CoCoNet Project

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CoCoNet

Towards COast to Coast NETworks of marine protected areas (from the shore to the high and deep sea), coupled with sea-based wind energy potential.

Stakeholders Position Paper on Coastal and Marine Protection/ Management: Mediterranean and Black Sea Case Studies.

Deliverable 6.1

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Dissemination Level		
PU	Public	
PP	Restricted to other programme participants (including the Commission Services)	**X**
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

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EXECUTIVE SUMMARY

The purpose of this report is to assess stakeholder perceptions towards the effectiveness of coastal and marine protection and management measures in the Mediterranean and Black Sea. It aims to assess stakeholder observations of the impacts before and after the creation of Marine Protected Areas (MPAs), their perspectives towards management scenarios and how these scenarios may affect their interests. Stakeholder views and perceptions are also analysed in order to understand the potential implications for future marine protection and management measures.

A single case study area in the Mediterranean Sea and three case study areas in the Black Sea were selected: The Apulia / Albanian region (Mediterranean); the Danube Delta region (Romania / Ukraine); the Black Sea Biosphere Reserve (Ukraine) and the Tarkhankut Peninsula (Ukraine). These were selected to allow for a comparison of perceptions between EU and non-EU country stakeholders. The Apulia/Albanian and Danube Delta regions also allow for analysis of cross-border management areas.

A total of 88 individuals participated in the survey which included representatives from fisheries, conservation, tourism, scientific, administration and management, aquaculture and education.

The results showed that most respondents consider conservation measures and plans to be insufficient and would like additional measures to target the control of coastal integrity, marine fisheries, water pollution and MPA connectivity.

When assessing future scenarios for marine conservation and development, it became apparent that conflicts may occur if future plans are not carefully developed.

However, as described above, the aim of this research was to gain an initial view of stakeholder perceptions regarding coastal and marine protection and management measures, and not to obtain a detailed view of all stakeholders in the case study areas. Therefore, all results should be treated as individual opinions.

1. METHODOLOGY

This deliverable describes stakeholder perspectives towards the effectiveness of coastal and marine protection and management measures in the Mediterranean and Black Sea. It also assesses stakeholder observations of the impacts before and after the creation of Marine Protected Areas (MPAs), their perspectives towards management scenarios and how these scenarios may affect their interests.

Respondents' views and perceptions are discussed and analysed in order to understand the potential implications these opinions might have on future marine protection and management measures.

In order to focus the research, two main study areas were identified: one in the Mediterranean Sea, the other in the Black Sea. The Mediterranean Sea study area was located in the Apulia Region (Italy) and the Albanian coast (Figure 1). The Black Sea study area was located in the Danube Delta on the Ukraine / Romania border (Figure 2). These locations were selected to allow for comparisons between EU and non-EU country stakeholders and to be able to assess opinions towards management measures in cross-border regions.

Figure 1. Mediterranean Sea Pilot Case Study Area.

Figure 2. Black Sea Pilot Case Study Area.

Stakeholder perspectives were also collected in two further study areas in the Black Sea: Tarkhankut Peninsula and the Black Sea Biosphere Reserve. The results from these studies are also presented and described in this deliverable.

The following methodology was used in all study areas:

i) A review of socioeconomic conflicts and MPA management strategies was conducted. Historical stakeholder perception studies were identified, collected and synthesized.

ii) Using the collected data and knowledge from local partners, conflicts within each study area were identified.

iii) All important stakeholders in the study areas were identified and contact details collected. A template was developed to assist local partners in this process.

iv) Questionnaires were designed for each study area based on the previously identified conflicts. These were tailored to collect perceptions of future management scenarios specific to the study area.

v) Questionnaires were reviewed by task participants, re-designed (where necessary) and agreed prior to the interviews.

vi) Stakeholders were interviewed using the questionnaire. All interviews were conducted either via email, phone or in-person. Answers where gathered and translated into English prior to analysis.

vii) Completed questionnaires were analysed, synthesized, combined and discussed.

viii) Conclusions were drawn based on the analysis and agreed by all task participants.

A chronogram of the methodology is shown in Table 1.

Table 1. Eight step´s chronogram.

Steps	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb
1. Review on the socioeconomic conflicts/state of art										
2. Identification of Conflicts										
3. Identification of Stakeholders										
4. Survey design										
5. Survey review, re-design										
6. Survey administration										
7. Analysis of stakeholder positions responses										
8. Deliverable writing and review										

The first stage involved gathering all background information available relating to the study areas. This included a description of the area and its ecology, existing MPAs and conservation policies, history of management and potential conflicts, and any proposed/upcoming change affecting marine conservation or renewable energy development.

Secondly, all existing uses and potential conflicts amongst uses and activities (based on the interests of research within the COCONET project) were identified for each country (see Tables 5, 8 and 9).

In the third stage, the main stakeholders in each of the study areas were identified and their contact details collected. The stakeholder template was completed for (Annex 1) for each case study area country (Italy, Albania, Romania and Ukraine). To assist in the identification of stakeholders, a categorization system (following Vella et al., 2009) was proposed:

Table 2. Guide for the identification of the relevant authorities and stakeholders for the marine uses in the pilot study region.

Decision-makers concerned by marine and coastal affairs
Ministry of the Environment
Ministry of Foreign Affairs
Ministry of Civil Defence
Ministry of Food and Fisheries
Ministry of Transportation
Ministry of Tourism
Ministry of Public Works
Specific public agencies
Specific public agencies
Administrations and agencies who manage economic sectors and uses of marine waters
Maritime Affairs
Food, fisheries and aquaculture
Environment, aquatic and marine environment, Marine Protected Areas
Public Works, ports and coastal infrastructures
Transport, maritime transport
Tourism, coastal tourism
Energy, offshoring
Local Authority / Administration
Research and higher education
Professional representatives of the coastal and marine economic sectors
Maritime Affairs
Food, fisheries and aquaculture
Environment, aquatic and marine environment, Marine Protected Areas
Public Works, ports and coastal infrastructures
Transport, maritime transport
Tourism, coastal tourism
Energy, offshoring
Environmental NGOs active in marine and costal environment and resources
Experts & consultants specialized in marine and costal environment and resources
Others

A questionnaire was designed based on the information collected. In the Black Sea, different questionnaires were developed for the following sectors: fisheries, tourism and all remaining stakeholders. In the Mediterranean Pilot study area, a single questionnaire was designed and delivered to all stakeholders. All questionnaires were translated into local languages (Italian, Albanian, Romanian, Ukrainian and Russian) prior to the interviews.

Interviews were conducted with respondents using a number of methods. These are summarised in Table 3.

Table 3. Contact via, number of surveys delivered and contact dates.

Country	Study Area	Delivery method	Nº surveys	1st Contact Date	2nd Contact Date
Albania	Albania Region	Face to face; telephone	30	07-11-2013	13-01-2014
Italy	Apulia Region	E-mail, face to face	33	19-12-2013	10-01-2014
Romania	Danube Delta	E-mail, telephone	47	18-11-2013 17-12-2013	18-12-2013 10-01-2014
Ukraine	Danube Delta	Face to face	12	25-11-2013	
	Tarkhankut Peninsula	Face to face	12	15-11-2013	
	Black Sea Biosphere Reserve	Face to face	12	15-11-2013	

All interviews were completed November 2013 and January 2014. All results were analysed and this report written as a summary of the findings and as an output (as deliverable 6.1) for the EU FP7 CoCoNET project.

2. STATE-OF-THE-ART

As it has been described in various works (Cobham, 1996; Raymond et al., 2009; Angulo-Valdés & Hatcher, 2010), people´s awareness of protection and marine management issues and support for conservation activities can be enhanced if they are given the opportunity to be involved in decision-making processes. Furthermore, the opinions of stakeholders might also serve as a way of assessing measures and prioritizing actions towards a more effective management of the marine environment.

Such potential needs to be taken into account and developed when seeking to increase the involvement of society in conservation issues.

Before presenting the questionnaire responses in detail, we will summarize the state of the art of marine protection in the Mediterranean and Black Sea study areas. We will also introduce the main cooperation and conflict issues in the study areas.

1 Marine protection in the Mediterranean Sea study area

According to the MedPAN & RAC/SPA 2012 Status of MPAs in the Mediterranean report (MedPAN & RAC/SPA, 2012), since 2008, progress has been made in marine conservation in the Mediterranean. Various Legislation, Protocols, Action Plans and Agreements have been developed in order to protect the Mediterranean Sea (Suárez de Vivero, 2010) and policymakers at all levels have shown that they are firmly committed to creating new MPAs and giving support to existing sites. New laws and international agreements have also been approved to that effect. Furthermore, various initiatives have aroused with the aim of improving the state of the Mediterranean MPA network as this is thought to help Mediterranean countries achieve the Aichi Targets set under the Convention on Biological Diversity (CBD) and/or fulfil their obligations towards the Barcelona Convention, ACCOBAMS, GFCM as well as the Bern and Ramsar conventions.

However, there is still much to be done to achieve effective management in all the existing Marine Protected Areas in the Mediterranean and for the current network to be representative of the Mediterranean's marine biodiversity.

In this framework, during a Forum held in Antalya (Turkey, 25-28 November 2012), the Mediterranean MPA community reviewed the status of MPAs in the region and identified the actions needed to establish an ecological network of MPAs which is effectively and sustainably managed[1]. Furthermore, a Roadmap was elaborated calling for urgent action and aimed at achieving, by 2020, the objectives set by international commitments[2].

These actions, together with the work carried out by the various Regional Activity Centres for Specially Protected Areas (RAC/SPA)[3] and other stakeholder's network initiative and organisations (i.e. MedPAN) will contribute to achieving the Millennium Development Goals and the commitments taken within the framework of RIO+20, as well as other European legislation requirement (for EU Countries) such as the Exclusive Economic Zones requirements; the Convention on Wetlands of International Importance (Ramsar Convention); the Habitats Directive; the Common Fisheries Policy and the Marine Strategy Framework Directive (MSFD) amongst others (see Table 4).

[1] Antalya Declaration (http://www.medpan.org/documents/10180/0/Antalya+Declaration/b7109951-849f-4ce8-aa65-67440509c3d8?version=1.0).
[2] Road Map (http://www.medpan.org/documents/10180/0/Mediterranean+MPA+roadmap/90ee4a8c-57c4-4c91-937b-c08fc7e7f4a5).
[3] Regional Activity Centres for Specially Protected Areas (RAC/SPA)[3], whose main mission is to provide assistance to Mediterranean countries in the implementation of their commitments under the SPA/BD Protocol, especially in regard to developing and promoting Specially Protected Areas (SPAs) and reducing the loss of marine and coastal biodiversity.

Table 4. Main International Agreements applicable to the Mediterranean and Black Seas.

	Albania	Algeria	Bosnia-Herz.	Croatia	Cyprus	Egypt	France	Greece	Israel	Italy	Lebanon	Libya	Malta	Monaco	Montenegro	Morocco	Slovenia	Spain	Syria	Tunisia	Turkey	Romania	Bulgaria	EC	Georgia	Russian Federation	Ukraine
1982 Los Convention	x	x	x	x	x	x	x	x		x	x		x	x	x	x	x	x		x				x			
1995 SFS Agreement					x		x	x		x			x	x			x	x						x			
2001 UCH Convention				x							x	x			x		x	x		x		x	x				x
1992 CBD	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
1979 CMS	x	x		x	x	x	x	x	x	x		x	x	x		x	x	x	x	x		x	x	x	x	x	x
1979 Berne Convention	x		x	x	x		x	x	x	x			x	x		x	x	x		x	x			x	x		x
1974 SOLAS	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x
1973/78 MARPOL	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x
1989 Search and rescue	x			x		x	x	x		x							x	x	x	x		x	x			x	x
1988 SUA	x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x
2000 Smuggling Prot.	x	x	x	x	x	x	x			x	x	x	x	x	x		x	x		x	x	x	x	x	x	x	x
1976 Barcelona Conv.	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x	x			x	x	x	x
1995 Barcelona Amend	x	x		x	x	x	x	x	x	x			x	x	x	x	x	x	x	x	x			x	x	x	x
1976 Dumping Prot.	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x			x	x	x	x
1995 Dumping Prot.	x			x	x	x	x			x			x	x	x	x	x	x		x	x			x			
1976 Emergency Prot.	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x			x			
2002 Emergency Prot.				x	x		x	x					x	x	x		x				x			x			
1980 LBS Prot.	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x			x			
1996 LBS Prot.	x			x	x		x	x			x		x	x	x	x	x	x	x	x	x			x			
1982 SPA Prot.	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x			x			
1995 SPA Prot.	x	x		x	x	x	x			x			x	x	x		x	x	x	x	x			x			
1994 Offshore Prot.	x				x											x					x						
1996 HW Prot.	x												x		x	x				x	x						
2008 ICZM Prot.																											
1996 ACCOBAMS	x	x		x	x		x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x
1982 Paris MOU				x	x		x	x		x			x				x	x									
1996 Med. MOU		x			x	x			x		x		x		x				x	x	x						
1949 GFCM	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			
1969 ICCAT	x	x		x	x	x	x			x		x	x			x		x	x	x	x			x		x	

(Table 83. from Suárez de Vivero (2010); Source: European Commission (2008). See also Annex 2 of this deliverable for further details on these agreements).

On top of these innitiatives, legislations, agreements, etc. each country has national laws and policies which regulate environmental activities and protect areas from harmful activities.

In Italy a number of laws regulate the system of professional fishing licenses (D.P.R.1639/196, Ministerial Decree of 26th July 1995) and fishing recreational permits (Presidential decree No.1639/1968, Ministerial Decree of 26th July 1996, Ministerial Decree of 10th April 1997). Marine Protected Areas in Italy are defined by Law 972/1998 (Disposition for

protection of marine environment); in addition, 'Biological conservation zones' are regulated through the Ministerial Decree of the 16th March 2004.

Conversely, in Albania, the Government programmes for the periods 2005-2009 and 2009-2013 set priorities for environmental protection and sustainable use of natural resources, providing a strong basis for environmental management. Furthermore, in Albania, the second National Environmental Strategy for the period 2006-2020 (NES2) was adopted in 2006. The NES2 followed the sustainable development concept and used the Driving force–Pressure–State–Impact– Response (DPSIR) methodology.

However, issues with NES2 have been identified. These include the following:

- Non-compliance with European and international environmental (especially air and water) quality standards;
- General high impact on the environment due to human activities
- Low level of expenditure by the public and private sectors in environment;
- Lack of concordance between Albanian and European legislations;
- Low level of enforcement and implementation of environmental laws[4].

In some areas, due to their proximity with neighbouring countries, additional cooperative measures need to be adopted.

The Mediterranean study area in the Apulia/Albanian region is an example of this (Figure 1). Similarly to other maritime regions, there are many potential conflicts in this area. The 2012 report by the French Senate on "*Maritimisation*" highlights: "The exploitation of underwater richness is still in its infancy but is already causing major geopolitical movements". Furthermore, the White Paper[5] of 2008 had anticipated how these pressures on the resources have moved from land to sea, creating more than ever the mastery of the seas as an essential element of the strategic context[6].

[4] United Nations economic commission for Europe, "Albania, environmental performance reviews", second review, 2012.
[5] EU White Paper 2008 on Damages actions for breach of the EC antitrust rules.
[6] Rapport d´information fait*au nom de la commission des affaires étrangères, de la défense et des forces armées (1) au nom du groupe de travail sur la* Maritimisation, *SENAT, n°674, session extraordinaire de 2011-2012, www.senat.fr, p.30*

In the decision-making process it is important to strike a balance between the different sectorial interests that compete for marine space. Furthermore, it has been acknowledged that the management of competing activities in these areas and the respect of environmental commitments will be managed through existing Integrated Coastal Zone Management (ICZM) plans. These will help to curb the increasing pressure exerted on the coastal areas. Equally, the development of maritime spatial management, also called as Maritime Spatial Planning (MSP) will assist in this process. The implementation of the ICZM protocol, associated with the Barcelona Convention, is one of the priority action plans of UNEP/MAP, who play an important role in the support of this implementation ICZM in the Mediterranean countries[7].

However, it appears that state will to monopolise resources, legitimate needs to reinvigorate economic sectors and the existence of unresolved territorial disputes are factors likely to undermine the cooperatives ambitions.

However, in spite of this, the need for cooperation is highlighted in the "Declaration of Limassol" (8th of October, 2012): "*Cooperation in marine basins is a cornerstone of the development and of the implementation of the Integrated Maritime Policy of the European Union*[8]".

1.1 The Apulia / Albanian Region

The Adriatic and the Ionian Sea, linked by the Strait of Otranto, represents a significant maritime zone in Europe due to its central position in the northern Mediterranean. Furthermore, the configuration of two connected seas, the presence of a strait and the variety of coastal landscapes (formed by islands and peninsulas) makes it a complex area. Additionally, the area is characterized by the inequity of coastal countries in terms of experience, technical capacity, financial resources and know-how.

As occurs within enclosed seas, the management of this Apulia/Albania Region requires strengthening of the cooperation between coastal states. This is especially important as the potential enlargement of the European Union could lead to an increase economic development

[7] Communication de la commission au parlement européen, au conseil, au comité économique et social européen et au comité des régions,« *Une stratégie maritime pour la mer Adriatique et la mer* » Bruxelles, le 30.11.2012 COM (2012) 713 final

[8] Declaration of the European Ministers responsible for the Integrated Maritime Policy and the European Commission, on a Marine and Maritime Agenda for growth and jobs the « Limassol Declaration». http://ec.europa.eu/maritimeaffairs/policy/documents/limassol_en.pdf

which would further exacerbate the pressures which are already being faced by coastal and marine areas9.

1.1.1 Political and economic context of cooperation for the Adriatic/Ionian region

According to the European Commission, the Adriatic and the Ionian Sea connect the territories of seven countries: This includes four EU member states (Greece, Italy, Croatia and Slovenia), one candidate state (Montenegro) and two potential candidate states (Albania and Bosnia-Herzegovina). Serbia, which is also a candidate state, is one of the eight members of the Adriatic-Ionian initiative. Other countries also have a political and economic interest in the maritime activities occurring in the Adriatic and Ionian Sea and should also be considered when looking at cooperation strategies.

The international conference "*Setting an Agenda for Smart, Sustainable and Inclusive Growth from the Adriatic and Ionian Seas»*, held in Croatia on the 6th of December, 2012, the communication COM (2012) 713 final entitled "A marine strategy for the Adriatic and Ionan Seas[10]" was launched. At this conference the proceeding which conduced to the adoption, in 2013, of the Action Plan on Maritime Affairs was also launched. This conference permitted to discuss the best ways to exploit the full potential of the "blue economy" and to promote a healthy marine environment, a safer maritime space and more responsible fishing in the Adriatic and Ionian Seas. The communication provides a framework to adapt the integrated maritime policy to the needs and to the potential linked to natural resources and the socio-economic string of coastal and marine areas of the Adriatic and the Ionian Sea.

In this latter communication, the EU identified key lines of development for a common maritime strategy to enhance maritime cooperation in the region. This included neighbouring countries outside of the EU, with the aim of laying the groundwork for a macro-regional strategy. Thus, the cooperation agenda for the growth of marine sectors in the area revolves around four pillars: i) Maximizing the potential of the blue economy; ii) Health improvement of

[9]Communication de la commission au parlement européen, au conseil, au comité économique et social européen et au comité des régions, « *Une stratégie maritime pour la mer Adriatique et la mer* »
Bruxelles, le 30.11.2012 COM (2012) 713 final

[10]Stakeholder Conference on the EU Strategy for the Adriatic and Ionian Region:
http://ec.europa.eu/maritimeaffairs/policy/sea_basins/adriatic_ionian/index_fr.htm

the marine environment; iii) A safer maritime space and iv) Sustainable and responsible fishing activities.

Concerning the environmental aspect and the risks to natural capital provided by the Adriatic and Ionian Sea, it is important to underline that these coastal areas face a number of critical issues, mainly relating to eutrophication, overfishing, pollution (including past pollution not yet absorbed[11]), shipping, coastal development and tourism[12].

