

ESTABLISHING A COHERENT NETWORK OF MARINE PROTECTED AREAS IN THE MEDITERRANEAN: THE ROLE OF WWF MEDITERRANEAN IN THE ADRIATIC SEA

USTVARJANJE KOHERENTNE MREŽE MORSKIH ZAVAROVANIH OBMOČIJ V SREDOZEMLJU: VLOGA USTANOVE WWF SREDOZEMLJE V JADRANSKEM MORJU

Marina GOMEI, Alessandra POMÈ, Giuseppe DI CARLO

Key words: Marine Protected Areas, Network of Marine Protected Areas, World Wildlife Fund - WWF, Mediterranean Sea, Adriatic Sea

Ključne besede: morska zavarovana območja (MPA-ji), mreža morskih zavarovanih območij, World Wildlife Fund - WWF, Sredozemsko morje, Jadransko morje

ABSTRACT

In recent years, governments have acknowledged the need and urgency for a more holistic approach to marine conservation. In particular, the establishment of an ecological and representative network of effective Marine Protected Areas (MPAs) has been recognised as an effective tool to protect the biodiversity at the ecoregional level, so that its coastal and marine ecosystems can continue to provide critical services to coastal societies. To achieve this target, WWF Mediterranean is providing support to countries in establishing coherent networks of MPAs by 2012. At the global level, WWF Mediterranean works together with WWF International in its lobbying effort to influence policy for the establishment of ecological networks of MPAs, including areas beyond national jurisdiction. At the Mediterranean level, WWF Mediterranean promotes actively the establishment of new MPAs and a more effective management of existing ones. To achieve this, WWF Mediterranean is investing in building the capacity of MPAs managers, practitioners, governmental institutions and NGOs and by implementing on-the-ground conservation projects. WWF Mediterranean operates within the Mediterranean Initiative – a long-term conservation strategy developed by six WWF Mediterranean offices to address the trends of biodiversity loss in the Mediterranean basin – and in close collaboration with the MedPAN network of MPAs managers. In the Adriatic Sea, WWF Mediterranean has contributed to the creation of a network of MPAs managers and practitioners (AdriaPAN) in 2008; through the MedPAN South project, it is currently strengthening the network of Croatian MPAs; and more in general, it encourages bottom up initiatives that can lead to the establishment of a strong constituency of MPAs practitioners capable to influence decision-makers on marine issues.

IZVLEČEK

V zadnjih nekaj letih so vlade mnogih držav že priznale potrebo po nujnem in bolj celostnem pristopu k varovanju morskega sveta. Še posebej je bilo ustanavljanje ekološke in reprezentativne mreže učinkovitih morskih zavarovanih območij (MPA-jev) priznано kot učinkovito orodje za zaščito biotske pestrosti na ekoregionalni ravni, tako da obalni in morski ekosistemi lahko še naprej zagotavljajo vitalne storitve družbam v obalnem pasu. Da bi bil ta cilj resnično dosežen, ustanova WWF Sredozemlje zagotavlja

pomoč državam pri njihovem ustvarjanju koherentnih mrež MPA-jev do leta 2012. WWF Sredozemlje sodeluje na globalni ravni z ustanovo WWF International pri njenih poskusih vplivati na politiko, ki zadeva ustanavljanje ekoloških mrež MPA-jev, vključno z območji, ki so zunaj pristojnosti nacionalnih sodnih oblasti. Na ravni Sredozemlja se WWF Sredozemlje aktivno zavzema za osnovanje novih MPA-jev in za učinkovitejše upravljanje že obstoječih MPA-jev. V ta namen WWF Sredozemlje vplaga sredstva v povečevanje kapacitet MPA-jevih upravljalcev, praktikantov, vladnih inštitucij in nevladnih organizacij, in sicer z uresničevanjem različnih naravovarstvenih projektov. WWF Sredozemlje deluje v okviru tako imenovane Sredozemske iniciative – dolgoročne naravovarstvene strategije, ki so jo z namenom, da se spopade s trendi padanja ali izgube biotske raznovrstnosti v sredozemskem bazenu, razvili v šestih podružnicah ustanove WWF Sredozemlje – in v tesnem sodelovanju z mrežo MedPAN MPA-jevih upravljalcev. V Jadranskem morju je ustanova WWF Sredozemlje prispevala k ustvarjanju mreže MPA-jevih upravljalcev in praktikantov (AdriaPAN) v letu 2008; v okviru projekta MedPAN South trenutno konsolidira mrežo hrvaških MPA-jev; in bolj na splošno opogumlja pobude “od spodaj navzgor”, kar bi lahko pripeljalo do osnovanja močne “klientele” MPA-jevih praktikantov, ki bi bili sposobni vplivati na odločevalce v morskimi naravovarstvenih zadevah.

