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COLLOQUY ON MARINE AND COASTAL ECOLOGICAL CORRIDORS

COLLOQUE SUR LES CORRIDORS ÉCOLOGIQUES MARINS ET CÔTIERS

proceedings / actes

Llandudno (Wales,) 20-21 June 2002
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Council of Europe Publishing
Editions du Conseil de l'Europe

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Environmental encounters, No. 55
Rencontres environnement, n° 55

Council of Europe Publishing

Colloquy organised by the Council of Europe in co-operation with the Countryside Council for Wales.
Colloque organisé par le Conseil de l'Europe en coopération avec le *Countryside Council for Wales*.

Council of Europe Publishing
F-67075 Strasbourg Cedex

ISBN 92-871-5194-6

Printed at the Council of Europe

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Acronyms

ACCOBAMS	Agreement on the Conservation of Cetaceans of the Black and Mediterranean Seas (CMS)
ACSCOBANS	Agreement on the Conservation of Small Cetaceans in the Baltic and North Seas (CMS)
BSPA	Baltic Sea Protected Area (HELCOM)
CBD	Convention on Biological Diversity
CFP	Common Fisheries Policy
CMS	Convention on Migratory Species (Bonn Convention)
ECMEN	European Coastal and Marine Ecological Network
EEZ	Exclusive Economic Zone
HELCOM	Helsinki Commission (the governing body of the Helsinki Convention on the Protection of the Marine Environment of the Baltic Sea Area)
IMO	International Maritime Organisation
NAMMCO	North Atlantic Marine Mammal Commission
OSPAR	Oslo and Paris Convention
PEBLDS	Pan-European Biological and Landscape Diversity Strategy
PEEN	Pan-European Ecological Network
PSSA	Particularly Sensitive Sea Area (IMO)
SBSTA	Subsidiary Body for Scientific and Technical Advice (CBD)
SPAMI	Specially Protected Areas of Mediterranean Importance
STRA-CO	Council for the Pan-European Biological and Landscape Diversity Strategy
STRA-REP	Committee of Experts for the Pan-European Biological and Landscape Diversity Strategy
UNCLOS	United Nations Convention on the Law of the Sea 1982
UNEP	United Nations Environment Programme

I. Introduction

The project's origin

Co-operation with other institutions, initiatives or with international instruments is included in the priorities which have been fixed for the Pan-European Ecological Network (PEEN). Their representatives are invited as observer to the meetings of the Committee of Experts for the Development of the Pan-European Ecological Network (STRA-REP).

This co-operation appears to be particularly important in the case of marine and coastal areas because of the multiplying of initiatives. In particular, it would help:

- to contribute to the coherence and interactivity of work;
- to support conservation and restoration activities;
- to identify sectors in which specific intergovernmental co-operation activities are necessary and should be carried out within the framework of the STRA-REP;
- to contribute to the constitution of marine and coastal ecological networks within the framework the Pan-European Ecological Network.

At its 5th meeting held in Istanbul on 4-5 October 2001, the Committee of experts for the development of the Pan-European Ecological Network expressed the wish that a specific meeting be devoted to the theme of coastal and marine corridors as well as to the co-ordination of authorities in charge of terrestrial and marine authorities. The complexity of this theme led the Secretariat to deal with these two aspects separately, the problematic of coastal and marine areas having to be approached in more detail before tackling the question of co-operation between the authorities responsible for the management of terrestrial areas and those responsible for marine areas.

Origine du projet

La coopération avec d'autres institutions, initiatives ou instruments internationaux est inscrite dans les priorités qui ont été fixés au Réseau écologique paneuropéen (REP). Ils sont à ce titre invités comme observateurs aux réunions du Comité d'experts pour la constitution du Réseau écologique paneuropéen.

La coopération semble particulièrement importante dans le cas des espaces marins et côtiers en raison de la multiplicité des initiatives existantes dans ce domaine. Elle permettrait notamment :

- de contribuer à la cohérence et à l'interactivité des travaux ;
- de soutenir les actions de conservation et de restauration ;
- d'identifier les secteurs où des actions de coopération intergouvernementale spécifiques sont nécessaires et devraient être menées dans le cadre du STRA-REP ;
- de contribuer à l'établissement de réseaux écologiques marins et côtiers dans le cadre du Réseau écologique paneuropéen.

Lors de sa 5e réunion tenue à Istanbul les 4 et 5 octobre 2001, le Comité d'experts pour la constitution du Réseau écologique paneuropéen a souhaité qu'une rencontre spécifique soit consacrée au thème des corridors côtiers et marins ainsi qu'à la coordination des autorités en charge des autorités terrestres et marines. La complexité de ce thème a incité le Secrétariat à envisager de traiter ces deux aspects distinctement, la problématique des espaces côtiers et marins devant être cernée avec plus de précision avant d'aborder la question de la coopération des autorités responsables respectivement de la gestion des espaces terrestres et celles responsables des espaces marins.

Aim of the Colloquy

The Colloquy has a double objective:

- introduce into the work of institutions, international initiatives, conventions, etc. the concern of the Committee of Experts for the development of the Pan-European Ecological Network regarding the conservation of marine and coastal biodiversity and the preservation or restoration of ecological corridors in these milieux;
- identify, in co-operation with the other institutions, initiatives and conventions, the specific activities which could usefully be implemented within the framework of the Committee of Experts, with a view to the constitution or conservation of ecological networks in marine and coastal habitats.

The Llandudno Colloquy could become the first phase of specific activities on protection of the biological and landscape diversity of coastal and marine areas within the framework of the Pan-European Ecological Network, with particular attention being paid to the creation, preservation or restoration of coastal and marine corridors.

These activities should be based on work previously carried out within the framework of the Committee of Experts, especially the studies already published, and which has led to lengthy examination of the different aspects linked to the PEEN's establishment and to the definition of criteria for the designation of sites which must be part of the Network.

But du colloque

Le but du colloque est double :

- introduire auprès des autres institutions, initiatives internationales, conventions, etc. la préoccupation du Comité d'Experts pour le Développement du Réseau Ecologique Paneuropéen concernant la conservation de la biodiversité marine et côtière et le maintien ou la restauration de corridors écologiques dans ces milieux ;
- identifier, en coopération avec les autres institutions et initiatives, les activités spécifiques qui pourraient utilement être mises en œuvre dans le cadre du Comité d'experts, en vue de la constitution ou de la conservation de réseaux écologiques en milieu marin et côtier.

Le Colloque de Llandudno pourrait constituer la première phase d'une série de travaux spécifiques concernant la protection de la diversité biologique et paysagère des espaces côtiers et marins dans le cadre du Réseau écologique paneuropéen, avec une attention particulière pour la création, la préservation ou la restauration de corridors côtiers et marins.

Ces travaux devraient se baser sur les travaux préalables réalisés dans le cadre du Comité d'experts, notamment les études déjà publiées et qui ont procédé à un large examen de différents aspects liés à la constitution du REP et à la définition des critères pour la désignation des sites qui devront faire partie du Réseau.

II. Llandudno Declaration /

Déclaration de Llandudno

The participants in the Colloquy on "Marine and coastal ecological corridors", organised by the Council of Europe in co-operation with the Countryside Council for Wales, in Llandudno, United Kingdom on 20 and 21 June 2002:

- **expressing** their gratitude to the Countryside Council for Wales for their invitation and their hospitality and to the United Kingdom authorities for their support in the organisation of the Colloquy;

- **acknowledging** the initiative of the Council of Europe in organising the Colloquy within the framework of the Pan-European Biological and Landscape Diversity Strategy (PEBLDS), and welcoming it as a valuable opportunity for co-operation among the various institutions, initiatives and conventions active in the field of conservation of marine and coastal biodiversity in the participating member States;

- **highlighting** the importance of the principles set forth in PEBLDS, endorsed by the Conference of Ministers "Environment for Europe" in Sofia in 1995, whose aim is to apply at pan-European level the principles enshrined in the Convention on Biological Diversity (CBD) and to adopt a pan-European approach to the conservation and sustainable use of our continent's natural resources;

- **recalling** that, in the field of marine and coastal ecosystems, the Pan-European Strategy focuses on developing and implementing the European Coastal and Marine Ecological Network (ECMEN) as a fundamental element of the Pan-European Ecological Network which represents one of the prime objectives of the Pan-European Strategy;

Agreed that:

- the protection of marine and coastal biodiversity, through an ecosystems/habitats approach under Natura 2000 and the Emerald Network should be encouraged through the identification and safeguarding of areas of high biodiversity value and the creation of marine and coastal protected areas with additional measures to protect important species.

- there is no comprehensive and consistent policy and legal approach towards ecological corridors in Europe, with no specific legislation for protecting coastal and marine ecological corridors and with implementation of an ecological corridors approach hampered in many cases by incomplete and overlapping policies, legal instruments and jurisdictions;

Les participants au Colloque sur "Les couloirs écologiques marins et côtiers", organisé par le Conseil de l'Europe en collaboration avec le *Countryside Council for Wales*, à Llandudno, Royaume-Uni, les 20 et 21 juin 2002 :

- **remerciant** le *Countryside Council for Wales* pour son invitation et son hospitalité, et les autorités du Royaume-Uni pour leur soutien dans l'organisation de ce Colloque ;

- **saluant** l'initiative prise par le Conseil de l'Europe pour l'organisation de ce Colloque dans le cadre de la Stratégie paneuropéenne de la diversité biologique et paysagère (Stratégie), et la reconnaissant comme une précieuse occasion de faire coopérer différentes institutions, initiatives et conventions actives dans le domaine de la conservation de la diversité biologique marine et côtière dans les Etats membres participants ;

- **soulignant** l'importance des principes énoncés dans la Stratégie adoptée par la Conférence ministérielle "Un environnement pour l'Europe" à Sofia en 1995, dont l'objectif est d'appliquer à l'échelle du continent les principes de la Convention sur la diversité biologique (CDB) et d'adopter une approche paneuropéenne dans la sauvegarde et l'utilisation durable des ressources naturelles de notre continent ;

- **rappelant** que, dans le domaine des écosystèmes marins et côtiers, la Stratégie paneuropéenne concentre ses efforts sur le développement et la mise en oeuvre du Réseau écologique européen des zones marines et côtières (ECMEN), un élément fondamental du Réseau écologique paneuropéen qui constitue un des objectifs premiers de la Stratégie paneuropéenne ;

Conviennent que :

- la protection de la diversité biologique marine et côtière par le biais de celle des écosystèmes/habitats au titre des réseaux Natura 2000 et Emeraude devrait être encouragée par l'identification et la sauvegarde de zones d'une grande valeur du point de vue de la diversité biologique, et par la création de zones protégées marines et côtières accompagnées de mesures complémentaires de protection des espèces importantes ;

- il n'existe aucune approche juridique globale et cohérente pour les couloirs écologiques en Europe, ni de législation spécifique de protection des couloirs écologiques côtiers et marins, ou prévoyant la réalisation de tels couloirs écologiques, et la mise en place de ces derniers se heurte souvent à des politiques, des instruments juridiques et des compétences incomplètes ou redondantes ;

- the Pan-European Ecological Network (PEEN) is in different stages of development in different European countries and where marine areas in particular, are being neglected;

- few countries have specific policies or legislation on ecological networks within their national frameworks for biodiversity conservation;

- the number and area of marine protected areas is small in comparison with those on land and is mostly restricted to coastal and territorial waters ;

- not all countries have joined and ratified all relevant international conventions;

- harmonisation and co-ordination between different multi-national or regional conventions and cooperative frameworks is not strong enough to give an effective pan-European coastal and marine strategy;

effective recognition and implementation of ecological corridors is hampered by the lack of information on the behaviour, habitat requirements and conservation status of migrating and widely dispersed animals and their movement and/or dispersal patterns, especially in marine environments, while long-term studies are missing and biodiversity monitoring and updating of Red Data Books could be improved.

And therefore declared that:

- international integrated co-operation is particularly crucial in marine areas, although many valuable initiatives exist in regional seas (North Sea, Baltic Sea, Black Sea, Mediterranean, Northeast Atlantic) and that for some estuaries and river catchment areas, transboundary and multi-sectoral approaches exist;

- there is a particular need for support for marine protected area and ecological corridor initiatives in the Mediterranean and the Black Seas;

- at the pan-European level, the concept of the PEEN is suitable to be adapted and further developed for marine areas, including in countries' Exclusive Economic Zones (EEZs) and Continental Shelves;

- le Réseau écologique paneuropéen (REP) a atteint des stades de développement divers dans les différents pays d'Europe, et les zones marines sont souvent négligées ;

- peu de pays se sont dotés de politiques ou de lois spécifiques sur les réseaux écologiques dans leurs programmes nationaux de conservation de la diversité biologique ;

- le nombre et la superficie des zones marines protégées sont faibles en comparaison avec les zones terrestres, et concernent le plus souvent des eaux côtières et territoriales ;

- les conventions internationales pertinentes n'ont pas été signées et ratifiées par tous les pays ;

- l'harmonisation et la coordination entre les différentes conventions internationales ou régionales et les accords de coopération ne sont pas assez fortes pour autoriser le développement d'une stratégie efficace en faveur des zones côtières et marines d'Europe ;

- la reconnaissance et la mise en place véritables des couloirs écologiques sont compromises par le manque d'information sur le comportement, les exigences en matière d'habitat et le statut de sauvegarde des animaux migrateurs ou fortement dispersés et sur leurs schémas de migrations et/ou de déplacement, notamment dans les environnements marins, tandis que l'on manque d'études de longue durée et que le suivi de la diversité biologique et la mise à jour des Livres rouges pourraient être améliorés ;

et déclarent par conséquent :

- qu'une coopération internationale intégrée est particulièrement nécessaire pour les zones marines, même s'il existe déjà des initiatives remarquables dans les mers régionales (mer du Nord, Baltique, mer Noire, Méditerranée, Nord-Est de l'Atlantique) et que des approches transfrontalières et multisectorielles sont déjà en place pour certains estuaires et bassins versants ;

- qu'il est particulièrement nécessaire de promouvoir les initiatives de création de zones marines protégées et de couloirs écologiques en Méditerranée et en mer Noire ;

- qu'à l'échelle paneuropéenne, le concept de REP se prête à une adaptation et à un développement dans les zones marines, y compris les Zones économiques exclusives (ZEE) des pays et leurs plateaux continentaux ;

- owing to the fact that different European Seas vary in terms of their natural conditions (oceanographic and ecological) and their socio-economic and cultural characteristics and the fact that all European countries are not EU-members, the Regional Marine Conventions (eg. OSPAR, HELCOM and Barcelona Conventions) offer important opportunities for the regional coordination and implementation of the Pan-European Ecological Network, including protection of ecological corridors;

- existing instruments and structures (such as the EC Birds and Habitats Directives, the Bern and Bonn Conventions, and agreements under the Bonn Convention) should be used to the fullest extent possible to achieve integrated protection and management of coastal and marine ecological corridors;

- an internationally agreed policy should be developed concerning the identification, implementation and protection of coastal and marine ecological corridors, to enable member States to further the establishment of the Pan-European Ecological Network;

- an integrated Action Plan should be prepared, leading to more intergovernmental cooperation and action towards the preservation of marine and coastal biodiversity, making maximum use of existing national and international legal and policy instruments;

- the aforementioned Action Plan, together with the elaboration of an appropriate mechanism to develop and implement the activities recommended in the report of the Colloquy, would also be a contribution to the implementation of the Convention on Biological Diversity (CBD) and might serve as a model for similar approaches in other parts of the world.

Therefore, the participants resolved that:

The report of the Colloquy's discussions and its proposals for future work should be submitted, at the earliest opportunity, to the Committee of Experts for the development of the Pan-European Ecological Network and to the Council for the Pan-European Biological and Landscape Diversity Strategy, for discussion and implementation.

- qu'étant donné les différences de conditions naturelles (océanographiques et écologiques) et de caractéristiques socio-économiques et culturelles entre les diverses mers d'Europe, et le fait que les pays d'Europe ne sont pas tous membres de l'UE, les Conventions régionales sur la mer (ex : conventions OSPAR, HELCOM et de Barcelone) offrent d'importantes perspectives pour la coordination et la mise en oeuvre régionales du Réseau écologique paneuropéen, y compris la protection des couloirs écologiques ;

- que les instruments et structures existants (tels que les Directives "Oiseaux" et "Habitats" de la CE ou les Conventions de Berne et de Bonn, ainsi que les accords de la Convention de Bonn) devraient être utilisés au maximum des possibilités qu'ils offrent pour parvenir à une protection et une gestion intégrées des couloirs écologiques côtiers et marins ;

- qu'il est nécessaire d'élaborer une politique qui bénéficierait d'un consensus international en matière d'identification, de mise en place et de protection des couloirs écologiques côtiers et marins afin de permettre aux Etats membres de faire avancer la réalisation du Réseau écologique paneuropéen ;

- qu'il faut préparer un Plan d'action intégré pour intensifier la coopération et les actions intergouvernementales dans la préservation de la diversité biologique marine et côtière en tirant le meilleur parti possible des instruments juridiques nationaux et internationaux existants ;

- que le Plan d'action susmentionné constituerait, conjointement avec l'élaboration d'un mécanisme approprié pour développer et mettre en oeuvre les activités recommandées dans le compte-rendu du Colloque, une contribution à la mise en oeuvre de la Convention sur la diversité biologique (CDB) et pourrait servir de modèle à des initiatives similaires dans d'autres parties du monde.

C'est pourquoi les participants décident :

De soumettre dès que possible le compte rendu du Colloque et ses propositions d'activités futures au Comité d'experts pour la constitution du Réseau écologique paneuropéen et au Conseil pour la Stratégie paneuropéenne de la diversité biologique et paysagère, pour examen et mise en oeuvre.

III. Report of the colloquy /

Rapport du colloque

DRAFT PROGRAMME OF SPECIFIC ACTIVITIES

1. Introduction

The Colloquy discussed and proposed the following programme of specific activities in the field of marine and coastal biodiversity. They requested the Secretariat of the Council of Europe to submit these recommendations to the meeting of the next Committee of Experts for the development of the Pan-European Ecological Network, to be held in Riga (Latvia) on 2-3 October 2002.

