, nutrient levels, ice cover, pH, and the frequency and intensity of storm events.

Global climate models predict, with high confidence, a 1.8-4°C rise in average surface air temperatures, associated with a 1.5-2.6 °C increase in sea surface temperature along with a 0.18-0.59 m rise in average sea level by the end of this century¹. In European waters, sea surface temperatures are increasing more rapidly than the global average, and the level of some European seas may also rise more than global average projections². Given the magnitude of predicted climatic changes and the wide range of chemical and physical changes that may result within the oceans³, it is clear that marine ecosystems will also be significantly affected by climate change, although the precise nature of these changes is difficult to predict.

Nevertheless, a large and growing body of evidence suggests multiple, significant climate impacts on marine species, across trophic levels and ecosystems. For example, ocean chlorophyll records show that annual primary production in the global ocean has decreased by more than 6% since the 1980s in relation to rising temperatures⁴. Because primary production represents the basis of the marine food web, such changes have considerable implications for the marine biosphere. Climate-driven shifts in species distributions have been observed in many marine groups⁵, including zooplankton⁶, invertebrates, and fish^{7,8} as reactions to climate warming are predicted to occur quicker in marine systems than terrestrial ones⁹.

Such movements are projected to result in significant changes in the diversity of marine communities, through a combination of local extinctions, shifts in marine food web and species invasions, with resulting impacts on ecosystem function and the provisioning of ecosystem services¹⁰. Other climate change effects on marine ecosystems include changes in species physiology, abundance, phenology¹¹, and migratory patterns¹², the incidence of diseases¹³, and the productivity and quality of temperate and tropical marine

¹ Pachauri, R.K. and Reisinger, A. (Eds.) (2007): *Contribution of Working Groups I, II and III to the 4th Assessment Report of the Intergovernmental Panel on Climate Change*; IPCC, Geneva, Switzerland. http://www.ipcc.ch/publications_and_data/ar4/wg2/en/ch6s6-3-2.html#table-6-3; http://www.ipcc.ch/publications_and_data/ar4/syr/en/spms3.html#table-spm-1

² European Environment Agency (EEA), JRC and WHO, (2008): *Impact of Europe's changing climate – 2008 indicator-based assessment*. EEA Report no 4/2008 – JRC Reference Report no. JRC47756.

³ Brierley, AS and Kingsford, MJ (2009): *Impacts of climate change on marine organisms and ecosystems*. *Current Biology* 19(14): R602-R614.

⁴ Gregg et al., 2003: *Ocean primary production and climate: Global decadal changes*, *Geophys. Res. Lett.*, 30, 1809

⁵ Intergovernmental Panel on Climate Change (IPCC), (2007) (a): *Synthesis of observed impacts. Climate change 2007: Working group II: Impacts, Adaptation, and Vulnerability: Chapter 1*.

⁶ Southward, A. J., Hawkins, S. J. & Burrows, M. T, (1995): *Seventy years' observations of changes in distribution and abundance of zooplankton and intertidal organisms in the western English Channel in relation to rising sea temperature*. *J. Thermal Biol.* 20, 127–155.

⁷ Beaugrand, G., Reid, P. C., Ibanez, F., Lindley, J. A. & Edwards, M. (2002): *Reorganization of North Atlantic marine copepod biodiversity and climate*. *Science* 296, 1692–1694.

⁸ Perry, A.L., P.J. Low, J.R. Ellis and J.D. Reynolds, 2005: *Climate change and distribution shifts in marine fishes*. *Science*, 308, 1912-1915

⁹ MarClim project - Mieszkowska, N. et al (2006): *Marine biodiversity and climate change: assessing and predicting the influence of climatic change using intertidal rocky shore biota*. Scottish Natural Heritage.

¹⁰ Cheung WWL, Lam VWY, Sarmiento JL, Kearney K, Watson R, Pauly D., Fish and Fisheries. (2009) *Projecting global marine biodiversity impacts under climate change scenarios*, 10:235-51

¹¹ M. Edwards, A. J. Richardson, (2004): *Impact of climate change on marine pelagic phenology and trophic mismatch*, *Nature* 430, 881.

¹² Sims, D.W., Genner, M.J., Southward, A.J. and Hawkins, S.J. (2001): *Timing of squid migration reflects North Atlantic climate variability*. *Proceedings of the Royal Society of London*, B 268, 2607–2611.

habitats¹⁴, ranging from marine upwelling systems¹⁵ to seagrass beds and coral reefs¹⁶. Precisely, warmer sea temperatures and increased CO₂ absorption by the seas will result in increasing ocean acidification which will reduce the availability of carbonate minerals in seawater, important building blocks for calcifying marine plants and animals. For example, it is predicted that 70% of cold-water coral communities will experience growth-limiting conditions by 2100, with associated impacts for the marine species that they support¹⁷.

For marine ecosystems that are already under significant human pressure, climate change effects represent an added source of stress. In some cases, the additive/cumulative or synergistic impacts of climate change and other stressors may push marine species or ecosystems beyond their thresholds of tolerance. Where these thresholds represent “tipping points”, such changes may be severe and irreversible not only for biodiversity but with heavy impacts on economies, developments and socio-cultural contexts^{18,19}.

If negative climate change effects on marine ecosystems are to be minimised or avoided, there is a need for vigorous conservation policies and strategies that will support adaptation by marine fauna and flora. Such measures typically focus on building ecological resilience: “*the ability of an ecological system to absorb disturbances while retaining the same basic structure and ways of functioning, the capacity for self-organisation, and the capacity to adapt to stress and change*”²⁰.

The following overarching adaptation principles for marine biodiversity are derived from pre-existing guidance²¹ and scientific literature¹⁹, linked with more detailed measures and should be considered when developing adaptation strategies and actions to conserve marine and coastal species, habitats and ecosystems, and the services that they provide.