Lately, a new Stakeholder Conference on the EU Strategy for the Adriatic and Ionian Region has taken place in Athens, Greece (6-7 February 2014) jointly organized by the EU Commission and the Hellenic Presidency of the Council of the European Union[13]. This conference has built on the experience gained in the macro-regional strategies for the Baltic Sea Region and the Danube Region, and following a request from the European Council, the EU Commission and the participating countries are now proceeding to draw up an EU Strategy for the Adriatic and Ionian Region. This new Strategy will integrate the Maritime Strategy for the Adriatic and Ionian Seas (adopted by the Commission on 30th November, 2012), and cover eight countries (Croatia, Greece, Italy, Slovenia, Albania, Bosnia and Herzegovina, Montenegro, and Serbia). The focus will be on areas of regional mutual interest which are based around four main "pillars": 1) Driving innovative maritime and marine growth; 2) Connecting the Region; 3) Preserving, protecting, and improving the quality of the environment; and 4) Increasing regional attractiveness.

During this conference, the results of the extensive consultation with stakeholders taking place from September to December 2013, alongside with a public consultation launched by DG REGIO were presented. The conference promoted a debate on the future challenges that can be tackled following a macro-regional approach. Outcomes from this conference will support the preparation of the future Communication and Action Plan of the Strategy, which the Commission is due to present before the end of 2014.

[11]Office parlementaire d'évaluation des choix scientifiques et technologiques, «*Rapport sur la pollution de la Méditerranée: état et perspectives à l'horizon 2030*», juin 2011
[12]ParliamentaryAssembly, Council of Europe, "la cooperation et le développement durable du basin de l'Adriatique », mai 2005
[13] http://ec.europa.eu/regional_policy/conferences/adriat_ionian/index_en.cfm

1.1.2 Environmental context of cooperation for the Adriatic/Ionian region

The European Union has designated several places in the Strait of Otranto as "Sites of Community Interest" (SCI, precursors for Special Areas of Conservation, SAC)[14], for their environmental importance[15] in the Adriatic/Ionian region. SACs and SPAs form the EU Natura 2000 network. The aim of the network is to assure the long-term survival of Europe's most valuable and threatened species and habitats.

According to the "Council Directive 92/43/EEC of 21 May 1992 the designation of these special areas of conservation has three stages: Each Member State must draw up a list of sites hosting natural habitats and wild fauna and flora; On the basis of the national lists and by agreement with the Member States, the Commission will then adopt a list of SCIs for each of the nine EU biogeographical regions and, no later than six years after the selection of a SCI, the Member State must designate it as a special area of conservation (SAC)"[16].

Envrionmental cooperation between coastal states is a part of the framework established by the MSFD, the Barcelona Convention (and the corresponding protocols) and by the Joint Commission for the Protection of the Adriatic and its coastal areas. In this collaborative context the AdriaPAN network has been developed, resulting from the need to strengthen the coordination between all actions related to the management of marine protected areas in the Adriatic Sea. The network, supported by MedPAN, was established in 2012 to initiate a technical support process to all MPAs managers in the region[17]. Initially founded by two Italian MPAs (Miramare and Torre del Cerrano) the network now includes 40 members from all countries bordering the Adriatic Sea and continues to grow.

On the 31st January 2013 the Protected Areas Network for Adriatic Macro Region (PANforAMaR) was launched. This is closely linked to the AdriaPAN secretariat and all members of the project also belong to the AdriaPAN network. Despite being an autonomous project it integrates many of the same goals and themes but with two specific objectives: to promote eco-tourism or sustainable tourism, through communication tools such as social networks and web sites for '"AdriaPAN Secretariat" and meetings, workshops, courses, seminars for PANforAMaR.

[14] See the COMMISSION DECISION of 10 January 2011 adopting, pursuant to Council Directive 92/43/EEC, a fourth updated list of sites of Community importance for the Mediterranean biogeographical region (notified under document C(2010) 9676) (2011/85/EU).
[15] Présentation Détroit d'Otrante, Lecce, Vlorë, Fier : www.fr.europeanstraits.eu/Partenaires/Detroit-d-Otrante.
[16] http://europa.eu/legislation_summaries/environment/nature_and_biodiversity/l28076_en.htm.
[17] www.adriapan.org. Interactive map available at: http://www.adriapan.org/index.php/en/network-it. Writting support at: http://www.adriapan.org/index.php/en/news-en/120-protected-adriatic-book.

Figure 3. Map showing all marine and coastal protected areas members of the AdriaPAN network in 2013.

In addition to the PANforAMaR project, the AdriaPAN network has been responsible for initiating a number of other projects working towards protecting biodiversity, cultural heritage and landscapes in the region. These have included:

- *SERENISSIMA - Shared heritage for joint development in the Adriatic region*
- *PAEIAS – Protected Aras Efficiency In Adriatic Sea*
- HEART of ADRIA – Heritage, Envrionment, Arcaheology and Tourism
- Ritorno
- ReSCWe
- BySEAcle - Bicycle Intermobility System Ensuring Adriatic Coast's Leisure and Environment
- TEA - *Testudo hermanni* and *Emys orbicularis* in Adriatic
- ChaMon– *Charadrius alexandrinus* & *Monachus monachus*

Not all of these projects have been granted funding but the number and scope of projects shows the strength of co-operation formed by partners in the region and members of the AdriaPAN network.

1.1.3 Competition between uses for the Adriatic/Ionian region

The Apulia/Albania study area is an illustration of the intensifying exploitation of marine resources for economic purposes. Furthermore, it is an area where competing activities already occur. These competing activities include the following:

Maritime transport

Maritime transport is one of the main sources of pollution by petroleum hydrocarbons (oil) and polyaromatic hydrocarbons (PAHs) in the Mediterranean (UNEP/MAP-EEA, 2006)[18]. The ecological vulnerability of Mediterranean straits, due to the importance of maritime traffic, is an important issue. Despite this importance, the legal regime of the straits continues to favour the traditional maritime powers over coastal states[19].

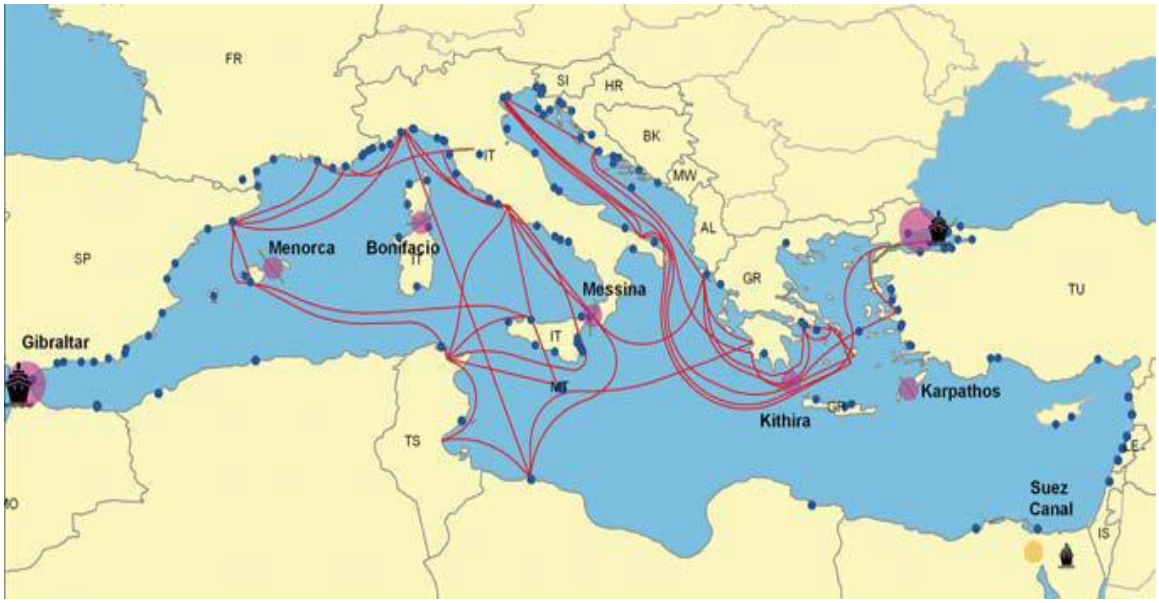


Figure 4. Main ports and maritime routes in the Mediterranean. PAM/UNEP p.171.

The Strait of Otranto is very sensitive to pollution caused by ships due to the high density of maritime traffic in the region (see Figure 4).

[18] PAM/PNUE «Evaluation initiale intégrée de la mer méditerranée : exécution de l'étape 3 du processus d'approche écosystémique», Athènes 2012, p. 171, UNEP(DEPI)/MED IG.20/Inf.8

[19] UICN "Détroits internationaux, passage en transit», 29th June, 2012. http://www.iucn.org/fr/propos/union/secretariat/bureaux/iucnmed/programme_uicn_med/programme_marin/gouvernance/glossaire/?10289

As a result, a scoring system of traffic in the Adriatic has been established to monitor all ships passing through the Strait. In this system, the management is carried out jointly by Italian and Albanian authorities. However, it has been proposed to build a pipeline that will pass through the Strait of Otranto to bring gas from Azerbaijan to Italy through Greece and Albania. This could have a significant impact on the environment, tourism and fishing in the region[20].

In the same area, a maritime corridor (or highway of the sea), connecting the Adriatic Sea to the Ionian Sea and the eastern Mediterranean, has been proposed.

The concept of highways of the sea has been developed by the European Commission[21] with the aim to convert intra-EU maritime connections into "real competitive alternatives to land transport". These ideas have arisen as a priority development according to the objectives of the European transport sector[22]. Despite these highways being in a pre-development stage, transport operators are gradually becoming aware of the economic interests they represent.

This raises a fundamental question regarding trade-offs between the competing interests of two sectorial policies: Can the alternative to road transport constitute a sustainable solution for the protection of the marine environment? By removing the pressure of transport from the terrestrial environment, the problem will merely be transferred to the marine environment.

[20] Présentation Détroit d'Otrante, Lecce, Vlorë, Fier: www.fr.europeanstraits.eu/Partenaires/Detroit-d-Otrante
[21] Livre blanc sur la politique européenne des transports à l'horizon 2010: l'heure des choix, Commission européenne, 2001.
[22] Les notes IPEMED, Etudes et analyses, « Les autoroutes de la mer des perspectives prometteuses en méditerranée », n°7 février 2010, www.ipemed.coop

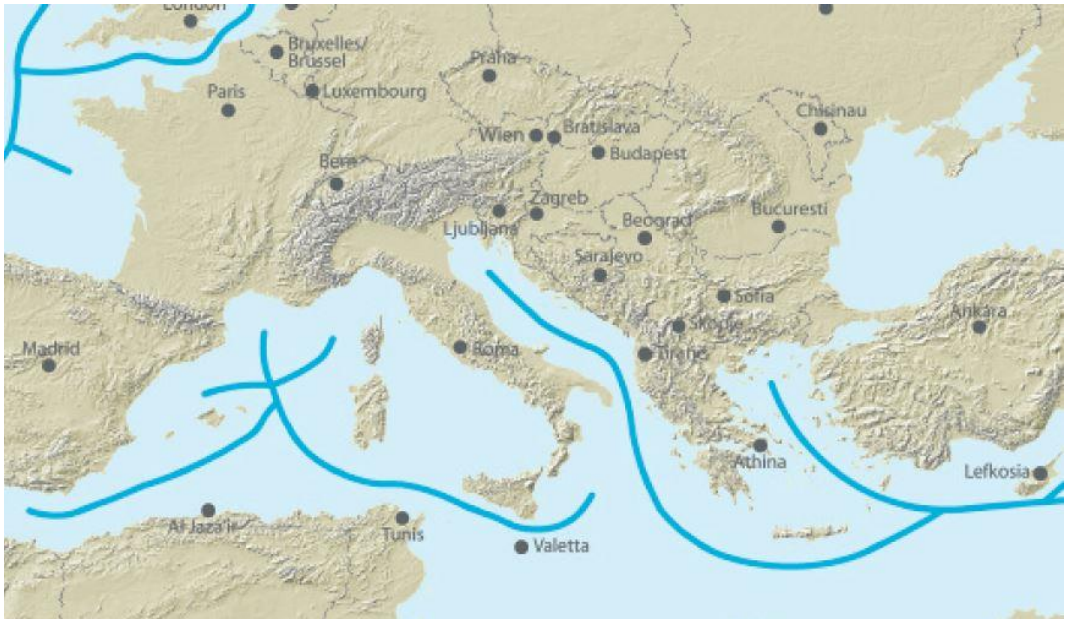


Figure 5. Main transport routes in the Mediterranean Sea (RTE-T, Axes ET projects prioritaires, 2005).

Offshore wind-farms:

Three offshore wind farm (OWF) projects are proposed in the Apulia region, all in the broad area of Foggia. Also in the Adriatic Sea, OWF projects are planned near Bari and Trevi. [23].

Oppositions to these projects exist from the Italian civil society and the provincial government. Both claim they would impact on their core economic activities (tourism, fishing, etc.). In a similar case, the province of Puglia opposed the Manfredonia OWF based on similar grounds.

However, these oppositions are unlikely to prohibit the projects, whose development licenses are granted by the state. Additionally, economic benefits associated with such developments are likely to outweigh the arguments.

The Albanian region also has potential wind energy resources. These are notably present along the Adriatic Sea coast and on hills and ridges running in a north-south direction along the coast.

Within Albania, the most important national energy policy document is the National Energy Strategy (2003). This aims to restructure the Albanian energy sector and targets the

[23] "Les régions italiennes opposées à l'éolien offshore". www.econostrum.info, 22th February, 2012.

efficient use of energy resources to achieve maximum economic effect and minimum impact on the environment. This document also considers the diversification of the energy system through the construction of new generation capacities, including renewables (solar, small HPPs, wind and biomass)[24].

In terms of energy dependence, Albania faces the same problems as the rest of Mediterranean countries, and recognizes that the country cannot rely any longer on energy imports. Instead, the Government intends to promote greater energy efficiency and use of renewable energies while at the same time constructing new thermal power plants[21].

Therefore, it is likely that the Apulia/Albanian study area will face the installation of OWFs at some point in the future.

Oil and Gas Extraction

Potential conflicts relating to oil and gas extraction are present between Albanian and Greece. The maritime border between the two countries is not defined according to the Montego Bay Convention and is now the subject of claims and conflict due to the large reserves of oil and gas in the area (see Figure 6). Therefore, any future cooperative planning in the Strait of Otranto should include Greece alongside Italy and Albania[25].

[24] United Nations economic commission for Europe, "Albania, environmental performance reviews", second review, 2012

[25] Pétrole offshore, la Grèce menace la candidature de l'Albanie à l'UE. www.econostrum.info, 11th Sept.2012.

Figure 6. Map showing the conflict zone area in the Strait of Otranto (prepared by Greek experts for the power control of a "triangle" of some 334.4 km². Source: Greek Ministry of Defence).

Discoveries such as these raise the issue of maritime boundaries. Like other similar cases in the Mediterranean, the space appears fragmented and not conducive to the cooperation, which is necessary for environmental protection. This leads many states to consider declaring EEZs, which creates new tensions and could further exacerbate the situation»[26].

In addition to conflicts between countries, internal conflicts may also arise. These internal conflicts for Albania are shown in Table 5.

[26] Samuel Furfari, droit international «Les frontières maritimes en Méditerranée, aspects juridiques et enjeu énergétique», le 10/11/2013 JOL Press, http://www.jolpress.com/blog/frontieres-maritimes-mediterranee-aspects-juridiques-enjeu-energetique-furfari-822855.html

Table 5. Uses and Conflicts in the Albanian Mediterranean Study Area.

	State of the Use	Regulation in MPA(s)	Main conflicts	Users affected	Importance (rank)
Current Uses					
Fishing commercial	Inappropriate control and breakdown in supply. The use of aid subsidies	Issuing decrees for cancellation of licenses	Reduction of the living resources of the fishing business	Fishing associations consumers	Primary
Fishing artisanal	Considerable. A large number of local residents practice artisanal fishing	Reducing the number of individual licenses, or issuing detention orders	Decrease the source of income of residents	Fishing families, communities and local consumers.	Primary
Fishing recreational	Frequent. Sport fishing is popular with non-residents.	Restricted.	Reduced tourism activities.	Sport fishing enthusiasts	Secondary
Aquaculture	Approx. 5 licenses for fish farms in the Orikumi area	License terms and conditions.	Escapees breeding and becoming naturalised in local area.	Aquaculture Associations, consumers	Primary
Sea sports (sailing, canoeing, diving)	Some recreational diving in summer.	Restricted	Alienation of diving community	Water sports clubs	Tertiary
Coastal tourism	Heavy. Majority of Vlora and Orikumi coast has tourism activities	Relocation of businesses	Damage to local economy	Tourism associations, tourists Families and businesses	Primary
Education and research	Scientific research consistently conducted by universities	-	No conflict	-	-
Military	Pashaliman naval base, Orikum Albania	Closure of area with legal Act	Conflicts with military peronel.	Military policies	Secondary
Future Uses					
OWF/coastal development	Construction of Vlora promenade (Lungomare)	Development restricted in rocky shoreline area. Buildings and discharge of sewage by tourism businesses prohibited	Significant impact on beach area. Waste from development causing maritime pollution.	Builders associations, businesses	Secondary
MPAs	Envisaged the creation of the Karaburuni-VloraMPA (K-V-MPA) See Section 1.1.2.1	-	-	-	Primary

1.1.4 Karaburuni-Vlora MPA

Karaburuni peninsula was declared a natural reserve in February 22nd, 1966. Due to having been heavily impacted by fires, overgrazing, intensive hunting and military practice, protection was reactivated in 1986 when the area was declared a "Natural Managed Reserve" of fourth category. It now includes: various natural recreational/touristic zones (such as the inner part of the Karaburuni peninsula, within Vlores bay, Brisanit and Rreza e Kanalit), two natural monument zones; the presence of exceptional coralliferous formations (e.g. "Gryk a Djallit") and a buffer zone. The National park of Llogara (kampi i pushimit, a strictly protected zone) and the Cikes mountain (Mbihipja e Cikes, a natural monument zone) are also included in this Natural Managed Reserve (Figure 7).

Sazanit Island (Figure 7), separated from the northern tip of the Karaburuni peninsula by the Mezokanali strait, is also a natural recreational/tourist zone with remarkable cliffs and landscapes. The Vjose-Narta Wetland Complex, extending North of Vlora to Vjose River, is also classified as the Vjoses-Narta Landscape Protected Area. This wetland complex is also a Site of International Importance as it fulfils the Ramsar criteria (Wetlands of International Importance) due to the number of wintering water birds. Furthermore, Vlora bay is covered by important *Posidonia oceanica* seagrass meadows.

Overall, area displays the highest biodiversity values in the country (NEA, 1999) due to its diversity of habitats and its richness in flora and fauna species, many of which have international, national or regional designations.

The marine fauna and flora are of special interest since this area is located on the border of three sub-regions: the western Mediterranean, eastern Mediterranean and Adriatic Sea. Therefore the fauna and flora include species from mixed origin: strictly Mediterranean species, remnant fauna and flora from the Atlantic and migrant fauna from the Indian Ocean through Suez Canal (Peres and Picard, 1964). The biological diversity is relatively high in the marine waters of Albania with rare species and the littoral benthos much-developed with a typical Mediterranean physiognomy characterized by the abundance of Mediterranean-Atlantic species. *Posidonia oceanica* meadows host a relatively high biodiversity of benthic macrofauna

including sponges, cnidarians, bryozoans, molluscs, annelids, crustaceans, echinoderms and ascidians (Beqiraj et al., 2008). Three globally endangered sea turtles, with highly threatened status (IUCN Red List, 2006) are present in Albanian waters: loggerhead turtles-*Caretta caretta*, green turtles-*Chelonia mydas* and the leatherback turtle-*Dermochelys coriacea*. The area is also a potential habitat for monk seals (reported in 1982). Furthermore, five species of cetaceans are reported in Albanian waters including the short-beaked common dolphin-*Delphinus delphis*, the common bottlenose dolphin-*Tursiops truncatus* and the sperm whale-*Physeter macrocephalus*, which has been identified by ACCOBAMS as being in the greatest danger of disappearing from the Mediterranean. The area is also important concerning fisheries. Artisanal fishing exists along the coasts of Rreza e Kanalit, Karaburuni and Sanzanit. Professional fishing activities mainly use lines and trawling gears. The fish fauna of commercial interest is made of several species and groups of demersals, small and big fishes, crustacean and molluscs.

Coastal lagoons and estuaries are important areas for wintering of migratory water birds; about 70 species of water-birds have been recorded among which the Dalmatian pelican-*Pelecanus crispus* and the pygmy cormorant-*Phalacrocorax pygmaeus*. However the bird populations have decreased dramatically due to impacts, such as the drainage of wetlands and uncontrolled hunting. Birdlife International (2014) lists the area of Vlora Bay, Karaburuni Peninsula and the Cika Mountain (fact sheet AL010) as an important bird area (IBA).