These activities are based on work being carried out by the institutions participating in the Colloquy and PEEN, and are centred upon the specific areas where co-operation is most required.

The following list of activities is divided into two sections: Scientific and Policy.

2. Scientific activities

- Develop and fund research programmes on widely dispersed and migratory species in order to identify core areas, stepping stones, major migration corridors and species distribution at sea;

- Encourage research into spatial interactions between sedentary species whose dispersal stages are dependent upon ecological corridors;

- Take into account methods for selecting species and habitats of priority importance within the PEEN coastal and marine areas programme;

- Undertake research into harmonising the criteria applied by the different institutions and initiatives for the designation of species and areas of particular conservation interest, with a view to drawing up comparable methods;

- Establish specific Action Plans, where such measures do not exist, in co-operation with the other institutions and States concerned;

- Undertake reviews of protected marine areas: are they sufficiently and effectively protected; is a sufficient area protected, individually and regionally; and are isolated sites large enough to maintain populations and provide buffer zones;

- Define priority marine corridors in the pan-European area;

- Increase focus on the importance and functions of corridors in offshore areas, including oceanic fronts and upwelling regions and the continental shelf edge;

- Undertake an ecological assessment study focused on marine and coastal habitats and species which reviews the parameters determining the

establishment of the European Coastal and Marine Ecological Network (ECMEN);

- Identify important fisheries areas and develop strategies to 'fit' corridors around these in order to minimise user conflicts;

- Undertake research enabling managers to plan for alterations in species distributions and use of corridors arising from climate change.

3. Policy activities

- Extend PEEN to marine areas, including all areas under state jurisdiction (where possible to the continental shelf edge), and promote wider application of Article 10 of the Habitats Directive within such areas;

- Implement Integrated Coastal Zone Management, based upon an ecosystem approach;

- Approach PEEN in a more integrated way, including the incorporation of socio-economic considerations;

- Protect the cultural and natural heritage within the PEEN's shoreline areas;

- Implement recommendations for the integration of tourism development with nature conservation in shoreline areas;

- Manage ecological networks in urbanised shoreline areas;

- Discourage developments that threaten ecological corridors in sea straits and river mouths;

- Increase the standard of pollution control & implement good practice;

- Integrate fisheries policies (e.g. the Common Fisheries Policy and UN Fish Stocks Agreement) with biodiversity objectives, particularly within corridors, and promote sensitive fishing technologies within corridors to minimise bycatch and other impacts;

- Consider the recommendations of the Parliamentary Assembly on fishing, halieutic resources and preservation of biodiversity;

- Strengthen awareness amongst policy makers, elaborating the concept of corridors at each level of administration;

- Develop Memoranda of Understanding/cooperation between related organisations and conventions (e.g. ACSCOBANS and NAMMCO);

- Seek opportunities to link Specially Protected Areas of Mediterranean Importance (SPAMI) with the Emerald Network (Bern Convention), and design corridors into a network of new protected areas in the southern Mediterranean;

- Promote the concept of marine and coastal corridors linking marine protected areas to the Subsidiary Body for Scientific and Technical Advice of the Convention on Biological Diversity;

- Encourage greater international cooperation on the conservation and management of migrating animals between the Convention on Migratory Species (CMS, or Bonn Convention), the regional seas programmes and other relevant instruments;

- Develop an international agreed policy on corridors, with greater focus on those currently forming the boundaries of regional seas programmes and activities;

- Develop new legislative frameworks, both national and international, for the establishment of protected areas in offshore deepwater habitats;

- Promote use of the International Maritime Organisation's (IMO) Particularly Sensitive Sea Areas (PSSA) and other relevant guidelines for the protection of marine corridors (and encourage more stringent practices by States in their coastal areas);

- Extend the trans-boundary Sanctuary concept, pioneered by Italy, France and Monaco, to other areas, using measures for the conservation of popular 'flagship' species to yield wider biodiversity benefits within corridors;

- Strengthen rules and controls on hunting animals during migration through corridors.

- Develop an Action Plan, within the framework for development of the Pan-European Ecological Network and other work of the Parliamentary Assembly of the Council of Europe in the field of preservation of marine biodiversity and halieutic resources, to deliver the effective protection and restoration of marine and coastal corridor networks and marine and coastal sanctuaries based upon existing knowledge and upon information provided by existing and new research programmes;

- Develop species Action Plans, for example within the framework of the Bern Convention, for the conservation and restoration of marine and coastal species dependent upon ecological corridors and taking into account future changes in species distribution patterns as a result of climate change;

- Develop an appropriate mechanism for the development and implementation of the European Coastal and Marine Ecological Network (ECMEN).

SUMMARY OF DISCUSSIONS

1. Background

At its 5th meeting held in Istanbul on 4-5 October 2001, the Committee of Experts for the development of the Pan-European Ecological Network (PEEN) expressed the wish that a specific meeting be devoted to the theme of coastal and marine corridors, as well as to the co-ordination of authorities in charge of terrestrial and marine authorities. They instructed the Secretariat to prepare meetings and to report back.

The Secretariat decided to consider application of the corridor/connectivity concept within coastal and marine areas first, before tackling co-operation between the different authorities responsible for the management of terrestrial and marine areas. The Llandudno Colloquy was held in order to address the former issues. This report summarises the discussions held and presents the Llandudno Declaration and Draft Programme of Specific Activities recommended by Participants to the Committee of Experts.

In the field of marine and coastal ecosystems, the Pan-European Strategy focuses on developing and implementing a European coastal and marine ecological network as a fundamental element of PEEN, one of the prime objectives of the Pan-European Strategy. It encourages the protection of remaining coastal landscape systems through an ecosystems/habitats approach under Natura 2000 and the Emerald Network. (Natura 2000, which implements the EU Habitats and Birds Directive, and the Emerald Network, which implements provisions of the Bern Convention, are geographically complementary, with Natura 2000 representing the EU's contribution to the Emerald Network.)

PEEN represents a major instrument for implementing the aim of the Strategy for the preservation of ecosystems, habitats, species in their genetic diversity, and landscapes. It will provide a consistent and coherent approach, from both geographical and ecological points of view, to conserving European natural heritage because:

- the Network is intended to cover Europe as a whole and aims at achieving a transsectoral and horizontal approach, encouraging the democratic participation of actors at all levels of responsibility;
- the Network represents an essential means of achieving ecological coherence across Europe, whether at local, regional, national or international level;
- the Network will support the conservation of a large number of plant and animal species which depend on sufficient opportunities to disseminate and to migrate;
- when appropriate, the Network supports links between all categories of protected sites in order to incorporate protected areas in ecological networks; and
- the Network is a means for encouragement for closer relations between the peoples of Europe and increased transfrontier co-operation, strengthening

transboundary ecological coherence and helping to preserve natural ecosystems, and natural and cultural heritage.

Co-operation within the PEEN framework appears to be particularly important for marine and coastal areas because of the multiple initiatives involved. In particular, it would help to:

- contribute to the coherence and interactivity of work;
- support conservation and restoration activities;
- identify sectors in which specific intergovernmental co-operation activities are necessary and should be carried out within the framework of the STRA-REP; and
- contribute to the constitution of marine and coastal ecological networks within the framework of PEEN.

The impact of former Council of Europe initiatives had been of considerable importance in driving European policy – for example, the Working Group on sustainable management of the coastal zone had produced the '*Model law on sustainable management of coastal zones and European Code of conduct for coastal zones*', published by the Council of Europe as no. 101 in the *Nature and Environment* series.

2. Objectives of the Llandudno Colloquy

The Llandudno Colloquy on marine and coastal ecological corridors had two main objectives:

- to introduce the concern of the Committee of Experts for the development of PEEN regarding the conservation of marine and coastal biodiversity and the preservation or restoration of marine and coastal ecological corridors;

- to identify, in co-operation with the other institutions, initiatives and conventions, specific activities which could usefully be implemented within the framework of the Committee of Experts, with a view to the constitution or conservation of ecological networks in marine and coastal habitats.

Participants were informed that, if the Committee of Experts so decides, the Llandudno Colloquy could become the first phase of specific activities on protection of the biological and landscape diversity of coastal and marine areas within the framework of the Pan-European Ecological Network, with particular attention being paid to the creation, preservation or restoration of coastal and marine corridors.

The following basic principles were stressed:

- This would be the first stage in a long-term process – activity needs to start now in order to achieve coastal and marine connectivity in 20-25 years;

- The initiative recognises the importance of considering processes operating between marine and coastal protected areas, not just designated sites in isolation, and the importance of managing sites within their environmental context;
- Connectivity for biodiversity can only be achieved through policy/political connectivity, and should ideally be achieved through the application of existing initiatives and programmes; and
- While it is important to prioritise actions directed at those species and habitats most requiring protected corridors, it is important not to forget social and landscape considerations.

The Colloquy also noted that the Colloquy and subsequent activities within the Council of Europe might contribute usefully to implementation of the Convention on Biological Diversity (CBD) and the Subsidiary Body for Scientific and Technical Advice (SBSTA). SBSTA will be focusing activities on marine protected area issues and it may be appropriate for the Council of Europe to coordinate European views on marine protected areas, particularly within the context of promoting the concept of linkage. If the Colloquy considered that the Council of Europe should be involved in this way, the Secretariat could organise a bigger conference on the subject next year, before the next SBSTA meeting (in Montreal, March 2003), in order to report to SBSTA and inform their deliberations.

3. Key issues

The Secretariat noted that it required, in particular, the Colloquy's views on the following numbered key issues for inclusion in the report to the Committee of Experts in Riga, October 2002. The response of participants, briefly be summarised, is provided in italics after each point.

1. *Are marine and coastal corridors needed, and is the concept of PEEN of any value in the marine and coastal environment?*

   Response: The Colloquy agreed that marine and coastal corridors were of equal, if not greater value for the marine and coastal environment as they were for the terrestrial environment. Their greater importance at sea arose partly from the difficulty of managing and visualising activities and impacts in the marine environment, compared with similar challenges for corridors on land.

2. *Can the Council of Europe recommend useful actions to States within the context of developing a strategy for establishing marine/coastal corridors?*

   Response: The Colloquy agreed that it would be appropriate to do so. Two specific examples of such actions (in addition to the others developed and listed in section 2 of this document) are as follows:

   i. to emphasise the importance of ecological corridors for marine and coastal migratory species at the meeting of Parties to the Bonn Convention on Migratory Species (CMS) in September 2002 (some of the actions

developed during the Colloquy may usefully be incorporated in the CMS workplan); and

ii. to urge States to focus greater attention on marine and coastal areas through their implementation of the Emerald Network.

3. *Will States actually implement any recommendations that the Council of Europe may make?*

Response: The likelihood that States will implement recommendations should be improved if such recommendations are distributed more effectively at all levels of decision-taking, and awareness of issues associated with marine and coastal corridors and their importance generally improved. For example, there is a need to deliver advice to the EU on the use of corridors, for example for small cetacean conservation.

4. *How should establishment of corridors be addressed within an ecosystem context?*

Response: This approach is hampered by a lack of information on the critical habitats and movement patterns of many coastal and marine species. It is clear, however, that corridors preserve ecosystem structure, function and connectivity by linking core areas and stepping-stones. Managers had to consider the environmental processes operating between isolated marine and coastal protected areas, and not simply focus on discrete sites. It is essential to put site management into the context of their surroundings and associated corridors.

5. *Can we identify such corridors and, if so, for which species?*

Response: This is possible in some cases, particularly where species follow narrow, readily defined habitat or geographical boundaries (e.g. edge of continental shelf, across straits) but is not always easy to do through a geographical, spatial or traditional 'mapped' context employed on land. For example, the whole of the Eastern Mediterranean arguably forms a vital feeding and migration 'corridor' for marine turtles. It is very important to consider corridors within a functional approach, rather than as narrow, mapped bands. Some participants argued against a 'mapping and designation' approach, preferring a more general ecosystem approach based on typology and strategies, rather than designations.

6. *Are marine and coastal protected areas effective with or without such corridors?*

Response: Many marine and coastal species are highly migratory or depend on highly mobile dispersal stages. Corridors are essential to enable movement between sites and hence retention of site biodiversity and quality. A marine and coastal protected area strategy will not be effective if such corridors do not exist.

7. *Do we need new instruments to protect corridors, or can existing policies/legislation be used?*

   Response: Many existing policies and legislation could be applied to protect corridors, but are not being effectively used. For example, the EU Species and Habitats Directive is not focusing sufficiently on corridors through the full use of Article 10; too much emphasis is being devoted to site conservation. The Habitats Directive should be applied more fully to the marine environment. Other instruments lack sufficient geographical overlap, frequently being focused on areas between corridors rather than on the corridors themselves.

8. *Do we know enough about what is or is not being done on corridors within the Council of Europe area?*

   Response: Information is incomplete, but more emphasis is probably needed on strategies, rather than site designation.

9. *What are problems in regional seas and are they being dealt with?*

   Response: Many regional seas conventions use major corridors (e.g. marine straits) as their boundaries, and focusing on the areas between such corridors rather than on the corridors themselves (ACCOBAMS is an exception). Several presentations described activities in regional seas (see Annex).

10. *In view of the importance of fisheries as an influence on marine biodiversity, should fishing interests be leading these initiatives?*

    Response: No, but it is vital to consider fishing interests when identifying marine corridors, particularly if these are to be managed. Where appropriate, it would be better to protect marine corridors that avoid major fishing grounds.

4. Corridor definitions and characteristics

> A linkage between resource habitat of a species, consisting of a landscape structure that is different from the matrix surrounding it, resulting in a favourable effect on the exchange of propagates of the species.

This concept is already incorporated in Article 10 of the Habitats Directive.

Corridors preserve ecosystem structure, function and connectivity by linking core areas (e.g. feeding, breeding, nursery and over wintering grounds) and 'stepping stones' between core areas. They are essential for most birds, mammals and sea turtles, and for many fishes, invertebrates and flora. Migratory species obviously rely on corridors, but it is less obvious that many species that are not migratory, and may even be completely sessile for the most obvious parts of their life cycle, depend on marine dispersion for colonisation and completing their life cycle.

Different types of corridor can be characterised by their purpose, for example:

- Migration corridors
- Commuting corridors (for example, inshore-offshore movements of scoter moving between feeding and roosting grounds)
- Dispersal corridors

They may also be characterised by their spatial occurrence or habitat:

- Underwater (e.g. movements along the shelf-edge, oceanic fronts and other areas of high productivity*);
- Coastal/aquatic (e.g. for anadromous fishes moving between feeding and breeding grounds);
- Coastline (e.g. for migrating birds undertaking long-shore movements);
- Straits (where animals travel in large numbers between adjacent sea or land areas).

It was suggested that marine and coastal flyways for migrating birds, particularly waders and wildfowl, are already well covered by existing policies and international conventions. They may not, therefore, be of such high priority as marine and coastal corridors for other species, particularly marine animals. Many populations of migratory marine animals are continuing to decline, despite significant conservation efforts; management of corridors may be important in addressing and reversing this trend.

5. Constraints

The following major constraints were identified with regards the implementation of a programme for the promotion and management of marine and coastal corridors:

- the lack of an overall and consistent policy and legal approach towards corridors;
- a lack of understanding regarding the location and structure of corridors and the distribution of species at sea;
- the absence of adequate legislation specifically for the protection of coastal and marine corridors;
- the different stages of development of PEEN in Europe and overall neglect of marine areas within PEEN;

* Oceanic fronts and other areas of high primary productivity may be considered either as corridors or as extensive core areas. Identifying and managing offshore corridors is a particular challenge, particularly when, for example, these may move depending on oceanographic or climatic conditions. They are, however, very important (for example major seabird, marine mammal and pelagic fish migration routes and feeding areas along the edge of the continental shelf and along mobile oceanic fronts and upwelling areas).

- the small number of countries with specific, national policies on ecological networks.
- the small number of marine protected areas and their restriction to coastal and territorial waters only;
- limited opportunities along most highly developed states coastlines to design new networks of marine protected areas linked by corridors (the southern Mediterranean is an exception – this would still be possible along much of the undeveloped coastline there);
- not all countries have joined or ratified all relevant international conventions;
- public participation is inadequate – there is a need to identify and involve local stakeholders within a pan-European context.

6. Potential role of existing policies and instruments

The work of many international conventions, agreements and programmes has an impact on marine and coastal habitats and can contribute to certain of the aims pursued in the establishment of the Pan-European Ecological Network, such as:

- the conservation, restoration or sustainable use of core areas;
- the preservation or restoration of the connections between the core areas with the help of corridors;
- the creation and maintenance of buffer zones around these areas.

Examples of relevant instruments include the UNEP Regional Seas programme (two regional reports have been commissioned, on the Black Sea and Baltic) and associated Conventions (OSPAR, Barcelona, HELCOM), the Bern, Bonn (CMS) and Ramsar Conventions (the latter covers shallow marine waters), the EU Habitats Directive, and the Large Marine Ecosystems Programme. Some of these instruments were introduced by participants (see Annex).

HELCOM was identified as one of the most advanced instruments, with numerous Baltic Sea Protected Areas (BSPAs) now established, many of these nominated for inclusion in Natura 2000.

A few instruments, which were the particular subject of discussion, are noted below, but this section is not intended to be comprehensive.

Fisheries

Two key international fisheries instruments are particularly important: The Common Fisheries Policy, currently undergoing review and which covers part of the Council of Europe Area, and the UN Fish Stocks Agreement, which was ratified in December 2001. Fisheries policies and legislation could be integrated with PEEN

and, if implemented effectively, might be applied (for example) to adapt fisheries technologies during key migration periods along marine corridors.

UN Convention on the Law of the Sea (UNCLOS)

Article 211.6 of UNCLOS enables coastal States to propose for approval by IMO the establishment of Special Areas within their EEZ that would benefit from special conservation measures (more stringent than those rules and standards set internationally). Its provisions have never really been used because States appear not to have been interested in establishing special areas within EEZ, only within territorial waters. Only four PSSA have been identified internationally by IMO since the guidelines were adopted in 1991 (in Australia, Cuba, Florida Keys and the Baltic Sea).