1. INTRODUCTION

In recent years, governments have acknowledged scientists' recommendations on the need and urgency to apply a more holistic approach to marine conservation (UNEP 2010a, Ehler *et Douvere* 2009). The Ecosystem Approach (EA) to marine resources management accounts for the different linkages and scales of ecosystems, the values of ecosystem services, and human as an integral part of ecosystems (Arkema *et al.* 2006). In particular, the establishment of an ecological and representative network of effective Marine Protected Areas (MPAs) has been recognised as a valid tool to protect the biodiversity and the ecosystems of an ecoregion and the services provided and for the well-being of its inhabitants (Roberts *et al.* 2003, IUCN-WCPA 2008). However, at the last Conference of the Parties in Nagoya, signatory countries have just recognised the slow progress being made towards achieving the Convention of Biological Diversity (CBD) target to establish a coherent network of MPAs by 2012. WWF welcomed the Nagoya protocol and the fact that Governments reaffirmed the fundamental need to conserve marine resources by ending overfishing and protecting at least the 10 percent of marine and coastal areas, including high seas. While WWF recognises the important step to boost protection 10 times more than what the world has currently achieved, the target is still only half of what scientists recommend.

WWF identified the Mediterranean region as a global priority area where ecological integrity must be conserved to contribute to a more secure and sustainable future for the planet (WWF 2007). Together with other five WWF national offices in the region, WWF Mediterranean Programme office (hereafter “WWF Mediterranean”) has recently launched the Mediterranean Initiative, a common strategy that scales up WWF's conservation efforts in the basin. Safeguarding marine ecosystems through the establishment of coherent networks of MPAs is one of the four goals of the Mediterranean Initiative.

Currently, the level of protection of the Mediterranean Sea is largely inadequate. In particular, MPAs are too few, not ecologically representative of the Mediterranean biodiversity

and not effectively managed (Coll *et al.* 2010, UNEP 2010a, Abdulla *et al.* 2008a, 2008b). Through the Mediterranean Initiative, WWF addresses these challenges by pushing actors involved in marine protection towards a threshold where marine biodiversity conservation becomes a political, economic and social priority and MPAs become key tool of choice to ensure the sustainable management of marine ecosystems.

This paper reports on recent contributions of WWF Mediterranean to the establishment of an ecological network of effective MPAs in the Mediterranean through 1) its support to WWF International policy work on the establishment of networks of MPAs, including areas beyond jurisdiction, and 2) its efforts in improving the representativeness and management effectiveness of MPAs in the Mediterranean and Adriatic Seas.

2. WWF CONTRIBUTION

2.1 ECOLOGICAL NETWORK OF MPAS, INCLUDING AREAS BEYOND NATIONAL JURISDICTION

WWF has recently produced a progress review on the identification and establishment of high seas MPAs to provide an overview of the approaches used in the different regional seas, as well as to contribute to the policy work that WWF is conducting on high sea conservation (WWF 2010). The Antarctic waters under the Convention of the Conservation of the Antarctic Marine Living Resources (CCAMLR), the North-East Atlantic under the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR), together with the Mediterranean Sea under the Barcelona Convention are among the few regional seas that feature legal instruments in support to the establishment of networks of MPAs including Areas Beyond National Jurisdiction (ABNJ). Each region, though, applies different approaches. From the very beginning of the process, on 2005, contracting parties of the Antarctic treaty agreed to apply a systematic conservation planning approaches (Margules *et Pressey* 2000), while the Mediterranean and North-East Atlantic countries started a national or multinational nomination of the Pelagos Sanctuary as a Specially Protected Areas of Mediterranean Interest (SPAMI) in 2000, and of the Charlie Gibbs fracture zone in 2010 respectively. Again, a different stepwise process was agreed and implemented by the contracting parties within each regional sea (Tab. 1).