II. Understand and predict climate changes impacts on the marine environment

The current available scientific knowledge is predominantly focused at general aspects of climate change, and very limited on biodiversity impacts, even more limited on marine and coastal biodiversity where gaps are large and uncertainties numerous.

The abundance and distribution of species is continuously changing (both seasonally and annually) and these dynamics are likely to accelerate and vary due to climate change. Consequently, long-term monitoring is necessary in order to evaluate these processes, particularly in most European regional seas where data on marine phenology changes are quite sparse. In order to improve our knowledge base to support effective conservation planning, further research is needed on the impacts of climate change on the biodiversity, processes, and function of marine ecosystems.

¹³ C. D. Harvell et al, (2002) *Review: Ecology — Climate warming and disease risks for terrestrial and marine biota*, Science 296, 2158.

¹⁴ O. Hoegh-Guldberg, J. F. Bruno, (2010) *The impact of climate change on the world's marine ecosystems*. Science 328, 1523 -1528.

¹⁵ Bakun, A. (1990): *Global climate change and intensification of coastal ocean upwelling*. Science 247, 198–201.

¹⁶ CBD Technical Series No.46, (2010): *Scientific Synthesis of the Impacts of Ocean Acidification on Marine Biodiversity*

¹⁷ Guinotte, J. M., Orr, J., Cairns, S., Freiwald, A., Morgan, L., George, R. (2006); *Will human-induced changes in seawater chemistry alter the distribution of deep-sea scleractinian corals?* Front Ecol Environ 4(3):141–146.

¹⁸ O. Hoegh-Guldberg, J. F. Bruno, (2010) *The impact of climate change on the world's marine ecosystems*. Science 328, 1523-1528.

¹⁹ Monaco, C.J. and B. Helmuth. 2011. *Tipping Points, Thresholds and the Keystone Role of Physiology in Marine Climate Change Research*. Adv. Mar. Biol. 60: 123-162.

²⁰ IPCC 4th Assessment Report (2007), Glossary.

²¹ Recommendations 146/(2010), 142 (2009), 143/(2009), 135/(2008), 122/(2006)

Proposed Actions:

1. Undertake increased monitoring and research actions into the potential impacts of climate change on marine species and ecosystems, including their resilience capacities and responses to climatic changes. For these purposes the following actions should be considered:

- Document species distributions, habitat requirements and community interactions (both at population and ecosystem levels) in order to predict likely responses to climate change and to permit conservation measures.
- Test the independent and interacting roles of climate change and other stressors in driving observed changes to the population dynamics and distributions of marine species, which will help to identify underlying causes, project future ecological responses, and prioritise systems and approaches for adaptive management.
- Make use of long-term field observations together with new technologies such as the use of satellite imagery and remote monitoring stations to identify and map threatened marine habitats and the species associated with them.
- Step up research and monitoring on emerging climate change effects on marine biodiversity (e.g. biological invasions and ocean acidification); as well as socioeconomic impacts of climate change which identify potential risks/hazards for coastal livelihood.

2. Develop predictive climate change models which take due account of specific ecological vulnerabilities and complexities for at least all Bern Convention listed marine species; and consolidate the information obtained from published modelling studies so that the results are easily accessible.

3. Undertake vulnerability assessments, for at least all Bern Convention listed marine species, which combine the predictions of bioclimatic models with other criteria (e.g., species threat levels, life history characteristics, dependence on vulnerable habitats, and other stressors): apply downscaling techniques to reflect local conditions and dynamics, and take into account sources and levels of uncertainty to identify taxa at greater risk due to climate change.

4. On the basis of predicted changes and noted vulnerabilities, identify best actions to favour, in particular 'win-win' scenarios delivering both climate mitigation/adaptation and biodiversity conservation benefits.

5. Assess how climate change may impact existing measures for the conservation and management of Bern Convention listed species. Continually monitor and re-assess the effectiveness of adaptation measures and adaptive conservation management as new information becomes available.

6. Strengthen existing monitoring schemes by identifying and using appropriate indicators to monitor the impacts of climate change on marine biodiversity and assess their vulnerability and cumulative impacts, including key biological groups identified in Actions 20 and 21.

7. Facilitate sharing of data and information and assist knowledge transfer and dissemination between partners of the Bern Convention through compatible and user-friendly information system, including clearing-house mechanisms, databases and inventories, mapping tools). Make use of already-established mechanisms including the Global Biodiversity Information Facility (GBIF), the Biodiversity Information System for Europe (BISE), The European Marine Observation and Data Network (EMODNET) and WISE-marine, or the European Network for Biodiversity Information (ENBI).

III. Maintain and enhance marine ecosystems' resilience and adaptive capacity

In the face of these potential changes, robust and comprehensive policies and strategies are urgently needed for the marine environment, in order to address the impacts of climate change on biodiversity. Of particular importance are those approaches that will enhance the resilience and adaptive capacity of species and ecosystems.

Previous Recommendations 143/(2009) and 135/(2008) specifically called on making use of the large potential for synergies and co-benefits between biodiversity conservation and climate change mitigation and adaptation, including ecosystem-based approaches.

a) Integrate the effects of climate change on marine biodiversity into relevant policies

Existing legislative frameworks allow for Parties to anticipate and address the impacts of climate change on European marine species and ecosystems. International environmental conventions, such as the Convention on Biological Diversity (CBD) and the United Nations Framework Convention on Climate Change (UNFCCC), together with European environmental *acquis* offer robust legislation and provide strategic and operational tools with which Parties may act to maintain and restore their marine natural ecosystems in relations to climate threats. Yet implementation remains weak and unequal across regions, and it is necessary that marine climate change considerations be further integrated within existing strategies and plans.