Barcelona Convention and Specially Protected Areas of Mediterranean Importance (SPAMI)

One drawback of the Barcelona Convention for the Conservation of the Mediterranean Sea is that its boundaries are formed by two of the most important Mediterranean Sea corridors: the Straits of Gibraltar and Bosphorous. The SPAMI protocol was adopted in 1995 to regulate the passage of ships, enable cooperation between Parties and with third states, and is able to cover areas outside Mediterranean territorial seas (the Sanctuary for the Conservation of Marine Mammals includes territorial waters in France, Monaco and Italy and areas of high seas). SPAMI will form the core of a network of protected areas aimed at delivering the effective conservation of the Mediterranean heritage. There is still an opportunity to design corridors into a network of protected areas in the less-developed southern Mediterranean.

Oslo and Paris Convention (OSPAR)

OSPAR covers the region from Portugal to Iceland, with a particular focus on the North Sea. OSPARCOM (the Commission) will be developing programmes and measures for the protection and conservation of ecosystems and biological diversity. The Action Plan on biodiversity includes compilation of a list of species and habitats, threats faced, and actions to be taken. There has been an assessment of a first candidate list of threats, and Ecological Quality Objectives have been drafted. The draft OSPAR list of threatened and declining species includes many migratory species, including commercial fish species.

OSPAR priorities recognise the importance of: long term monitoring; a holistic approach to biodiversity management; that complete descriptions of threats to marine species and communities are not possible; and that surrogates should be used instead.

Coastal Zone Management (CZM)

Although proposals for improved protection of marine and coastal protected areas in Europe have been accepted unanimously within the Council of Europe, deterioration has continued. Two non-binding documents were drafted by Council of Europe consultants: a Model Law for CZM and a Code of Conduct (including descriptions of good practice endorsed by the European Union for Coastal Conservation and UNEP). These documents are not legally binding, but intended to act as a source of inspiration. The Code of Conduct considers key socio-economic sectors, nature conservation and biodiversity, agriculture, coastal defence, military activities and other uses. (See *Model law on sustainable management of coastal zones and European Code of conduct for coastal zones*, Nature and Environment no. 101, Council of Europe, Strasbourg.)

7. Conclusions

The conclusions of the Colloquy are provided at the front of this document, in the form of the Llandudno Declaration (section 1) and the Draft Programme of Specific Activities.

IV. Interventions

Strategies for the conservation of the marine and coastal biodiversity

Coastal and marine corridors

Alan PICKAVER, EUCC

Introduction

Coastal and marine ecological corridors are an essential element in the Pan-European Ecological Network. Coastal corridors are important for migrating birds and include sea straits e.g. Sont (Denmark-Sweden), Gibraltar and Bosphorus. Shorebirds often move along the coast, itself one long corridor interrupted only by infrastructure and other developments. Many marine corridors form part of the migration route of a considerable number of mobile marine species and are often narrow stretches of water (e.g. sea straits and river mouths).

Corridors are geographical features that are used by mobile species for migration between core areas and are broadly defined as "a linkage between resource habitat of a species consisting of a landscape structure that is different from the matrix surrounding it resulting in a favourable effect on the exchange of propagates of the species (individuals, seeds, genes)". This definition is based on the functionality of the corridor and implies that linear shaped habitat without the purpose of linking two areas at both ends will not be defined as a corridor. In general, for a corridor to be functional there always has to be at least one source and one target area. Three corridor types are distinguished: (A) migration corridors, (B) commuting corridors and (C) dispersal corridors. This discussion is concerned primarily with corridors which are important for mobile species when on migration viz. type A.

Some migration corridors also contain "stepping stones". Many migratory birds use coastline corridors to migrate and need stop-over places to rest and feed during their long journey e.g. the Lithuanian Nemunas delta which is important for many geese. Because of their importance during migration, stepping stones should be considered as a part of ecological corridors.

This paper focuses on three types of migration corridors that are most relevant for the coastal and marine environment. Furthermore, only vertebrate animal species are considered because there is too little information to include the migration of invertebrates.

Type 1

- Specific marine corridors (under water) enabling species to migrate between core areas in different regional seas through sea straits;
- Species groups: e.g. marines mammals and many fish (tuna, swordfish);
- Geographical examples: Sont, Pas de Calais, Straits of Gibraltar, Bonifacio and Messina, Dardanelles, Bosphorus and Azov Seas.

Type 2

- Specific coastal-aquatic corridors (under water) through river mouths and estuaries enabling species to migrate between river catchments and the sea;
- Species groups: fish (salmon, eel, stickleback);
- Geographical examples: River mouths of the Salaca (Latvia), Kamchia (Bulgaria) and Schelde (Belgium).

Type 3

- Coastline corridors (above water), zones at either side of the coastline, used by species that prefer to migrate either above land or above sea. A special example of this is the concentrated migration of birds over sea straits;
- Species groups: migrating birds;
- Geographical examples: Coastlines in France, Netherlands, Russian Federation.

There is also dispersed marine migration (under water) between core areas in different parts of oceans and seas by cetaceans and various other species. This migration occurs over large areas and it is not considered as a specific migration corridor (see section 2.3. below).

Policy Development

Many European countries have developed a general legal framework which helps to protect ecological corridors. There are also already some protected sites with importance for animal migration in coastal areas and, in some cases, legislation even protects the majority of the coast and there are ambitious intentions for the increase of protected areas within the coming years.

Nonetheless,

- there is a lack of an overall and consistent policy and legal approach towards corridors in Europe, specific legislation for protecting coastal and marine ecological corridors is missing, in other cases, laws are overlapping,
- the Pan-European Ecological Network (PEEN) is in different stages of development in different European countries and marine areas are being neglected,
- few countries have specific, national policies on ecological networks within their biodiversity policies,
- the amount of marine protected areas remains highly disproportional and is mostly restricted to coastal and territorial waters only, and
- not all countries have joined and ratified all relevant international conventions.

In most cases, the development of corridors is still considered to be secondary to the development of core areas. This has lead to a great policy deficit with regard to the protection of corridors, particularly for marine species and their connection to

coastal corridors. Whilst there are, various sectoral efforts to protect or even re-introduce endangered, migrating species, efforts to harmonise fisheries and hunting with animal migration remains weak.

Implementation

Implementation of protective measures for corridors is rather sporadic and *ad hoc* giving a patchwork approach to solving the problem. Implementation suffers from a lack of funding, especially in Central Europe and the NIS. In contrast to core areas there are no separate funds available for corridors. This lack of funding means that implementation is often not enforced or controlled. Nonetheless, there are several initiatives to preserve or improve the status of protection of migrating animals and their habitats. These efforts range from better management plans for protected areas, awareness and training to the removal of physical migration barriers in river mouths and migration-friendly technologies. Successful implementation often relies on the active support of several sectors, other than just nature conservation, especially agriculture, fisheries, industrial and infrastructural development.

Although the responsibility for policy on migrating animals is generally assigned to one institution, the responsibility for implementation and enforcement is often split up among many institutions and co-ordination is often missing. The lack of integration at an administrative level further leads to inefficiency and lack of sectoral integration. An international, integrated co-operation is particularly crucial in marine areas. Many valuable initiatives, with working structures, exist in regional seas (North Sea, Baltic Sea, Black Sea, Mediterranean, Northeast Atlantic) and for some estuaries and river catchment areas, transboundary and multi-sectoral approaches exist. However, harmonisation and co-ordination between these different multi-national approaches is not strong enough to give an effective pan-European coastal and marine strategy.

Information

All legitimate approaches to the corridor concept are hampered by a real lack of information on the behaviour, habitat and status of migrating animals and their migration patterns in Europe, especially in marine environments. Long-term studies are missing and biodiversity monitoring and updating of Red Data Books could be improved. Since many core habitats are not clearly defined, migration corridors are also difficult to define.

Recommendations

Populations of migrating animals are nearly all declining because of habitat destruction, fishing and by-catches, competition for food resources, pollution and physical barriers to migration. Lack of action in the development of ecological corridors will push many species to the brink of extinction. Therefore, the following

recommendations have been drawn up for States to improve the protection of ecological corridors:

1. Adapt, and further develop, the concept of the Pan-European Ecological Network (PEEN) to marine areas, including the Exclusive Economic Zone (EEZ) and the continental shelf. The conventions of the regional seas could be used as platforms to implement PEEN and to protect ecological corridors. Existing instruments and structures (like the EU Birds and Habitats Directives, the Bern and Bonn Conventions, etc.) should be used to achieve integrated protection and management of coastal and marine ecological corridors.

2. Further develop, conduct and implement integrated planning and management such as Integrated Coastal Zone Management (ICZM) in coastal and marine areas (including the EEZ and the continental shelf) to achieve coherent ecosystem approaches.

3. Discourage developments that threaten ecological corridors in sea straits and river mouths, through planning, regulation and financial instruments. Particularly high standards should apply during planning and project application procedures (e.g. Environmental Impact Assessment). Actions that could be taken in river mouths are the use of bird-compatible power transmission lines, retreating defence lines (dikes) to allow for more natural dynamics in estuaries, and more natural flooding regimes near river dams (including fish ladders); and in seas straits, certain industrial developments e.g. windmills, airports, power lines and power stations should be avoided or limited.

4. Integrate fisheries policies with coastal and marine ecological corridors to avoid over fishing of migrating fish, encourage species-specific fishing and minimise by-catches. Closures of areas for fishing, obligatory changing of catch areas and specially adapted technologies should be applied during peak migration of all animals in ecological corridors.

5. Take important ecological corridors into consideration, especially in marine areas, within the existing policies and laws by developing and implementing higher standards of pollution control and stricter codes of good practise for these areas.

6. Develop and fund research programmes on migrating species in coastal and marine areas to determine both species specific core areas and types of corridors between them, particularly for endangered species.

7. Technically elaborate the concept of ecological corridors at each level of administration in order to fit it effectively into their individual administrative structures and spatial planning policy.

8. To approach PEEN in an integrated way by combining the corridor function with other functions (e.g. flood control when wetlands are concerned; taking

into consideration the land/coast/sea system as a whole instead of as three separated sub-systems e.g. in the case of anadromous fish; vertical integration of administrative bodies to avoid a lack of uniformity among the different levels; and public participation and information.

9. To initiate or further elaborate international co-operation on migrating animals in all regional seas and transboundary sea straits.

10. To establish or strengthen awareness among policy makers on the importance of ecological corridors, especially in marine environments.

11. To establish or strengthen rules for hunting animals during migration, especially seasonal restrictions in specific areas (e.g. fish in estuaries and birds and fish in sea straits).

12. An internationally agreed policy concerning the development, implementation and protection of coastal and marine ecological corridors is needed to enable members states to go further with establishment of the Pan-European Ecological Network.

Marine specially protected areas: the legal aspects*

Tullio SCOVAZZI**,
presented by Angelo MERIALDI (Italy)

Marine specially protected areas in general

The concept of marine specially protected areas (hereinafter: MSPA) as a component of the broader category of specially protected areas can be found in several domestic legislations, where the establishment of MSPAs aims at achieving a wide variety of objectives. Also on the international level a number of treaties and instruments of "soft law" envisage the creation of MSPAs.

Generally speaking, both terrestrial and marine specially protected areas are created for reasons that are basically the same, namely to maintain essential ecological processes and life support systems, to ensure the sustainable utilization of species and ecosystems, to preserve biotic diversity.

Neverthless, there are natural features which are peculiar to the sea and differ from those existing on land. As pointed out in the "Guidelines for Establishing Marine Protected Areas" published by the IUCN (International Union for Conservation of Nature and Natural Resources),

> In the sea, habitats are rarely precisely or critically restricted. Survival of species cannot usually be linked to a specific site. Many free swimming species have huge ranges and water currents carry the genetic materials of sedentary or territorial species over large distances, often hundreds of kilometres. The same genetic community is likely to be represented throughout a large geographic range, occurring wherever substrate and water quality are suitable. As a consequence endemism is rare and is usually confined to species which brood or care for their young rather than have them dispersed by currents. There is no authenticated record of recent extinction of a completely marine species with planktonic larvae. The concept of critical habitats of endangered species is thus restricted in application to areas critical to marine mammals, sea turtles and sea birds and to the habitats of the occasional endemic species. Therefore, in the sea, the ecological case for protection of an area can less often be based on concepts of critical habitat of endangered species or threat of extinction but it may more probably be based on protection of critical or important habitat for commercially or recreationally important species, or for protection of a particularly good example of a habitat type with its associated genetic diversity of its communities[1].

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* This paper is based, with a few updatings, on some paragraphs of T. Scovazzi (ed.), Marine Specially Protected Areas – The general aspects and the Mediterranean Regional Systems, The Hague, Kluwer Law International, 1999.

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These special natural factors explain why several domestic legislations envisage a special regime for MSPAs. Legal factors could also lead in the same direction. Under most domestic legislations, private property rights cannot be exercised on marine areas. Under customary international law the rules applicable to the sea are different from those relating to the land territory[2].

The Guidelines for the Designation of Special Areas and the Identification of Particularly Sensitive Sea Areas, adopted on 6 November 1991 as Resolution A.720(17) by the Assembly of the International Maritime Organization (IMO)[3], give the following comprehensive description of MSPAs:

> As early as 1935, the Fort Jefferson National Monument in Florida, United States of America, was set up as a conservation area, covering 18,850 ha of sea along with 35 ha of coastal land. It was probably the world's first marine protected area. In 1985, there were some 430 marine protected areas in 69 countries. In 1986, another world-wide survey of marine protected areas listed such areas in more than 80 countries.
>
> In general, marine protected areas have been defined as "areas of intertidal or subtidal terrain together with their overlying waters and associated flora, fauna, historical and cultural features, which have been reserved to protect part or all of the enclosed environment". This very general definition covers a wide variety of marine protected areas. The number of terms used for marine protected areas, such as marine sanctuary, marine reserve, marine park, protected seascape or wildlife sanctuary, is an indication of the variety.
>
> The global list of marine protected areas contains a wide variety of biotopes such as coral reefs, salt-marshes, seamounts, ice-covered areas, banks, open waters, seagrass meadows and mangroves. Some well-known marine areas which have a statutory protected status are the Great Barrier Reef Marine Park in Australia, the Galapagos Marine Resources Reserve in Ecuador, the Wadden Sea in Denmark, Germany and the Netherlands, and the Channel Islands National Marine Sanctuary in the United States of America.
>
> Most marine protected areas are located close to the shore within territorial waters or even in internal waters and may include land areas as well. The number of marine protected areas exclusively in open waters within the territorial sea is limited; the number of such areas beyond territorial waters is even smaller.
>
> Marine protected areas have been established on the basis of a wide variety of objectives. These include the protection of ecologically or biologically important areas, the protection of specific marine organisms, the protection of important geological or geomorphological processes, the protection of beautiful seascapes, the protection of cultural or historic sites, as well as in the interest of recreation or certain forms of fisheries.

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[1] IUCN, Guidelines for Establishing Marine Protected Areas, Gland, 1991, p. 13.
[2] Infra, para. 2.
[3] The 1991 Guidelines have been amended by the Procedures for Identification of Particularly Sensitive Areas and the Adoption of Associated Protected Measures, adopted on 25 November 1999 by the IMO Assembly under Resolution A.885 (21).

> The management of each area varies depending upon the nature of the resources, their utilisation and the human activities occurring within it. A range of management techniques can be used: in some areas protection may be given from all activities which could give raise to environmental damage; in other areas protection is given only against a limited number of such activities, for example certain fisheries activities or shipping[4].

Within the general concept of MSPA, various categories can be envisaged. For instance, Appendix 2 of the 1987 Guidelines for the selection, establishment, management and notification of information on marine and coastal protected areas in the Mediterranean[5] lists not less than eight different kinds of possible MSPAs[6].

It does not seem indispensable to enter into the details of each single sub-category of MSPA and catch the often subtle distinctions existing between them. Problems of terminology, as different countries can give different names to the same or similar kinds of specially protected areas, may also complicate the whole picture. Irrespective of the variety of the objectives and measures peculiar to each of them, MSPAs can be defined in broad terms as areas of sea waters which are given special protection through legal provisions because of their significance for a series of reasons[7]. For instance, the range of factors that have been identified as useful in order to decide whether an area should become a MSPA include naturalness, biogeographic importance, ecological importance, economic importance, social importance, scientific importance, international or national significance, practicability/feasibility[8].

Critical aspects of domestic legislation on MSPAs

In most cases MSPAs are established under a general domestic legislation which covers both the substantial and the institutional aspects of the matter. Some aspects are known as being critical in determining the effectiveness of the protective regime.

A critical institutional aspect is the criterium for the sharing of competences between various State authorities. The fragmentary way in which competences are distributed according to several national legislations does not help the management of specially

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[4] Paras. From 1.1.1 to 1.1.6 of the IMO Guidelines.

[5] The fifth meeting (1987) on the contracting parties to the 1976 Barcelona Convention for the Protection of the Mediterranean Sea against Pollution took note of the Guidelines which were offered as a guide and not as a formal obligation for their application.

[6] 1) Scientific Reserve, Strict Nature Reserve, Strict Marine Reserve; 2) National Park, Marine National Park; 3) Natural / Cultural Monument; 4) Managed Natural Reserve, Wildlife Sanctuary, Marine Scanctuary; 5) Protected Landscape / Seascape; 6) Resources Reserve; 7) Natural Biotic Area / Anthropological Reserve; 8) Multiple Use Management Area, Managed Resource Area, Fisheries Reserve.

[7] For example, the 1991 IMO Guidelines give a rather broad definition of particularly sensitive area as "an area which needs special protection through action by IMO because of its significance for recognized ecological or socio-economic or scientific reasons and which may be vulnerable to environmental damage by maritime activities" (point 3.1.2).

[8] IUCN, Guidelines cit., p. 15.

protected areas. Ideally speaking, sharing competences between two or more authorities ought to encourage useful collaboration through the pooling of their respective experience and expertise. But sometimes this sharing of responsibility deteriorates into a buck-passing contest, with each body putting off decisions on any substantial measures, leaving the onus of making the first move and of running the risk of subsequent legal complications and proceedings up to the concurrent authority. A situation of confusion and overlapping of powers which have been attributed to different national authorities could lead to disputes and delays in the adoption of the appropriate measures. The confusion or overlapping of competences can take place when the specially protected areas are being set up or during the subsequent phase of their management or both. Competences can overlap between different authorities of the central administration (for example, the Minister of the Environment and the Minister of Fisheries), or between the central and the local (mostly regional) authorities in the countries which have a decentralised structure.