For decades, the pioneer experience in the Mediterranean of the Pelagos Sanctuary for Cetaceans has been considered a reference and innovative example (WWF 2010, Game *et al.* 2009, Ardon *et al.* 2008). However, the credibility of this process risks now to be undermined due to the inadequate management of the Pelagos Sanctuary, which still lacks a strong and clear mandate for the management plan and its Secretariat (Notarbartolo di Sciara *et al.* 2008, 2009). Aside from these issues, the example of this pilot site and the effort of France, Italy and Monaco can still be considered instrumental to enhance regional cooperation and dialogue between Regional Conventions and Competent regional authorities.

Table 1: Main steps leading to the establishment of MPAs beyond national jurisdiction implemented in three UNEP's Regional Seas (WWF 2010). See text for acronyms.

Tabela 1: Glavni koraki, ki vodijo k ustanavljanju MPA-jev zunaj pristojnosti nacionalnih sodnih oblasti, uresničeni v treh UNEP-ovih regionalnih morjih (WWF 2010). Akronimi so pojasnjeni v besedilu samem.

Steps	North-East Atlantic (OSPAR)	Mediterranean Sea (Barcelona Convention)	Antarctic (CCAMLR)
<i>Establishing an ecological network of MPAs in ABNJ - Start</i>	2003 (Ministerial Meeting; Rec 2003/3)	1995-2003 (SAP-BIO) 2008 (Almeria Declaration)	2005 CCAMLR First Meeting on MPAs
<i>Assessment of ecological coherence</i>	From 2006 annual assessment (1% in 2010)	2008 IUCN, MedPAN, WWF (4% in 2008)	
<i>Bioregionalisation</i>	2006	2010	2007
<i>Identifying Important Ecological areas</i>		2010 RAC/SPA (12 Priority conservation areas)	2008 CCAMLR; (11 Priority areas)
<i>First formal proposition</i>	2006 Charlie Gibbs fracture zone (WWF)	1999 Multilateral agreement Pelagos Sanctuary	
<i>Review of the nomination process</i>	2008-09 Road map (i.e. legal issues, stakeholders)	2008 Road map (i.e. legal issues, designing criteria)	2009 Systematic conservation planning
<i>First nomination</i>	2010 Charlie Gibbs fracture zone	2001 Pelagos Sanctuary as SPAMI	2009 South Orkneys Island MPA

Following the Almeria 2008 declaration (UNEP-DEPI/MED IG.17/10), the Mediterranean countries agreed to revitalise the commitment of establishing a coherent network of MPAs, including high and deep seas. Soon after, the UNEP-MAP “Regional Activity Centre for Specially Protected Areas” (RAC/SPA) received the mandated to implement a project to identify ecologically or biologically significant areas (EBSA) in ABNJ based on CBD criteria and facilitate the designation of priority conservation areas as SPAMI through a coordinated consultation among neighbouring countries (UNEP 2010b). The approach applied by RAC/SPA for the identification of EBSA is remarkable and is the sole example at the global level, which is in line with the road map recently adopted at the last CBD Conference of the Parties (UNEP 2010a).

In this respect, WWF has put forward a number of recommendations at different international fora (WWF 2010) to be applied in the Adriatic Sea sub-region. To overcome current legal and governance uncertainties in high seas, WWF urges Member States to show stronger commitment to collaborate, cooperate and take responsibility in order to move forward the protection of high and deep sea areas. WWF encourages Regional Seas Conventions and Action Plans to engage more the Contracting Parties, facilitate the clarification of their mandate in the designation and regulation of the activities and strengthen the cooperation with International Competent Authorities (particularly with FAO/ General Fisheries Commission for the Mediterranean).