Away from the wetlands, the coastal area is mainly rocky with important calcareous limestone cliffs covered by typical Mediterranean vegetation and pockets of pebble and sand beaches.

The underwater landscape is of exceptional quality with cliffs, submarine caves and associated fauna and flora and, in some places, archaeological remains (Tilot and Jeudy de Grissac, 1994; Upton, 2006). This area is certainly the best and most impressive part of Albanian coast for the development of nautical activities such as scuba diving. Several underwater archaeological and historical remains are present in the area in laguna e Nartes (Zvernecit island monastery), Orikumi lagoon, Vlora bay and Karaburuni (e.g. Grames bay).

Based on all the present natural features and points of interest, and on the identified and potential threats (unregulated fishing, uncontrolled coastal development, pollution from land based sources and from maritime traffic and tourism activities), it has been recommended to include part of the marine environment in the protected area. This will help develop an integrated approach (between all responsible administrations) for the management of all the coastal and marine activities and for a proper conservation of the natural resources. This will need a concerted policy for the management of all the sites under conservation to benefit activities such as fisheries and tourism (in particular ecotourism).

Based on the presence of different terrestrial protected areas in the region of Vlora, it is proposed to link all these coastal sites by the creation of an overall marine protected area. The Karaburuni peninsula being the central element for nature conservation and the city of Vlora being the central element for development, it is proposed to designate the site as the Karaburuni-Vlora Marine Protected Area. The zones will follow the international categories of IUCN and the Karaburuni-Vlora area will include a marine park and a different multiple use managed area and a strict marine reserve, therefore allowing, according to the sites, multiple opportunities for development and economic activities or strictly preserved sites for scientific research and monitoring.

Even if there is a lack of knowledge in some parts of the proposed marine protected area, its preliminary approval by the Government of Albania for its creation will attract donors for further surveys and support for the management of the marine environment in coordination with the existing terrestrial sites, for the benefit of tourism, traditional fisheries and any other sustainable activity.

The Marine Protected Area of Karaburuni-Vlora (K-V-MPA) is designed to attempt to provide a pragmatic approach aiming at establishing equilibrium between sustainable economic development and natural resource conservation ensuring long term protection and maintenance of biological diversity, while providing at the same time a sustainable flow of natural products and services to support coastal communities' development.

The main objectives of the MPA are:

- To protect and maintain the biological diversity and other natural values of the area in the long term.
- To promote sound management practices for sustainable production purposes.
- To protect the natural resources from being alienated for other land-use purposes that would be detrimental to the areas biological diversity.
- To contribute to regional and national development.

Many management issues have been identified which include problems that critically could degrade the natural resources values of K-V-MPA such as the risk from maritime transport and coastal pollution, as well as opportunities such as development of tourism, ecotourism or the permanence of fishing and aquaculture activities.

The decision to create the K-V-MPA will necessitate the preparation of a management plan. This will include: the definition of the role and functions of the management unit, detailed regulations for each zone and for each activity allowed in the area, recruitment and training of staff, definition and installation of necessary infrastructures and the preparation of research, monitoring and communication plans. The plan will have to remain adaptive to change in local and regional conditions and responsive to new challenges and opportunities.

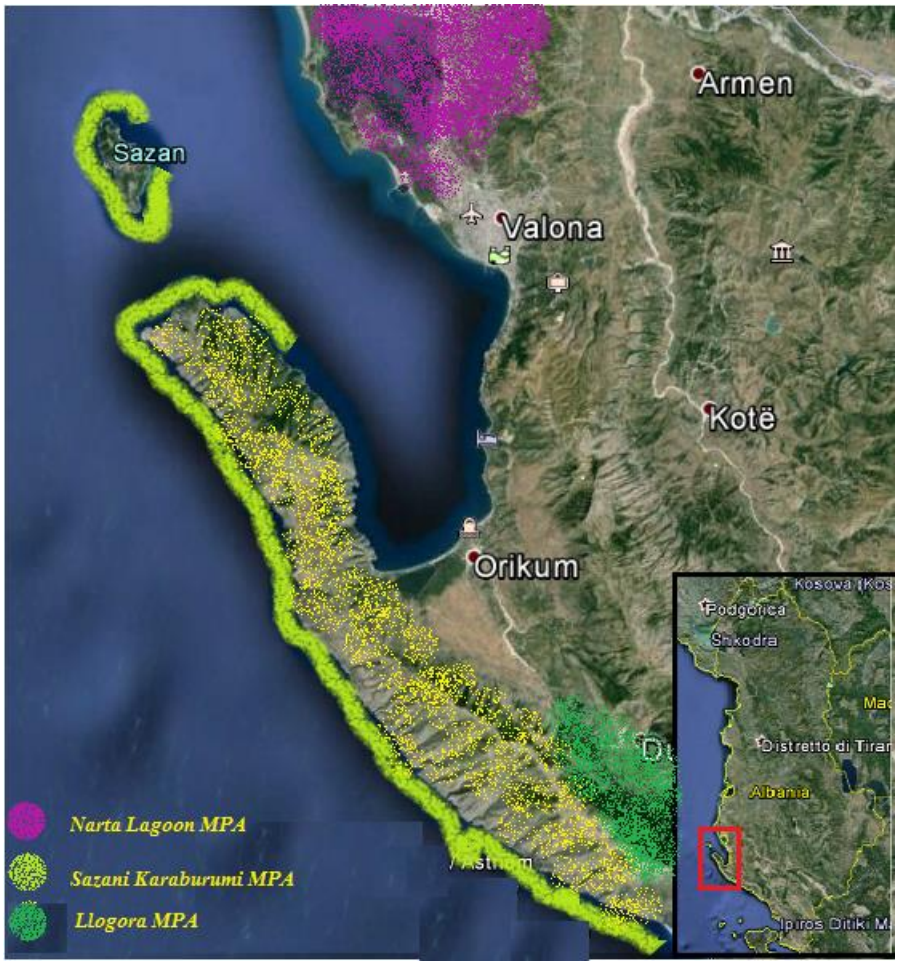


Figure 7. Map of the Narta Lagoon MPA, the Karaburuni-Sazani MPA and the LLogora MPA in Albania.

2 State-of-the-art on marine protection in the Black Sea study areas

A range of legislations, Protocols, Action Plans and Agreements have been developed in order to protect the marine environment of the Black Sea (Table 2 and Annex 2). A summary of these existing legislations is provided in Table 6:

Table 6. Existing environmental legislation at the Black Sea.

Acronym	Full name
Bucharest Convention	The Convention on the Protection of the Black Sea Against Pollution
LBSA Protocol	Protocol on Protection of the Black Sea Marine Environment against Pollution from Land-based Sources (LBSA) (2009)
	Black Sea Biodiversity and Landscape Conservation Protocol to the Convention on the Protection of the Black Sea Against Pollution
BS SAP	Strategic Action Plan for the Environmental Protection and Rehabilitation of the Black Sea 2009 (SAP, 2009)
	Strategic Action Plan for the Rehabilitation and Protection of the Black Sea 1996 (updated on 17 April 2009 with the adopted Strategic Action Plan for the Environmental Protection and Rehabilitation of the Black Sea; see above)
	Contingency Plan to the Protocol on Cooperation in Combating Pollution of the Black Sea by Oil and Other Harmful Substances in Emergency Situations
	Protocol on the Protection of the Black Sea Marine Environment Against Pollution by Dumping
Black Sea Fishery Convention	Convention concerning Fishing in the Black Sea
ASCOBAMS	Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (Monaco, 1996)
	The Black Sea GOOS Memorandum of Understanding (MoU)
IOC/INF-1176	First Black Sea GOOS Strategic Action and Implementation Plan
	Second Black Sea GOOS Strategic Action and Implementation Plan
MoU PSC	Memorandum of Understanding on Port State Control in the Black Sea Region
	The Baku Initiative
	Odessa Declaration
	Ministerial Declaration / Monaco
	Sofia Ministerial Conference Declaration
	Bucharest Declaration
	Sofia Declaration
	Draft Legally Binding Document (LBD) for Fisheries and Conservation of the Living Resources of the Black Sea
	Draft Strategic Action Plan for the Black Sea Biodiversity Conservation Protocol
	Danube River Protection Convention
	Black Sea Biodiversity and Landscape Conservation Protocol

In addition to these over-arching policies, each country has specific laws relating to environmental protection and protected areas.

For instance, in Ukraine there are the following national legislations: Law of Ukraine "On Environmental Protection" (1991); various Laws of Ukraine "On Nature Reserve Fund of Ukraine" (Law No. 2456-XII, 1992) and "On Exclusive (Maritime) Economic Zone of Ukraine" (1995, Law No. 162/95-BP), laws on flora and fauna (1992, Law No. 3116-XII; 1999, Laws No.591-XIV and 662-XIV), “On the Red Book of Ukraine” (2002, Law No. 3055-III), and other legislative acts such as the Law "On the National Program for Creating the National

Environmental Network of Ukraine for the Years 2000-2015" (2000, Law No. 1989-III) (see D6.4 of CoCoNET for a summary on Ukraine´s environmental legislation).

The Black Sea is an almost entirely isolated ecosystem which is highly sensitive to anthropogenic pressures. As a result, robust environmental laws are an important for protecting the health of the sea.

The Black Sea faces several challenges including: overfishing, by-catch, ship-originated pollution (e.g. oil spills, bilge water, introduction of exotic species by ship ballast water), eutrophication, marine litter, habitat destruction and climate change.

A possible solution for the recovery of Black Sea ecosystems is to designate MPAs in areas of ecological or biological significance according to the Convention of the Biological Diversity.

There are already several MPAs within the Black Sea. According to the UNEP-World Conservation Monitoring Centre (World Database of Protected Areas (WDPA), 2008) some 125 protected areas have been designated bordering the Black Sea coast (Figure 8). These vary in size from tiny scientific reserves of 1 ha up to the newly designated Zernov's Phyllophora Field in the northwest shelf of Ukraine (402,500 ha).

At present approximately 1.1 million ha of coastal/marine protected areas have been designated by Black Sea countries. However, half of this is represented by the Danube Delta Biosphere Reserve in Romania. Other protected areas include: the entirely marine 2 Mai: Vama Veche reserve (Romania) which covers 5,000 ha; Kholketi National Park (Georgia), which has an adjacent marine reserve that comprises a shelf extending 6-8 km from the coastline and covers 15,742 ha; the Zernov's Phyllophora Field Botanical Reserve (Zakaznik), declared in November 2008, which is entirely marine and covers 402,500 ha; the Chernomorskiy Biosphere Reserve (Ukraine), which includes Tendrivskiy and Yagorlitskiy Bays and covers 74,971 ha (84%) of the area; and Bolshoi Utrish (Russia), which has 2,530 ha of marine area up to 40 m deep extending 2 km offshore.

Figure 8. Map of protected areas in the Black Sea according to the World Database of Protected Areas (WDPA).

2.1 The Danube Delta Biosphere Reserve (DDBR)

The DDBR was designated as a reserve in 1990 by the Government of Romania and by the Romanian Parliament, through Law 82/1993. Furthermore, the "Man and Biosphere" Programme of UNESCO also recognized the universal value of the area in 1990, for the following reasons:

- It preserves unique and traditionally used areas (for agriculture and fisheries) which are culturally important;
- It includes a coastal/marine area where management ranges from a total protection to intensive sustainable use;
- It is a regional centre for monitoring, research, education and training on natural ecosystems;
- It is a place where nature resources provide well-being to Government policy makers, scientists and local inhabitants;

- It is a symbol of voluntary conservation and cooperation for the well-being of people over a wide area

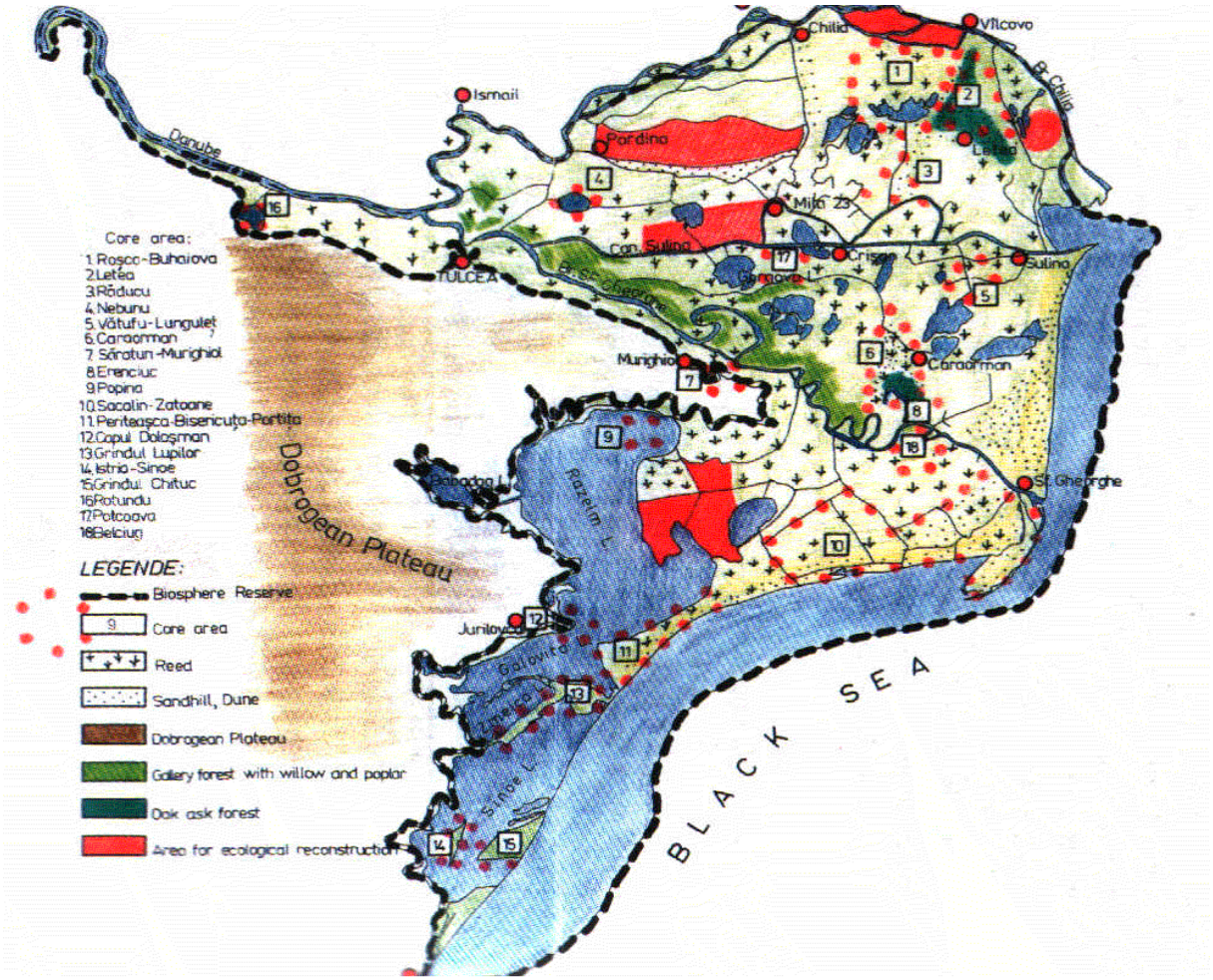


Figure 9. Map of the Black Sea coastline.

From the Chilia Branch mouth to the Midia Cape, till the depth of 20 m. Showing the undivided Danube River, form Galati city to Sulina town; the floodplain in the Isaccea-Tulcea area; the Danube Delta and the Razim-Sinoie lagoon complex (a 3D image of the DDBR can be accessed at http://www.rancaonline.ro/harti/google/delta_dunarii.html).

While the Romanian part of the Danube Delta was declared a biosphere reserve in 1990, a small reserve had already been established on the Ukrainian side since 1981. This was followed in 1998 by establishment of the Ukrainian Danube Biosphere Reserve with the assistance of the GEF project.

The DDBR area is divided into different zones: A totally protected core area; a buffer zone; an economic area and an area of ecological restoration.

The core area contains 18 subareas and covers a 50,904 ha (8.7% of the total DDBR). This includes physical and biological units, or groups of units, with an exceptional scientific or aesthetic value; habitats of plants and animals species with a universal scientific or conservation value and natural sites with an exceptional scientific, history, conservation or beauty value. Here the only activities which area allowed are research and control activities.

Surrounding the core area is a buffer zone which is also subdivided into 13 subareas. This covers 222,996 ha (38.5% of the total DDBR) and includes areas with similar biological characteristics to the core area. The purpose of the buffer zone is to mitigate the impact of human activities on the core area. In this area the exploitation of natural resources (using traditional and sustainable methods), animal grazing, eco-tourism, research and filming are allowed.

The economic area covers 306,100 ha (52.2% of the total of the DDBR) and includes the remaining areas of the DDBR. Activities allowed in the area include: industrial fishing and angling; forestry; harvesting of aquatic vegetation (reed, bulrush, medicinal herbs, other species); grazing, hay and fodder harvesting, hunting and tourism.

Within the ecological restoration area there are six subareas, which cover 11,423 ha. Historically this area has suffered severe ecosystems degradation and the Danube Delta Biosphere Reserve Authority (DDBRA) carries out restoration activities. In addition to restoration activities, all activities allowed in the buffer or economic zones can also be carried out in the restoration zone, providing regulations established by the DDBRA are followed.

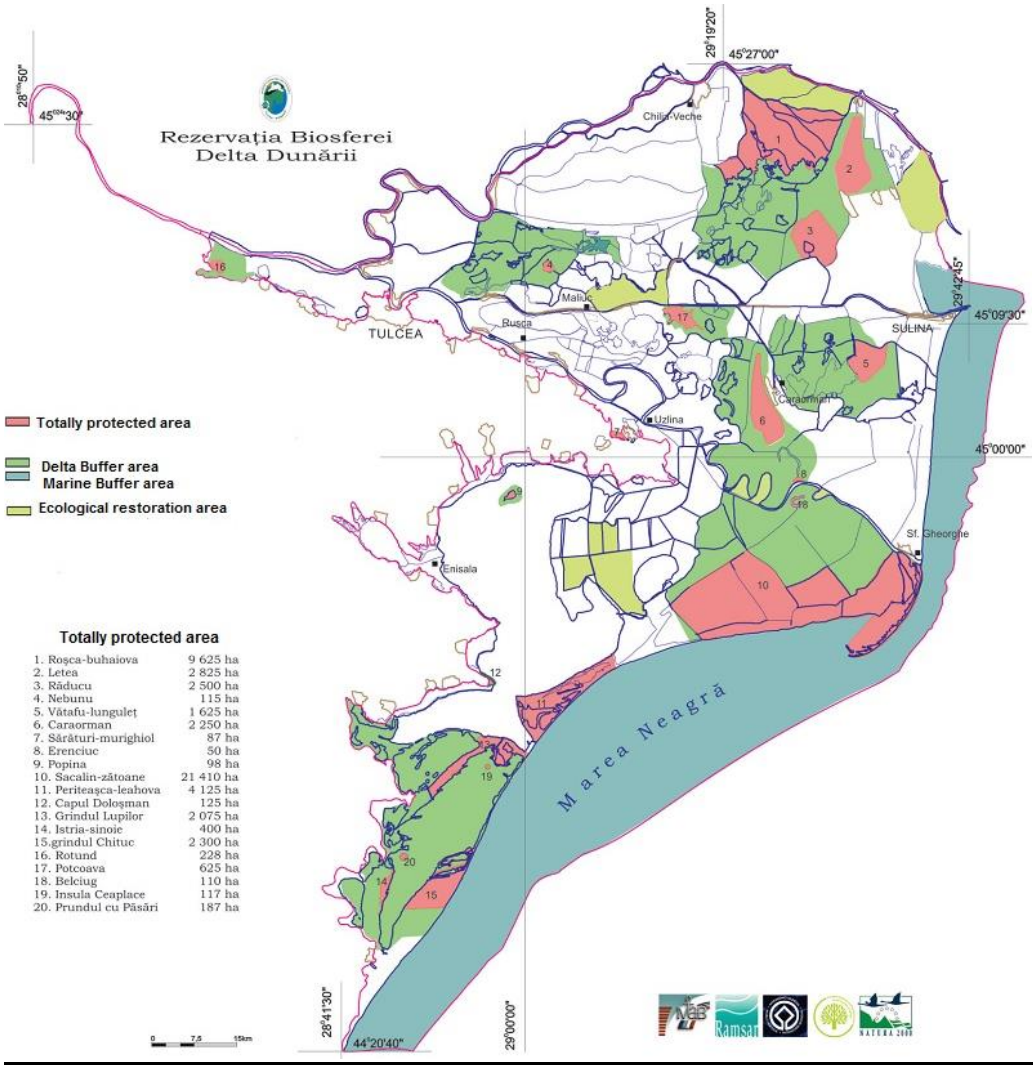


Figure 10. Map of the different zoning of the Danube Delta Biosphere Reserve.