Another critical aspect is whether the objective of integrated protection of marine ecosystems has been achieved. In many domestic legislations it is difficult to overcome the legal barriers existing between the land and the sea, which are considered as spaces subject to different regimes and managed by different authorities. But, in most cases, marine specially protected areas are located along the coast and encompass, in a single ecological unity, both terrestrial and marine components (and, occasionally, intermediate wetlands of brackish waters), which are the habitat of species of fauna and flora ecologically dependent on the sea.

The already mentioned 1987 Guidelines for the selection, establishment, management and notification of information on marine and coastal protected areas in the Mediterranean suggest that the boundaries of coastal and marine specially protected areas "should be determined mainly on the basis of ecological considerations and should encompass the terrestrial and marine component of the area, the subsoil below the areas and the airspace above the area to the extent possible" (point 18). What happens however is that some national MSPAs are merely attached to specially protected areas on land, without specific rules providing for the integration of their respective regimes. This makes it hard to ensure the protection of marine ecosystems as an integrated whole. It may also make it difficult to draw up an integrated management plan.

MSPAs under International Law

MSPAs often present international implications[9]. For instance, a MSPA may cover in whole or in part the high seas or straddle the territorial seas of two or more States.

[9] On the international questions arising from the establishment of marine parks see Dupuy, Les parcs marins dans le cadre international, in *Revue Juridique de l'Environnement*, 1980, p. 381; Migliorino, La creazione di aree protette nei mari costieri, in Studi Marittimi, No. 30, 1987, p. 21; Peet, Particularly Sensitive Areas - A Documentary History, in *International Journal of Marine and Coastal Law*, 1994, p. 469; Tsamenyi, Bateman & Delaney (eds.), -, Wollongong, 1995; Thiel & Koslow (eds.), Managing Risks to Biodiversity on the High Sea, Bonn, 2001.

Restrictions or prohibitions applying in a MSPA located in the territorial sea of a State may affect the rights enjoyed by other States (for example, the right of innocent passage of ships flying a foreign flag). The influence played by rules of customary international law on the regime of MSPAs mostly depends on two factors, namely the different regimes applying to marine spaces and the principle of freedom of the sea.

A. The Different Regimes Applying to Marine Spaces

The regime of MSPAs is linked to the degree of powers that the interested States can exercise over them. On land, the State to which the territory belongs where a specially protected area is located is entitled to exercise full sovereign powers on it. The situation is different in the sea, as the content of coastal State's rights with respect to those of third States varies in relation to the legal condition of the waters according to the present evolution of customary international law of the sea.

Even in the territorial sea, an area where the coastal State is granted sovereignty, the ships of all other States enjoy the right of innocent passage[10]. In the exclusive economic zone, where the coastal State has jurisdiction with regard to the protection and preservation of the marine environment, third States enjoy freedom of navigation and other internationally lawful uses of the sea. This is something more than a mere right of passage and, according to the positions of some countries, goes as far as to include the right to engage in military manoeuvres in the exclusive economic zones of the others.

On the high seas there is no coastal State by definition. While all States are under a general obligation to cooperate for the protection and preservation of the marine environment, no State can impose its own legislation on the others. No State can, for instance, unilaterally establish an MSPA and claim that ships flying a foreign flag abide by the relevant provisions. It can thus be asked what the use is of adopting restrictive measures of environmental protection which only apply to ships flying the national flag, if all other ships are exempted from complying with them.

In short, the further an MSPA is located away from the coast the more questions of international law of the sea come into consideration and the need for international cooperation and agreement increases.

B. MSPAs and the Principle of Freedom of the Sea

It would however be a mistake to think that customary international law of the sea, and in particular the traditional principle of freedom of the sea, are unsurmountable constraints against the establishment and sound management of MSPAs. Any

[10] This right does not exist in the case of internal waters, i.e. marine waters on the landward side of the baseline of the territorial sea. Nevertheless, if the establishment of straight baselines for measuring the width of the territorial sea has the effect of enclosing as internal waters areas which had not previously been considered as such, a right of innocent passage exists in those waters.

principle, including the principle of freedom of the sea, is to be understood in relation to the evolution of legal systems and in the light of the peculiar circumstances under which it should apply.

The point deserves perhaps more elaboration. The concept of freedom of the sea was invented (or, at least, popularised) by Hugo Grotius at the beginning of the XVIIth century in order to safeguard the right of any State (including his own country, the Netherlands) to navigate across seas and oceans. The stake was the right to occupy the newly discovered territories in Asia and the Americas. When they engaged in their learned discussions, neither Grotius nor his opponents had in mind questions posed by supertankers, nuclear-propelled vessels, off-shore drilling, mining for polymetallic nodules, fishing with driftnets and many other activities and means which could now harm the marine environment.

This assumption, which is completely obvious, leads to an equally obvious consequence which is nevertheless sometimes forgotten. We cannot today use the same concepts that Grotius used and give them the same intellectual and legal strength that Grotius gave them. To rely in an absolute way on the principle of freedom of the sea was justified in the circumstances existing in the past. But this is no longer true. Today it cannot be sustained that a State has a right to engage in a specific marine activity simply because it enjoys freedom of the sea, without giving any further explanations and without being ready to consider the opposite positions, if any, of the other interested States. Also the concept of freedom of the sea is to be understood in the context of the present range of marine activities and in relation to the other potentially conflicting uses and interests.

The needs of navigation and of the so-called "other internationally lawful uses of the sea" (a mysterious euphemism taken from Art. 58 of the 1982 United Nations Convention on the Law of the Sea, which probably covers naval manoeuvres and intelligence) are still important elements to be taken into consideration. But they have to be balanced with other interests, in particular those which have a collective character, as they belong to the international community as a whole.

The protection of the marine environment is one of these collective interests. It is not the case here to elaborate on the existence of customary international rules which bind States to protect the environment, prevent transfrontier pollution and cooperate to achieve these aims. Nor is it useful to list all the treaties which have been concluded in order to establish specific forms of environmental protection. It needs only be stressed that the measures to be taken in the field of the environment include also "those necessary to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life" (to use the wording of Art. 194, para. 5, of the United Nations Convention on the Law of the Sea).

More generally, the protection of the marine environment and the consequent establishment of MSPAs are linked to the concept of sustainable development, which is one of the most important developments of international environmental

law. According to Agenda 21, the Action programme adopted in Rio de Janeiro by the 1992 United Nations Conference on Environment and Development, States, acting individually, bilaterally, regionally or multilaterally and within the framework of IMO and other relevant international organizations, should assess the need for additional measures to address degradation of the marine environment. This should be done, inter alia, by

> taking action to ensure respect of areas designated by coastal States, within their exclusive economic zones, consistent with international law, in order to protect and preserve rare or fragile ecosystems (para. 17.30, a., v.).

Agenda 21 stresses the importance of protecting and restoring endangered marine species, as well as preserving habitats and other ecologically sensitive areas, both on the high seas (para. 17.46, e., f.) and in the zones under national jurisdiction (para. 17.75, e., f.). As regards such zones,

> States should identify marine ecosystems exhibiting high levels of biodiversity and productivity and other critical habitat areas and provide necessary limitations on use in these areas, through, inter alia, designation of protected areas. Priority should be accorded, as appropriate, to: a) Coral reef ecosystems; b) Estuaries; c) Temperate and tropical wetlands, including mangroves; Seagrass beds; Other spawning and nursery areas (para. 17.86).

Yet, the time-honoured principle of freedom of the sea has today to be balanced with the ever-increasing need to protect the marine environment and the innovative principle of sustainable development, which also pertain to the province of customary international law. The way in which the conflict of interests can be settled varies in the light of the peculiar circumstances and of different factors. For instance, whether and, if so, under what conditions an MSPA can be created along a route of navigation is a question to which no predetermined answers can be given, as many different elements are to be evaluated together and each could play a more or less important role. How delicate or unique is the ecosystem to be preserved? How many ships use the route and how inconvenient would a change be in their course? What measures can be envisaged in order to limit the hazards of the transit of ships? And so on.

C. MSPAs under Treaty Law

The general importance of MSPAs, as an instrument for the protection of the marine environment, is confirmed by the growing number of multilateral treaties which encourage the parties to create such zones.

Some treaties envisage the establishment of specially protected areas as one of the means for reaching their broader environmental objectives. Among them the following can be listed:

- the Convention on Nature Protection and Wild Life Preservation in the Western Hemisphere (Washington, 1940);

- the Convention for the Regulation of Whaling (Washington, 1946);
- the African Convention on the Conservation of Nature and Natural Resources (Algiers, 1968);
- the Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar, 1971);
- the Convention Concerning the Protection of the World Cultural and Natural Heritage (Paris, 1972);
- the International Convention for the Prevention of Pollution from Ships, called MARPOL (London, 1973, as amended in 1978);
- the Convention on the Conservation of Migratory Species of Wild Animals (Bonn, 23 June 1979);
- the Convention on the Conservation of European Wildlife and Natural Habitats (Berne, 1979);
- the United Nations Convention on the Law of the Sea (Montego Bay, 1982);
- the United Nations Convention on Biological Diversity (Rio de Janeiro, 1992).

Other treaties are specifically devoted to MSPAs in certain regional seas. They include, *inter alia*[11], the following instruments:

- the Protocol Concerning Protected Areas and Wild Fauna and Flora in the Eastern African Region (Nairobi, 1985);
- the Protocol for the Conservation and Management of Protected Marine and Coastal Areas of the South-East Pacific (Paipa, 1989);
- the Protocol Concerning Specially Protected Areas and Wildlife in the Wider Caribbean Region (Kingston, 1990);
- the Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean (Barcelona, 1995).

In 1998 a new Annex V to the the Convention for the Protection of the Marine Environment of the North East Atlantic (Paris, 1992; so-called OSPAR) was adopted concerning the Protection and Conservation of the Ecosystems and Biological Diversity of the Maritime Area.

A case study: The Barcelona Protocol

In the Mediterranean, cooperation in the field of the marine environment has its roots in a regional treaty, the Barcelona Convention on the Protection of the Mediterranean Sea against Pollution and its relevant protocols. The Barcelona Convention, which was opened to signature on 16 February 1976, entered into force on 12 February 1978. The Convention is a framework treaty (or "umbrella treaty") which is supplemented by implementing protocols relating to specific aspects of

[11] Also Annex V to the Protocol on Environmental Protection to the Antarctic Treaty (Madrid, 4 October 1991) provides for the creation of MSPAs. However, the peculiar character of the Antarctic environment does not permit a comparison with the provisions of other treaties.

environmental protection. It was the first of the so called regional seas agreements concluded under the auspices of the United Nations Environment Programme (UNEP).

In the last years, the legal instruments of the so-called Barcelona system underwent important changes. They were adapted to the evolution of international law in the field of the protection of the environment, as embodied, on the world scale, in the documents adopted by the United Nations Conference on Environment and Development (Rio de Janiero, 1992). Besides this main objective, the texts of the Convention and several of the existing protocols have been amended and new protocols have been adopted. For instance, a new Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean (Barcelona, 10 June 1995[12]) was adopted to replace the previous Protocol Concerning Mediterranean Specially Protected Areas (Geneva, 1982).

The Protocol is applicable to all the marine waters of the Mediterranean, irrespective of their legal condition, as well as to the seabed, its subsoil and to the terrestrial coastal areas designated by each party, including wetlands. On the contrary, the application of the previous 1982 Protocol was limited to the territorial sea of the parties and did not cover the high seas. The extension of the geographical coverage of the protocol was necessary in order to protect also those highly migratory marine species (such as marine mammals) which, by definition, do not respect the artificial boundaries drawn by man on the sea.

The purpose to "go into the high seas" gave rise to some difficult legal problems which are due to the present legal condition of the Mediterranean, where most States have not yet established an exclusive economic zone and many issue of maritime boundaries are still unsettled. In order to overcome these difficulties, the SPAMI Protocol includes two very elaborate disclaimer clauses (Art. 2, paras. 2 and 3). The idea behind such a display of juridical devices is simple. On the one hand, the establishment of intergovernmental cooperation in the field of the marine environment shall not prejudice the unsettled political and legal questions; but, on the other hand, the very existence of such questions (whose settlement is not likely to be achieved in the short term) should neither prevent nor delay the adoption of measures necessary for the preservation of the ecological balance of the Mediterranean.

The Protocol provides for the establishment of a List of specially protected areas of Mediterranean interest (SPAMI List)[13]. The SPAMI List may include sites which

> are of importance for conserving the components of biological diversity in the Mediterranean; contain ecosystems specific to the Mediterranean area or the habitats of endangered species; are of special interest at the scientific, aesthetic, cultural or educational levels (Art. 8, para. 2).

[12] Hereinafter: the Protocol.

[13] The existence of the SPAMI List does not exclude the right of each party to create and manage protected areas which are not intended to be listed as SPAMIs.

The procedures for the establishment and listing of SPAMIs are described in detail in Art. 9. For instance, as regards the areas located partly or wholly on the high seas, the proposal must be made "by two or more neighbouring parties concerned" and the decision to include the area in the SPAMI List is taken by consensus by the contracting parties during their periodical meetings.

Once the areas are included in the SPAMI List, all the parties agree "to recognise the particular importance of these areas for the Mediterranean" and – what is even more important –

> to comply with the measures applicable to the SPAMIs and not to authoris nor undertake any activities that might be contrary to the objectives for which the SPAMIs were established (Art. 8, para. 3).

This gives to the SPAMIs and to the measures adopted for their protection an *erga omnes* effect, at least as far as the parties to the protocol are concerned.

With respect to the relationship with third countries, the parties shall "invite States that are not Parties to the Protocol and international organisations to cooperate in the implementation" of the Protocol (Art. 28, para. 2). It is also provided that the parties "undertake to adopt appropriate measures, consistent with international law, to ensure that no one engages in any activity contrary to the principles and purposes" of the Protocol (Art. 28, para. 2).

The SPAMI Protocol is completed by three annexes, which were adopted in Monaco on 24 November 1996: the Common criteria for the choice of protected marine and coastal areas that could be included in the SPAMI List (Annex I)[14], the List of endangered or threatened species (Annex II), the List of species whose exploitation is regulated (Annex III)[15].

A great achievement was reached at the XII[th] Meeting of the Contracting Parties (Monaco, 2001) when the first twelve SPAMIs were inscribed in the List, namely the island of Alborán, the sea bottom of the Levante de Almería, cape of Gata-Nijar, Mar Menor and the oriental coast of Murcia, cape of Cresus, the Medas islands, the Coulembretes islands (all proposed by Spain), Port-Cros (proposed by France), the Kneiss islands, La Galite, Zembra and Zembretta (all proposed by Tunisia), and the French-Italian-Monegasque Sanctuary (jointly proposed by the three States concerned as a result of the trilateral agreement signed in Rome in 1999 on the creation of a sanctuary for marine mammals). The last SPAMI covers also areas of high seas.

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[14] Under Annex I, the criteria to be used in evaluating the Mediterranean interest of an area are uniqueness, natural representativeness, diversity, naturalness, presence of habitats that are critical to endangered, threatened or endemic species, cultural representativeness (but other characteristics and factors should also be considered as favourable for the inclusion of a site in the list of SPAMI). Annex I includes also detailed provisions on the legal status of SPAMI and their protection, planning and management measures.

[15] An expert meeting convened in November 2000 in Ajaccio prepared a technical tool for the inclusion of sites in the list of SPAMIs.

Specific conservation programmes

The list of Specially Protected Areas of Mediterranean Importance (SPAMI)

Chedly RAIS,
Scientific Director of the Regional Activity Centre
for Specially Protected Areas (RAC/SPA)

As part of the revision of the Barcelona Convention for the protection of the Mediterranean Sea against pollution and its Protocols, a new concept was introduced into the Mediterranean action Plan (MAP), namely the List of Specially Protected Areas of Mediterranean Importance (SPAMI), established under the New Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean Sea (SPA Protocol).

The SPAMI List is aimed at promoting cooperation in the management and conservation of natural areas, as well as in the protection of threatened species and their habitats. It may include sites which:

- are of importance for conserving the components of biological diversity in the Mediterranean;
- contain ecosystems specific to the Mediterranean area or the habitats of endangered species;
- are of special interest at the scientific, aesthetic, cultural or educational levels.

SPAMIs could be established not only in the marine and coastal zones subject to the sovereignty or jurisdiction of the Parties, but also in zones partly or wholly on the high seas. However, to be eligible for inclusion in the SPAMI List, a candidate area must be proposed by one (or several) Contracting Party(ies) and must satisfy the conditions set out in Annex I to the Protocol: "Common criteria for the choice of protected marine and coastal areas that could be included in the SPAMI List".

The procedure for including sites in the list, as set out by the Protocol, includes three main stages:

(i) the proposal which implies the presentation of an introductory report containing information on the area's geographical location, its physical and ecological characteristics, its legal status, its management plans and the means for their implementation, as well as a statement justifying its Mediterranean importance;
(ii) the evaluation by the National focal Points for SPA[16] of the conformity with the common criteria mentioned above and
(iii) the decision by the Contracting Parties.

[16] The National Focal Points for SPA serve, for their respective countries, as liaison with RAC/SPA on the technical and scientific aspects of the implementation of the SPA Protocol. They meet periodically to carry out their functions.

By including a protected area in the SPAMI List, the Contracting Parties recognize its particular importance for the Mediterranean and commit themselves to comply with the measures applicable to it and not to authorize nor undertake any activities that might be contrary to the objectives for which the SPAMI was established.

Following the entry into force of the SPA Protocol (December, 1999) and with a view to facilitating the setting-up of the SPAMI List, the Regional Activity Centre for Specially Protected Areas (RAC/SPA), began to elaborate technical tools to facilitate the procedure of assessment by the National Focal Points for SPAs of the proposals for inclusion on the List. This mainly meant standardizing the presentation reports that are mentioned in paragraph 3 of Article 9 of the Protocol. To this effect, an annotated Format for the presentation reports was elaborated. It was adopted by the Contracting Parties at their Twelfth Ordinary Meeting held in Monaco (November 2001). The next reports proposing areas for listing on the list of SPAMIs have to be prepared according to the adopted annotated format.