2.2 ENHANCING MANAGEMENT EFFECTIVENESS OF EXISTING MPAS

Along with the scant ecological representativeness of the existing network of MPAs, the Mediterranean features on average low management effectiveness of its MPAs. This holds particularly true for the countries of the south and east of the Mediterranean, where MPAs are subjected to little or no management and many of them can be considered “paper parks” (Abdulla *et al.* 2008a). As a result, the actual contribution to halt the loss of biodiversity is lower than the potential capacity of the whole Mediterranean region.

Several social, economic, cultural, and institutional factors play a central role in ensuring the success of an MPA (Charles *et Wilson* 2009, Abdulla *et al.* 2008b). In the Mediterranean, the inadequate technical, human and/or financial capacities and insufficiently trained personnel have been identified as the main drivers of the overall low management effectiveness of the MPAs (Abdulla *et al.* 2008a, Lopez Ornat 1997). Moreover, insufficient public involvement, limited awareness on marine conservation issues, and inadequate consultation processes with relevant actors have created the conditions for a poor level of compliance (Badalamenti *et al.* 2000, Guidetti *et al.* 2008).

Over the last 10 years, WWF Mediterranean has contributed to the improvement of the management effectiveness of existing MPAs by building the capacity of MPAs managers, practitioners, institutions and NGOs through the implementation of on-the-ground conservation projects. This efforts fall within the long-term strategy of the Mediterranean initiative, where WWF offices in the region work towards strengthening regional, sub-regional and national social networks of MPA managers. WWF recognises that the shift from an individualistic to a more holistic approach to MPA management can also be achieved through social networks (Laffoley 2009). For a single MPAs, being part of a network, means benefiting from peer experiences extending the possible range of exchange with scientist and experts from different countries, and accessing financial and technical resources. This ultimately supports a bottom up approach, which contributes to build a constituency of practitioners able to influence decision-makers on the conservation of marine resources. To this end, WWF Mediterranean works in partnership with the regional network of MPAs managers (MedPAN), it contributed to the creation of a network of MPAs managers in the Adriatic (AdriaPAN), and it is currently strengthening the network of Croatian MPAs.

Together with more than 20 among governmental, non-governmental and inter-governmental institutions of the southern and eastern Mediterranean countries, WWF Mediterranean is currently implementing the MedPAN South project (www.panda.org/msp). This four-year project is designed around a number of coordinated regional, national and site-based actions geared towards increasing the technical capacity of key marine conservation actors and reaching an effective management of existing MPAs. This is being achieved through five pilot projects in Algeria, Croatia, Libya, Tunisia, and Turkey and a capacity building program on MPA management both at the national and regional levels.

In the Adriatic Sea, the main effort is concentrated in Croatia, where a specific project is assisting the managers of the National Parks Brijuni, Kornati, and Mljet and the Nature Park of Lastovo Archipelago and Telascica in developing their management plans through a

participatory step-by-step approach, involving local stakeholders and national governmental institutions. The governance structure of the project is robust and designed to ensure the long-term sustainability of project results. At the local level, the project is implemented together with Sunce, the Association for Nature, Environment and Sustainable Development. The official partners are the Ministry of Culture, the State Institute for Nature Protection, and the relevant authorities at the County level. A Focal Point was appointed at the level of the Ministry of Culture, while a Steering Committee including all responsible institutions and stakeholders was established as reference body to address legal and institutional uncertainties about MPA implementation in Croatia. As the Croatian MPAs share similar ecological features, problems, needs, as well as most of the key stakeholders, a common planning approach has been applied. This approach has provided the opportunity to shift from the planning within individual MPAs to planning as a network of MPAs. A series of capacity building training workshops are currently organised by WWF and Sunce to provide managers the proper know-how for the step-by-step development of their management plans and to foster the consultation with local and national stakeholders. International and national experts, as well as key Mediterranean case studies, are brought in to train and work together with managers and responsible authorities on legal framework, site characterisation, stakeholders' engagement, zoning, monitoring and evaluation, and business planning.