Figure 11. Modern zoning Danube Delta Biosphere Reserve (Ukrainian part).

(Legend: Red = Protected zone (15134.27 ha) - coastal part of the delta Kilia arm (based on the nature reserve 'Danube floodplains') and the eastern part of islands Stambulskiy; Purple = Regulated area protected zone (7234.56 ha) – Stentsovsko - Zhebriyanovskie marshes; Yellow = Buffer zone (19049.19 ha) - part of the delta Kilia arm, the southern part of. Ermakov and part the Black Sea; Green = Zone anthropogenic landscapes (8834.88 ha) - the top lake Sasyk Dzhantsheysky estuary Zhebriyanskaya ridge, the northern part of Ermakov and part of the delta area Kilia arm and fish ponds in the area of village Leski).

The Marea Neagra Special Protected Area (SPA) is present in waters adjacent to the DDBR and acts as a marine buffer. This was declared with EU legislation[27] and national legislation[28] for the protection of birds in 2007 (see the Marine Buffer area at Figure 10).

In total, 13 Natura 2000 Habitats are present within the DDBR[29] These include:

- 1110-1 *Zostera* meadows on clean or slightly muddy fine sands
- 1110-2 Hydraulic dunes of medium sands
- 1110-3 Shallow fine sands; 1110-4 Well-sorted sands
- 1110-7 Danube mouths “camca

[27]Council Directive 79/409/EEC on the conservation of wild birds (Birds Directive) and Council Directive 97/49/EEC regarding the amendment of the Council Directive 79/409/EEC.

[28] Government Decree no 1284/2007 regarding the setting up the areas for bird´s protection like integrated part of the European ecological network Natura2000 in Romania.

[29]T.Zaharia, D.Micu, V.Todorova, V.Maximov, V.Nita, 2008 – The development of an indicative ecologically coherent network of marine Protected areas in Romania, Constanta, Romart Design: 27-28.

- 1130-1 Estuaries
- 1140-1 Supra-littoral sands with or without fast-drying drift lines
- 1140-2 Supra-littoral slow-drying drift lines
- 1140-3 Mid-littoral sands
- 1150-1 Mediterranean type lagoons
- 1160-1 Shallow sheltered muddy sands
- 1170-1 *Ficopomatus enigmaticus* biogenic reefs
- 1170-2 *Mytilus galloprovincialis* biogenic reefs.

2.1.1 Context of Cooperation for the Danube Delta region

The Danube Delta is significant to both Romania and Ukraine and a number of cross-border projects and agreements reflect this. In 1996, a "Memorandum of Understanding" was signed between the DDBR National Institute for Research and Development (Romania) and the Dunaiskiy Plavni Natural Reserve Authority (DPA) (Ukraine) leading to cooperation in:

- Staff competency and training
- Biodiversity studies
- Management issues
- Ecological restoration projects
- Public awareness campaigns

The original GEF project (in 1998) only provided assistance to the Romanian part of the delta as Ukraine was not yet a member of the World Bank. However, the scope of the project was amended to provide parallel support to the Danube Plavny Reserve Authority in Ukraine and to raise the level of national and international interest in the protection and management

of the Ukrainian part of the Delta. Project objectives and investments led to improvements in the management of the protected areas at a local level and capacity building to sustain results after the project finished. The benefits of improved relations between Romania and Ukraine included an agreement on the collaborative monitoring and management of migratory birds and fisheries in the trans-boundary protected area as well as the development of a vegetation map for the entire Delta. This bilateral initiative has served as a model for wider cooperation throughout Europe, and has been expanded under the recently declared lower Danube green corridor, whereby the Ministries of Environment of Bulgaria, Moldova, Romania and Ukraine have agreed to conserve and manage the wetland and flood plain habitats of the region.

Cross-border cooperation between the Ukrainian and Romanian part of the Danube Biosphere Reserve has been carried out within various international projects. The project "Improving cross-border cooperation in integrated management of water resources in the Lower Danube Euro Region" (PROJECT 2007/141-164) contributed to fostering cross-border cooperation within the Lower Danube Euro Region by the practical implementation of the Lower Danube Euro Region Council's decision on the Approval of the Activity Plan 2007 of the Euro Region's Commission for Environment and Emergency Management (No 21 of 8 December 2006). It also helped facilitate cross-border cooperation between Romania and Ukraine in the field of management of water resources. This was achieved through the involvement of Ukrainian and Romanian commissioners for the implementation of the Agreement between the Government of Ukraine and the Government of Romania on Cooperation in the Field of Joint Use and Protection of Trans-boundary Waters. This latter project was viewed as a complementary activity to the Phare CBC Project "Integrated System for Monitoring the Environmental Factors, Biodiversity and Natural Resources in the cross-border Biosphere Reserve "Danube Delta" Romania/Ukraine".

Since then, various other trans-boundary projects have occurred in the region. The 2010 "Quality improvement for the cross-border tourism in the Danube Delta (Romania, Moldova and Ukraine)" project was launched by the Danube Competence Center (DCC) and financed by GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit). Its goal was to create a quality network of tourism stakeholders in the Danube Delta and to develop successful practices, to

implement and promote tourism sustainability and to raise competitiveness. The project aimed at improving the knowledge of small and micro enterprises in the Danube Delta on sustainable tourism development by offering targeted trainings and know-how, and creating and deepening cross-border contacts and contributing to the development of cross-border offers.

Furthermore, in 2010-2012 the "Joint environmental monitoring, assessment and exchange of information for integrated management of the Danube delta region" project established the basis for the development and enhancement of a coordinated water management policy in the Danube Delta Region based on the principles of the EU Water Framework Directive (WFD).

2.1.2 Uses in the Danube Delta region

Agriculture

Agriculture (both arable and pastoral) has been carried out by inhabitants of the Danube Delta for centuries. The highly fertile nature of the soil and readily available supply of water have always made it an agricultural productive area.

The majority of arable fields are situated in the economic area where fluvial deposits support the growth of cereals, corn, vegetables, potatoes, soybeans and forage. However, the crop producing potential of this area is significantly reduced as large areas of land are used as meadows to produce hay and silage.

Traditionally agriculture consists of monocultures where crop rotation is not practiced, and the results only provide produce enough for a subsistence lifestyle. However, traditional agriculture has been practiced successfully by the inhabitants of the localities of Chilia, Pardina, Plaur, Salceni, Ceatalchioi and Patlageanca, which have good supply of arable land and alluvial soils with riverside levees which prevent flooding. Due to poor sandy soils, agriculture has been practiced, to a lesser extent, on the marine levees of Letea and Caraorman.

Forestry and logging

Forests within the reserve, which are concentrated in the fluvial delta, mainly produce timber, fungi, medicinal plants and hunting habitat. The forest economy absorbs a small

fraction of the labour force in reserve. Increasing the employment rate in this area could be done by promoting traditional activities (wickerwork, etc.).

Reed harvesting

Reed harvesting is an occupation in the Danube Delta and neighbouring areas. Reed has been used extensively in rural areas for a variety of purposes, including: building materials, fuel and animal feed (mainly during winter). The use of reed in construction is not confined to the delta and adjacent areas. It is also used throughout the country, especially to support the finishing work of buildings. Reed is traditionally harvested for biomass and is used as an energy source by locals.

Hunting activities

The hunting within the DDBR is an activity which has suffered changes due to environmental and human pressures, with many species declining in numbers or becoming locally extinct. Due to conservation measures (including restrictions on hunting) many species are now recovering and the activity is becoming increasingly sustainable.

Tourism

Tourism activities in the DDBR are authorized by the Regulation and Licenses Department. Tourist access is controlled via a permit system. Only tourists who have purchased an official permit are allowed access to the reserve[30]. Fishing, watersports and eco-tourism are the main tourists activities practiced in the reserve.

Fishing

In recent years marine fisheries in the Romanian Black Sea area have been restricted to stationary fishing, in the shallow coastal areas, using fixed gears such as trap nets, gill nets, longlines and beach seines. This type of small scale fishing is typically carried out during the first four/seven months of the fishing season (March-October), when the main commercial fish species reach coastal areas for spawning and feeding.

[30] According to ORD. Nr. 610/19 May, 2009 of the Ministry of Enviroment and Foresty.

Fishing is practiced along the Romanian coast in four fishing ports: Sulina, Cape Midia, Constanta and Mangalia, as well as at other 18 small fishing stations, located between Sulina and Vama Veche (at depths ranging between 2-20 m and sometimes up to 60 m) (Figure 12 and Table 7).

Since ancient times, fishing has been the main occupation of the inhabitants of Danube Delta. Although today the supply of fish has diminished and changed in quality, this occupation continues to be a common one.

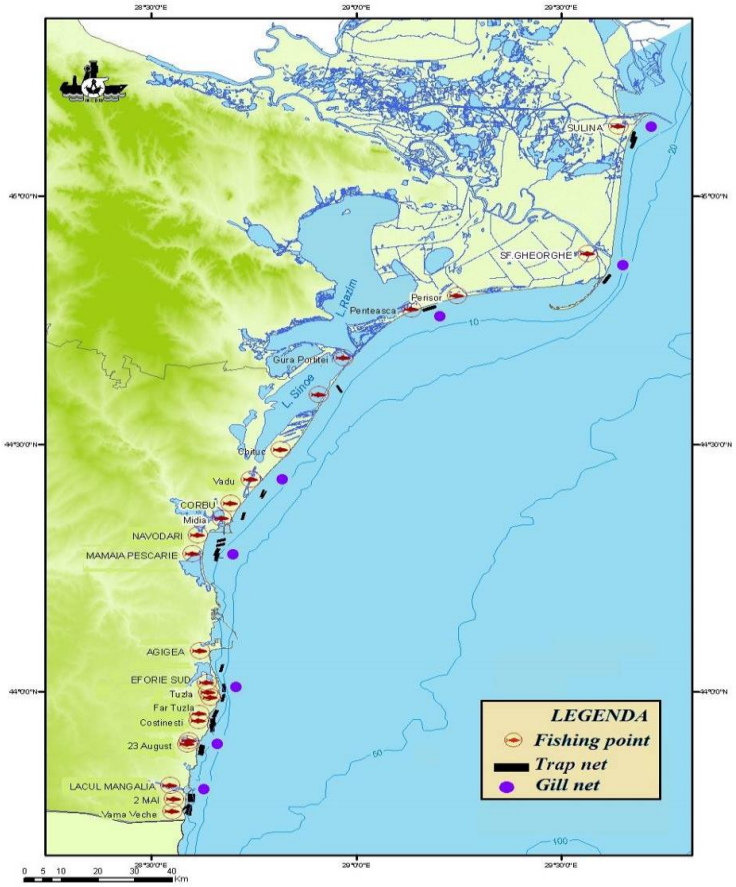


Figure 12. Marine fishery on the Romanian coast.

Table 7. Number of boats registered in Danube Delta – marine zone.

Port / Fishing point	GILLNETTERS (Large mesh: >101mm)						GILLNETTERS (Small mesh: <100mm)						TANGLE NETTERS					
	<6m	6-12	12-18	18-24	24-39	>40	<6m	6-12	12-18	18-24	24-39	>40	<6m	6-12	12-18	18-24	24-39	>40
Port Sulina	8	24	1	0	1	0	10	6	0	0	0	0	270	701	25	0	200	0
Fishing point Sf. Gheorghe	1	1	0	0	0	0	0	1	0	0	0	0	10	10	0	0	0	0
Fishing point Periboina	2	10	0	0	0	0	0	2	0	0	0	0	70	380	0	0	0	0
Fishing point Vadu	0	5	0	0	0	0	0	3	0	0	0	0	0	168	0	0	0	0
Fishing point Corbu	1	2	0	0	0	0	0	2	0	0	0	0	10	131	0	0	0	0
Port Midia Cape	1	14	0	0	0	0	0	2	0	0	0	0	0	319	0	0	0	0
TOTAL	**13**	**56**	**1**	**0**	**1**	**0**	**10**	**16**	**0**	**0**	**0**	**0**	**360**	**1709**	**25**	**0**	**200**	0

Table 8.Potential conflicts in the Danube Delta study area.

	State of the Use	Regulation in MPA(s)	Main conflicts	Users affected	Please score between 1 - 5 (1 the least important,5 the most important)
Current Uses					
Fishing commercial	Constantly practiced despite endangered stocks	Banned	Decreasing livelihoods from fishing; abandoned fishing gears cause dolphin mortality	Fishermen unions, consumers, etc.	***4***
Fishing artisanal	Practiced only locally, due to rough access in the area	Allowed	Abandoned fishing gears cause dolphin mortality	Small scale fishers	***3***
Fishing recreational	Practiced only locally, due to rough access in the area	Allowed	None	Tourists, hotel owners in the area	***2***
Aquaculture	Not practiced in the area, due to rough access in the area	Banned	Organic pollution inside/near the MPA; some possible changes in ecological equilibrium	Aquaculture, fisherman and transport on the sea, due to localisation of the aquaculture system	***4***
Sea sports (sailing, canoeing, diving)	Practiced only locally, due to rough access in the area	Allowed, but with restrictions (regarding the use of engines on boats, the number of divers, etc.)	Important species may be disrupted by noise, pollution or diver collection	Tourists, hotel owners in the area	***3***
Coastal tourism	Practiced only locally, due to rough access in the area	Allowed	Important species may be disrupted by noise, pollution etc. resulted from construction activity or tourism	Investors, land owners in the area	***3***
Extractive uses	The marine zone of DDBR is part of a larger field owned by Europa Oil Gas	Banned	No extractive activities are allowed within the MPA (only seismic prospections with a low impact on the environment)	Investors	***2***
Education and research	Practiced occasionally, due to poor financing of research and education fields in Romania, and due to rough access in the area	Allowed, but with the consent of the MPA administration	Important species and habitats that are targets of the research may be disrupted by invasive research methods	Research institutes, Universities, etc.	***3***
Military	Practiced for particular interventions of the Coast Guard, Military Navy	Allowed only for mentioned cases (emergency)	Scientific activities, fisheries, recreational activities	scientists, fishermen, tourists	***2***
Future Uses					
OWF	No future projects				
MPAs	No intention to established other MPA				

2.2 The Tarkhankut Peninsula, Ukraine

The Tarkhankut study area belongs to the West-Crimean tectonic region, with Tarkhankut hill situated between the southern edge of the flooded area of modern Karkinitskiy Bay and western ledge of the Tarkhankut Peninsula. The total length of coastline in the study area is 50km (see Figure 13).

Figure 13. Map showing the location of the Tarkhankut Peninsula in Ukraine.

Jagged coastal cliffs are a distinctive feature of the area, where beaches alternate with steep cliffs rising up to 50-60m. Numerous caves and tunnels are present in the cliffs, giving a unique appearance to the region. Beyond the coast, there is a shallow underwater slope, approximately 500-600 m in width, consisting of limestone slabs and rubble. Karr-formation, landslides and abrasion processes are common at the foot of the limestone cliffs. The north side of Peninsula and its south-western section, are formed of steep shores and eroded gullies. The Dzhangul area is interesting in its geomorphology because the terrain of the coastal zone is defined by landslide processes. Yarylgachskaya, Chernomorskaya and Karadzhinskaya bays are the largest along the peninsulas coastline. The south-western area is characterized by a sharp

depth decrease, where the remains of the ancient coastline can be seen. From the village High Valley to Cape Karamrun, the area is characterized by underwater benches and small beaches, consisting of poorly sorted sharp-edged limestone detritus, gravel, and shells. The complex geological and geomorphological structure of the coastal and offshore areas has led to the originality and uniqueness of the landscapes.

The area of the Tarkhankut Peninsula is characterized by the growing of more than 80 species of macrophytes (mostly red macroalgae) and 17 other species of macroalgae which are included in the Red Data Book of Ukraine (2009). Amongst them are five species of brown algae: *Dictyota dichotoma*, *Cladostephus spongiosus, Cladostephus verticillatus, Punctaria tenuissima, Spermatochnus paradoxus;* 6 species of green algae: *Enteromorpha maeotica, Cladophora vadorum, Cladophora dalmatica, Cladophoropsis membranacea, Codium vermilara, Chaetomorpha zernovii*; and 6 species of red algae: *Eupogodon apiculata, Callithamnion granulatum, Laurencia coronopus, Lophosiphonia reptabunda, Osmundea hybrid, Osmundea truncate.* The Red Book of the Black Sea (1999) also includes *Cystoseira barbata, Cystoseira crinita, Phyllophora crispa,* and *Zostera marina*. All these species are commonly found along the coastal zone of the peninsula, as well as the marine eelgrass which is found only in small bays and other habitats with low hydrodynamics such as the Black Sea harbours and Yarylgachskaya bay, near the Rybachye and Dzhangul areas.

At present, there are two MPAs along the Tarkhankut peninsula: The coastal-aquatic complex of the Dzhangulskiy landslide coast and the coastal-aquatic complex at Cape Atlesh, which covers a sea area of about 3.6 km^2. Furthermore, in Western Crimea, which includes the Tarkhankut peninsula, there are also four additional areas which are protected by the Natural Reserved Fund (NRF) of Ukraine: The regional landscape park of Bakalskaya Spit; The Ramsar wetlands of Karkinitskiy zaliv and Dzharylgachskaya bays; the small *Phyllophora* field in Karkinitsky Bay and the National Park of Charivna harbour. According to the classification of the National Ecological Network of Ukraine, the coastal waters of the Tarkhankut Peninsula are a part of the Black Sea natural region (14), and a marine coastal corridor (IV). The land and

marine areas of the Western Crimea belong to Tarkhankut and Karkinitskiy biocenters and two eco-corridors, which are part of the Ecological Network of Autonomic Republic of Crimea.

Main problems and threats to the biological and landscape diversity of marine and coastal Tarkhankut Peninsula are associated with the destruction of habitats, landslides, construction, intensive recreation, pollution, waste waters, production of biological and mineral resources, bottom trawling and recreational fishing.

The National Park is a popular destination for tourists and numbers have increased in recent years. Representatives of the tourism industry believe that the park can play a role in conserving resources for the future.

On the other hand, fishing in the region has deteriorated due to the depletion of fish stocks. Many local fishermen believe that the creation of the National Park will lead to bans and restrictions on fishing activities, further exacerbating the problem.

Industrial extraction of resources (oil, sand, silt) has recently increased in the region. This is due to the increasing demand for raw materials. Nowadays mining is carried out within the National Park and, to date, its production is more of a priority for the regional economy than conservation.

2.2.1 Main potential conflicts on the Tarkhankut area

Table 9. Main potential conflicts between uses on the Tarkhankut area.