The Twelfth Ordinary Meeting approved the proposals to include on the list of SPAMIs the following areas : Alboran Island (Spain), Seabed of the Levant of Almeria (Spain), Cape Gata-Nijar (Spain), Mar Menor and the East coast of Murcia (Spain), Cape Creus Natural Park (Spain), Medes Island (Spain), Columbretes Islands (Spain), Port-Cros (France), Kneiss (Tunisia), La Galite (Tunisia), Zembra (Tunisia) and the Sanctuary for the Conservation of Marine Mammals (Monaco, France and Italy).

Before the establishment of the SPAMI List, the Mediterranean Action Plan had no system for registering protected areas recognized as being of particular importance for the region or for attributing a "Mediterranean award" to especially important, well-protected or well-managed natural sites. However, there is a Directory drawn up and maintained by RAC/SPA to list the marine and coastal Mediterranean protected areas. It is a non-selective inventory principally aimed at providing information on sites with protected status in the Mediterranean coastal zone.

MedWet – network and tools development for the conservation of Mediterranean wetlands

Maria ANAGNOSTOPOULOU, MedWet*

The identity of MedWet

The MedWet Initiative is a long-term, collaborative effort towards the conservation and wise use of Mediterranean wetlands, guided by the Mediterranean Wetlands Committee (MedWet/Com) and governed by the rules and procedures of the Ramsar Convention on Wetlands.

MedWet brings together all governments of the region (25), the Palestinian Authority, the United Nations Development Programme, the European Commission, the Barcelona, Bern and Ramsar Conventions, and 8 international NGOs and wetland centres.

The Mediterranean Basin is rich in wetlands of great ecological, social and economic value. Yet these ecosystems, and even more so the coastal wetlands which are subjected to high pressure from tourism, agriculture, road construction and housing development, have been considerably degraded or destroyed. The MedWet Initiative mobilises partners and funds to assist in implementing the Ramsar Strategic Plan in the region.

Basic parts of MedWet activity are conservation actions at wetlands of major importance (especially Ramsar Sites) and the promotion of national wetland policies. MedWet also provides a forum for regional exchange of experience at a technical level and publishes a range of wetland management methodological tools.

History

The concept of a comprehensive, long-term initiative in favour of stopping and reversing the loss and degradation of Mediterranean wetlands was decided informally at the end of the Grado Symposium (Italy) in February 1991. Soon after, the initiative was baptised MedWet and a Co-ordination Group was established. In a first phase (1992-1996), MedWet consisted on projects focusing on developing methods and toolsfor wetland wise use. Later, with the establishment of the Mediterranean Wetlands Committee (MedWet/Com) in which the Mediterranean States are represented, it became a networking and regional collaboration mechanism.

* Contributors to the content of this presentation were i) Spyros Kouvelis, MedWet Co-ordinator, ii) Jean Jalbert, Conservation Director of the Biological Station of Tour du Valat and iii) Thymio Papayannis, Special Advisor to the Secretary General of the Ramsar Convention.

MedWet came officially under the Ramsar Convention on Wetlands, with the Resolution VII.22 of the 7th Conference of the Contracting Parties (COP7) in May 1999.

The most significant events in the development of MedWet	
Feb. 1991, Grado, Italy	Conception of the MedWet Initiative
May 1991, Tour du Valat	Establishment of a MedWet Co-ordination Group
June 1992 – June 1996	MedWet1 project
Oct. 1995 – March 1997	MedWet2 project
June 1996, Venice, Italy	Pan Mediterranean Conference on Wetlands Endorsement of the Mediterranean Wetlands Strategy
Oct. 1996, Gland, Switzerland	Standing Committee decision approving the establishment of MedWet/Com
15-17 Mar. 1998, Thessaloniki, Greece	First Meeting of MedWet/Com Technical Session on Wetland restoration
31 Jan.–3 Feb. 1999, Valencia, Spain	Second Meeting of the Mediterranean Wetlands Committee – Technical Session on Sustainable tourism and wetlands
May 1999, San José, Costa Rica	Ramsar COP8 Resolution VI.22, recognising officially MedWet as a model of regional collaboration
Oct. 1999, Barcelona	Launching of MedWetCoast project
1-5 Apr. 2000, Djerba, Tunisia	Third Meeting of the Mediterranean Wetlands Committee – Technical Session on Cultural aspects of wetlands
16-17Oct. 2000, Tirana, Albania	Establishment of the Prespa Park Co-ordination Committee
20-23 May 2001, Sesimbra, Portugal	Fourth Meeting of the Mediterranean Wetlands Committee Decision on the creation of the MedWet Coordination Unit Technical Session on Salinas: traditional values and sustainable management

Structure

The MedWet initiative is guided by the Mediterranean Wetlands Committee (MedWet/Com) in which the Mediterranean states, international organizations and wetland centres are represented.

Coordination Unit

The Coordination Unit of MedWet is established in Athens (Greece), after the initiative of the Greek Government / Ministry of Environment to support its function. The MedWet Coordination Unit is an out posted Ramsar Bureau Unit, and is made up of the MedWet Co-ordinator, the MedWet Communications Officer, the MedWet policy Advisor, a technical expert shared with the Ramsar Bureau and a project development expert soon to be appointed. The Unit is assisted by a Senior

Advisor on Mediterranean Wetlands to the Secretary General of the Ramsar Convention on Wetlands.

Scientific / Technical Network

The scientific and technical support, as well as the programme and activities development is done in collaboration of the Coordination Unit with the Wetlands Centres that make up the Scientific / Technical Network of MedWet.

Today, this network is made up of four centres that cover geographically the better part of north Mediterranean (France, Greece, Spain, Portugal), while it will be re-inforced by the collaboration network in North Africa (Algeria, Egypt, Morocco, Libya, Tunisia) which is currently in development.

The four centres are:

- Greek Biotope / Wetland Centre (EKBY), Thessaloniki, Greece;
- Le Sambuc (Camargue), France;
- Sede para el Estudio de los Humedales Mediterráneos (SEHUMED), Burjassot (Valencia), Spain;
- Centro de Zonas Húmidas / Instituto de Conservação da Natureza (CEZH) Almada, Portugal.

Other networks

The MedWet/Regions Network is already operational, with eight regions from France, Italy and Spain as members. Tour du Valat has been the catalyst for establishing and the Balearic Islands region has accepted to lead it for an initial period. The first activity of the network is to develop an Interreg III C project, aiming on the establishment of a wetland information system for the participating regions.

The creation of the MedWet/North African Wetlands Network is a basic priority. Already, after the decision taken during MedWet/Com4, contacts have been made and it was already agreed that three counties (Algeria, Morocco, Tunisia) will establish the respective MedWet Focal Units. The effort will be completed with Egypt and Libya (contacts have already been made with the two countries), while for the support of the Network a proposal has been submitted to the EU Commission under LIFE - 3rd countries.

The MedWet/ NGOs Network is expected to become operational with the collaboration of WWF-MedPO (Mediterranean Programme Office). The network will bring together the major national NGOs in the Mediterranean active in wetland conservation and wise use, and enlarge significantly the technical and project development capacity of the MedWet Initiative.

Collaborations

MedWet collaborated with important international and inter-governmental organisations, for the developments of common methodology and activities. Some of them are:

- Collaboration with the Regional Activity Centre RAC/SPA of the Barcelona Convention. The collaboration includes the use of the MedWet methodology for the inventory of Mediterranean Coastal Wetlands, the participation of MedWet in the Steering Committee of the Strategic Action Plan for the conservation of Biodiversity in the Mediterranean (SAP/BIO), and the collaboration in the context of the MedWet Coast project.
- Member of the Mediterranean Commission on Sustainable Development (MCSD)
- Permanent member and partner in the programme development and implementation of the Global Water Partnership (GWP-Med).

Activity fields

- *Improving our knowledge of wetlands*

  Using and disseminating the Mediterranean Wetlands Inventory System and Database developed by MedWet for inventory, mapping and monitoring of all Mediterranean wetlands.

- *Increasing appreciation of wetland values*

  Using the Information and Public Awareness method developed and tested by MedWet to create awareness of wetland issues generally and at specific Mediterranean wetland sites.

- *Using wetland resources in a sustainable way*

  Applying the participatory approach, using economic wetland valuation techniques, and undertaking socio-cultural analyses for planning of sustainable development of Mediterranean wetland sites.

- *Managing the wetland water resources*

  Implementing water use policies at catchment basin level, and taking full advantage of wetland functions in the hydrological cycle, including their water purification abilities.

- *Maintaining and enhancing the biodiversity of wetlands*

  Restoring ecological functions and degraded wetland sites, protecting threatened species and habitats, alleviating the negative influences of introduced species, and harvesting wild species according to the precautionary principle.

- *Achieving integrated management of wetland sites*

  Training local and national wetland managers in modern site management techniques, improving management capacities locally, and making available specific expertise in the entire Mediterranean basin.

- *Developing and implementing national wetland policies*

  Promoting and applying the Ramsar guidelines for the establishment of truly inter-sectoral policies and the legal protection of wetlands.

- *Strengthening international collaboration*

  Exchanging knowledge and experience across the region, and reinforcing the collaboration among governmental and non-governmental organisations.

Projects / activities

Since 1991, MedWet has developed and implemented an important volume of projects with very important results, while it has participated in the planning and implementation of many other projects under the auspices of other collaborating bodies.

The main MedWet projects are:

Project	*Countries*	*Driver*	*Status*	*Remarks*
MedWet1	France, Greece, Italy, Portugal, Spain	Co-ordi-nation Group, executants	Completed	
MedWet2	Albania, Algeria, Croatia, Morocco, Tunisia	Ramsar Bureau, beneficiaries	Completed	Considered by the EC as model Life project
MedWetCoast	Albania, Egypt, Lebanon, Morocco, Tunisia, Pal. Authority	UNDP, Tour du Valat, beneficiaries	In execution	
MedWet4	France, Greece, Italy	Tour du Valat	Completed	
Neretva River wetlands	Bosnia and Herzegovina, Croatia	MW Co-ordination	In develop-ment	Efforts for a trans-boundary project

Project	*Countries*	*Driver*	*Status*	*Remarks*
Cultural aspects of wetlands	Mediterranean Basin	SEHUMED	In execution	
Aquatic environment evaluation	Mediterranean Basin	SEHUMED	In execution	
MedWet/ Regions	France, Italy, Spain	Tour du Valat	Submitted to Interreg III C	
North African Wetland Network	Algeria, Egypt, Libya, Morocco, Tunisia	MW Co-ordination	Submitted to LIFE 3rd countries	

Notes:

- MedWet1 – 1992-1996 (6.6 million ECU – 66% European Commission ACNAT)
- Co-ordinated development and testing of standardised methods for wetland conservation and management in the Mediterranean.
- France, Greece, Italy, Portugal, Spain
- MedWet2 – 1996-1998 (1 million ECU – 75% European Commission LIFE)
- Use of MedWet methods at selected sites, national reviews and wetland seminars, development of socio-economic approach.
- Albania, Algeria, Croatia, Morocco, Tunisia
- MedWetCoast – 1999-2004 (15.8 million USD – 80% Global Environment Facility and FFEM)
- Biodiversity conservation in coastal and wetland sites of global importance.
- Albania, Egypt, Lebanon, Morocco, Tunisia, Palestinian Authority
- MedWet4 – 1998-2000 (1.1 million FRF – Evian Initiative of Danone Ltd. and the Ramsar Bureau)
- Technical exchanges between Ramsar delta sites in the Mediterranean and Black Sea regions.
- Egypt, France, Greece, Italy, Romania, Russia, Spain, Turkey, Ukraine

Besides the projects implemented directly by MedWet, during the same period other activities were initiated with its initiative, but were implemented under the auspices of other collaboration parties, with MedWet's participation:

Project	*Countries*	*Driver*	*Status*	*Remarks*
Prespa Park	Albania, Greece, The FYR of Macedonia	Prespa Park Co-ordination Committee	In execution	Trans-boundary project
Integrated management of catchment basins	Mediterranean Basin	IUCN	In execution	
Evros / Meric / Maritza River	Bulgaria, Greece, Turkey	Wetlands Int., MW Co-ordination	In development	Trans-boundary project

Finally, MedWet participates actively in a number of projects initiated and implemented by other partners. Some of them are:

Project	*Countries*	*Driver*	*Status*	*Remarks*
Wetland inventory in Albania	Albania	EKBY, ECAT	In execution	Funding by Greece (DAC)
SAP-BIO		RAC-SPA	In execution	
Dojran Lake	Greece, The FYR of Macedonia	Euronatur, MW Co-ordination	In execution	Trans-boundary project

Funding

During ten years, MedWet has been directly responsible in the development and execution of a number of activities, while playing a catalytic role in others, all of which attracted considerable funds in favour of Mediterranean wetlands.

Taking into account only direct MedWet-related activities, they reach a total of approximately 23.5 million euros. These funds were provided either by the States participating in MedWet, by international and intergovernmental organisations, or by private bodies and foundations.

This important sum has been due solely to the existence and activities of MedWet and is beyond the normal funds of the Convention on Wetlands for the region.

The main sources of funding for MedWet are as noted in the following table:

Activity	*Period*	*Sum(Euro)*	**Source**
MedWet1	1992-1996	6,450,000	European Commission and project partners
MedWet2	1995-1997	1,100,000	European Commission and project partners
MedWet4/Evian	1998-2000	175,000	Danone Group
MedWet Coordination	1997-2000	500,000	MARA foundation

Activity	*Period*	*Sum(Euro)*	**Source**
MedWetCoast	1999-2004	14,000,000	Global Environmental Facility & FFEM
EKBY participation	1997-2001	460,000	Greece / Min. of Environment
SEHUMED participation	1999-2001	180,000	Spain / Min. of Environment
Tour du Valat participation		300,000	France / Min. of Environment & Tour du Valat Foundation
MedWet Coordination	2001-2002	320,000	Greece / Min. of Environment
Total		**23,485,000**	

Benefits and prospects of Wetland management tools development by MedWet

Two examples of the tools developed under the aforementioned activity fields, and in particular those associated with i) wetlands inventory and mapping and ii) training, are illustrated below.

Inventory and mapping of wetlands

One of the main priorities of MedWet since its creation was to assist the counties in acquiring an accurate picture of the wetlands and their status within their territory. Already from MedWet1, a common methodology for carrying out a wetland inventory was developed.

Since then, the methodology has evolved a lot. Detailed guidelines for field surveys, data sheets to help in collecting information, wetland identification and classification manuals, mapping techniques and a Data base for managing the information collected have been produced and revised.

Nowadays, a good part of the Mediterranean countries has prepared or is currently preparing wetland inventories including, from West to East, Portugal, Spain, France, Slovenia, Croatia, Albania and Greece. The MedWet methodology has been used in many cases, while there is now an effort to harmonise these inventories using the new MedWet Database, to be fully revised and widely disseminated at the Ramsar COP8 in November this year.

Parallel to this, and in the context of the MedWetCoast project, wetlands inventories are being prepared using the MedWet methodology for the coastal wetlands of the participating countries (Albania, Egypt, Lebanon, Morocco, Palestine and Tunisia). Finally Montenegro, Bosnia Herzegovina, the FYR of Macedonia and Turkey have expressed their interest in undertaking the effort, while Libya is working with MedWet, RAC/SPA and other partners to start the process. Other countries outside the Mediterranean region have expressed their interest to use the MedWet methodology.

The final objective is to incorporate all this information in a coherent pan-Mediterranean wetland inventory, which will constitute a dynamic tool for monitoring the trends in wetlands conservation and management in the region, allowing the adoption of the necessary policies and approaches. Towards the fulfilment of this ambitious goal, MedWet has been and will be an indispensable generator of ideas and techniques, as well as the catalyst for the necessary collaborations and partnerships.

Training of people involved in wetland management

Even in the early days of MedWet, it became apparent that no organisation was carrying out specific wetland-related training in the Mediterranean. Instead of establishing a Mediterranean training centre, it was therefore decided to develop training capacity in existing organisations in various countries, ensuring a faster and more efficient transfer of skills and know-how.

MedWet thus focussed its efforts on people involved in wetland conservation and willing to train other people, and provided them with simple and clear training material aimed at enabling them to deliver a professional and targeted training course. These materials include

(i) methodological and practical guides laying the basis of training engineering, and

(ii) training modules on various key subjects, very easy to implement and adapt to different local contexts. This approach has been found to be successful and a number of training modules have been adapted to local conditions in different countries by people without prior training experience. For example, the training module on wetland management planning has been adapted to the Turkish, Spanish, Portuguese and Slovenian contexts, translating all the methodological material in the native language and designing specific case studies from real cases in each country. From 1995 to early 2002, 16 training courses were held in Greece, Spain, France, Slovenia, Portugal, Turkey, and also Tunisia, Morocco, Egypt and Jordan, while many more have taken place in the Camargue, France during the same period.

The MedWet experience in training is quite original and recognised internationally. The MedWet partners for training are currently playing a catalytic role in order to set up a network of Mediterranean training organisations with the aim of exchanging experience and improving methods & tools.