Proposed actions

8. Develop adequate carbon management schemes for marine and coastal ecosystems and include them in broader climate change discussions. Support efforts to assess and evaluate ocean's carbon storage potentials and integrate these into climate change mitigation policies.

9. Further integrate climate change-related aspects issues regarding marine and coastal biodiversity into relevant international, regional or national strategies, action plans and programmes such as National Biodiversity Strategies and Action Plans, existing EU strategies, regional agreements, national Red Books or Lists, etc. Ensure that conservation objectives reflect the challenges presented by climate change, and that where possible, those conservation actions are climate-proof²².

10. Encourage the use of Tematea, the thematic module developed jointly by IUCN/UNEP to increase synergies when implementing obligations under multilateral environmental agreements and conventions²³.

11. Integrate marine ecosystem-based approaches (EBA) into climate mitigation and adaptation strategies, in order to improve marine ecosystems' ability to mitigate the effects of climate change whilst reducing their vulnerability and increasing their diversity. Specifically implement marine ecosystem management activities to move away from management based on single species/habitat and include the entire ecosystems in relation to human activities

12. Develop adaptive conservation strategies based on sound ecological research and integrate them into national planning and management practices to limit unpredictable climate effects.

13. Take care that adaptation and mitigation measures do not undermine biodiversity conservation principles. Take an integrated, cross-sectoral approach to assess responses to climate change, as both climate change and associated adaptation strategies may have either positive or negative effects on biodiversity and may favour certain species or groups of species over others.

14. Internalise the socio-economic value of marine biodiversity and ecosystem services into climate change strategies, taking into consideration the negative effects of climate change on further reduction of ecosystem services and their loss value with respect to their initial state.

²² According to Klein et al. (2007), climate proofing is the modification of existing and future projects/actions so that they are resilient to impacts from climate change and/or do not contribute to increased vulnerability of the projects/actions goals.

Klein, R. J. T., Eriksen, S. E. H., Naess, L. O., Hammill, A., Tanner, T. M., Robledo, C., & O'Brien, K. L. (2007). Portfolio screening to support the mainstreaming of adaptation to climate change into development assistance. *Climatic Change*, 84, 23-44. doi:10.1007/s10584-007-9268-x

²³ <http://www.tematea.org>

15. Remove perverse incentives which undervalue ecosystems and their functions and contribute to their degradation into existing policies, and move toward achieving appropriate stewardship of ocean services and resources.

16. Develop adequate national financial support for marine biodiversity conservation and marine ecosystem-based approaches actions suggested in this Guidance; further explore access to regional and international funding sources including UN projects (e.g. WB, GEF, UNDP, UNEP...), EU programs and funds (e.g. LIFE, Cohesion and structural funds, FP7 etc.), or regional and specific bodies (e.g. development banks, international organizations etc.).

b) Actively conserve and restore marine biodiversity

Climatic changes on oceanic systems will affect the ecosystem services that they provide, such as fisheries, coastal protection, tourism, carbon sequestration and climate regulation. Effective actions can be undertaken to enhance the conservation, sustainable use and restoration of marine habitats that are vulnerable to the effects of climate change, and which contribute to climate change mitigation.

Proposed Actions

17. Note the urgency of addressing the impacts of climate change on European marine biodiversity, especially since most European seas restrict northward displacement of species. Attention should be given to most vulnerable regions (the Arctic Ocean, the Mediterranean Sea, the Baltic Sea, the North Sea, the Black Sea, the English Channel and overseas territories)²⁴.

18. Prioritise conservation actions for endangered or threatened marine species and habitats covered by the Bern Convention, and take measures to build up population numbers to enhance resilience in the face of climate change and other stressors.

19. Conserve the range and variability of species, habitats and ecosystems and their natural services as part of the design, implementation and management of restoration projects and sites.

20. Accelerate the preparation and implementation of species-specific conservation plans focusing on Bern Convention marine features that may be most vulnerable to climate change, such as species that are known to depend on climate-sensitive habitats, or which already face an elevated risk of local extinction. The following lists are not comprehensive, but focus on some species/groups already identified as potentially threatened according to existing knowledge²⁵:

²⁴ Michael B. Usher document [T-PVS (2005) 21]

²⁵ This section includes proposed actions and measures based on the work done so far under the Bern Convention, in particular in the reports: *Conserving European biodiversity in the context of climate change* by Michael B. Usher [doc. T-PVS (2005) 21]; *Climate change and the vulnerability of Bern Convention species and habitats*, by P. Berry [document T-PVS/Inf(2008)6 rev]; “*Climatic change and the conservation of European biodiversity: towards the development of adaptation strategies*” by Mr. Brian Huntley [doc. T-PVS/Inf(2007)03], and “*Impact of Climate Change on Marine and Coastal Biodiversity: current state of Knowledge*”, by UNEP-MAP-RAC/SPA; Cushing, D. H. *Population Production and Regulation in the Sea: a Fisheries Perspective* (Cambridge Univ. Press, Cambridge, 1995); IUCN Red List of Threatened Species; M.Ferrer, I.Newton and K.Bildstein “*Climatic change and the conservation of migratory birds in Europe: Identifying effects and conservation priorities*”; Learmonth JA, MacLeod CD, Santos MB, Pierce GJ, Crick HQP, Robinson RA. (2006): *Potential effects of climate change on marine mammals*. *Oceanography and Marine Biology: An Annual Review* 44: 431–464; C. M. Wood, D. G. McDonald, Eds. (1997): *Global Warming: Implications for Freshwater and Marine Fish*, Cambridge Univ. Press, Cambridge ; Perry, A.L., P.J. Low, J.R. Ellis and J.D. Reynolds (2005): *Climate change and distribution shifts in marine fishes*. *Science*, 308, 1912-1915; European Environment Agency (2010): *Impact of climate change on bird populations (SEBI 011)*; Hawkes, L.A., A.C. Broderick, M.H.