	State of the Use	Regulation in MPA(s)	Main conflicts	Please score between 1 - 5 (with 1 being the least important and 5 being the most important)
Current Uses				
Fishing commercial	N/A	Banned	-	***1***
Fishing artisanal	N/A	Banned	-	***3***
Fishing recreational	-		The effect of seascapes	***4***
Aquaculture	N/A	Banned	Pollution	***4***
Sea sports (sailing, canoeing, diving)	Established diving centres	Developed standards of recreational pressure		***1***
Coastal tourism	Regular. Creation of national park has increased numbers	Developed standards of recreational pressure. Creation of nature trails to restrict walking.	Pollution of the coastal zone.	***5***
Extractive uses	Natural gas production	Banned	Pollution	***4***
Education and research	Creation of national park has increased numbers	Organization of scientific research underwater landscapes	Pollution of the coastal zone.	***1***
Military	No used	Banned	Pollution	***5***
Future Uses				
OWF	No used			***1***
MPAs	Creation of a national park			***5***

2.3 Black Sea Biosphere Reserve, Ukraine

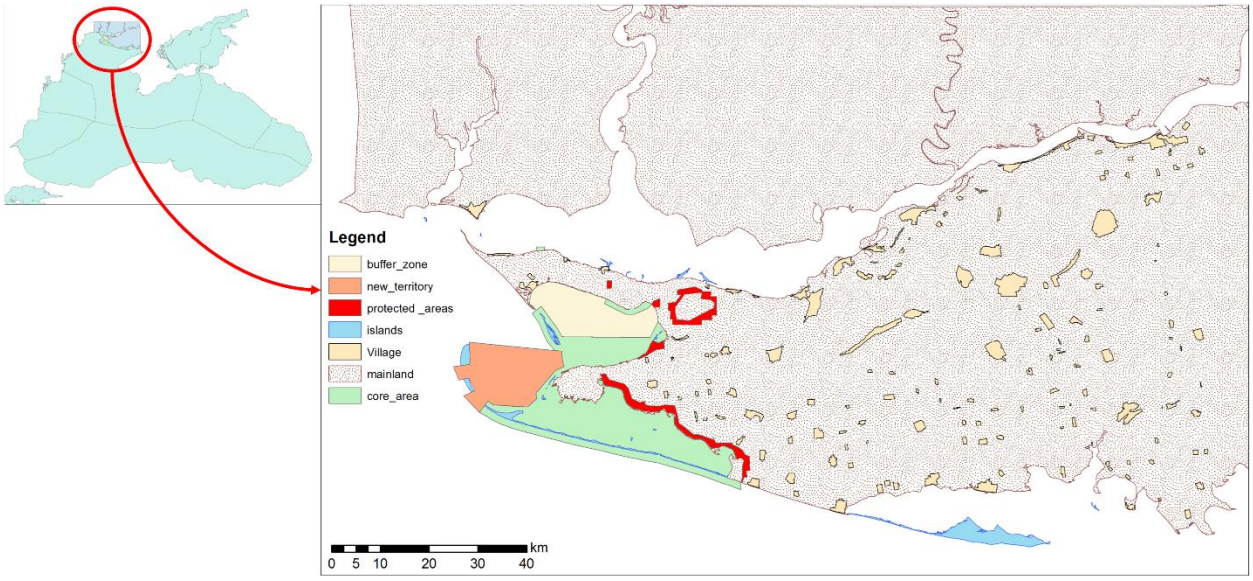


Figure 14. Map showing the location of the Black Sea Biosphere Reserve in Ukraine.

The Black Sea Biosphere Reserve (BSBR) is one of the largest marine reserves in Europe covering an area of 76,514 ha. It was created in 1927 by the Resolution of SNK USSR № 172 "On creation of the Seaside Reserves on the coast of the Black and Azov Seas". On November 25, 1983, the Presidium of Academy of Sciences of Ukraine by the Resolution № 538 reorganized the Black Sea State Reserve into the Biosphere Reserve and in 1985 the BSBR was included in the International network of biosphere reserves (certificate of UNESCO dated 15.02.1985).

The BSBR is also included in the Emerald international network of protected areas. As a result, the BSBR is a strong point of the national network of monitoring and maintenance of Cetaceans in Ukraine, under the ACCOBAMS agreement.

The BSBR aims to protect and preserve ecological features, develop of scientific bases for conservation and develop environmental monitoring.

Within the reserve there is a unique combination of zonal (steppe and islands), azonal (forest-steppe) components and wetlands of international importance. These include:

- The Tendrivska and Yagorlitska bays and their islands.

- The unique azonal sandy steppe of the Ivanivska and Kinburnska arenas (Low Dnieper sands)
- A reference steppe on the Yagorlitsky Kut peninsula
- Beaches and other types of open shores

The BSBR is considered to be a regionally important area due to its high number of pristine habitats, high number of endemic species and large numbers of nesting and wintering birds.

The Tendrovska and Yagorlytska bays are unique to the north- western Black Sea, due to the peculiarities of the hydrological, hydrochemical and hydrobiological regimes, which have a great significance for feeding and reproduction of the main commercial fish species. As a result, large shoals are present in the area and are used by many breeding, migrating and wintering water birds. These waters, due to a complex combination of unique zonal and azonal components, are unmatched in the Black and Azov region in the sense of ecological and environmental value. The appearance of this features led to the inclusion Tendrovska and Yagorlytska bays in the network of wetlands of international importance, under the Ramsar Convention (1975, IWRB code 057).

In the steppe land of BSBR, located on the Lower Dnieper areas along the southern shore of the Dnieper - Bug estuary, there are unique natural complexes of Oleshkovskaya sand which have a high level of local endemism.

Amongst the most significant, typical and representative habitats of the BSBR, are the of sagebrush - fescue and mixed grass steppes, sandy steppes, forests, salt marshes, islands and fresh alkaline and saline waters of the shelf zone of the sea. Due to this variety of environments, the BSBR is a specialized environmental and research institution in Ukraine. Its main objectives are to preserve natural complexes, the study of the basic processes and phenomena that occur in them, participate in skills training and environmental profile of environmental education and the protection and preservation of natural complexes. The

research institution conducts scientific research results are disseminated at the Museum of Nature and environmental education department.

Traditionally, the local population of the BSBR region have been engaged in fishing. Recently poaching has become a significant problem and conflicts are occurring as a result.

The role of tourism and recreational activities have grown in the region and opportunities for ecotourism have also increased. However, enhancing recreational activities in areas adjacent to the reserve may result in pollution as a result of increased human activity in the area.

3. RESULTS AND DISCUSSION

3.1 Mediterranean Study Area

3.1.1 The Apulia Region (Italy)

In total 33 people were approached regarding interviews in Apulia, Italy. From these, there were 16 completed the questionnaire. Table 10 summarises the sectors of interest/expertise that the respondents represented (note: some individuals represented multiple sectors of interest):

Table 10. Breakdown of respondents by sector/areas of interest in the Apulia Region

	Nº or responses	% of Total
Artisanal fisheries	8	22
Recreational fisheries	2	6
Industrial fisheries	6	17
Aquaculture	3	8
Tourism	2	6
Conservation of marine ecosystems	4	11
Enforcement & control	-	-
Scientific research	3	8
Recreational activities	1	3
Administration & management	5	14
Energy sector	-	-
Navigation and transport	-	-
Extractive activities	-	-
Other	2	6

The majority of respondents represented the fisheries sector. Other well represented sectors include: administration, science, conservation and tourism.

If we look at respondents' perception of current management of marine resources in the area (Figure 15), it emerges that the majority of respondents believe that fishery activities (in particular industrial and recreational) are wrongly managed. Extractive activities, transport; enforcement and control, and marine conservation are also believed to be wrongly managed by the majority of the respondents. However, the respondents generally believe that scientific research, tourism, and recreational activities are relatively well or sufficiently managed in the Apulia region. It is worth noting that a large proportion of the respondents didn't express an opinion towards extractive activities. This may be explained by the lack of representatives from this sector who completed the questionnaire (See Table 10).

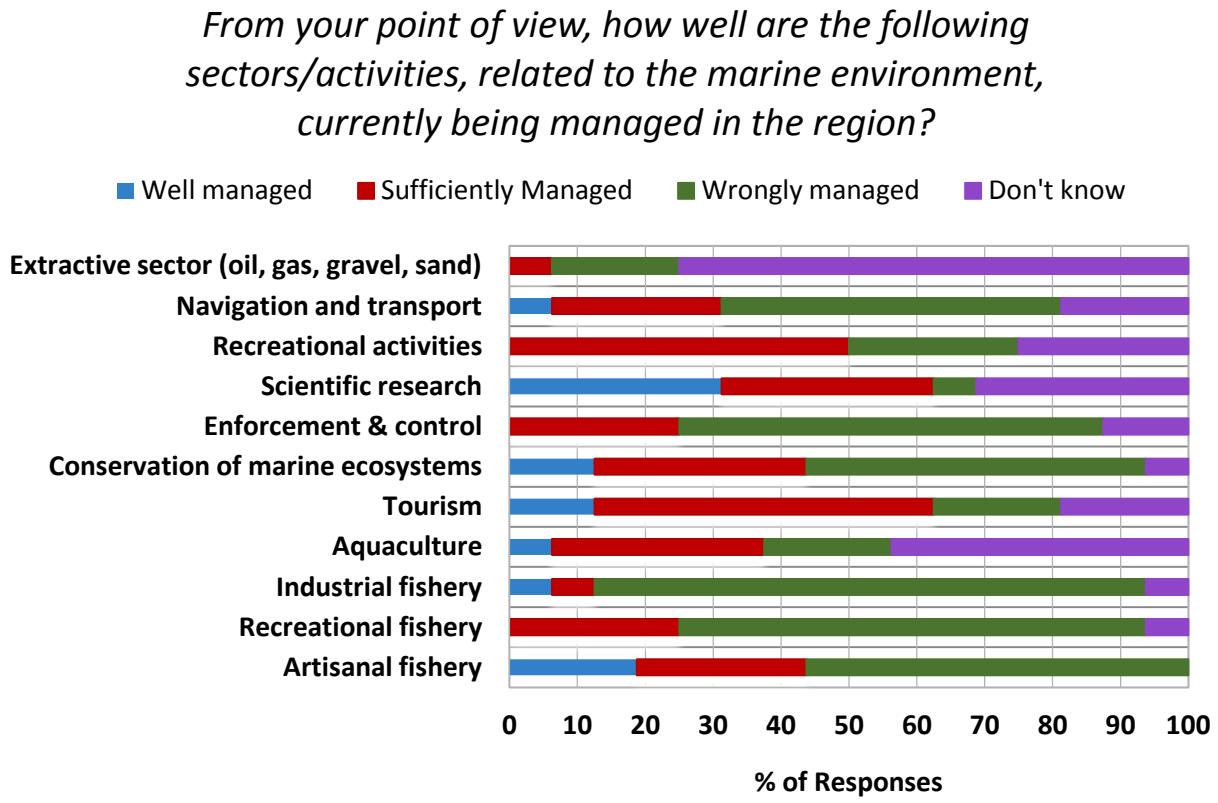


Figure 15. Perception on current management of several marine sectors in the Apulia Region.

Figure 15 shows that there is a perception of poor enforcement and control in the region. Relating to this, respondents were asked to describe the major weaknesses and difficulties associated with managing the different sectors. The following comments illustrate the range of responses:

Artisanal fisheries

- There are difficulties with organization given the fragmentation of the sector, which consists of many, small organizations and associations. Lack of cohesion among operators.
- Cultural barriers.
- Difficulties in enforcement and control.
- Excessive bureaucracy
- Problems in trading catches. Lack of capacity to commercially value catches.
- Lack of adequate marine spatial planning.
- Lack of effective management plans to reduce fishing effort and to switch towards more selective fishing gears (i.e. nets with larger mesh size).
- Pollution, overfishing by industrial and recreational fisheries, poor catches.

Industrial fisheries

- Excessive number of fishing boats. Increasing in numbers in recent decades.
- Stocks are overfished, resulting in lower profits.
- Poor capability to value products, illegal imports, inability to control the market.
- Poor aptitude towards common responsibilities.
- Need of better compliance with laws and regulations.
- Need of preserving the social value of traditional fishing practices.
- Lack of a management plan to reduce fishing effort. Need to revise current regulations regarding no-fishing season.

- Poor compliance with minimum distance from shore by bottom-trawlers, poor compliance with restrictions on mesh size.
- Need of better enforcement and controls.

Recreational fisheries

- Difficulties in detecting 'false' recreational fishermen from 'real' (i.e. legal) ones. Some recreational fishermen actually sell their catches.
- Excessive recreational fishing effort, carried out without limitations, control or regulation.
- Lack of control.
- It is important to foster cultural changes to involve recreational fishermen in controlling illegal activities and in safeguarding the marine environment.

Tourism

- There is a need to improve tour operator competence.
- There is a need to take better advantage of the high tourist numbers through proper coordinating of water resources and food production (these are two important factors in attracting tourists to the region.)
- Too many human pressures in some areas. Need to improve understanding of the potential of protected areas.
- Excessive, uncontrolled development of coastline.
- Crowding and lack of control.

Aquaculture

- Poor diversification of species, scarce supply of final products, lack of proper technologies and processes to ensure sustainable productions.
- Lack of 'voice' in product marketing and trading. Incapacity to face foreign markets.
- Lack of regulations to release concessions, lack of development and management plans for aquaculture and mariculture.

Conservation of marine ecosystems

- Lack of compliance with laws, lack of adequate monitoring, inefficacy of current MPA management plans.
- Lack of awareness of the value of protecting marine environments.
- Need of more blue oasis and MPAs.
- Need to strengthen the role of MPAs as a fishery management tool.
- Agressive urbanization of coastlines.
- Pollution and contamination from industries, weak control on sewage discharge into waters.
- Impacts of fishing (bottom-trawling, recreational, artisanal).

Scientific research

- Lack of co-ordination between research groups
- Limited coordination among research entities and management/administrative bodies
- Lack of funding.
- Need to increase financial resources, networking, acknowledging merits and credits.

Recreational activities

- Lack of facilities. Too many boats in peak season (summer)

Navigation and transports

- Need to improve merchant fleet.
- Lack of control of policing

Extractive sector (oil, gas, gravel, sand)

- Extraction activities have large environmental impacts and these are not always mitigated against

Respondents were also asked to indicate and describe the major conflicts of interest arising among the different marine sectors (Table 11).

Respondents acknowledged the conflicts among the fisheries sector, especially between artisanal and industrial fisheries and between artisanal, recreational and illegal fisheries. Industrial and artisanal fisheries are also perceived to have conflicts with aquaculture asIt is generally believed that the aquaculture sector can trade products at a lower price. Industrial, artisanal and recreational fisheries are also perceived as conflicting with the conservation of marine environments and recreational activities. Conservation also appears to be in conflict with extraction activities due to their potential harmful effect on the environment. Extraction activities also continue to be seen in conflict with the wants of society. Scientific activities seem to lack a clear definition of roles among universities, public bodies, and private enterprises.

Table 11. Major conflicts of interest among the different marine sectors in the Apulia Region.

	Artisanal fisheries	Industrial fisheries	Recreational fisheries	Aquaculture	Conservation	Science research	Recreational activities	Navigation & transport	Extractive sector	Energetic sector	Commercial activities	space	Society in general
Artisanal fisheries		X	X	X	X			X	X	X			
Industrial fisheries				X	X		X	X	X	X	X		
Recreational fisheries			X		X		X	X	X	X			
Aquaculture												X	
Conservation of marine ecosystems									X	X		X	
Science research						X					X		
Recreational activities													
Navigation & transport													
Extractive sector (oil, gas, gravel, sand)													X
Energetic sector													
Commercial activities													
Other uses of maritime space													
Society in general													

When asked about their perceptions on the effectiveness of the three exiting MPAs in the area –Torre Guaceto, Porto Cesareo and Isole Tremiti– (Figure 16), it emerged that Torre Guaceto MPA works relatively well (56% of respondents indicated a high or medium effectiveness), whilst the effectiveness of the remaining two MPAs was believed to be medium or low.

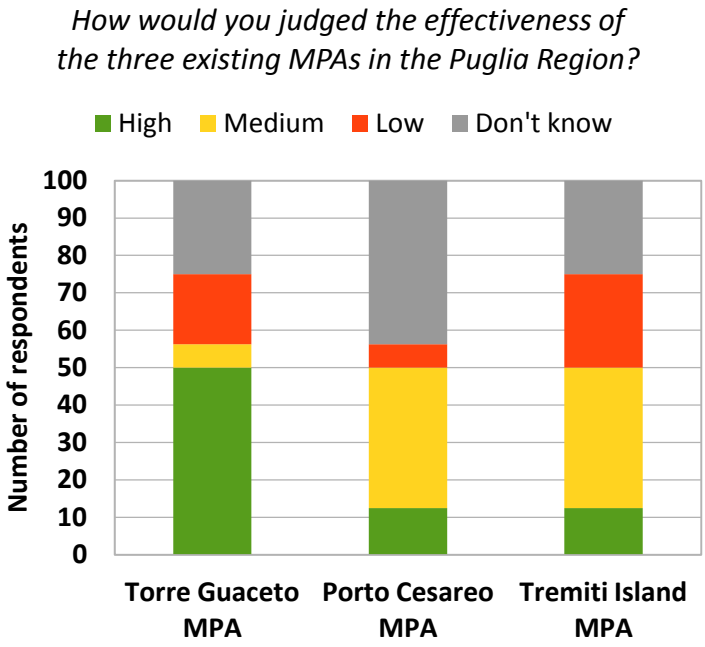


Figure 16. Perceived effectiveness of the three existing MPAs in the in the Apulia Region.

There was a unanimous belief among respondents that tourism and conservation sectors benefitted the most from the establishment of MPAs in the region.

Regarding fisheries, opinions were contrasting and strongly dependent on the respondent's profile. Most fishermen believed they had been the negatively affected by MPAs, but most non-fishermen believed that the MPAs actually benefitted the fisheries. Hunting, construction and other extractive uses were also thought to be have been negatively affected.

When asked about the major socioeconomic changes which have occurred since the creation of the MPAs, respondents' answers were as follows:

- Increase in tourist numbers.
- Increase in common awareness of the importance of conserving marine ecosystems.
- Start-up of micro-enterprises linked to the fishery sector, agricultural products, small tourism businesses, recreational activities and scientific research.
- Creation of MPAs represents an example of the principle of sustainable development.
- Increase/decrease in fishermen's income (depend on respondent's profile).
- Creation of sustainable tourism.

The survey also aimed at gathering respondents' perceptions on possible future scenarios of marine resource management/development options. Thus, they were asked about

their awareness of any development project that might be important for the development of their sector(s) of interest. Their answers can be summarized as follow:

- IPA Adriatic, cooperation programs Italy-Greece, Life + Programs are useful to implement conservation activities, safeguarding biological heritage, and increasing available financial resources.
- POFESR (structural funding for the environment) and PSR (rural development plan) helps the improve:
    - The value of natural areas for tourism and recreational purposes
    - Environmental strategic infrastructure
    - Start-up of small landscape management enterprises and services.
- EFF (European Fishery Fund) helps to foster the regulation and development of the sector.
- TAP (Trans-Adriatic Pipeline) can be a desirable option for the area if measures to limit environmental impacts are adopted.

In addition, respondents were asked to list which activities, plans or development options might be especially desirable for their sectors of interest. Their answers can be summarized as follow:

- Modernization of fishing sector, sustainable development in fishing areas, better management and planning of fishing activities.
- Adoption of marine spatial planning.
- Improvement of fishery products trading and marketing, limiting imports of foreign fishing products.
- Extension of MPAs, increase in participatory processes in fishery management plans.
- Development of local management plans for fisheries, in accordance with the Common Fishery Policy.
- Increase in control of fishing activities.
- Limitation of water pollution.

Respondents were asked to state their opinion regarding a number of possible development options in the future (Figure 17). Respondents appeared to strongly support an increase in the control of fishing activities and an increase in the protection of marine ecosystems. Around half of the respondents were in favour of new infrastructure for navigation and for recreational activities and for the creation of offshore wind farms. In contrast, the majority of respondents would not support new extractive activities, gas pipelines, and the

further development of tourism infrastructure. However, a single respondent also stated that all these management options could be desirable if well-co-ordinated.

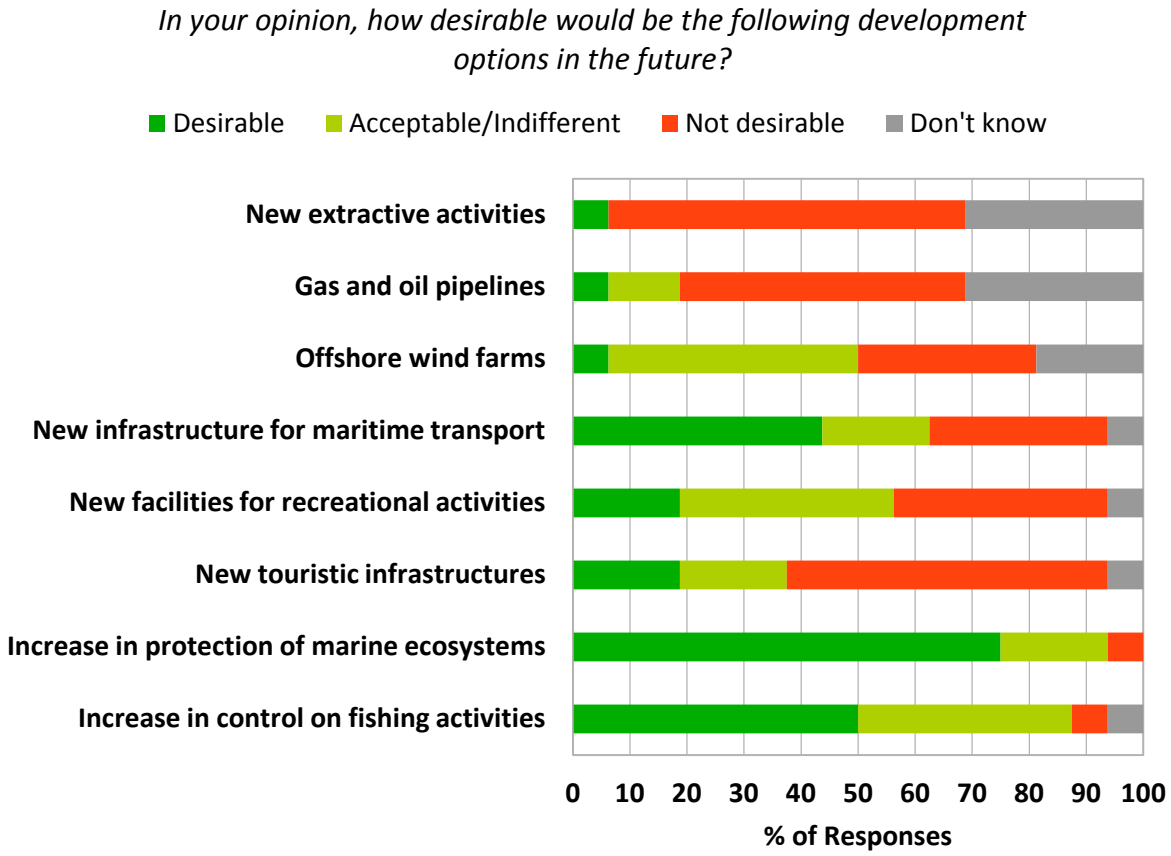


Figure 17. Desirability of potential development options in the Apulia Region.