Achieved and potential benefits of regional networking

In the ten years of its operation, MedWet has accomplished a considerable amount of work and quality outputs and still continues to:

- earn credible reputation and label, both of which improve eligibility for funding mechanisms and chances for approval of project proposals;
- exchange and best use of existing expertise in a wide region (Mediterranean) and identification of research needs – synergy and increase of cost/effectiveness of allocated resources;
- develop new tools and techniques for several aspects of wise wetland management (most recent: restoration, eco-tourism);
- document and raise appreciation of the special features and conservation priorities of the Region among policy and decision makers, on national, Mediterranean, European and international level. These special features and priorities emerge from differences (e.g. in culture, level of technological development) and similarities (high demand for wetland uses) among involved countries, as well as from the role of the Mediterranean as a complex ecological, cultural and economic entity in the international conservation community;
- create a living communication forum of knowledgeable and concerned individuals (whether coming from science, government or non-governmental bodies) who gradually get to know each other and feel readier to establish partnerships and collaborations of variable character (from exchange of know-how to submission of joint project proposals). Personalised contact facilitates and accelerates multilateral collaborations and implementation of projects;
- act as regional organ for the implementation of tasks emerging from obligations or commitments of international conventions. For the implementation of a recent MoU signed in February 2001 between the Ramsar Convention and the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention), MedWet has been appointed to act on behalf of the Ramsar Convention;
- establish itself as a prestigious actor and advisor on Mediterranean wetland affairs within the European and international nature conservation scenery (see above under 1.3). For example, the participation of MedWet in GWP-Med, a network devoted to the integrated management of water resources in the region, is a strong indication of its acceptance as one of the key actors in the Mediterranean on wetland and water issues. Invited in May 2000, to become a member of the Mediterranean Technical Advisory Committee of the Global Water Partnership (MEDTAC-GWP), MedWet took part diligently in its activities, assisted in preparing its rules of procedure, and organised the transition from MEDTAC to GWP-Med, which occurred during the second semester of 2001. At present, MedWet is focussing on the role of water in agriculture and food, within the framework of the GWP-Med work plan for 2002;
- encourage, give birth or get connected to, other networks with similar missions and goals, therefore enhancing its impact and effectiveness. In the appendix

there is information (extracts from MedWet Newsletter 16) on the following networks/projects that have emerged within MedWet:

- MedWet/Regions
- North African Wetlands Network
- MedWetCoast

Perhaps the major network built by MedWet and the Ramsar Bureau is the Mediterranean Wetlands Committee. According to its rules, approved in 1998, MedWet/Com

> will promote the co-ordination of wetland-related activities in the region, and will ensure communication and co-ordination with other relevant bodies. Its main aim is to build strong synergy in favour of wetland conservation and sustainable use, and to avoid duplication of other existing or projected initiatives.

Today its members include all 25 governments in the region, many international conventions and authorities, practically all major international NGOs active in the region and wetland centres. What is still missing is a greater representation of the donor community, which must be further cultivated.

Let us not forget that the entire Mediterranean region is itself a living marine and coastal corridor, a two way communication route for marine organisms, connecting the Atlantic ocean to the Black Sea and the Sea of Azof on the one hand, and to the Indian Ocean via the Red Sea on the other. Moreover, for millions of years, the basin is being crossed by countless birds twice a year, along the North-South-North migratory pathways of the Western Palaearctic. In this sense, it is vital that this so special, in terms of biogeography, ecology and culture, region of the Mediterranean and its biodiversity, attract all the attention and concerted conservation efforts that they deserve.

Appendix

Information on networks/projects that have emerged within MedWet

1. MedWet/Regions : Network and action programme for wetlands in the Mediterranean Regions

In some countries the regional authorities have important responsibilities concerning the conservation and management of the natural environment, as well as other related sectors (land use planning, tourism, agriculture, hunting, fishing, transportation, education, etc.). Furthermore, they are closer to the field and to the actual problems than the central governments. For these reasons, the Mediterranean Wetlands Committee (MedWet/Com) wishes to associate the regional and sub-regional governments to the MedWet initiative, through a network for wetlands in the Mediterranean Regions.

Several Mediterranean regions, with the support of the French Ministry of Environment and the Station Biologique de la Tour du Valat, are interested in the creation of this network, through the development of an Action Programme for Wetlands in the Mediterranean Regions. This Action Programme is aimed to contribute to the conservation and sustainable development of wetland ecosystems, and to improve the collaboration between Regions. The Regions that take part in this network are Languedoc-Roussillon, PACA and Corsica in France, Tuscany in Italy, Andalusia, Catalonia, the Balearic Islands, Murcia and Valencia in Spain.

The Biological Station of Tour du Valat is co-ordinating the creation of the network of regions and the development of the Action Programme, in close collaboration with the partner Regions. The latter have held two meetings in the Camargue (November 2000) and in Minorca (March 2001), where they agreed on the basis of the project and the objectives of the Action Programme, which are the following:

- To improve knowledge and harmonise the information about wetlands, through standardised inventories.
- To contribute to maintaining or enhancing the conservation status of Natura 2000 wetlands, through integrated management plans and scientific monitoring programmes, based on common criteria.
- To promote sustainable activities and the wise use of the natural resources of wetlands.
- To contribute to the capacity building of regional governments and to improve the technical capacity of local actors and managers of wetlands, through training and exchanges.

The scope of the activities planned under the Action Programme includes:

a) Coordinated actions at regional level, which can involve many wetlands in each region (e.g. inventory).

b) Actions at local level in a number of Natura 2000 wetland sites proposed by each Region. The actions at local level consist of the preparation of management plans and monitoring programmes, as well as the promotion of sustainable activities. These actions will clearly benefit from the collaboration, experience and support from other Regions involved in the Action Programme. The Regions have proposed some 20 pilot sites.

c) Transversal actions, to be carried out jointly by the different regions, including communication (web site), technical seminars, training courses, exchanges between sites and regions.

A third meeting of the partner Regions is scheduled to take place in 2-4 May 2002 in Seville, in order to finalise the project proposal (concrete actions, budgets, calendar), that will be submitted for funding to the European Initiative Interreg III B in spring 2002.

[Article by Pere Tomàs-Vives, Station Biologique de la Tour du Valat – MedWet/Regions Office, published in MedWet Newsletter 16 (March 2002)]

2. The North African Wetlands Network

The Mediterranean Wetlands Committee is the first regional collaboration structure under the Ramsar Convention. It is also the leading organ of MedWet, which establishes the priorities for action, to be carried out by the MedWet Coordination Unit and the Medwet Technical Network. The latter currently consists of four wetland centres, all of them based on the north coast of the Mediterranean.

In order to maintain a geographical and linguistic balance and address the specific needs and opportunities in the Arabic countries of North Africa, the need to complement the Technical Network by establishing a North African Wetlands Centre was firmly articulated since the MedWet 2 project already. Under current institutional and operational restrictions it was thought that it would be best not to proceed with the establishment of a heavy institutional structure, but rather opt for the idea of a North African Wetlands Network, allowing the participation of all countries.

The principal objectives of the Network were set as follows:

- Increase knowledge on North African Wetlands;
- transfer and use MedWet tools in the North African countries and develop new ones;
- promote a socio-economic approach for the management of Mediterranean wetlands;
- strengthen the collaboration between Arabic countries in the region;
- ensure the representation of the North African countries in MedWet;
- mobilise additional funds for the integrated management of wetlands in the region, by launching new projects.

The architecture of the network is based on the concept of MedWet Focal Points established in each country. Each Focal Unit of the NAWN consists of three representatives i.e. a representative from the national administration, another from associated NGOs, and a scientific /research institution working on wetlands.

During the last few months, the MedWet Coordination Unit has undertaken a series of missions in Algeria, Morocco, Tunisia, Egypt and Libya. Working sessions have been organised, with the participation of the MedWet national focal points and a broad range of key representatives of the NGO and scientific/research sectors, during which the representatives of each group could be identified. Today, the Algerian MedWet Focal Unit has officially been set up, while the ones for Morocco and Tunisia are in the process of establishment. New missions are planned in Libya and Egypt to facilitate the process.

With the opportunity of the recent sub-Regional meeting of the Ramsar Convention for North and Central Africa in Algiers, the North African Wetlands Network had its inaugural meeting. It was decided that the process of establishing the focal units will be further accelerated, and activities of exchange and information between the countries will be initiated while waiting for more funds to become available for on-the-field actions. Regarding the latter, a proposal has already been submitted to the EU LIFE 3rd countries programme by the MedWet Coordination Unit.
[Article by Nejib Benessaiah, MedWet Policy Advisor, published in MedWet Newsletter 16 (March 2002)]

3. **MedWetCoast:** Project for the conservation of wetlands and coastal ecosystems in the Mediterranean region

The project's Regional Facilitation Unit (RFU) is Tour du Valat and the Conservatoire du Littoral of France, and the national project partners come from Albania, Egypt, Lebanon, Morocco, Palestinian Authority and Tunisia. The Regional project partners are the Global Environment Facility (GEF/UNDP), Fond Français pour l'Environnement Mondial, Ministère de l'Aménagement du Territoire et de l'Environnement, United Nations Office for Project Services, Atelier Technique des Espaces Naturels, RAMSAR / MedWet, MAP.

Since early 2001, the activities of the project have focused on the site diagnoses studies (legal and institutional audit of management methods and techniques implemented on wetlands and costal areas) in order to propose policy improvements and to elaborate the management plans for the sites. Now that this phase is over for most of the involved countries, the diagnosis reports are being drafted and will be available on the project's internet site in April 2002.

In line with of the ongoing diagnosis process, the MedWet inventory method was identified as an essential tool in responding to national needs with regard to data recording and distribution of information. A regional training course on the use of the said method was held in February 2002 in Portugal (see article), leading to the

adoption of a common GIS protocol for the MedWetCoast project, ensuring the compatibility of systems used and regional consistency with regard to information in all the countries involved.

A common framework for the drawing up of management plans has been prepared. Preparation of the management plans is expected to take place from November 2001 to December 2002. Technical support for the provision of methods and expertise will be contributed by the RFU. A regional training-for-trainers course was organized in Amman (Jordan) in March 2002 towards this objective (see article). The Regional Facilitation Unit, in close collaboration with ATEN, developed a number of regional training courses to be implemented during the period 2001 to 2004, in all partner countries and on subjects associated with the MedWetCoast objectives.

In April 2001, the first Regional Advisory Committee meeting of the MedWetCoast project took place in Rabat (Morocco). There, the implementation of a true inter-sectoral policy appeared as a priority, involving local populations and non-governmental organizations and working towards the creation of an active network of all the actors, with the aims of capitalizing on expertise and exchanging experience. The meeting was also an opportunity for the different partners involved in the project to approve a logical framework, including performance indicators, for the monitoring and evaluation of the project.

The Internet site (www.medwetcoast.com), which plays a central role in communication within the project, provides support for the development of the MedWetCoast network.

[Article by Lamia Mansour, TdV – MedWetCoast Office, published in MedWet Newsletter 16 (March 2002))

National presentations

Coastal and marine biodiversity protection in Latvia

Vija BUSA (Latvia)
Chairperson of the Committee of experts for the development of the
Pan-European Ecological Network of the Council of Europe (PEEN)

Legislation

- National Programme on Biological Diversity, 2000;
- Strategy and Action Plan, an issue on Baltic Sea, beaches and dunes protection;
- Law on Specially Protected Nature Territories, 2002;
- Designation, protection and management, responsibilities, duties;
- Law on Protection of Species and Biotopes, 2000;
- Lists of protected species and biotopes, designation of micro-reserves, rules for protection and management;
- Law on Protective Zones, 1997, 2002;
- Coastal zone, protected zones for rivers and lakes.

Protection in territories

National

- Specially protected nature territories,
- Microreserves (small areas for species and biotopes),
- Protected zones (coastal zone – 5 km, dunes zone – 300 m).

International

- Natura 2000,
- Ramsar sites,
- Helcom sites (proposals),
- Important Bird Areas,
- Ecological corridors.

Local : rules of municipalities

Protection and management

Administrations

- administrative boards,
- NGOs – funds,
- Nature Protection Board,
- Municipalities.

Management plans

- for SPNT in coastal zone,
- for species and biotopes,
- Integrated Coastal Zone Management.

Future plans

- vegetation mapping in coastal zone,
- micro-reserves,
- Natura 2000 maritime sites,
- Helcom sites,
- Ramsar sites,
- National Plan: coastal zone – a sensitive area,
- Recommendations for planners,
- Information and public awareness raising.

Biodiversity and protection of high seas and deep oceans: perspectives from the Northern Middle Atlantic Ridge

Joao GONÇALVES, University of Açores (Portugal)

Biodiversity is usually thought as the species richness available in a specific geographic area, though other meanings are also established. It was long thought that oceans hold far fewer species than land ecosystems. However, it is thought that this lack of marine biodiversity is not real, but because the oceans have been so far poorly studied. Indeed, oceans represent 95% of living space on Earth but are hard to study, mainly the offshore waters and the deep-sea. Recent studies point out that marine biodiversity is at least as rich as land ecosystems. According to some controversial estimates around 10 million invertebrate species live in the deep-sea bottom alone. Uncontroversial is the fact that oceans harbours harbour most of the world's biodiversity at higher biological levels. Of the 34 animal phyla, all but one occur in the ocean, and half of them are exclusively found here. This contrast remarkably with the 15 animal phyla found in land ecosystems. Thus, oceans nurtures most of our planet's biodiversity, and moreover was the place where life was originated.

Despite deep-seas and offshore waters represent by far the largest biotopes on Earth, its biodiversity is not homogeneous through it. Some biotopes, as seamounts and the hydrothermal vent communities, are especially rich. Even the deep-sea floor has unexpected high levels of biodiversity.

Nowadays, human exploitation in the oceans is reaching un-precedent levels. Fisheries are now targeting deep-water species as the traditional finfish resources have been hardly exploited during past decades. Seamounts communities are now under threat as they harbour large populations of uncommon fish species, as it is the case with the orange-roughy. Pollution is also affecting the high seas, due to contamination from land activities, as well as due to the dumping of waste materials. In this context, the dumping of radioactive wastes in the deep-sea could be particularly damaging in long-term. Even, ecosystems thought to be out of range, as the deep-sea hydrothermal vent communities are now at hand of tourism, combined with the increasing scientific research. Deep-sea mineral mining is another activity that is being seriously considered for near future. Moreover, "conventional" oil extraction is being carried out in progressively deeper waters.

The establishment of Marine Protected Areas (MPA) can be seen as one of the ways in which marine biodiversity may be preserved. An increasing number of such MPAs have been stated around the world, mainly concerning to coastal and inshore waters. More recently, there is a trend to create high sea MPAs, mainly concerning seamounts. This is the case with Canada and USA that are considering the establishment of such MPAs in both Pacific and Atlantic coasts. Some UE countries

are also following such trend. Some NGOs are collaborating in this issue and suggesting new MPAs. Even particular areas of the deep-sea abyssal plain have been suggested for MPAs.

The establishment of offshore MPAs is being also considered in Portugal. The Azores archipelago, which represents the largest part of the Portuguese EEZ, and even of the UE, is surrounded by deep-waters and encloses several seamounts. One of these seamounts, D. João Castro bank, has been classified as a special area for conservation. The Formigas islets and the Dollabarat reef, the summits of other seamount, was established as Natural Reserve since 1988. More recently, the Lucky Strike (1700 m deep) and Menez Gween (850 m deep) hot vents have been discovered within the Azorean EEZ and are now taken in consideration to be classified as MPAs, representing the first ones in the NE Atlantic. Both areas have dense communities dominated by mussels and shrimps, which depend on the chemo-autotrophic bacteria that are the primary producers of these ecosystems. Despite located at deep waters, tourism and over-sampling due to intense research programmes, are the major threats that directly affect these ecosystems. In order to discuss the establishment of these deep-sea MPAs the Regional Government of the Azores and the University of the Azores (DOP) are promoting during June 2002 an international workshop to address these relevant questions.

Marine and coastal biodiversity conservation in Ukraine

Grygoriy PARCHUK, Ministry of Environment (Ukraine)

For the years of independence Ukraine has made considerable steps concerning improving the biodiversity conservation in the zone of the Azov and Black Seas. 2 Biosphere Reserves (one of them is transfrontier), 6 Strict Reserves, and a range of wildlife reserves were established there. Also there are 19 existing and about 10 potential costal and marine Ramsar sites in Ukraine. 5 protected areas were proposed to include into the Emerald Network of Europe. IBA Program of BirdLife International has identified 35 IBAs there. The State Program of Ukraine's National Econet Establishment for Years 2000-2015 foresees to establish 10 new National Nature Parks and enlarge some existing protected areas in the zone of seas as well as to develop Dnipro and Dniester River ecological corridors (Lower Danube Green Corridor is available) and Coastal Azov-Black-Seas Ecological Corridor.

The Bucharest Convention on Protection of the Black Sea against Pollution (1992), Odessa Ministerial Declaration on Protection of the Black Sea (1993), and Strategic Action Plan for Rehabilitation and Protection of the Black Sea (1996) created the background for more practical steps on different levels. Last years the Concept and the National Program of Ukraine for the Protection and Rehabilitation of the Environment of the Azov and Black Seas were developed and approved to implement international obligations of Ukraine.

GEF Black Sea Program (1993-2000) for six countries essentially promoted strengthening the institutional base of the countries and development of regional ecological policy. The Red Data Book of the Black Sea was adopted and the Protocol on Biodiversity Conservation to the Bucharest Convention Black Sea Convention was developed. The number of projects on coastal biodiversity conservation by international organizations as WWF for Nature (Danube and Black Sea International Program), TACIS (Wetlands Restoration Project in Odessa Oblast), EUCC (Pilot Project on Wetlands Restoration in the Dniester River area), Flora and Fauna International (Creation of a new National Nature Park), Wetlands International (Black Sea Program) etc. is going. Great hopes we set on starting this year the GEF Project concerning creation of the Azov-Black-Seas Ecological Corridor.

Problems concerning coastal and marine ecosystems conservation in Ukraine: insufficient financial support to establish new protected areas, lack of proper management planning for biodiversity conservation, poor intersectorial co-operation and involving of local people into the process of biodiversity conservation.

Protection of specific species and habitats

ACCOBAMS and the International Sanctuary for Mediterranean Cetaceans

Giulia Mo, Accobams

Premise

The establishment of conservation measures for the protection of Mediterranean marine biodiversity is a process which has culminated during the last decade with the formulation of international agreements and conventions geared at, amongst other things, the conservation of Mediterranean cetacean species. Such a process is evident in different tools such as the Barcelona Convention for the Protection of the Mediterranean Sea Against Pollution, revised in June 1995, and its new protocol related to Specially Protected Areas and Biodiversity in the Mediterranean, signed on June 10th 1995 and presently in force. The approach of such protocol combines both threatened species and spatial protection, further strengthened through the establishment of "Specially Protected Areas", and the additional concept of "Specially Protected Areas of Mediterranean Interest" (SPAMI). During the 1990s efforts in harmonising the various existing intergovernmental tools also ensured the inscription of the most sensitive Mediterranean species (identified in the Barcelona Convention Protocol), such as cetaceans, in the appendices of the Bern Convention on the Conservation of European Wildlife and Natural Habitats.