- Marine mammals: Climate change can affect marine mammals directly (e.g. through changes in species ranges or migratory patterns), or indirectly (e.g. through changes in prey availability) Polar species may be particularly vulnerable, due to their restricted ranges. Most affected species include: *Monachus monachus* (Mediterranean monk seal); *Phocoena phocoena* (Harbour porpoise); *Balaena mysticetus* (Bowhead whale); *Eubalaena glacialis* (North Atlantic right whale); *Odobenus rosmarus* (Walrus); *Monodon monoceros* (Narwhal); *Grampus griseus* (Risso's dolphin); *Lagenorhynchus acutus* (Atlantic White-sided dolphin); *Lagenorhynchus albirostris* (White-beaked dolphin); *Tursiops truncatus* (Common bottlenose dolphin); *Orcinus orca* (Orca);
- Fish: Many biological processes in fish are known to be sensitive to climate variation and change, including growth, survival, and reproduction. Particular attention should be paid to species with slower life histories (such as elasmobranchs), which are generally more vulnerable to overexploitation, and be less able to respond to climate change through distribution shifts. Particularly threatened species includes: *Aphanius iberus* (Iberian killifish); *Acipenser naccarii* (Adriatic Sturgeon); *Acipenser sturio* (European sea sturgeon); *Huso huso* (Beluga Sturgeon); *Pomatoschistus canestrinii* (Canestrini's goby); *Pomatoschistus tortonesei* (Tortonese's goby); *Hippocampus hippocampus* (Short-snouted seahorse); *Hippocampus ramulosus* (Long-snouted seahorse); *Carcharodon carcharias* (Great white shark); *Mobula mobular* (Devil fish).
- Seabirds or marine birds: Seabirds are vulnerable to climate change and other stressors, because of their slow life histories (i.e., late age of maturity, low fecundity, and high juvenile mortality), and their strong sensitivity to the availability of marine food. Climate change may impact the distribution, abundance, annual migrations, breeding and nesting behaviour, and may exacerbate other stress factors (e.g. introduction of invasive species, decline in prey). Northern species and migratory birds are likely to be more vulnerable, with the most affected families predicted to be Charadriidae; Laridae; Hydrobatidae; Procellariidae; Recurvirostridae; Pelecanidae; Scolopacidae; and Phalacrocoracidae.
- Reptiles: Sea turtles are highly sensitive to climate change, for two key reasons; their nesting areas are threatened by sea level rise, and their reproductive success is affected because temperature determines the sex of their offspring. All marine turtle's species are at risk: *Dermochelys coriacea* (Leatherback turtle); *Lepidochelys kempii* (Kemp's Ridley Sea turtle); *Chelonia mydas* (Green turtle); *Caretta caretta* (Loggerhead turtle) and *Eretmochelys imbricata* (Hawksbill turtle).
- Invertebrates: Marine invertebrates may be affected through multiple climate change pathways, including warming, sea level rise (particularly in intertidal zones), and acidification (for calcifying organisms). Particular attention should be paid to calcifying/shell-building organisms in relation to ocean acidification. Most threatened species include: *Ocypode cursor* (Ghost crab) ; species of sea snails including *Tonna galea* (Med.) or *Zonaria pyrum* (Pear Cowry); *Ophidiaster ophidianus* (Starfish) ; *Centrostephanus longispinus* (Med.) (Sea urchin); and species of deep-sea corals and sponges including *Gerardia savaglia* Med. (Black coral); *Astroides calycularis* (Med.); *Aplysina cavernicola* (Yellow cave sponge); *Asbestopluma hypogea* (Med.); *Petrobiona massiliana* (Med.)
- Marine plants: Seagrass meadows suffer from multiple impacts such as climate induced change in water chemistry, but also through invasive species which are likely to accelerate further their degradation. Endemic to the Mediterranean Sea, several seagrass species rank amongst the slowest growing plant in biosphere, requiring long life span for recovery and making them specifically vulnerable. Many of these species are normally used as biological indicator for healthy ecosystems. Species at risks include: *Posidonia Oceanica*; *Cymodocea nodosa* (Ucria) Ascherson; *Zostera marina* L; *Cystoseira* and *Laminaria* species; but also coralligenous red algae such as *Goniolithon byssoides*; *Lithophyllum lichenoides*; *Ptilophora mediterranea*; *Schimmelmanna schousboei*.

21. Take conservation measures to protect and restore habitats expected to be most affected by climate change, including in overseas territories, such as lowland coastal areas, beaches, seagrasses, kelp forests, mangroves, reefs etc. Focus efforts on species not covered by the Bern Convention but protected under other national or international agreements, including taxa identified in Annex A such as: *Alopias vulpinus* (Common Thresher Shark); *Anguilla Anguilla* (European eel); *Centrophorus granulosus* (Gulper Shark); *Dipturus batis* (Common Skate); *Gadus morhua* (Atlantic cod); *Galeorhinus galeus* (Whithound); *Pinna nobilis* (Pen shell); *Raja clavata* (Thornback Skate); *Raja montagui* (Spotted Ray); *Squalus acanthias* (Spurdog); *Thunnus thynnus* (Bluefin tuna); *Xiphias gladius* (Swordfish).

22. Consider the role of *ex-situ* conservation actions for European marine biodiversity as complementary to *in situ* conservation methods, and where no other options exist:

- Carefully assess the risks of *ex situ* conservation measures under climate impacts, such as seeding, transplanting, relocating, assisting migration/colonization and captive breeding in the target area.
- Focus on species/ecosystems threatened in their current location and situations where local conditions become untenable for them as they are unlikely to be able to reach other suitable location by natural dispersal.
- Assess the coverage and quality of existing seed banks, genes banks and aquarium collections so as to fit conservation purposes, ensuring sufficient genetic diversity within available collections.
- Take urgent action to collect and store seeds of the majority of marine species listed under the Bern Convention that are not at present covered by such collections.
- Improve captive breeding and artificial propagation programs and develop recovery plans for threatened marine species under the Bern Convention, with an ultimate objective of successful reintroduction into the wild.
- Consider the central role of zoos, aquaria, natural history museums and botanic gardens for research, education and public awareness.