Beyond building national capacity, WWF has in place a region-wide Capacity Building (CB) Programme, which builds and strengthens the capacity of MPAs practitioners from 11 countries of the south and east of the Mediterranean, including Albania, Croatia, and Montenegro. This is the first capacity building program of this scope and importance proposed in the Mediterranean, which is implemented together with UNEP-MAP RAC/SPA and with the technical support of the National Oceanic and Atmospheric Administration (NOAA), to enhance the effectiveness and relevance of deliveries, a key target audience was identified at the outset of the project and includes MPAs managers, practitioners and officials of relevant authorities/administrations, as well as researchers and key stakeholders in the eligible countries. The capacity building programme is designed on three main actions. A Mentor Programme that entails a series of training workshops aimed at building the skills of the Mentors as professional trainers; three regional training workshops on MPA Management Planning, Planning for Sustainable Fisheries and Planning for Sustainable Tourism in MPAs; and a follow-up programme, which allows to bring the skills and knowledge acquired in the classroom through regional trainings into effective applications in the field.

3. CONCLUSION

The establishment of an ecological network of effective MPA requires a multidisciplinary and multilevel approach with the contribution and strong commitment of regional and national governmental and non-governmental institutions as well as the scientific community. Despite the fact that governance and legal challenges have halted the implementation of transboundary environmental policies in the Mediterranean, international cooperation among

all actors involved in marine conservation is a significant opportunity to achieve critical marine conservation targets. WWF Mediterranean is moving in this direction in partnership with national and local public institutions, with civil society and the scientific community and the important result we obtain should be considered a shared accomplishment, particularly for our local partners.

4. LITERATURE

1. Abdulla, A., M. Gomei, E. Maison, C. Piante (2008a): Status of Marine Protected Areas in the Mediterranean Sea. IUCN, Malaga and WWF, France. 152 pp.
2. Abdulla, A., M. Gomei, D. Hyrenbach, G. Notarbartolo di Sciarra, T. Agardy (2008b): Challenges facing a network of representative marine protected areas in the Mediterranean: prioritizing the protection of underrepresented habitats. *ICES Journal of Marine Science* 66: doi: 10.1093/icesjms/fsn164
3. Ardron, J., K. Gjerde, S. Pullenc, V. Tilot (2008): Marine spatial planning in the high seas. *Marine Policy* 32(5): 832-839
4. Arkema, K.K., S.C. Abramson, B.M. Dewsbury (2006): Marine ecosystem-based management: from characterization to implementation. *Front Ecol Environ* 4(10): 525-532
5. Badalamenti, F., A.A. Ramos, E. Voultziadou, J.L. Sánchez Lizaso, G. D'anna, C. Pipitone, J. Mas, J.A. Ruiz Fernandez, D. Whitmarsh, S. Riggio (2000): Cultural and socio-economic impacts of Mediterranean marine protected areas. *Environ. Conserv.* 27(2): 110-125
6. Charles, A., L. Wilson (2009): Human dimensions of Marine Protected Areas. *ICES J. Mar. Sci.* 66: 6-15
7. Coll, M., C. Piroddi, J. Steenbeek, K. Kaschner, F. Ben Rais Lasram, J. Aguzzi, E. Ballesteros, C. Nike Bianchi, J. Corbera, T. Dailianis, R. Danovaro, M. Estrada, C. Frogliani, B.S. Galil, J.M. Gasol, R. Gertwagen, J. Gil, F. Guilhaumon, K. Kesner-Reyes, M.-S. Kitsos, A. Koukouras, N. Lampadariou, E. Laxamana, C.M. López-Fé de la Cuadra, H.K. Lotze, D. Martin, D. Mouillot, D. Oro, S. Raicevich, J. Rius-Barile, J.I. Saiz-Salinas, C. San Vicente, S. Somot, J. Templado, X. Turon, D. Vafidis, R. Villanueva, E. Voultziadou (2010): The biodiversity of the Mediterranean Sea: estimates, patterns and threats. *PLoS ONE* 5:8
8. Ehler, C., F. Douvère (2009): Marine Spatial Planning: a step-by-step approach toward ecosystem-based management. Intergovernmental Oceanographic Commission and Man and the Biosphere Programme. IOC Manual and Guides No. 53, ICAM Dossier No. 6. UNESCO. Paris. 99 pp.
9. Game, E.T., H.S. Grantham, A.J. Hobday, R.L. Pressey, A.T. Lombard, L.E. Beckley, K. Gjerde, R. Bustamante, H.P. Possingham, A.J. Richardson (2009): Pelagic protected areas: the missing dimension in ocean conservation. *Trends in Ecology & Evolution* 24(7): 360-369
10. Guidetti P., M. Milazzo, S. Bussotti, A. Molinari, M. Murenu, A. Pais, N. Span, R. Balzano, T. Agardy, F. Boero, G. Carrada, R. Cattaneo-Vietti, A. Cau, R. Chemello, S. Greco, A. Manganaro, G. Notarbartolo di Sciarra, G.F. Russo, L. Tunesi (2008): Italian marine protected area effectiveness: does enforcement matter? *Biol. Conserv.* 141:699-709
11. IUCN World Commission on Protected Areas (IUCN-WCPA) (2008): Establishing Marine Protected Area Networks—Making It Happen. IUCN-WCPA, National Oceanic and Atmospheric Administration and The Nature Conservancy. Washington, D.C. 118 p.
12. Laffoley D. (2009): "Regional networks of Marine Protected Areas" International Marine Conservation Congress Annual Convention May 19-24, 2009 Washington, DC "Making Marine Science Matter". Presentation.