On November 24th 1996, fifteen Mediterranean and Black Sea riparian States and the European Union signed, in Monaco, the final Act of the Negotiation meeting for the adoption of the Agreement on the Conservation of the Cetaceans of the Black sea, the Mediterranean sea and the contiguous Atlantic area (ACCOBAMS). The Agreement itself was signed the same day by eleven representative States[17], joined later by three other states [18] and has been ratified to date by six countries[19]. Born from a process launched in 1989 in the frame of the Bonn convention, this Agreement is one of the available tools for the conservation of cetaceans in the Mediterranean and Black seas. Moreover, at a sub-regional level, France, the Principality of Monaco and Italy signed in 1993 a "joint Declaration related to the institution of a Mediterranean Sanctuary for marine mammals". The agreement establishing the Sanctuary in the thyreno-liguro-provençal zone was signed by the three States on November 25th, 1999.

[17] Albania, Croatia, Cyprus, Spain, France, Georgia, Grece, Italy, Monaco, Portugal, Tunisia.
[18] Bulgaria, Morocco, Romania
[19] Croatia, Bulgaria, Monaco, Morocco, Romania, Spain.

The Agreement on the Conservation of Cetaceans of the Black Sea, the Mediterranean Sea and the Contiguous Atlantic Area (ACCOBAMS): A cooperative tool for the conservation of Mediterranean and Black Sea biodiversity.

The Agreement on the Conservation of Cetaceans of the Black sea, Mediterranean sea and contiguous Atlantic area was negotiated and adopted accordingly to paragraph 4 of the article IV of the Bonn Convention on the Conservation of Migratory Species of Wild Animals (CMS). The Agreement presents an interesting step for the conservation of Cetaceans keeping in mind that some States have no adequate legislation and that co-ordinated action is needed to reduce the impact of fishing fleets also of non-riparian States, who are elsewhere invited to sign the Agreement.

"The Agreement area", referred in article I,

> is constituted by all maritime waters of the Black Sea and the Mediterranean and their gulfs and seas, and internal waters connected to or interconnecting these maritime waters, and of the Atlantic area contiguous to the Mediterranean Sea west of the strait of Gibraltar

with the possibility for Parties to emit a reservation on a specifically delimited part of their internal waters, during the signature or the ratification.

The taxonomic field of the Agreement covers all Cetaceans present in the zone. The coordination of measures taken by Parties in order to reach and to maintain a favourable conservation status for the Cetaceans (article II, paragraph 1), includes amongst others:

- the coordination of measures taken by the Parties at a "global" level in the whole the zone of the Agreement, while the Agreement will work through already existing intergovernmental bodies;
- article II, paragraph 3 states that Parties apply, in their limit of sovereignty and/or jurisdiction, conservation, research and management measures prescribed in Annex 2 of the Agreement, under the form of a conservation Plan. Such plan foresees the limit of 2,5 km of drift net length, a measure which is already in force within the European Union;
- Parties shall apply the precautionary principle when they implement any measures which may hamper with the protection of the environment (article II, paragraph 4).

For the purposes of the implementation of its objectives, the Agreement settles:

- a Meeting of Parties (article III);
- a Secretariat of the Agreement (article IV);
- two sub- regional coordination Units (article V). For purposes of implementing the cooperative process of the Agreement, article III, paragraph 7 c), states that co-ordination Units will be designated, in each sub-region, within an existent

institution. To this effect, the existing institutional structures of the Barcelona (for the Mediterranean) and of the Bucharest (for the Black Sea) Conventions are particularly suitable for this purpose;

- a Scientific Committee (article VII), composed by experts qualified in Cetacean conservation science, established as a consultative body of the Meeting of the Parties. Similarly to the coordination Units, the functions of the Scientific Committee will be confided to an already existent organisation acting in the zone of the Agreement, with a balanced geographical representation. The International Commission for the Scientific Exploration of the Mediterranean is called to play this role.

The ACCOBAMS Agreement relies on a minimal coordination device. Article XI, paragraph 1, states that

> The provisions of this Agreement shall not affect the right of any Party to maintain or adopt more stringent measures for conservation of cetaceans and their habitat, nor the rights or obligations of any Party deriving from any existing treaty, convention or any existing agreement, to which it is a Party, except where the exercise of those rights and obligations would threaten the conservation of the cetaceans.

The Agreement also addresses the important problem of its application, not only by riparian countries of the Agreement zone, but also by those countries whose ships exercise activities that are likely to undermine the goals of the Agreement. For that purpose, the Agreement introduces the concept of "range State " defined as "any State that exercises its sovereignty and/or jurisdiction over any part of the range of a cetacean population covered by this Agreement, or a State, flag vessel of which are engaged in activities in the Agreement area which may affect the conservation of cetaceans" (article I, paragraph 3,g). Article XIII allows the agreement signature or accession by any range State, "whether or not areas under its jurisdiction lie within the Agreement area, or regional economic integration at least one member of which is a range State."

Mediterranean pelagic marine biodiversity cannot remain unaddressed because of the lack of exclusive economic zones in this region. This implies the need to establish coordinated measures of protection whose efficiency, due to the activity of flag ships of external States, is always precarious. The present Agreement does not depart from this observation however the previously analysed mechanism of "range State" is not sufficient in solving problems arising from the fishing activities of those external States. Therefore, the efficiency of the envisaged conservation measures implies their respect by the totality of fishing ships operating in the zone of the Agreement. The participation of third States operating in the zone, to initiatives regarding the conservation of Mediterranean and Black Sea biodiversity, therefore relies on integrated management practices involving a real "network" of agreements and international bodies.

The International Sanctuary for Mediterranean Cetaceans

The French-Italian-Monegasque International Sanctuary for Mediterranean Cetaceans, set up by a tripartite agreement between the three governments and signed in Rome on 25 November 1999, covers 87,000 km^2 in the Tyrrhenian-Corsican-Provencal part of the Mediterranean, and includes both littoral as well as pelagic waters.

The Sanctuary is located within the area defined by the following limits (see Fig. 1):

- to the West, a line running from La Pointe Escampobariou (west headland of the Giens Peninsula: (43° 01' 70'' N, 06° 05' 90'' E) to Capo Falcone, located on the western coast of Sardinia (40° 58' 00'' N, 008° 12' 00'' E);
- to the East, a line running from Capo Ferro, located on northeastern coast of Sardinia (41° 09' 18'' N, 009° 31' 18'' E) to Fosso Chiarone, located on the western coast of Italy (42° 21' 24'' N, 011° 31' 00'' E).

History of the project

During the late 1980s, the sudden increase of fishing boats using driftnets and the recognition that many cetaceans were being caught in their mesh became a cause of great concern for NGOs (such as SOS Grand Bleu and Greenpeace), scientists and local politicians. In 1991, the Tethys Institute presented, in conjunction with the European Rotary Club for the Environment (AERA), a project titled "operation Pelagos" (a vast protected area in the Corsica-Ligurian-Provencal waters). Such a project was conducted with the support of the Rotary of the Principality of Monaco, of Milan and of Saint Tropez. This project was rapidly promoted by diverse organizations such as the WWF Mediterranean Program and the RIMMO Association which, from 1992, has organised annual seminars on the need to protect high seas biodiversity in the western Mediterranean.

On March 22, 1993 the Monegasque Principality and the governments of Italy and France signed a Declaration to set up a Sanctuary for the conservation of marine mammals in the Corsican-Ligurian-Provençal basin. This Declaration, which can be considered to be a Declaration of Intent, was accompanied by a document presenting the underlying scientific basis for the establishment of the Sanctuary. Following various negotiations the text of the Agreement was signed in Rome on November 25 1999, with the Principality of Monaco acting as depositary of the text. The Sanctuary covers an area of 87,000 km^2.

Features of the area

The coasts surrounding the area are basically rocky, with the exception of the eastern coasts of Corsica and the Tuscan coasts, which are characterized by plains. These steep coasts are the result of recent tectonic movements, that are still in action, and which are linked to the emergence of the Alps and the opening of the Provencal basin which occurred during the Tertiary era. An obvious component of

the terrestrial area present in the Sanctuary, is the presence of big islands such as Corsica, and partial stretches of the coast of Sardinia, as well as various smaller islands, such as the Hyères Isles, Port-Cros, the Ligurian Isles, the Tuscan archipelago and the Bonifacio strait. Most of these islands and the surrounding waters are object of the respective national environmental protection schemes. The rivers joining into the sea are essentially torrential and most of the streams drain water from short, steep slopes. The continental slope is generally very narrow along the rocky coasts, though better developed along the coasts of the plain (Tuscany and eastern Corsica). The Corsican-Provencal basin is highly bathymetric (2,500-2,700 m.). Most of the seabottoms in front of the rocky coasts are characterised by the presence of underwater canyons, which increase the morphological and hydrodynamic diversity of such areas.

The physical and climatic features of the basin create particular hydrodynamic conditions that develop a system of vertical fronts, which mobilise waters from the deep and give rise to areas which are very favorable for the development of marine primary production. Complex food chains are thus formed in these areas of primary production, and cetaceans constitute the most remarkable final links of such foodwebs. The aforementioned fronts are linked to the presence of a dominant cyclonic current (the Ligurian current), which itself depends on the atmospheric pressure fields of the Gulf of Genoa and the Golfe du Lion. The area thus presents three-dimensional characteristics and a seasonal variation of great diversity, creating the constraints and potential in which biological diversity can find expression. The variety of habitats resulting from these geophysical situations is well known at a benthic level and has given rise to various biocenotic inventories and mappings. At a pelagic level, although the typology is not so well established, marine biodiversity appears highly heterogeneous and will in fact require future classification work.

This vast pelagic area is characterized by the presence of 12 different species of cetaceans, both pelagic and coastal species. For some species the population estimates range between several tens of thousands of individuals (for certain dolphins) to one thousand individuals (i.e.the finback wale, *Balaenoptera physalus*, which is a beacon species of the area). Although cetaceans are the particular protection target of the area, other zoological *taxa* (such as marine birds, pelagic cephalopods and cartilaginous fish) present in the area may reap the benefits of the protection measures as well as of subsequent conservation-minded research activities.

Threats

The Sanctuary is characterised by coastal areas that are particularly urbanised and subject to strong tourist pressure. The main threats to the wildlife present in the Sanctuary are linked to:

- the urbanisation and industrialisation of the coastal area and their subsequent pollution into the marine coastal environment, and the noise and seismic disturbance caused by civil engineering work and exploration of the continental slope;

- the international maritime traffic and traffic between the big islands and the continent, with the consequent risks of collision, direct disturbance and acoustic pollution;
- maritime tourism and the development of tourist cetacean observation, whether organised or not, with its consequent risk of directly disturbing the animals;
- fishing (traditional, commercial or sports) with the impact of accidental catch (particularly by drifting mesh nets) and competition for food resources.

The foreseeable future demographic and economic development can leave no hope that these threats may diminish without determined (voluntary) action on the part of the States that lie along the coast of the area, as well as with the support of the other Mediterranean countries. This support is all the more fundamental in the portion of the Sanctuary's waters that lies beyond the area where at present the states have jurisdiction (territorial waters).

The Agreement

The Agreement creating the Sanctuary, aims at coordinating the three countries in implementing concerted measures that will reduce the threats faced by cetaceans, and seeks the collaboration to this end from third party Mediterranean countries or external countries. The Agreement explicitly aims at a common presentation of the Sanctuary for inclusion in the SPAMI list. This presentation is particularly justified by the absence of an Exclusive Economic Zone in the Mediterranean, which does not allow the Mediterranean riparian states to easily fulfill their obligations in terms of marine resource conservation. Inclusion of the Sanctuary in the SPAMI list on behalf of the three signatory countries thus represents a tangible contribution to the enactment of the conservation measures foreseen by the Sanctuary.

The Agreement entered into force on February the 21th 2002 and has been presented to the Contracting Parties of the Barcelona Convention's "Protocol for Specially Protected Areas and Biological Diversity in the Mediterranean" for inclusion in the SPAMI list. The Contracting Parties agreed to the listing of the sanctuary as a SPAMI during their 12th meeting, held in Monaco, in November 2001. In accordance with the Protocol's article 8.3.b this implies recognition and respect of the Sanctuary's statute by all Contracting Parties to the Barcelona Convention.

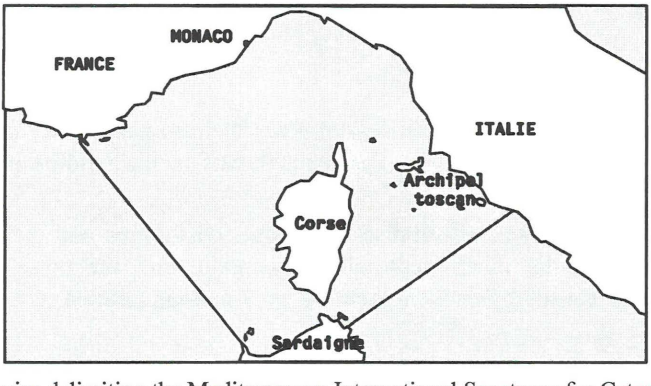

Fig. 1 Boundaries delimiting the Mediterranean International Sanctuary for Cetaceans

Seals in the Baltic and in the Wadden Sea

Palle Uhd JEPSEN,
Danish Forest and Nature Agency (Denmark)

Population status and management

All Contracting Parties to Helsinki Convention (HELCOM) have agreed to HELCOM recommendation (9/1, 1988) in which it is stated that contracting parties:

> through their national instruments ban all hunting of seals in the Baltic area. In order to safeguard the conservation of the species, the ban shall be maintained until a natural health condition and a normal reproductive rate can scientifically be shown.

In 1998 HELCOM established a Project Group on Seal in order to assess the Baltic seal populations and submit a report to HELCOM HABITAT including recommendations for future management of the populations by the end of 2001.

The conservation and management of seals in The Wadden Sea is based on a Seal Agreement from 1981 under the Bonn Convention. At the governmental conference in 2001 the ministers have adopted a revised Seal Management Plan for seals in the Wadden Sea. In Denmark the seals are managed pursuant to guidelines which from 2002 will be included in a comprehensive Management Plan based on recommendations from the HELCOM Project Group of Seals.

The presentation will focus on the status of seal populations in the Baltic, inner Danish Waters and in The Wadden Sea, management problems related to seals interaction with fisheries, and management options including mitigation measures in relation to conflict management.

Protection of the Mediterranean monk seal (*Monachus monachus*) in the Mediterranean

Giulia Mo, ICRAM (Italy)

Legal Protection Status

Legal protection for the Mediterranean monk seal, *Monachus monachus*, is conferred through global, European and regional conventions and directives. The species is thus protected by the 1973 Convention on International Trade in Endangered Species (CITES), the 1979 Berne Convention on the Conservation of European Wildlife and Natural Habitats and the 1979 Bonn Convention on the Conservation of Migratory Species of Wild Animals. Further international protection is conferred through its inclusion in the 1992 Council Directive 92/43/EEC on the conservation of Natural Habitats and of Wild Flora and Fauna (the "Habitats Directive") and is also included as an endangered species in the Protocol for Specially Protected Areas and Mediterranean Biological Diversity of the amended 1995 Barcelona Convention. As the monk seal is also distributed in territorial waters falling under the jurisdiction of non-EU countries it is also included in regional conventions such as the 1968 African Regional Convention for the Conservation of Nature and Natural Resources to which the Afro-Mediterranean countries of Algeria, Egypt, Morocco and Tunisia are parties and which Libya has signed but not ratified.

Population and conservation status

Historically, the distribution of the Mediterranean monk seal encompassed the coasts of most Mediterranean countries including those of the Black Sea and the Atlantic coasts of the Spanish Sahara, Morocco, the Canarian and Madeiran islands. in the Atlantic it is presently found along the coasts of the Western Sahara (population estimate 120 individuals) and of the Desertas islands in Madeira (population estimate 10-18 individuals). In the Mediterranean Sea the largest nuclei are present in the Greek-Turkish Aegean Sea and south-eastern Mediterranean (approx. 120-250 individuals) and in the Greek Ionian Islands (approx. 20-35 individuals) (Reijnders, 1998a). Small and unverified groups of seals or individuals are believed to inhabit scattered locations of the central and western Mediterranean, the Adriatic Sea and the Black Sea. According to IUCN estimates the species is defined as Critically Endangered with a total population estimate of 500 individuals partitioned in 200 individuals inhabiting the Atlantic sites and 300 inhabiting the Mediterranean basin (Reijnders, 1998a).

A population estimate based on a mathematical model relying on photographic mark-recapture techniques has been extrapolated for the Saharan colony population which is estimated at 120 individuals (Forcada *et al.*, 2000). Population data belonging to the Madeiran population (estimate 20 individuals) is based on the average number of sightings and number of observed pups born since establishment of the Park in 1989 whereas the eastern Mediterranean population estimate (125-250 individuals) is based on: the total number of individuals photo-identified in the Northern Sporades (approximately 45 individuals) (A.A.O.O., 2000), the Ionian islands where approximately 15-25 individuals are estimated to live (A.A.O.O., 1999), the average number of sightings reported through a marine information network in Greece (Archipelagos and Mom, 1996), and data recorded in the Turkish Aegean area of Foca and the Cilician coasts where approximately 25 individuals have been photo-identified since 1993 (Gucu, 1998). No other updated information is available from western Mediterranean north African countries due to the absence in continuity of monitoring and data collection schemes in these countries. Monk seal colonies are however suspected to exist along stretches of the Moroccan, Algerian, Tunisian and Libyan coasts where movements of individuals between such colonies are hypothesised to take place (Aguilar, 1999).