23. Develop adaptive strategies and management to increase flexibility in conservation programs and enable direct learning from experiences and research. Communicate the successes and strengthen information sharing on a regional basis.

c) **Develop and manage effective networks of Marine Protected Areas**

Marine Protected Areas (MPAs) have long been one of the cornerstones of marine conservation policy, and are a key component of adaptation strategies to climate change. As MPAs directly enhance ecosystem diversity and resilience, they are effective tools for reducing anthropogenic stress on the marine environment; for protecting, maintaining and restoring key ecosystem functions; for helping to create climate refuges for many organisms²⁶. It is therefore necessary to include MPAs as an important tool within broader climate change adaptation strategies, and conversely, to factor climate change impacts and responses into MPA planning and management.

Ecological coherence of networks of MPAs, particularly connectivity between sites, will help species to cope with climate change impacts and facilitate their movement between conservation areas, as species dispersal is likely to be the most important mechanism of species adaptation to climate change. The provision of 'stepping stone' habitats and assisting species shifts in distribution are expected to be crucial for the adaptation and long-term survival of marine communities.

²⁶ Micheli F, Saenz-Arroyo A, Greenley A, Vazquez L, Espinoza Montes JA, et al. (2012): *Evidence That Marine Reserves Enhance Resilience to Climatic Impacts*. PLoS ONE 7(7): e40832

Evidence further suggests that well-designed and well-managed networks of MPAs not only support marine biodiversity but also benefit coastal communities and economic activities (e.g. fishing²⁷, tourism). MPAs can play an important role in broader strategies for sustainability, particularly to engage with local users and communities in marine conservation. As the extent of biodiversity recovery increases with the age and size of MPAs, and because benefits build over time and increase the longer the MPAs remains functional, urgent efforts to establish networks of MPAs are required.

Proposed Actions:

24. Accelerate marine protected areas designations and management to comply with regional and international commitments, with the aim of establishing ecologically coherent, representative and well-managed networks of MPAs, pursuant at minimum to the 10% coverage target established by the CBD.

25. Pay special attention to the climate mitigation potentials of MPA, as maintaining and restoring marine natural carbon sinks will increase the CO₂ uptake by marine ecosystems. Focus research activities on the quantification of these carbon deposition rates within MPAs, as a way to integrate them into larger carbon management schemes.

26. Conserve existing populations of species within existing high biodiversity areas and MPAs networks, at national, regional and international level across Europe, including under Emerald, Natura 2000, Specially Protected Areas of Mediterranean Importance (SPAMI), Baltic Sea Protected Areas (BSPA), the Black Sea Commission or OSPAR Marine Protected Areas.

27. Respect commonly agreed criteria - replicability, representativity, connectivity, adequacy, viability - in the designation process of marine protected areas in order to insure ecological coherence of the network. An effective MPA network may help to ensure resilience and sustained ecological functioning of ecosystems under pressure, by spreading the risk of both damaging events and long term environmental change.

28. Acknowledge that urgent action is needed as evidence suggests that the extent of marine ecosystem recovery increases with the age and size of the protected zone and benefits of MPAs build over time.

29. Review the state of national and European MPAs planning to identify gaps in habitats, species and biogeographical coverage; formulate corrective actions to address those insufficiencies both at designation and management level.

30. Note the slow progress in establishing MPAs in areas beyond national jurisdictions, especially in the Mediterranean Sea's high-seas, and take appropriate actions to promote international cooperation in that regard

31. Prioritise the retention of remaining fragments of unaltered or semi-natural marine habitats as interlinks between protected areas.

32. Give special attention to endangered and vulnerable migratory species pursuant to Chapter IV of the Convention; rigorously account for changes in their migratory routes due to climate change in MPA networks developments.

33. Pay special attention to maintaining or restoring large-scale connectivity between MPAs and networks, to increase permeability, aid population and gene flow. Take restoration measures outside of MPAs, such as enhancing functional ecological habitats 'stepping stones', to increase the chances that species can adjust successfully their distributions in response to climate change.

34. Encourage the creation of sufficiently large no-take zones within MPAs, where exploitation is strictly prohibited and human activities are severely limited in order to protect the most critical ecosystems; and consider defining buffer zones around, to provide protection from activities with far-reaching effects

²⁷ Harrison et al (2012): *Larval Export from Marine Reserves and the Recruitment Benefit for Fish and Fisheries*, Current Biology, doi:10.1016

35. Involve stakeholders and relevant organizations, including Regional Fisheries Management Organizations, non-governmental organizations and local communities, in designation, management and enforcement processes for MPAs, to ensure understanding, cooperation and ownership. Build management and conservation capacity within all appropriate management levels of MPAs networks.
36. Develop and implement robust management plans for MPAs, with strict enforcement mechanisms, which fully integrate climate change concerns and achieve protection of existing habitats, restoration of degraded habitats and sustainable management of activities likely to impact marine protected areas.
37. Take a long-term view in MPAs management plans, and include actions for climate change adaptation (for periods up to 20 to 50 years, depending on the speed with which ecosystem changes are expected). Develop adaptive management strategies and flexible conservation measures and prevent the maintenance of ill-adapted habitats (e.g. mobile boundaries, temporal or seasonal protection, etc.). Consider the varying nature and extent of stressors over time, in response to climate and other drivers of change.
38. Develop special financial mechanisms to sustain marine biodiversity conservation efforts, through specific funding directed to MPA management and research, to ensure availability of appropriate means.
39. Ensure existing MPAs are adequately monitored and assessed so that they are in a state as healthy as possible before climatic and other change intensifies. Make sure monitoring covers climate change impacts on protected sites, at both site and network levels.
40. Increase awareness of the benefits that marine biodiversity provides to society and its role in adaptation strategies across all sectors. Communicate best management measures, successful adaptation strategies, and engage the wider public.