Below is an explanatory diagram (Figure 18) showing the preference for future scenarios of stakeholders in the Apulia region (this has been developed from Figure 17).

Figure 18. Desired scenario diagram as stated by Apulia region respondents.

Images of uses courtesy from Google Earth and www.ian.umces.edu.

The survey also asked about the targets of future conservation measures (Figure 19) as well as the desirability of such measures (Figure 20). Most respondents felt that conservation of marine ecosystems, improvements in water quality, and protection of coastal integrity should be the major target of future conservation measures. In contrast, protection of commercially important species was considered less of a priority. Respondents were divided regarding the creation of new MPAs and the possible extension and/or increase in enforcement in existing ones. Fishermen were the group least in favour of such conservation options. On the other hand, most other respondents were strongly in favour of increasing participation and co-management in existing MPAs.

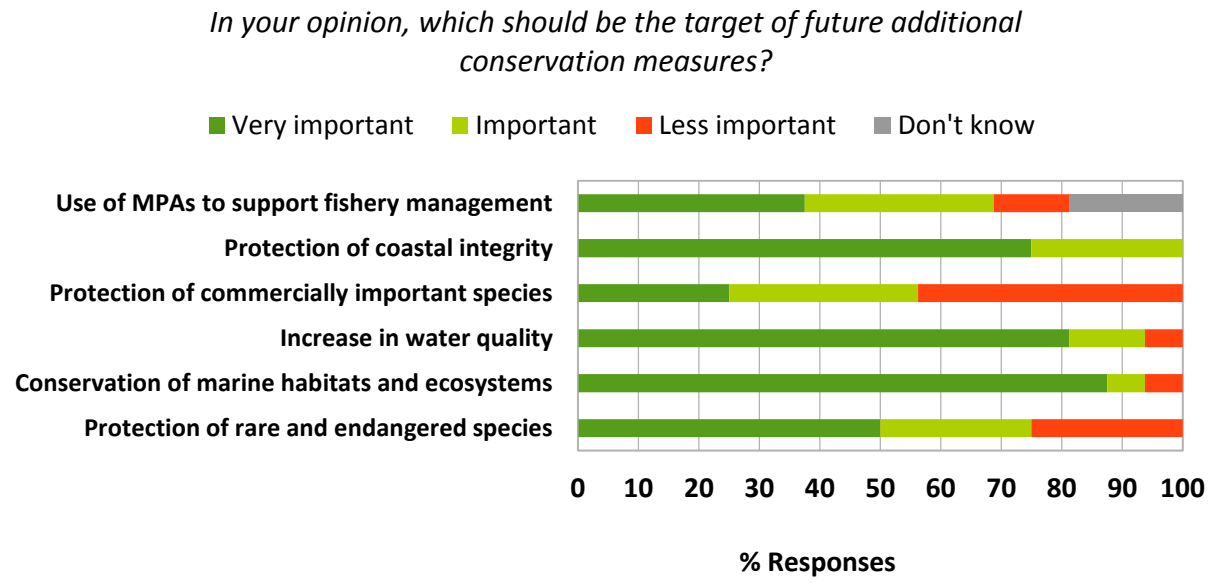


Figure 19. Perceived importance of different targets for future conservation measures in the Apulia Region

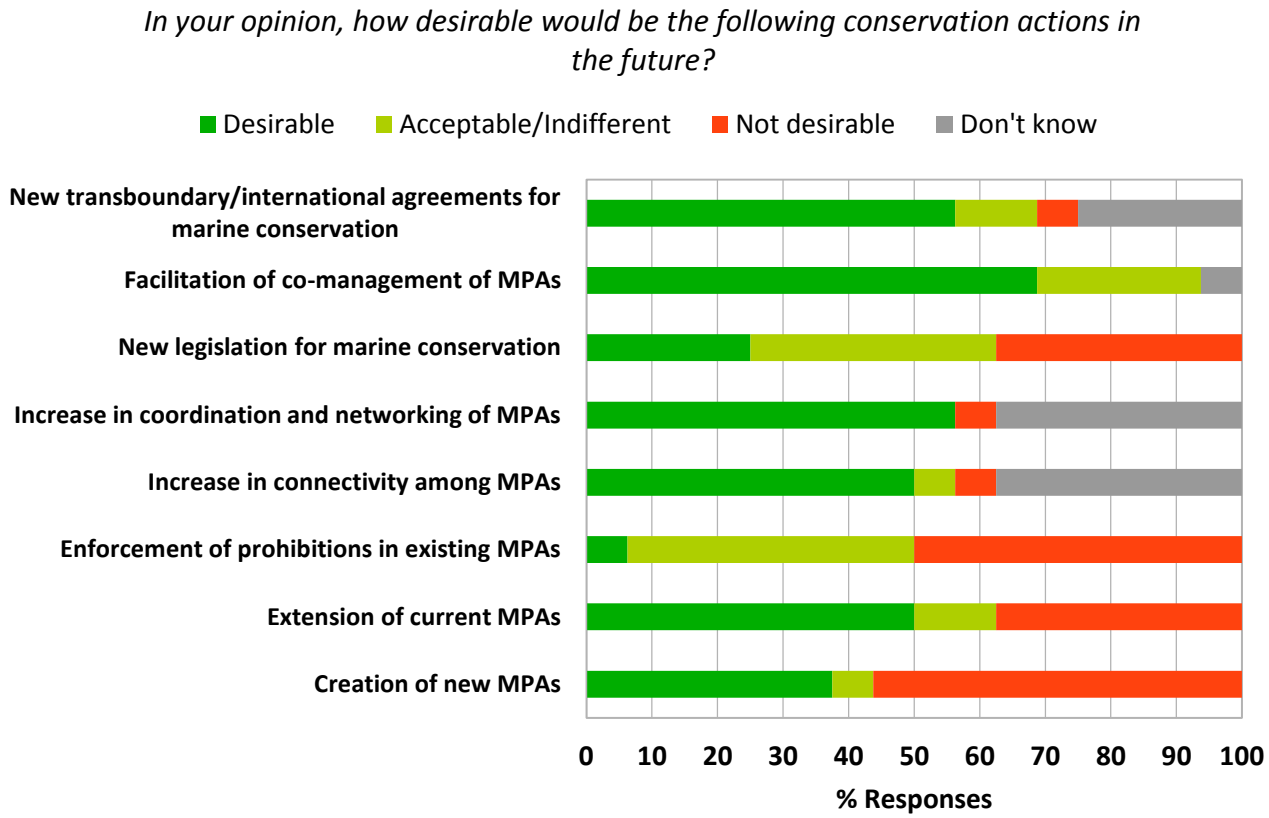


Figure 20. Perceived desirability of potential conservation actions in the Apulia Region.

Finally, respondents were asked to highlight the most important barriers to a sound conservation management of marine environments. A weak political will, unregulated and illegal activities, and a poor awareness were among the most serious barriers identified by the respondents (Figure 21).

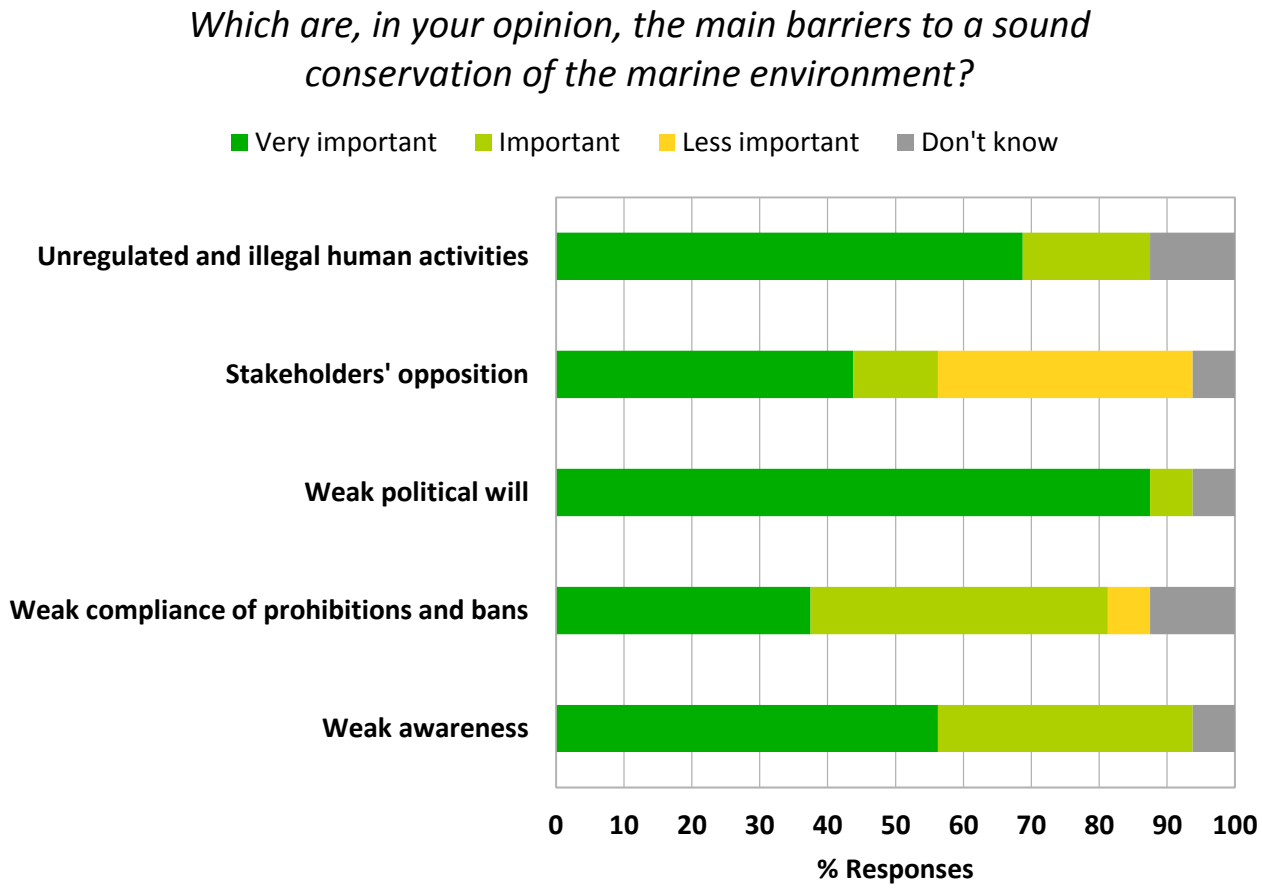


Figure 21. Perception about the importance of several barriers to a sound conservation management of marine environments in the Apulia Region.

3.1.2 The Albanian Region

In total there were 30 respondents in the Albania region. Table 12 summarises the sectors of interest/expertise that the respondents represented (note: some individuals represented multiple sectors of interest):

Table 12. Breakdown of respondents by sector/areas of interest in the in the Albanian Region.

	Nº or responses	% of Total
Artisanal fisheries	3	8
Recreational fisheries	3	8
Industrial fisheries	4	11
Aquaculture	2	6
Tourism	4	11
Conservation of marine ecosystems	6	17
Enforcement & control	1	3
Scientific research	4	11
Recreational activities	2	6
Administration & management	3	8
Energy sector	1	3
Navigation and transport	2	6
Extractive sector (oil, gas, gravel, sand)	-	-
Other: Space Planning engineer	1	3%

Regarding perceptions towards current management of the sectors/activities, respondents stated that tourism and industrial fisheries were the mostly wrongly managed . Navigation and transport, the energy sector, enforcement and control activities, aquaculture, recreational activities and recreational and artisanal fisheries were sufficiently or well managed (See Figure 22). It is clear there is a lack of understanding towards the management activities of the scientific and extractive industries. Similarly to the Apulia region, the lack of understanding

relating to extraction can be explained by the lack of respondents from this industry. However, for the scientific management the high "Don´t Know" response cannot be explained by the lack of scientific participants (11% in total). The stated limited coordination among research entities and management/administrative entities (see comments below) could be a possible explanation of this response.

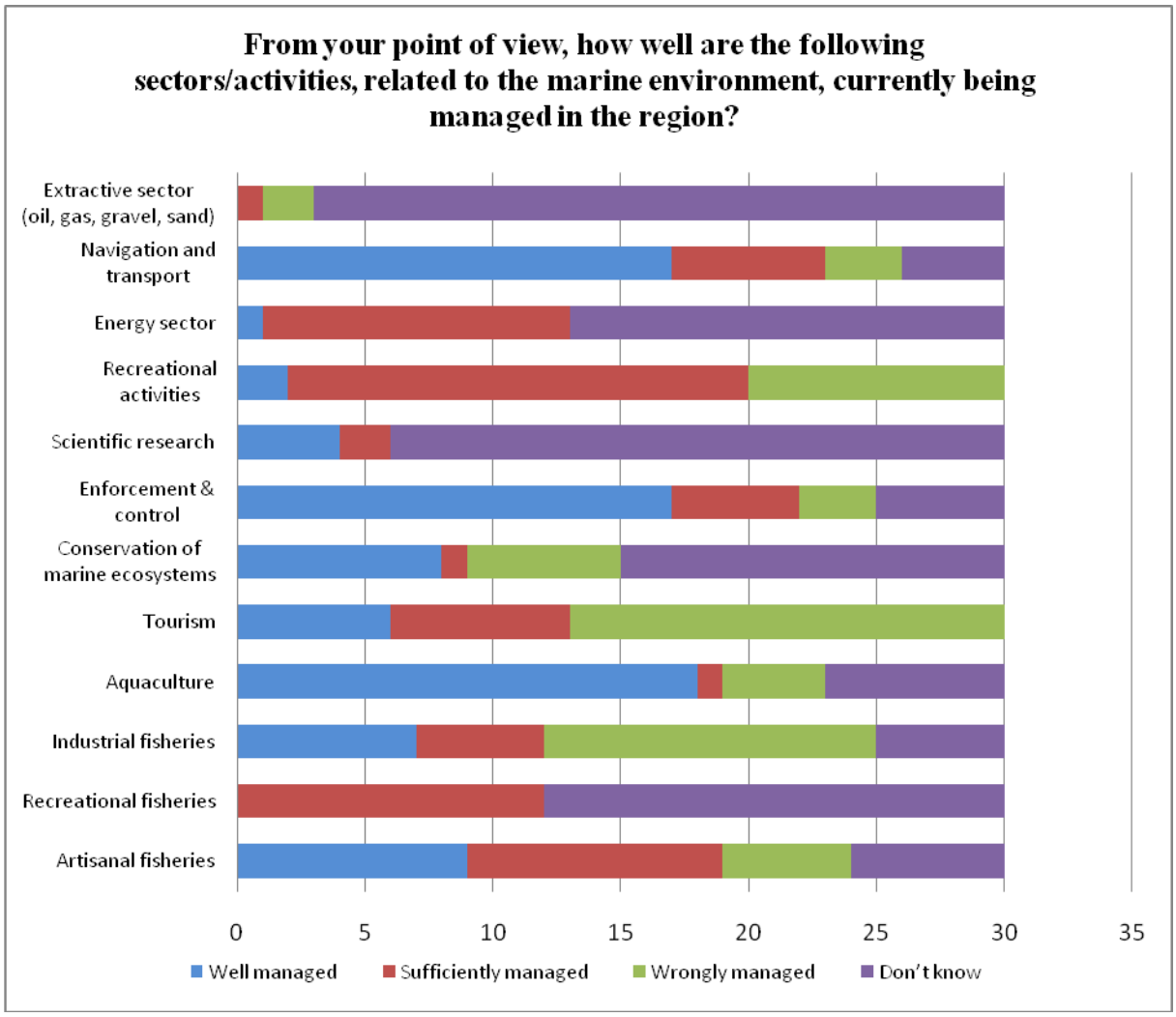


Figure 22. Perception on current management of several marine sectors in the Vlora Region, Albania.

Respondents were also asked to indicate and describe the major weaknesses and difficulties related to the management of the different sectors. The following comments illustrate the range of responses:

Artisanal fisheries

- Difficulty of organization given the fragmented nature of the sector (i.e. many, small organizations and associations)
- Difficulties in enforcing and control.
- Difficulty to sell fish at true real value.
- There are no clear licensing procedure and no designated fishing areas
- No supporting subsidies for fishermen to cover costs of boats, fuel, etc.

Industrial fisheries

- No economic help for fuel (purchased privately in Italy or Greece).
- Lack of a management plan to reduce fishing effort, lack of control measures and compliance with minimum distance from shore by bottom-trawlers.
- There is not an economic plan for supporting fishing industries.

Recreational fisheries

- Difficulties in detecting 'false' recreational fishermen from 'real' (i.e. legal) ones.
- Excessive recreational fishing effort, carried out without limitations, control or regulation.

Tourism

- Excessive infrastructure along the coast.
- High anthropogenic pressures
- Incapacity to value the potential of protected areas.
- Fierce urbanization of coastlines.

Aquaculture

- Lack of regulation, lack of development and management plans for aquaculture and mariculture
- High taxes on the activity

Conservation of marine ecosystems

- Lack of compliance to laws and of adequate monitoring.
- Need of more MPAs.
- Fierce urbanization of coastlines; weak control on sewage discharge into waters.
- Not possible to monitor divers and fishermen with dynamite.

- Not possible to monitor the exploitation of endangered species.

Scientific research

- Limited coordination among research entities and management/administrative entities.
- A limited number of researchers.
- Lack of funding for research activities

Respondents were asked to indicate and describe the major conflicts of interest arising among the different marine sectors. Responses were similar to those conflicts encountered in the Apulia region with the addition of major conflicts between "legal" and "illegal" fisheries. No conflicts were highlighted by respondents either for the Aquaculture or extractive sectors. This should be further investigated to determine if there are no conflicts or if this reflects a lack of knowledge in this area.

Table 13. Major conflicts of interest among the different marine sectors in the Albanian Region.

	Artisanal fisheries	Industrial fisheries	Recreational fisheries	Illegal fishing	Aquaculture	Conservation	Science research	Recreational activities	Extractive sector	Commercial activities	Society in general
Artisanal fisheries		X	X	X							
Industrial fisheries				X						X	
Recreational fisheries	X			X							
Aquaculture											
Illegal fishing											
Conservation of marine ecosystems	X	X	X	X							
Science research										X	
Recreational activities		X	X								
Extractive sector (oil, gas, gravel, sand)											
Commercial activities											
Society in general											

The majority of respondents felt that that the management effectiveness of the existing Sazani-Karaburuni MPA was either high (40%) or medium (27%) (See Figure 23).