Habitat use

The Mediterranean monk seal's coastal habitat use is restricted to sheltered marine caves. In the Atlantic Sahara, cave usage occurs during all months of the year in concomitance with the extended pupping period (Gazo *et al.*, 1998). In the Ionian islands, cave use appears to increase in March-April and decreases after September-October (Panou *et al.*, 1993) in contrast to observations in Turkey where cave use appears to decrease during summer months and peak in the fall (Guclusoy H., pers. comm.). The extent of individual mobility and seasonal haul-out activity by monk seal individuals has not been determined consistently and quantitatively due to difficulty in accessing monk seal caves and the potential disturbance to the seals. Scientific assessment of seasonal habitat use, according to age classes and gender, is thus difficult to ascertain unless conducted through the use of non-invasive monitoring technical equipment such as those utilised in Western Sahara (black and white CCD cameras at entry of large caves) or through photographic camera traps such as those utilised to photo-identify individuals in the Sporades National Marine Park in Greece. At the moment trials are being conducted to monitor monk seal birthing caves in southern Turkey through the use of infra-red sensitive video cameras.

Marine habitat use is even more difficult to ascertain. Reports from the Aegean Sea indicate that damage to fishing gear occurs mostly at 30 m of depth and seal foraging activity has thus been deducted to occur at such depths (Sergeant *et al.*, 1978). However, application of Time Depth Recorders on individuals from the Western Saharan colony indicate that adult males are capable of conducting daily movements of up to 30miles from the coast in order to reach presumed foraging areas as deep as 58 meters, while lactating females have been shown to reach diving depths of 74 meters (Gazo, 1998). Recent reports of sightings of photo-identified

animals in Greece indicate that adult females and males are capable of dispersing up to 90 km over several days and more than 156 nautical miles within three months (Adamantopolou *et. al.*, 1998). Information on terrestrial and aquatic habitat use and haul-out behaviour by juveniles is presently unavailable, although for the Atlantic population it is postulated that some may disappear from the breeding caves towards unknown destinations for extended periods of time (Aguilar, 1999).

Protected Areas

Marine protected areas have been established for the species in the northern Aegean, in particular in the Sporades and in the Madeiran islands of the Desertas Archipelago. Turkey has also established a smaller seal conservation zone off the town of Foca and the government is presently addressing the establishment of 5 Monk Seal Protected Areas. Greece is in the process of establishing further sites of conservation interest for the species through the enactment of the Natura 2000 network which will include various island complexes throughout the Hellenic archipelago (Milos-Kimolos-Polyaigos, Karpatos-Kasos-Kasonisia, and Samos-Fourni-Ikaria island complexes) (A.A.O.O. 1999) However as these will be designed according to the EC Habitat's Directive, which foresees protection in a strictly coastal sense, the protection measures will not entail habitat protection of deeper waters that might be necessary for other ecological functions such as feeding grounds, dispersal corridors and seasonal migration routes (Wilson *et al.*, 2001).

Recommendations for management and conservation

On a regional and subregional level, the protection of as many remaining nuclei of monk seals, no matter how small, is a matter of highest priority in order to maintain the genetic diversity of the species (Reijnders, 1998b). Collaboration efforts should be exerted in assessing monk seal presence in areas of the western Mediterranean where monk seal presence has remained unverified over the last decades, and research programs should be developed to investigate the limits of the species' habitat use including foraging, migratory and dispersal behaviour, as well as genetic analysis to quantify genetic differentiation amongst subgroups as well as secondary inbreeding consequences. Adequate protection measures should be implemented to ensure the survival and conservation of the involved individuals through a series of marine protected areas constituting a linear "stepping-stone" corridor of suitable monk seal habitat (intended as coastal and non-coastal) that should be identified based on the ecological requirements of the species. Such requirements will however remain unaddressed unless they are approached with specifically designed research activities that will clarify all remaining doubts concerning the ecology of the species.

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On marine and coastal ecological corridors for marine turtles

Andreas DEMETROPOULOS,
President of the Cyprus Wildlife Society (Cyprus)

The Mediterranean turtle populations are genetically distinct from the Atlantic turtles, from which they originated. Loggerhead turtles are endangered and Green turtles in the Mediterranean are now classed as critically endangered. Their demise is basically due to past overexploitation, mainly during the first half of last century. This has been aggravated by ongoing incidental catches in fishing gear. In the last two or three decades, tourism development on or near turtle nesting beaches has added serious new threats to turtles.

Turtles nest in the eastern basin of the Mediterranean. Loggerhead turtles nest mainly in Greece, Turkey and Cyprus. There is also regular but dispersed nesting in Israel and sparse or dispersed nesting in number of other countries (Egypt, Lebanon, Tunisia and southern Italy) with some nesting reported but still unconfirmed in Syria, Albania and Montenegro (Yugoslavia)). Nesting in Libya could apparently be significant but nesting levels there are still uncertain. Green turtles nest only in Cyprus and Turkey with some minor nesting in Israel and Lebanon.

Most Mediterranean countries have developed species-specific legislation to protect sea turtles. Some countries with nesting beaches have taken steps towards introducing site-specific legislation for these. The situation however leaves much to be desired and even where there are protected areas the provisions of any legislation are often incomplete and the implementation very often lax.

The sparsity of legally Protected Areas is, to a degree, mitigated, albeit temporarily, by practical management measures in a number of countries. In Israel, where there is sparse nesting, nests are moved to hatcheries in protected areas. In Cyprus the Polis/Limni nests are protected in situ, to cut down on losses to predation, while nests from tourist beaches are moved to a hatchery in the Lara/Toxeftra Reserve. On the north coast of the island nests are similarly protected. In Greece several projects are being implemented with the same aims, in west Peloponnese, in Crete and elsewhere.

There is already enough evidence to dispel any doubts that turtles imprint and nest on the beaches they were laid on. The earth's magnetic field, wave direction and chemicals in the sand and adjacent water, are some of the factors that are being researched into as cues in imprinting and in navigation in turtles. There is evidence that all these cues are, to some degree, involved in imprinting. This imprinting and the fidelity of turtles to their natal beaches, have significant conservation implications, as they result in demographically distinct populations. The

implications are that each rookery, obviously, has to be protected individually and separately and that such protection will not help other rookeries. Nonetheless there is a built in small "error" in the turtles homing instinct and inevitably a small number of turtles will nest on other beaches than their natal beaches. This "error" enables turtles to try out colonising new beaches, which is necessary if turtles are to cope with changing environments – and appearing and disappearing beaches.

It also needs to be noted, that the beaches the turtles "choose" to lay their eggs on, are the result of the suitability of these beaches, as nesting grounds. It makes good biological sense, from an evolutionary point of view, to nest on a beach that proved good for the parent. In other words it is the result of a kind of "natural selection" that has approved suitable beaches and rejected unsuitable ones. Many factors play a role in this – one of them is temperature. Sex in turtles is determined by temperature; high temperatures produce females and low temperatures produce males. Nesting beaches have the right temperature regime – otherwise they would not sustain populations. Of course it is not so simple. Coarse sand beaches have higher incubation temperatures than fine sand beaches in the same geographical area. So some beaches have a tendency to produce more females and others more males. Also eggs laid early in the season have a tendency to produce more males and those laid later to produce females. But a rookery, as a whole, has beaches with the right temperature regimes for sustaining a population..

The Mediterranean is on the northern limit of turtle nesting and it is assumed that nesting temperatures determine this limit. It is assumed that turtles do not nest in the west Mediterranean because this is cooler than what turtles need. Sparse nesting, as observed in many areas in the east Mediterranean, may well be the result of overexploitation, heavy predation or of sprawling tourist or other development - though this is not always the case, especially at the margins of the current nesting distribution. In other words sparse nesting may be natural. Turtle eggs hatch in about 7-8 weeks and the hatchlings that reach the sea will swim straight out to sea and will continue doing so for many hours. Once out there they will stop swimming and will start feeding and drifting with the currents. They will spend the first 2-3 years of their life in a pelagic state, feeding on planktonic organisms. After that stage they will change to a bottom feeding stage, inhabiting shallow waters. The Green turtles will then start grazing on sea grasses (mainly *Cymodocea nodosa*) and the Loggerhead turtles will feed on a variety of mainly benthic animals. They will settle on the first suitable feeding ground. There is evidence that turtles imprint on their foraging grounds and that they will regularly return to the same areas after their nesting migrations to their natal beaches.

This means that the dispersion of turtles away from the beaches they hatched on depends largely on currents. There is some evidence, coming mainly from Atlantic (Florida) born turtles, that after drifting northeast with the Gulf stream they will actively swim south once they reach northern waters. There is no information on hatchling dispersal and post-hatchling pelagic-state behaviour in the Mediterranean. Nonetheless captures and sightings of Green juveniles point to the fact that they

mainly frequent areas near nesting beaches in the Levantine Basin, stretching west into Greek waters. Juvenile Loggerhead turtles have been noted mainly further west of the nesting areas and they frequent the western basin where they feed side by side with Atlantic origin juveniles. Tag returns have also provided some information. There are indications that at least some Loggerhead turtles from Greece go to Tunisian and north Adriatic waters. Turtles from Cyprus have been caught in Greece, Slovenia and Egypt. The available information from satellite tracking of turtles is still very sparse. Such work needs to be carried out on normal (healthy) nesting females and the results to be interpreted very carefully. Such information is likely to be not only rookery-specific but also have temporal variations. Such information would be useful in identifying foraging areas.

The surface currents in late July to the beginning of October will therefore determine the initial dispersal of hatchlings. Surface currents in the Levantine Basin are, on the whole, moving in an anticlockwise direction around Cyprus, with a bifurcation of the main east going current off the west coast of Cyprus. Eddies are common however, especially in coastal waters, and surface currents vary as a result of many factors such as the winds and the morphology of the coast and seabed. The well known cyclonic Rhodes Gyre east of Crete and others gyres further west in the Ionian basin as well as the ones off the African coast (including the anticyclonic gyre of Mersa-Matruh) would cause hatchlings and juveniles to circulate in the eastern basin and no doubt drift further west into the Adriatic and the western basin, as well as further east, following the east going current off the African coast.

Marine corridors

Keeping in mind, the location of the main nesting areas and the surface current patterns, gyres and eddies in the area as well as temporal changes in these, it can be postulated that practically the whole of the east Mediterranean basin is involved in hatchling and juvenile dispersal, and so are the waters between Sicily and Tunisia (the Sicilian straits) that lead to the western basin. Foraging areas, on current information, also seem to be widespread, stretching from the west Mediterranean Basin to the Gulf of Gabes and the Adriatic, to the Levantine basin. Nesting migrations to and from the scattered natal beaches would, consequently, be expected to also cover much of this area.

Coastal Corridors

The imprinting behaviour of turtles to their nesting beaches is a mechanism that leads to genetically independent rookeries and determines that there is little if any connection between rookeries. Ecological corridors in this case would probably make little sense except as stepping stones towards any future shifts in the nesting range (see "Coastal Corridors into the Future" below)

The built in "error" in the mechanism that enables turtles to find their natal beaches, could in time allow turtles to recolonise beaches that were suitable for nesting, and

from which turtles were extirpated; provided of course the threats were eliminated in the first place. The time-scale needed for this is probably many decades if not centuries, keeping in mind that the process is very slow and that turtles are long living animals. Towards this end, the protection of selected stretches of beaches with sparse nesting could be useful, even if somewhat unrealistic when the political will, or ability, to protect even important nesting beaches seem to be lacking.

Coastal corridors into the future

The present distribution of turtle nesting has already been discussed. It is evident that the present nesting-site pattern is the result mainly of a temperature regime that is appropriate for the continued reproduction of turtles in the Mediterranean, so as to sustain viable turtle populations. The temperature regime in the Mediterranean, both in the sea and on the beaches, is likely to change in the decades to come, as a result of global warming. Turtles colonised the Mediterranean about 10,000 years ago, with the passing of the last major ice age. As mentioned already the colonisation process is dependent on the built in "error" in the turtles' ability to find their natal beaches. It is interesting to postulate as to what will happen with the coming of the rather quick warming up of the area forecasted. At least two possible changes can be foreseen, they may well take place in parallel but the time scales involved will probably differ widely:

a) The turtles will continue nesting in the existing nesting sites, but will nest over a longer period of time, or at least they will start nesting earlier in the year, so that males will be produced also. Such a process has been noted in Cyprus with the very early nesting in warm years and late nesting in colder years.

b) The turtles, given enough time, will colonise new areas, now too cool to sustain successful nesting, and could establish new rookeries, further west in the Mediterranean (Italy, Tunisia etc.). This would happen through the built in "error" in the mechanism that enables turtles to find their natal beaches. It would therefore be prudent to keep such "corridors into the future" in mind in any coastal zone management plans in the countries that are expected to be involved, i.e., in the countries on the western margins of the present turtle nesting distribution. How realistic such an approach is, is debatable, keeping in mind the problems of conserving even important present day nesting sites. Notwithstanding any such "practical" issues, this is a very real possibility that needs to be kept in mind and be further explored.

At the present stage, it is proposed, that the most meaningful actions would be related to increased vigil over the beaches likely to be colonised in the coming decades - in the margins of the existing nesting areas, i.e., mainly at the interfaces between the eastern basin and the western basin of the Mediterranean. More thorough and long term monitoring of the existing nesting areas will also provide further information on any changes in nesting and in any shift in the nesting period.

Keeping in mind the apparent difficulties in effectively protecting, even the most important turtle nesting beaches, which are vital for the survival of turtles in the

Mediterranean (together with reducing incidental catches in fishing nets), caution is needed in any proposals which may divert attention from this need. The taking of measures of secondary importance may provide excuses for not taking action on issues of primary importance. Enough information and data are already available and can be used to take effective conservation action. The priority fields have also been identified and are well known.

V. Programme

Thursday 20 June 2002

Introductory session

Chair	Mr Peter Stuttard, Countryside Council for Wales
9.30 am	**Opening by the host authorities**
9.50 am	**Presentation by the Secretariat of the work of the Council of Europe on marine and coastal biodiversity**
10.10 am	**Presentation of the work of the Parliamentary Assembly of the Council of Europe in the field of marine biodiversity and fisheries** by Mr Francis Agius, Chairman of the Sub-Committee of Agriculture and Fisheries, Malta
10.30 am	**Break**

Session 1
Strategies for the conservation of the marine and coastal biodiversity

Chair	Mr Eladio Fernández-Galiano, Council of Europe
10.50 am	**General presentation of the concept of marine and coastal corridors** by Mr Alan Pickaver, EUCC
11.10 am	**International legislation and regulations on marine and coastal environment** by Mr Angelo Merialdi, Italy
11.30 am	**Analysis of appendices and annexes of international initiatives and conventions, with special attention to marine and coastal species protection** by Mr Marc Roekaerts
11.50 am	**Model law on sustainable management of coastal zones and European code of conduct for coastal zones: a project of the Council of Europe** by Mr Lauri Nordberg, Finland
12.10 am	**Restoration of ecological corridors: a study of the Council of Europe** by Prof. Eckhart Kuijken, Belgium
12.20 am	**Discussion**
1.00 pm	**Lunch**

Session 2
Specific conservation programmes

Chair — Mrs Vija Busa, Chair of the Committee of experts for the development of the Pan-European Ecological Network (PEEN), Latvia

BALTIC SEA

3.00 pm — **Action of the Helsinki Convention**
by Ms Anita Mäkinen, WWF-Finland, Helcom observer

ATLANTIC

3.20 pm — **The priorities of action for marine environment of the North-East Atlantic**
by Mr Joergen Noerrevang Jensen, International Council for the Exploration of the Sea (ICES), Denmark

Mediterranean

3.40 pm — **The network of Specially Protected Areas of Mediterranean Importance (SPAMI)**
by Mr Chedly Rais, RAC/SPA

4.00 pm — **MedWet – network and tools development for the conservation of Mediterranean wetlands**
by Ms Maria Anagnostopoulou, MedWet

4.20 pm — **Break**

Session 3
National presentations

Chair — Dr Malcolm Smith, Countryside Council for Wales

4.30 pm — **Implementation of Natura 2000 in the marine environment in the United Kingdom**
by Ms Charlotte Johnston, Joint Nature Conservation Committee, United Kingdom

4.45 pm — **Coastal and marine biodiversity conservation initiatives in Wales**
by Dr Margaret Hill, Countryside Council for Wales

5.00 pm — **Regional marine management: a pilot project in the Irish Sea**
by Dr Stephen Atkins, Joint Nature Conservation Committee, United Kingdom

5.15 pm — **Coastal and marine biodiversity protection in Latvia**
by Mrs Vija Busa, Latvia, Chairperson of the Committee of experts for the development of the Pan-European Ecological Network of the Council of Europe (PEEN)

5.30 pm	**Biodiversity and protection of high seas and deep oceans: perspectives from the Northern Middle Atlantic Ridge** by Dr. Joao Gonçalves, University of Açores, Portugal
5.45 pm	**Marine and coastal biodiversity conservation in Ukraine** by Dr Grigoriy Parchuk, Ministry of Environment, Ukraine
6.00 pm	**General discussion**
6.30 pm	**Closing of the session**

Friday 21 June 2002

Session 4
Protection of specific species and habitats

Chair	Mr David Parker, Countryside Council for Wales
9.30 am	**Accobams and Mediterranean International Sanctuary for cetaceans** by Dr Giulia Mo, Accobams
10.00 am	**Cetaceans protection in northern seas** by Mr Palle Uhd Jepsen, Danish Forest and Nature Agency, Denmark
10.20 am	**The agreement on the conservation of seals in the Wadden Sea** by Mr Palle Uhd Jepsen, Danish Forest and Nature Agency, Denmark
10.40 am	**Break**
11.00 am	**Protection of monk seals in the Mediterranean** by Dr Giulia Mo, Accobams
11.20 am	**Ecological corridors protection for turtles** by Mr Andreas Demetropoulos, President of the Cyprus Wildlife Society
11.40 am	**General discussion**
1.00 pm	**Lunch**

Final session	
Chair	Mr Peter Stuttard, Countryside Council for Wales
3.00 pm	**Exchange of views on the role of the Council of Europe in the marine biodiversity field, in co-operation with other initiatives and conventions** **Discussion of a draft programme on future activities by STRA-REP on coastal and marine corridors –** Presentation by a consultant
4.00 pm	**Adoption of a draft Declaration or Recommendation on marine and coastal biodiversity protection to be submitted to the STRA-REP**
4.30 pm	**End of the colloquy**

VI. List of participants

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