d) Minimise threats and pressure to marine biodiversity

Facilitating climate change adaptation also involves reducing “conventional” pressures on biodiversity such as intensification of land-use, fragmentation of habitats, overexploitation, invasive alien species and pollution. The impacts of human activities on marine biodiversity are multiple and require an integrated approach aiming to reduce and mitigate their negative impacts and restore the health and functions of marine ecosystems.

Reducing direct pressure from anthropogenic sources is urgently needed to stop the degradation and loss of ecologically important marine habitats, in particular on sensitive habitats such as hatchery and nursery areas, sanctuaries, areas with endemic and autochthonous species. Exploitation particularly may further exacerbate the effects of oceanic warming on fish population often by disproportionately threatening larger marine species²⁸.

Changes in sectoral policies can significantly reduce environmental externalities as in the case of harmful subsidies. Systematic application of robust environmental impact assessments and spatial planning tools within national strategies may also help improving marine and coastal planning, thus reducing the overall pressure from human activities on marine biodiversity.

Proposed actions:

41. Minimise all threats from human activities directly interacting with climate change to impact marine biodiversity and reduce its adaptive capacity, including extractive activities and in particular fisheries and aquaculture, dredging and mining, tourism and urbanisation, infrastructure and energy developments, maritime transport, military activities, agriculture and land based pollutions.
42. Incorporate fisheries management measures into other climate change mitigation and adaptation strategies (e.g. mathematical fisheries models with chemistry and temperature-driven climate change and

²⁸ Planque, B. & Frédou, T. 1999. *Temperature and the recruitment of Atlantic cod (Gadus morhua)*. Can. J. Fish. Aquat. Sci. 56, 2069-2077.

acidification figures, based on species specific observational studies, to help determine appropriate harvest levels for many fisheries).

43. End all form of public subsidies and tax exemptions that have detrimental environmental impacts on oceans, in particular for the fishing sector (e.g. investment in vessels and fuel aid) in order to counter overexploitation of fisheries resources, destruction of marine ecosystems, and greenhouse gas emissions from the industry. Redirect aid to support transition towards truly sustainable marine and coastal activities which will result in long-term beneficial economic and social outcomes.44. Promote and invest in environmentally sounds marine renewable energy projects, as credible and viable solutions to decarbonize energy policies in the long-term.

44. Recognise the interconnections between human activities, ecosystem health, and ecosystem services. Design and implement integrated ecosystem-based approaches to the management of human activities which impact the wider marine environment, in order to reduce the overall anthropogenic pressures on biodiversity.

45. Ensure thorough and systematic environmental impact assessments (EIAs) and strategic environmental assessments (SEAs) to further minimise specific and cumulative impacts of projects and activities on coastal and marine biodiversity. Pay special attention to ocean noise and underwater disturbances.

46. Develop and encourage the use of specific marine spatial planning strategies to guide human activities development in a sustainable manner and take into account ecological principles.

47. Cooperate at regional level to improve and enhance coordination (e.g. common approaches, harmonized procedures, actions or trainings) in particular with regards to the transboundary aspects of many of the marine climate impacts.

e) Prevent and control the introduction of invasive alien marine species

Proposed actions:

48. Fully implement Recommendation No. 91 (2002) the European Strategy on Invasive Species endorsed in Recommendation No. 99 (2003) which requests Contracting Parties to draw up and implement national strategies on invasive alien species.

49. Prevent the introduction and establishment of human-induced marine invasive species, through understanding vectors and pathways, risk assessment, early warning systems and control strategies. Improve detection, eradication and control mechanism, with a particular focus on sensitive marine ecosystems such as the Arctic, the Macaronesian or the Eastern Mediterranean basins because of their high rates of endemism.

50. Improve information on the biology of invasive species, how their populations respond to climate change, and how native marine ecosystems are likely to react to invasions under climate change impacts.

51. Monitor the effects of natural invasions of species in European waters and consider the need for measures to conserve and protect threatened species and habitats that may enter European waters as a result of climate-driven shifts in distribution. Identify and implement appropriate management measures to reduce risks associated with these shifts in distribution and ranges.

52. Work in key maritime sectors (e.g. fishing, aquaculture, shipping, tourism, trade) to raise awareness of invasive alien species threats, develop effective management approaches and share best practices.

Annex A. – Species/Habitats protected under other international agreements and not in listed under the Bern Convention