13. Lopez Ornat A. (1997): Assessment on the management of marine and coastal Specially Protected Areas in the Mediterranean. Regional Activity Centre for Specially Protected Areas. Mediterranean Action Plan - UNEP. Tunis.
14. Notarbartolo di Sciarra, G., T. Agardy, D. Hyrenbach, T. Scovazzi, P. van Klaveren (2008): The Pelagos sanctuary for Mediterranean marine mammals. *Aquatic Conservation: Marine and Freshwater Ecosystems* 18: 367-391.
15. Notarbartolo di Sciarra, G., T. Agardy, T. Scovazzi (2009): Governance shift required for the world's first high seas MPA: the Pelagos Sanctuary for Mediterranean Marine Mammals. Poster. International Marine Conservation Congress, George Madison University, Fairfax, Virginia, May 17, 2009, George Madison University, Fairfax, Virginia, May 17, 2009, http://www.allacademic.com/meta/p395918_index.html.
16. Margules C.R., R.L. Pressey (2000): Systematic conservation planning. *Nature* 405: 243-253
17. Roberts C.M., G. Branch, R.H. Bustamante, J.C. Castilla, J. Dugan, B.S. Halpern, K.D. Lafferty, H. Leslie, J. Lubchenco, D. Mcardle, M. Ruckelshaus, R.R. Warner (2003): Application of ecological criteria in selecting marine reserves and developing reserve networks. *Ecological Applications* 13(1) Suppl.: 215-228
18. UNEP (2010a): Identification of potential sites in open seas including the deep sea that may satisfy SPAMI criteria RAC/SPA. UNEP, Extraordinary Meeting of the Focal Points for SPAs, Istanbul, Turkey, 1st June 2010, UNEP(DEPI)/MED WG.348/3 rev.1. 1-28.
19. UNEP (2010b): Decision as adopted on Marine and Coastal Biodiversity. Advanced unedited text reflecting the decision as adopted on the basis of document UNEP/CBD/COP/10/L.42 COP to the CBD 10th meeting, Nagoya, Japan (<http://www.cbd.int/nagoya/outcomes/>)
20. WWF (2007): WWF's Roadmap for a living planet. A conservation strategy. http://wwf.panda.org/about_our_earth/all_publications/wwf_institutional_publications/
21. WWF (2010): High Sea MPAs regional approaches and experiences. Background document for the side event at the 10th Meeting of the Conferences of Parties to the Convention on Biological Diversity, 28th of October 2010 Contact: Christian Neumann, WWF Germany, Author: Dr. Sabine Christiansen with contributions from Rob Nicoll (WWF Australia), Marina Gomei (WWF Mediterranean Programme), Jessica Battle (WWF International) and Sian Prior

Marina GOMEI, Alessandra POMÈ and Giuseppe DI CARLO

WWF Mediterranean Programme

Via Po 25/C - 00198 Rome, Italy

mgomei@wwfmedpo.org, apome@wwfmedpo.org, gdicarlo@wwfmedpo.org