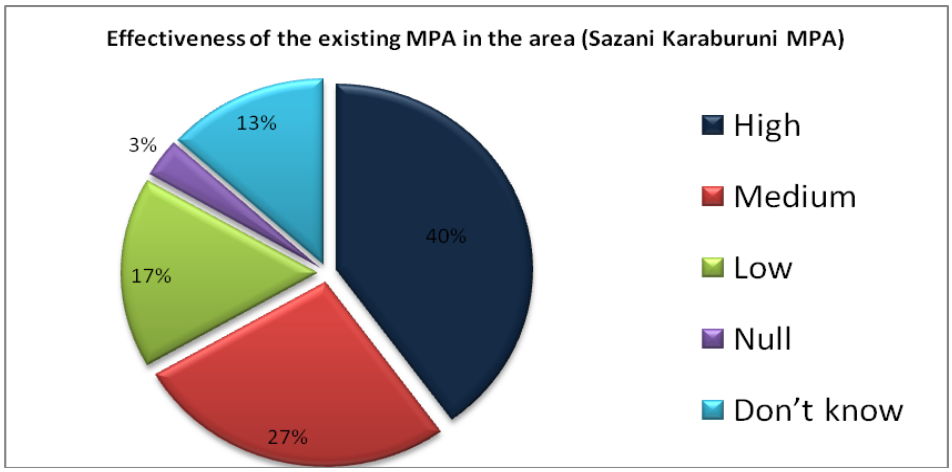


Figure 23. Perceived effectiveness of the Sazani Karaburuni MPA in the in the Albanian Region area.

Respondents felt that fishing (especially the artisanal and/or recreational), tourism, aquaculture, recreational, conservation and scientific research have benefitted the most from the establishment of the MPA. Artisanal fishing has particularly benefitted as specific areas have been designated for this activity. Tourism has also benefited as the number of tourist seeking sustainable and eco-tourism has increased along with the demand for recreational activities (diving, etc.). The sectors which have been most negatively impacted are by the designation are believed to be industrial fishing, construction and navigation and transport.

The survey also aimed to gather respondent's perceptions on possible future scenarios of marine resource management/development options. Thus, they were asked about their awareness of any development project which might happen in the future and how desirable the development of some sectors was for them. The responses are summarised below:

- Modernization of fishing sector, sustainable development in fishing areas, better management and regulation of fishing activities
- Improved value of natural areas for tourism and recreational purposes, environmental strategic infrastructure, start-up of small landscape management enterprises and services.

- The proposed promenade development may have a negative impact on the coastal ecosystem of Vlora.

When asked about the measures they believe would help them in performing their activities some highlighted the EFF (European Fishery Fund) or the use of planning systems such as Marine Spatial Planning.

Regarding future scenarios, respondents stated that they would prefer conservation, recreation facilities, tourism facilities and marine infrastructures to be developed and enhanced, while the development of gas pipelines, offshore wind farms and oil and gas extraction were less desirable (See Figure 24). Greater enforcement of fisheries management measures was not seen as desirable.

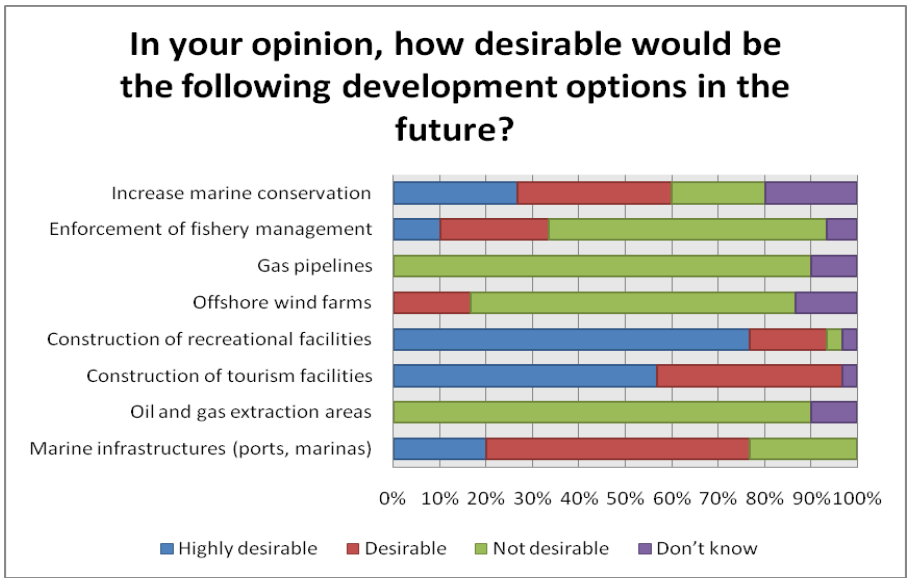


Figure 24. % of Respondent´s statements on how desirable a development would be in the Albanian Region.

An explanatory diagram of preferred future scenarios in the Albanian region is presented in Figure 25.

Figure 25. Desired scenario diagram as stated by Albanian region respondents.

Images of uses courtesy from Google Earth and www.ian.umces.edu.

Respondents were also asked about future conservation measures (Figure 26) and how desirable they would be. Respondents stated that future conservation measures should mainly target the preservation of coastal integrity, the protection of rare and endangered species and the enhancement of common and integral strategies between neighbouring countries. The protection of commercially important species was seen as of medium importance (See Figure 27).

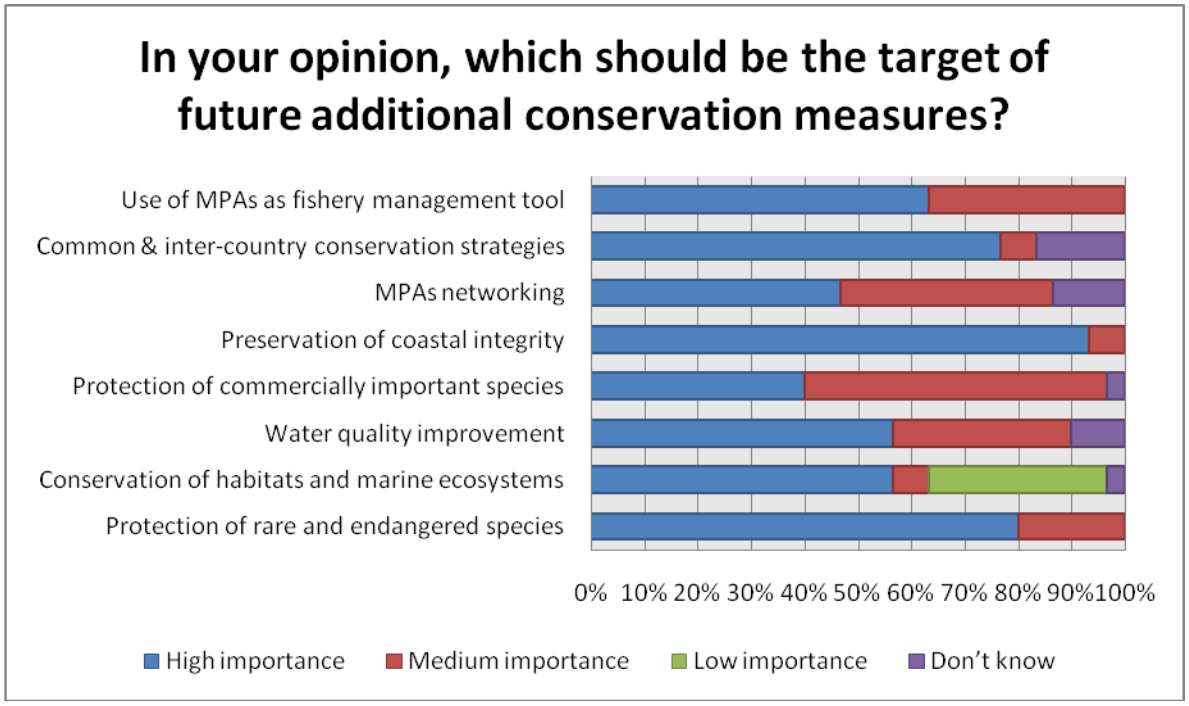


Figure 26. Perceived importance of different targets for future conservation measures in the Albanian Region.

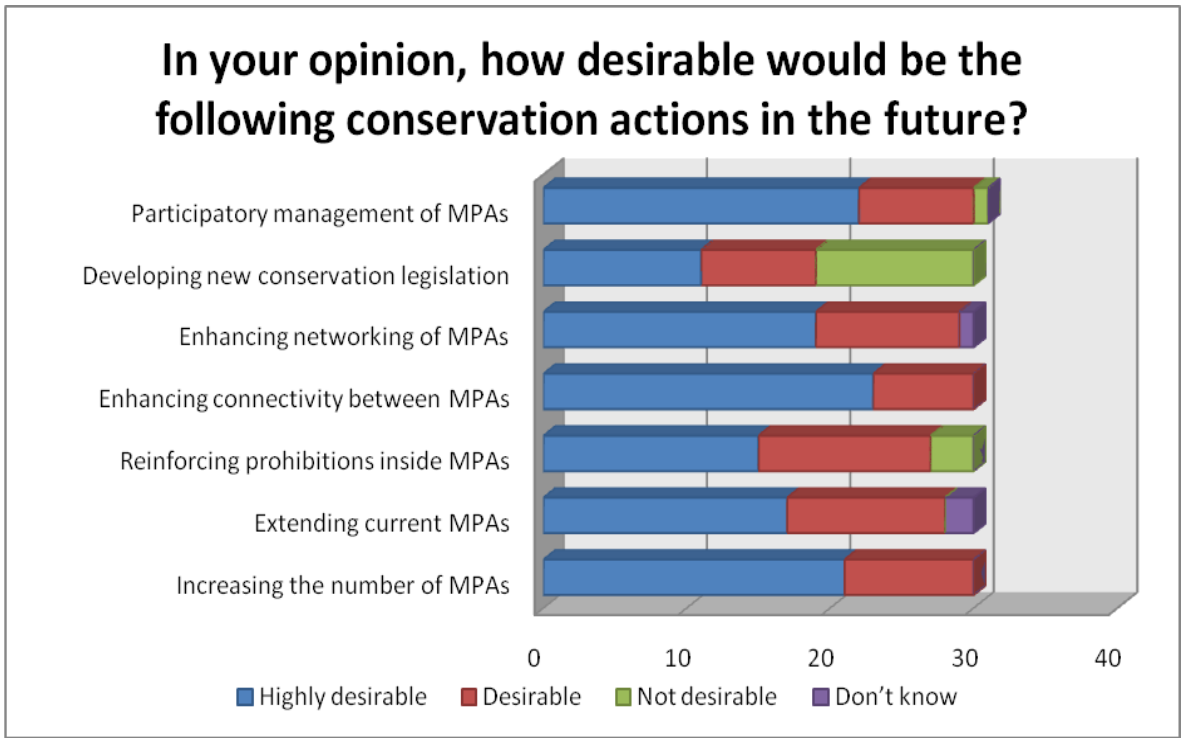


Figure 27. Perceived desirability of potential conservation actions in the Albanian Region

Similarly to the Apulia region, respondents also highlighted the lack of regulation of human activities, weak political will and the poor compliance as the main barriers to sound conservation management of the marine environment in the Sazani Karaburuni MPA (See Figure 28).

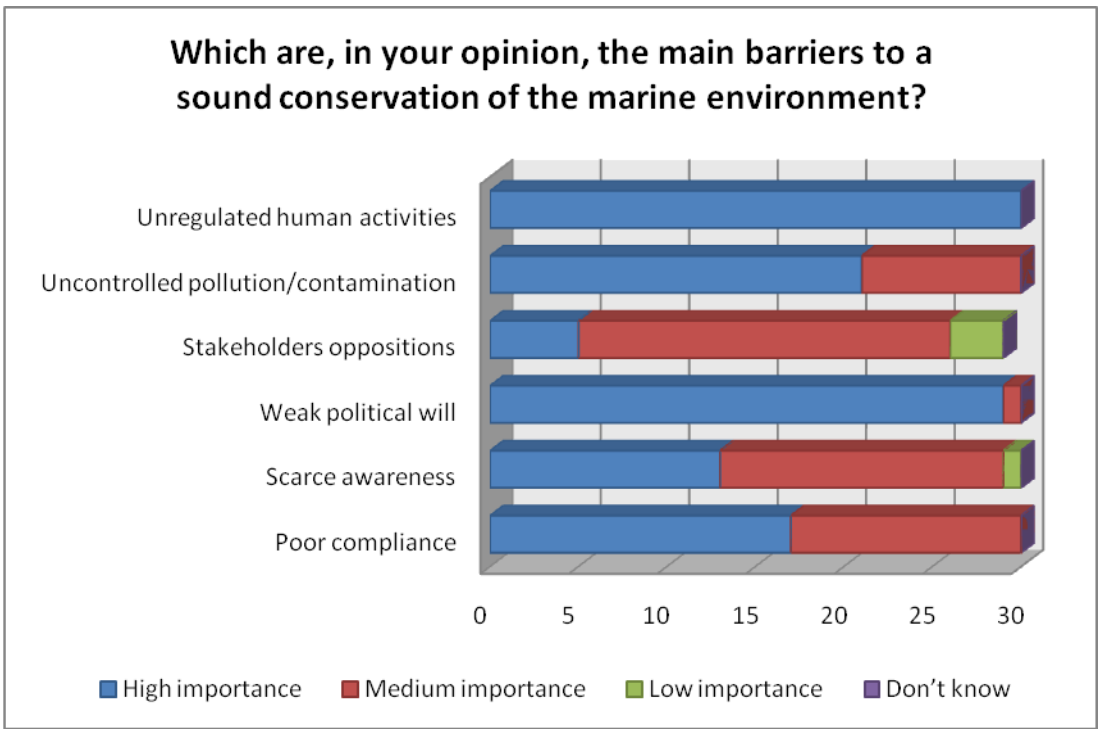


Figure 28. Perception about the importance of several barriers to a sound conservation management of marine environments in the Albanian Region.

It should be noted that there is a great need for improvement of environmental awareness in Albania. Environmental advocacy is not a firmly established approach and, given the country's economic hardships and civil disruptions, the attention has been focused on other concerns. The result today is that Albanian citizens are generally not well informed about the risk of pollution, the relationship between the environment and public health, and the benefits of a clean environment to the economy and society as a whole. To counter this, an information centre for environmental issues has been created within the Ministry of Environment (MoE). The publication of the State of the Environment (SoE) reports and other informational tools has helped build understanding of the country's environmental challenges. Environmental

education in the country today is poorly funded and is only reaching a limited number of young Albanians. However, the growth of Albania's environmental NGO community is a promising development. At present, however, the NGOs are concentrated in Tirana and, in several cases, they serve more as professional associations than as activists.

3.2 The Danube Delta Study Area

3.2.1 Ukrainian Part

A total of 12 people answered the questionnaire. These were mostly full-time employees who, on average, have been working in their dedicated sector for 19 years. Table 14 summarises the sectors/areas of interest that the respondents represent (note: some respondents may represent multiple sectors/areas of interest).

Table 14. Breakdown of respondents by sector/areas of interest in the Ukrainian part of the Danube Delta Region.

	Nº or responses	% of Total
Artisanal fisheries	-	-
Recreational fisheries	-	-
Industrial fisheries	5	26
Aquaculture	1	5
Tourism	2	11
Conservation of marine ecosystems	2	11
Enforcement & control	-	-
Scientific research	1	5
Recreational activities	-	-
Education	1	5
Administration & management	2	11
Energy sector	-	-
Navigation and transport	-	-
Extractive sector (oil, gas, gravel, sand)	-	-
Other (please state): Gardening, horticulture, agriculture	5	26

The majority of respondents were involved with fisheries, management responsibilities, education, conservation and tourism activities. According to respondents, the most common equipment being used for fishery activities in the area are: drift nets, set nets and fyke nets. It is necessary to have obtain licenses to be able to perform fishing activities in the Danube Delta region. Additionally, licenses are required to carry out tourism, navigation, transport and other recreational uses in the area. Specific licenses include:

- The license of the Fisheries Agency of Ukraine for industrial catch of the fish.
- Quota license, allocated by the Fisheries Agency of Ukraine for each company.
- The permission of the Odessa Regional Administration of the Ministry of Environment of Ukraine (starting from 2010) for the implementation of fishing and permits to the biosphere reserve.
- The permit to the visit the territory of the Danube Biosphere Reserve of National Academy of Sciences of Ukraine with the right to carry out the industrial fishing.
- The Ship card
- Accounting process stating the details of the fish caught, etc.
- License of the State Committee for Tourism of Ukraine (one-off payment of 1.5 thousands of UAH, and an annual payment of about 5 thousands of UAH).
- License of Department of Maritime and River Transport of Ukraine (one-time fee of 1.5 thousands of UAH, annually of 600-700 UAH for each flotation device).
- License for sightseeing and excursion activities of the Tourism Department of Oblast State Administration (one-time payment of about 400 UAH).

Generally respondents stated that they did not have a family history of working in their respective sectors. However, a few respondents stated that their family had history of involvement in their activities for 4 -5 generations. When asked about the number of people involved in their activities, an average of 30-35 fishermen were stated to be employed on a yearly basis. These numbers increase up to 100 and more during the migration of the Danube Herring (*Alosa pontica*) fishing season. For tourism, on average approximately 50 people are employed on a permanent basis and, in the period from May to October, an additional 10-15 people work as guides, cooks and drivers of the boats.

The most commonly used infrastructure in the fishing and tourism industries included: refrigerators, vehicles, local boats (adapted to the conditions of the Danube Delta), drift nets,

28-32 mm mesh size for fishing of the Danube Herring (*Alosa pontica*), cars, hotels, restaurants, lodges, taxis and buses.

Respondents were also asked to define the time dedicated to their activities and express any changes in recent years. For tourism the greatest efforts occurred between May and October (especially in the period of July-August) after which a very small quantity of tourists remained. Despite the appearance of eco-tourism in the region, almost all respondents observed a decline in tourist numbers, mostly due to the economic crisis.

For fisheries, peak periods are during the migration of the Danube Herring (*Alosa pontica*) between March and June. After this, the level of effort is relatively constant unless there is ice cover in winter.

When asked about the importance of their activities for their well-being, respondents answered the following:

Tourism

- From and environmental perspective tourism is practical as it does not affect natural resources
- Ecological tourism is important from both an aesthetic point of view, and as a component of development in region, especially during the economic crisis.
- I enjoy telling people about my favourite City of Vilkovo and the Danube Delta.

Fishing

- This kind of activity brings me great satisfaction, because Vilkovo is a city of fishermen.
- I love fishing, especially because most of my ancestors have been fisherman since the founding of Vilkovo City (approx.. 270 years ago).
- I have loved these activities since my childhood.
- For me, it is a matter of the soul.

Management

- I like my job and I have been doing this work in the Danube Delta for 35 years.

Education

- I like to engage in environmental education, particularly working with children.

Science

- I like my job and I am a biologist by profession. I have been doing this since university and very few people in our time, and in our country work in this area.

Aquaculture

- I have worked all my life in fisheries and related activities. I love this type of work.

As the Danube Delta area has been protected since 1967, none of the respondents were able to answer to the questions of how their activities have been impacted by the establishment of the protected are. Despite this, most respondents seem satisfied with the conservation measures/plans, management, networking, development measures and governance structures in the area (See Table 15).

Table 15. Perceptions towards current conservation and development in the in the Ukrainian part of the Danube Delta Region.

	Nº responses / % of Total	Nº responses / % of Total	Nº responses / % of Total	Nº responses / % of Total
	Clearly insufficient	**Slightly insufficient**	**Slightly sufficient**	**Clearly sufficient**
Conservation measures/plans				12 / 100%
Conservation management				12 / 100%
Conservation networking			1 / 8%	11 / 92%
Development measures/plans			2 / 17%	10/83%
Governance structures		2 / 17%		10 / 83%

Regarding future scenarios, respondents claimed that they would like almost all conservation and development issues to remain the same with a slight increase in tourism and

recreational activities. (See Table 16). However, when asked about how feasible they envisage these scenario to be, they clarified that tourism and recreational development cannot occur unless there is economic growth in the country. They also stated that the condition of access roads to the area must improve. The issue of roads and infrastructure development was seen as one of the main barriers for allowing the further development of the tourism in the area.

Respondents are also aware that the increase in tourism and recreational activities is not realistic if the economic crisis continues.

It should be noted that some respondents would prefer to see a slight or medium decrease in fishing activities in the future. This is due to amateur fisherman and visitors damaging equipment through poor techniques (e.g. hooks tangling and damaging fishing nets). These respondents even suggest establishing clearer fishing rules to be followed by amateur and tourist fisherman.

Table 16. Stakeholder preferences towards future scenarios in the Ukrainian part of the Danube Delta Region.