| SPECIES | Barcelona Convention | Habitats Directive | OSPAR | HELCOM (2005) |
|---------------------------------|----------------------|--------------------|---------|---------------------------|
| <i>Abramis ballerus</i> | | | | Vulnerable, VU |
| <i>Acipenseridae</i> | | Annex V | | |
| <i>Alopias vulpinus</i> | Annex III | | | Critically Endangered, CR |
| <i>Alosa spp</i> | | Annex II and V | | |
| <i>Amblyraja radiata</i> | | | | Endangered, EN |
| <i>Ammodytes marinus</i> | | | | Data Deficient, DD |
| <i>Ammodytes tobianus</i> | | | | Vulnerable, VU |
| <i>Anarhichas lupus</i> | | | | Endangered, EN |
| <i>Anguilla anguilla</i> | Annex III | | All | Critically Endangered, CR |
| <i>Aplysina sp plur</i> | Annex II | | | |
| <i>Arctica islandica</i> | | | II | |
| <i>Aspius aspius</i> | | | | Vulnerable, VU |
| <i>Axinella cannabina</i> | Annex II | | | |
| <i>Balaena mysticetus</i> | | | All | |
| <i>Barbus Barbus</i> | | | | Endangered, EN |
| <i>Boops boops</i> | | | | Endangered, EN |
| <i>Carcharhinus plumbeus</i> | Annex III | | | |
| <i>Carcharias taurus</i> | Annex II | | | |
| <i>Centrophorus granulosus</i> | Annex III | | All | |
| <i>Centrophorus squamosus</i> | | | All | |
| <i>Centroscymnus coelolepis</i> | | | All | |
| <i>Cerastobyssum hauniense</i> | | | | Threatened/declining |
| <i>Chimaera monstrosa</i> | | | | Vulnerable, VU |
| <i>Clupea harengus, subsp.</i> | | | | Endangered, EN |
| <i>Cobitis taenia</i> | | | | Vulnerable, VU |
| <i>Cottus gobio</i> | | | | Vulnerable, VU |
| <i>Cottus poecilopus</i> | | | | Vulnerable, VU |
| <i>Cyclopterus lumpus</i> | | | | Vulnerable, VU |
| <i>Cystoseira abies-marina</i> | Annex II | | | |
| <i>Cystoseira mauritanica</i> | Annex II | | | |
| <i>Cystoseira spp</i> | Annex II | | | |
| <i>Dasyatis pastinaca</i> | | | | Threatened migrant, TM |
| <i>Dicentrarchus labrax</i> | | | | Threatened migrant, TM |
| <i>Dipturus batis</i> | Annex II | | All | Critically Endangered, CR |
| <i>Entelurus aequoreus</i> | | | | Vulnerable, VU |
| <i>Etmopterus spinax</i> | | | | Vulnerable, VU |
| <i>Etmopterus spinax</i> | | | | Vulnerable, VU |
| <i>Fucus virsoides</i> | Annex II | | | |
| <i>Gadus morhua</i> | | | II, III | Endangered, EN |
| <i>Galeorhinus galeus</i> | Annex III | | | Endangered, EN |
| <i>Galeus melanostomus</i> | | | | Endangered, EN |
| <i>Geodia cydonium</i> | Annex II | | | |
| <i>Gibbula nivosa</i> | | Annex II, IV | | |
| <i>Gobio gobio</i> | | | | Near Threatened, NT |
| <i>Gymnogongrus crenulatus</i> | Annex II | | | |

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|--------------------------------------|-----------|----------|-------------|---------------------------|
| <i>Gymnura altavela</i> | Annex II | | | |
| <i>Heptranchias perlo</i> | Annex III | | | |
| <i>Hexanchus griseus</i> | | | | Critically Endangered, CR |
| <i>Hippocampus guttulatus</i> | | | All | |
| <i>Hippocampus hippocampus</i> | | | All | |
| <i>Hippoglossus hippoglossus</i> | | | | Endangered, EN |
| <i>Hoplostethus atlanticus</i> | | | All | |
| <i>Hornera lichenoides</i> | Annex II | | | |
| <i>Kallymenia spathulata</i> | Annex II | | | |
| <i>Labrus bergylta</i> | | | | Endangered, EN |
| <i>Labrus mixtus</i> | | | | Endangered, EN |
| <i>Lagenodelphis hosei</i> | | Annex IV | | |
| <i>Leiopathes glaberrima</i> | Annex III | | | |
| <i>Leucoraja circularis</i> | Annex III | | | |
| <i>Leucoraja fullonica</i> | | | | Threatened migrant, TM |
| <i>Leucoraja melitensis</i> | Annex III | | | |
| <i>Liparis liparis</i> | | | | Endangered, EN |
| <i>Liparis montagui</i> | | | | Endangered, EN |
| <i>Lophius budegassa</i> | | | | Vulnerable, VU |
| <i>Lumpenus lampretaeformis</i> | | | | Critically Endangered, CR |
| <i>Macroplea sp.</i> | | | | Threatened/declining |
| <i>Megabalanus azoricus</i> | | | All | |
| <i>Melanogrammus aeglefinus</i> | | | | Vulnerable, VU |
| <i>Mesoplodon europeus</i> | | Annex IV | | |
| <i>Monoporeia affinis</i> | | | | Threatened/declining |
| <i>Mustelus asterias</i> | Annex III | | | |
| <i>Mustelus mustelus</i> | Annex III | | | |
| <i>Mustelus punctulatus</i> | Annex III | | | |
| <i>Mya truncata</i> | | | | Threatened/declining |
| <i>Myoxocephalus scorpius</i> | | | | Vulnerable, VU |
| <i>Nerophis lumbriciformis</i> | | | | Vulnerable, VU |
| <i>Nerophis ophidion</i> | | | | Vulnerable, VU |
| <i>Nucella lapillus</i> | | | II, III, IV | |
| <i>Odontaspis ferox</i> | Annex II | | | |
| <i>Osmerus eperlanomarinus</i> | | | | Vulnerable, VU |
| <i>Oxynotus centrina</i> | Annex II | | | |
| <i>Patella ulyssiponensis aspera</i> | | | All | |
| <i>Pelectus cultratus</i> | | | | Vulnerable, VU |
| <i>Phoxinus phoxinus</i> | | | | Vulnerable, VU |
| <i>Pinna nobilis</i> | Annex II | Annex IV | | |
| <i>Pollachius pollachius</i> | | | | Endangered, EN |
| <i>Pomatoschistus pictus</i> | | | | Vulnerable, VU |
| <i>Pontoporeia femorata</i> | | | | Threatened/declining |
| <i>Prionace glauca</i> | | | | Threatened migrant, TM |
| <i>Pristis pectinata</i> | Annex II | | | |
| <i>Pristis pristis</i> | Annex II | | | |
| <i>Raja clavata</i> | | | II | Endangered, EN |
| <i>Raja montagui</i> | | | All | Endangered, EN |
| <i>Rhinobatos cemiculus</i> | Annex III | | | |

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|--------------------------------------|-----------|--------------|-----|---------------------------|
| <i>Rhinobatos rhinobatos</i> | Annex III | | | |
| <i>Rostroraja alba</i> | | | All | |
| <i>Saduria entomon</i> | | | | Threatened/declining |
| <i>Salmo trutta</i> | | | | Vulnerable, VU |
| <i>Sarcotragus foetidus</i> | Annex II | | | |
| <i>Sarcotragus pipetta</i> | Annex II | | | |
| <i>Sargassum acinarium</i> | Annex II | | | |
| <i>Sargassum flavifolium</i> | Annex II | | | |
| <i>Sargassum hornschurchii</i> | Annex II | | | |
| <i>Sargassum trichocarpum</i> | Annex II | | | |
| <i>Scomber scombrus</i> | | | | Vulnerable, VU |
| <i>Scyliorhinus canicula</i> | | | | Endangered, EN |
| <i>Sebastes marinus</i> | | | | Endangered, EN |
| <i>Sebastes viviparus</i> | | | | Endangered, EN |
| <i>Somniosus microcephalus</i> | | | | Vulnerable, VU |
| <i>Sphaerococcus rhizophylloides</i> | Annex II | | | |
| <i>Sphyrna lewini</i> | Annex III | | | |
| <i>Sphyrna mokarran</i> | Annex III | | | |
| <i>Sphyrna zygaena</i> | Annex III | | | |
| <i>Spinachia spinachia</i> | | | | Vulnerable, VU |
| <i>Squalus acanthias</i> | Annex III | | All | Endangered, EN |
| <i>Squatina aculeata</i> | Annex II | | | |
| <i>Squatina oculata</i> | Annex II | | | |
| <i>Symphodus melops</i> | | | | Vulnerable, VU |
| <i>Syngnathus acus</i> | | | | Endangered, EN |
| <i>Syngnathus typhle</i> | | | | Vulnerable, VU |
| <i>Taurulus bubalis</i> | | | | Vulnerable, VU |
| <i>Tethya sp plur</i> | Annex II | | | |
| <i>Thunnus thynnus</i> | Annex III | | All | Critically Endangered, CR |
| <i>Titanoderma ramosissimum</i> | Annex II | | | |
| <i>Titanoderma trochanter</i> | Annex II | | | |
| <i>Torpedo marmorata</i> | | | | Threatened migrant, TM |
| <i>Trachinus draco</i> | | | | Vulnerable, VU |
| <i>Trigloporus quadricornis</i> | | | | Vulnerable, VU |
| <i>Tursiops truncatus</i> | | Annex II, IV | | |
| <i>Vimba vimba</i> | | | | Vulnerable, VU |
| <i>Xiphias gladius</i> | Annex III | | | Threatened migrant, TM |
| <i>Zeus faber</i> | | | | Endangered, EN |
| | | | | |

| HABITATS / FLORA | Barcelona Convention | Habitats Directive | OSPAR | HELCOM (2005) |
|--|----------------------|--------------------|---------|-----------------------------|
| <i>Alisma wahlenbergii</i> | | | | Threatened/declining |
| Baltic esker islands with sandy, rocky and shingle beach vegetation and sublittoral vegetation | | | | C, D, E, F, K |
| Boreal Baltic narrow inlets (Fjords) | | | | D-F, H, I, K |
| Carbonate mounds | | | V | |
| <i>Chara sp</i> | | | | Threatened/declining |
| Coastal lagoons | | Annex I | | All |
| Coral Gardens | | | All | |
| <i>Cymodocea</i> meadows | | | All | |
| Deep-sea sponge aggregations | | | All | |
| Estuaries | | Annex I | | G,J,K,M,N |
| <i>Fucus sp.</i> | | | | Threatened/declining |
| <i>Furcellaria lumbricalis</i> | | | | Threatened/declining |
| Gravel bottoms with <i>Ophelia</i> species | | | | All |
| <i>Hippuris tetraphylla</i> | | | | Threatened/declining |
| Intertidal mudflats | | | All | |
| Intertidal <i>Mytilus edulis</i> beds on mixed and sandy sediments | | | All | |
| <i>Lamprothamnium papulosum</i> | | | | Threatened/declining |
| Large shallow inlets and bays | | Annex I | | J,K,L,M,N |
| Littoral chalk communities | | | All | |
| <i>Lophelia pertusa</i> reefs | | | All | |
| Macrophyte meadows and beds | | Annex I | | All |
| Maerl beds | | | III | R |
| <i>Modiolus modiolus</i> beds | | | All | |
| Mudflats and sandflats not covered by seawater at low tide | | Annex I | | A,B,C,D,H,I,J,K,L,M,N,P,Q,R |
| Oceanic ridges with hydrothermal vents/fields | | | V | |
| Offshore (deep) waters below the halocline | | | | All |
| <i>Ostrea edulis</i> beds | | | All | |
| Reefs | | Annex I | | M,N,R |
| <i>Sabellaria spinulosa</i> reefs | | | II, III | |
| Sandbanks | | Annex I | | K,L,M,N |
| Seamounts | | | All | |
| Sea-pen and burrowing megafauna communities | | | II, III | R |
| Shell gravel bottoms | | | | All |
| Submarine structures made by leaking gases | | Annex I | | R |
| Submerged or partially submerged sea caves | | Annex I | | |
| <i>Zostera marina</i> | | | All | Threatened, /declining |
| <i>Zostera noltii</i> | Annex II | | All | Threatened, /declining |