		Clearly Decrease (<70%)	Medium Decrease (<50%)	Slightly Decrease (<25%)	Remain the same as today (=)	Slightly Increase (>25%)	Medium Increase (>50%)
Conservation	Nº of MPAs				100%		
	Areas covered				92%	8%	
	Networking				100%		
Development	Fisheries		8%	25%	67%		
	Urbanization				100%		
	Maritime Traffic			8%	84%	8%	
	Maritime Traffic Infrastructures (ports, marinas, etc.)				100%		
	Oil and Gas Extraction Areas				100%		
	Sediment Extraction Areas				100%		
	Marine Renewables Areas				100%		
	Tourism			25%	17%	58%	
	Recreational Activities			8%	34%	50%	8%

Respondents acknowledged that their working effort, revenues, number of employees and costs would most definitively increase if their desired scenario occurred (See Table 17).

Table 17. Perceived impacts of future scenario in the Ukrainian part of the Danube Delta region

	Decrease	Remain equal	Increase
Working effort		33%	67%
Expenses / Costs		42%	58%
Equipment costs	22%	22%	56%
Revenues		25%	75%
Employees number		33%	67%

The following statements, collected from respondents, support this:

- Increased tourist numbers in the Danube Biosphere Reserve and increase in the price of fish will lead to an increase in the family income
- Incomes are likely to increase if the fishing gear is better maintained. Clear separation of places of amateur and professional fishing will help this.
- Incomes may increase slightly if amateur fisherman cause less disturbance.
- The scenarios will have a positive impact on me, on the reserve and on the inhabitants of the town of Vilkovo due to the positive trend in the development of tourism and recreation in the region.
- The income growth is possible due to the self-financing, but this requires more precise legislative authorization (possibilities).
- Our family income will increase significantly under the proposed scenario.

Respondents were also asked about future additional measures and how desirable they would be. Respondents stated that, as the specifics of the Danube Biosphere Reserve are to maintain the traditional fishing (during the migration of the Danube Herring 620-640 fishermen are working here), they believed that this is the optimal model of wild nature conservation and sustainable use of natural resources. Furthermore, they suggest developing rules that would allow the development of sustainable fisheries and avoid conflicts between amateur fishermen and locals.

Furthermore, a simplification of border procedures, as well as a greater involvement of the authorities in solving tourism problems, could support conservation activities.

Respondents also suggested that greater State investment in environmental education and scientific research would be desirable. To develop tourism in the short-term, a reduction in tourism taxes and support for developing infrastructure (especially roads and communications) were seen as necessary.

3.2.2 Romanian Part

A total of 5 people belonging to the conservation and scientific sectors answered the questionnaire. On average they have 10 years' experience in their position (note: that a single person may represent multiple sectors/areas of interest):

Table 18. Breakdown of respondents by sector/areas of interest in the Romanian part of the Danube Delta Region.

	Nº or responses	% of Total
Artisanal fisheries	1	20
Recreational fisheries	-	-
Industrial fisheries	-	-
Aquaculture	-	-
Tourism	-	-
Conservation of marine ecosystems	-	-
Enforcement & control	-	-
Scientific research	3	60
Recreational activities	-	-
Education	-	-
Administration & management	-	-
Energy sector	-	-
Navigation and transport	-	-
Extractive sector (oil, gas, gravel, sand)	-	-
Other (please state): NGO member	1	10

It should be noted that respondent's main activities were related to scientific research, whilst no response was obtained from any extractive, commercial, fisheries, tourism or management stakeholders.

In total 47 stakeholders were contacted regarding the survey, however only 5 responded. The main reasons for this very low rate of responses are believed to be:

- Stakeholders were unwilling to complete a survey either on line or on the telephone
- Stakeholders in remote areas were reluctant to complete any questionnaire
- Poor translation of questionnaire into local languages by interviewers

When asked about their opinions towards existing conservation measures / plans, management, networking, development measures and governance structures in the area, respondents believed that conservation measures/plans, management and networking were slightly sufficient, while development measures/plan and governance structures were slightly insufficient (See Table 19).

Table 19. Perceptions towards current conservation and development in the Romanian part of the Danube Delta Region.

	Nº responses / % of Total	Nº responses / % of Total	Nº responses / % of Total	Nº responses / % of Total
	Clearly insufficient	**Slightly insufficient**	**Slightly sufficient**	**Clearly sufficient**
Conservation measures/plans		2 / 50%	2 / 50%	
Conservation management	1 / 25%		3 / 75%	
Conservation networking	1 / 25%	1 / 25%	2 / 50%	
Development measures/plans		4 / 100%		
Governance structures	1 / 25%	2 / 50%	1 / 25%	1

Regarding future scenarios, respondents preferred one where conservation issues (number of MPAs, area covered and networking) would clearly increase. They felt that fisheries development should remain the same whilst urbanization, marine traffic, infrastructures, oil and gas developments and sediment extraction should decrease. Marine renewables, tourism and recreational activities were preferred to slightly increase (See Table 20).

Table 20. Stakeholder preferences towards future scenarios in Romanian part of the Danube Delta Region.

		Clearly Decrease (<70%)	Medium Decrease (<50%)	Slightly Decrease (<25%)	Remain the same as today (=)	Slightly Increase (>25%)	Medium Increase (>50%)	Clearly Increase (>75%)
Conservation	Nº of MPAs				25%			75%
	Areas covered					25%		75%
	Networking				25%		25%	50%
Development	Fisheries				75%			25%
	Urbanization	50%		25%			25%	
	Maritime Traffic	50%			25%			25%
	Maritime Traffic Infrastructures (ports, marinas, etc.)	50%			25%			25%
	Oil and Gas Extraction Areas	75%				25%		
	Sediment Extraction Areas	50%	25%			25%		
	Marine Renewables Areas					75%	25%	
	Tourism					50%	25%	25%
	Recreational Activities					50%	25%	25%

Respondents also highlighted the lack of regulation of human activities, the weak control of pollution (especially waste and noise), the existence of illegal activities, the lack of political will (and corruption) and the poor compliance with existing laws as the main barriers to sound conservation management of the marine environment at the Danube Delta region. They also stated the necessity to have clearer and simpler regulations and a unique supervising and executive management authority that would intercede between existing local authorities and important short term economic interests.

In spite of this, respondents acknowledged that their working effort, revenues and number of employees would most definitively increase or remain equal, while their costs would remain equal or even decrease if their preferred scenarios occurred (See Table 21).

Table 21. Perceived impacts of future scenario in the Romanian part of the Danube Delta Region

	Decrease	Remain equal	Increase
Working effort		50%	50%
Expenses / Costs	50%	50%	
Equipment costs			
Revenues		50%	50%
Employees number			100%

3.3 The Tarkhankut Peninsula Area

A total of 12 people answered the questionnaire, all of which are employed either full-time or part-time in relevant sectors . Respondent´s had an average of 13 years of experience mostly in management, recreational activities, tourism or fisheries. Table 22 provides a summary of the sectors/areas of interests of the respondents (note: a single respondent may represent multiple sectors/areas of interest).

Table 22. Response numbers and % of the total sectors / activities of respondents in the Tarkhankut Peninsula.

	Nº or responses	% of Total
Artisanal fisheries	1	5
Recreational fisheries	3	15
Industrial fisheries	2	10
Aquaculture	-	-
Tourism	4	20
Conservation of marine ecosystems	1	5
Enforcement & control	1	5
Scientific research	2	10
Recreational activities	3	15
Education	1	5
Administration & management	2	10
Energy sector	-	-
Navigation and transport	-	-
Extractive sector (oil, gas, gravel, sand)	-	-
Other (please state): ….	-	-

Table 22 shows there was a good response from respondents across a variety of sectors. However, no stakeholders from oil and gas or agriculture sectors were interviewed. Despite not

being commonly practiced, these are important activities in the region and attempts to interview representatives from these groups should be made in future studies.

In response to questions regarding the Tarkhankut MPA, respondents stated that it is important in assisting them with their work, but also due to its architectural, conservation, scientific and historical interest. It was stated that the region suffers less pollution and environmental information, awareness and education in the area has increased since the MPA was established. The number and variety of jobs has also increased in recent years. However, respondents also highlighted that the increased number of tourists, new projects and infrastructure developments has led to an increase in the human pressure and conflicts in the area. Respondents also acknowledged there had been an increase in restoration and protection projects, as well as in the development of regulatory changes. This has helped in gaining approval of the MPA boundaries.

Respondents were also asked about their activities have changed since the MPA was established. Answers showed that all respondents had performed their activities prior to the establishment of the MPA and that no changes had occurred as a result of the designation However, changes were acknowledged in the tourism and fishing sectors due to an unstable economy and depleted fishing stocks. This has led to a reduction in these activities.

The majority of respondents did not have an ancestral connection to their activities. Despite this, they acknowledged the emotional, aesthetic and spiritual impact that the MPA designation had on their lives. Furthermore, some respondents stated that they relocated to the area due to jobs created as a result of the MPA. Many respondents also stated that the MPA had increased their professional interest and development. They also reported personal development as a result of helping protect the region and knowing that they are delivering something to future generations. The stated impact that the MPA has had onto respondents was Bad (8.3%), Neutral (25%), Good (41.7%) or Very Good (25%).

Regarding conservation measures and plans, 92% of respondents believe that they are clearly insufficient (See Table 23). 100% of respondents believe that conservation management is either clearly insufficient or slightly insufficient, while 67% believe governance structures are clearly sufficient. No consensus is observed regarding conservation networking where 42% believe it to be clearly insufficient while the remaining 33% though it is slightly sufficient.

The responses towards governance structures and existing conservation, management and development measures suggests that the governance institutions might not be as effective as stakeholders would like.

Table 23. Perception on current conservation and development in the in the Tarkhankut Peninsula.

	Nº responses / % of Total	Nº responses / % of Total	Nº responses / % of Total	Nº responses / % of Total
	Clearly insufficient	**Slightly insufficient**	**Slightly sufficient**	**Clearly sufficient**
Conservation measures/plans	11 / 92%			1 / 8%
Conservation management	7 / 58%	5 / 42%		
Conservation networking	5 / 42%	1 / 8%	4 / 33%	2 / 17%
Development measures/plans	11 / 92%		1 / 8%	
Governance structures	3 / 25%		1 / 8%	8 / 67%

The final section of the survey was developed to determine which scenarios respondents felt could happen in the future. The most likely scenario was believed to involve:

- An equal number of MPAs to the present day
- Similar spatial coverage for MPA and MPA networks
- A similar level of fisheries development to the present day
- Slightly increasing in urbanization

- Similar levels of maritime traffic and infrastructures (ports, marinas, etc.)
- Slight increase or equal levels of oil and gas extraction;
- Similar levels of sediment extraction
- Slight increasing the area devoted tourism and recreational activities.

There was some discrepancy relating to marine renewables in the future with 25% expecting a decrease and 42% expecting an increase (see Table 24).

Table 24. Preferences towards future scenarios on conservation and development envisaged by respondents in the Tarkhankut Peninsula.

		Clearly Decrease (<70%)	Medium Decrease (<50%)	Slightly Decrease (<25%)	Remain the same as today (=)	Slightly Increase (>25%)	Medium Increase (>50%)
Conservation	Nº of MPAs		8%		42%	25%	25%
	Areas covered		8%		50%	17%	25%
	Networking		8%	8%	42%	17%	25%
Development	Fisheries		17%	17%	33%	8%	25%
	Urbanization			8%	17%	50%	25%
	Maritime Traffic			25%	50%	25%	
	Maritime Traffic Infrastructures (ports, marinas, etc.)			8%	67%	25%	
	Oil and Gas Extraction Areas		8%		42%	50%	
	Sediment Extraction Areas		8%	8%	42%	25%	8%
	Marine Renewables Areas		25%		8%	42%	25%
	Tourism				25%	50%	25%
	Recreational Activities				25%	50%	25%

Respondents were also asked what impacts these scenarios would have on their activities (fishing, tourism, etc.). The majority answered that all costs would increase and revenues would decrease, while the number of those employed would remain equal or slightly increase. Due to this negative perspective towards potential future scenarios, respondents stated that if this scenario occurred they may require financial, legal and educational assistance in the future.

Table 25. Perceived impacts of future scenarios on respondents in the Tarkhankut Peninsula

	Decrease	Remain equal	Increase
Working effort	58%	17%	17%
Expenses / Costs	8%	8%	83%
Equipment costs			100%
Revenues	50%	8%	42%
Employees number	8%	42%	50%

Despite the perceived implications of this future scenario, the economic impacts may be reduced as many of the respondents work part-time in these sectors and are supported by a second income. However, a more detailed economic analysis would be required to confirm this.

3.4 The Black Sea Biosphere Reserve (BSBR)

A total of 12 people answered the questionnaire with either full (58%) or part time (42%) employment in relevant sectors/areas of interest. Table 26 provides a summary of the sectors/areas of interest which respondents represented (note: a single respondent could represent multiple sectors/areas of interest).

Respondent´s had an average of 14 years of experience mostly in education and awareness, recreational activities, tourism, recreational fisheries and scientific research..

Table 26. Breakdown of respondents by sector/areas of interest in the Black Sea Biosphere Reserve

	Nº or responses	% of Total
Artisanal fisheries	-	-
Recreational fisheries	3	15
Industrial fisheries	1	8%
Aquaculture	-	-
Tourism	4	20
Conservation of marine ecosystems	2	10
Enforcement & control	-	-
Scientific research	2	10
Recreational activities	3	15

Education	-	-
Administration & management	2	10
Energy sector	-	-
Navigation and transport	-	-
Extractive sector (oil, gas, gravel, sand)	-	-
Other (please state): Agriculture	1	8%

The majority of respondents stated that they are required to purchase licenses to carry out their activities within the reserve. Some respondents also claimed to have an ancestral history (3 – 4 generations) of carrying out similar activities.

In reality, the only activities allowed in the reserve are: eco-tourism, recreation, scientific research, educational activities and agriculture. Additional activities, such as fishing (both recreational and industrial) are permitted in the areas bordering the reserve.

In relation to temporal change, respondents observed that the number of eco-tourism companies and clients is increasing. This is in spite of overall tourism industry decreasing. However, this work remains seasonal (May to September) and most activities occur in the same areas, exacerbating pressures where they occur. As a result, regulations are in place which control visitor numbers and prohibit large groups.

Respondents also identified tourism as a source of work, way of life and philosophy. They stated that many visitors are unaware of environmental issues in the region and that they provide practical advice to ensure the protection of the environment as well as promoting educational and environmental standards.

In relation to recreational activities, respondents stated that the value of recreation in the zone bordering with the reserve is in peace and solitude, and is currently at a sustainable level. However, they have also observed that recreational activities have increased during the last decade and continue to do so.

In relation to fisheries, respondents acknowledged that the number of businesses involved with legitimate fishing has decreased while poaching and illegal fisheries have increased in recent years. Most respondents were involved in recreational fishing as a pastime.

Science, research and conservation activities are regularly carried out in the area. These activities have remained constant since the reserve was established in 1927. Those involved in scientific, educational and research activities acknowledge the importance of the area for feeding and reproduction of fish, preservation of pristine and unique ecosystems and for ecological education and tourism.

Prior to the reserve being established, respondents stated that agriculture was the main activity in the region. Agriculture still remains an important part of the economy but has decreased significantly as eco-tourism and recreational activities have become more popular. Some respondents also highlighted a concern regarding rice production along the coastal strip, with reports of waste water being dumped in the area.

According to the respondents, tourism has changed significantly since the reserve was established. Tourists numbers have increased and eco-tourism and village recreational activities have been developed near the protected area. Equally, the legal status of the area has resulted in the regulation of activities which have benefitted the environment. This is something highly valued by tourists

Furthermore, respondents have also acknowledged that the region is now less polluted the price of the goods and services provided by the reserve have increased.

Respondents felt that the creation of the reserve was either good or very good for their activities. However, as the reserve was created 87 years ago, many were unable to compare their activities to the situation prior to the reserve being established.

Those fishermen responding the survey stated that their activities have been impacted due to changes in legislation (which has mostly affected legitimate fishing) which is unrelated to the creation of the reserve.

If we look at respondent's perception of current conservation and development management in the BSBR, we observe that there is no consensus regarding sufficient conservation measures and plans. The same can be said for conservation management and the development plans (see Table 27). Half of respondents believed that conservation networking is slightly insufficient while governance structures are slightly sufficient.

Table 27. Perceptions towards current conservation and development in the in the Black Sea Biosphere Reserve.

	Nº responses / % of Total	Nº responses / % of Total	Nº responses / % of Total	Nº responses / % of Total
	Clearly insufficient	**Slightly insufficient**	**Slightly sufficient**	**Clearly sufficient**
Conservation measures/plans	1 / 8%	4 / 33%	4 / 33%	3 / 25%
Conservation management	2 / 17%	4 / 33%	2 / 17%	4 / 33%
Conservation networking	2 / 17%	6 / 50%	1 / 8%	3 / 25%
Development measures/plans	4 / 33%	3 / 25%	3 / 25%	1 / 8%
Governance structures	1 / 8%	4 / 33%	6 / 50%	1 / 8%

The final section of the survey was developed to determine which scenarios respondents felt could happen in the future. The most likely scenario was believed to involve (See Table 28):

- An equal number of MPAs to the present day
- The area covered by MPAs and their networks would increase slightly
- Fishery activities would either remain equal or slightly increase
- Urbanization, maritime traffic and oil and gas extraction would remain equal
- Sediment extraction would either decrease or slightly decrease

- Marine renewables, tourism and recreational activities would remain equal or slightly increase.

Table 28. Stakeholder preferences towards future scenarios in the Black Sea Biosphere Reserve

		Clearly Decrease (<70%)	Medium Decrease (<50%)	Slightly Decrease (<25%)	Remain the same as today (=)	Slightly Increase (>25%)	Medium Increase (>50%)
Conservation	Nº of MPAs		8%		50%	42%	
	Areas covered		8%		8%	58%	25%
	Networking				17%	66%	17%
Development	Fisheries	8%			33%	42%	17%
	Urbanization	8%			92%		
	Maritime Traffic				83%	9%	8%
	Maritime Traffic Infrastructures (ports, marinas, etc.)		8%		75%	9%	8%
	Oil and Gas Extraction Areas	17%			83%		
	Sediment Extraction Areas	25%	17%	25%	17%		16%
	Marine Renewables Areas			25%	42%	25%	8%
	Tourism				42%	33%	25%
	Recreational Activities				42%	33%	25%

When asked how the scenario was likely affect them and their activities, respondents stated that their working effort and costs (general and equipment) would mostly remain equal while revenues and the number of employees would increase or remain equal (See Table 29).

Table 29. Perceived impacts of future scenarios on respondents in the Black Sea Biosphere Reserve

	Decrease	Remain equal	Increase
Working effort	8%	67%	25%
Expenses / Costs	8%	84%	8%
Equipment costs		100%	
Revenues		42%	58%
Employees number		42%	58%

Respondents also acknowledged the positive impacts that the proposed scenario might have on their families.

Some respondents highlighted the activities of Ukrainian public bodies, particularly the Kiev Ecological and Cultural Centres, as potentially damaging. They are currently campaigning for prohibition of any activity in the reserves of Ukraine. Respondents stated that this could negatively affect activities such as tourism, recreation, ecological monitoring and educational work in protected areas. They believe that prohibition of any activity, including traditional nature conservation work, could set locals against reserves in general.

4. CONCLUSIONS

If we look at the Mediterranean Pilot study of the Apulia and Albanian regions, it is clear that no consensus exists regarding the management of different sectors. Recreational activities and aquaculture are thought to be well or sufficiently managed in both in Apulia and Albania, but the perception of management for the other sectors is not clear. In the Apulia region most respondents believe that they are wrongly managed while in the Albania they believe they are well or sufficiently managed.

Looking at the major conflicts of interest among the different marine sectors in the Mediterranean, it can be seen that conflicts in Apulia arise mostly between fisheries and extractive or industrial sectors. In the Albanian region most conflicts occur between the legitimate and illegal fisheries and between fisheries, conservation and recreational activities.

This leads us to conclude that further measures and actions should be developed to enhance cooperation and co-management between fisheries and other sectors in the Apulia region. In Albania they should focus on resolutions between fisheries, conservation and recreational activities.

In the Black Sea most conflicts arise between fishermen (artisanal, recreational and industrial) and amateur and tourist fishermen. There is also conflict between traditional uses of the area and newly developed sectors (e.g. tourist resorts, large vessels, etc.). Therefore, in the Black Sea further measures and actions should be developed to enhance the cooperation and communication between new economic interests and traditional ones, which have a high cultural and spiritual value to those performing them.

If we summarize the perceptions of respondents regarding the effects of MPAs there is a general belief that MPAs usually benefit conservation, recreational activities, tourism and scientific purposes, while they negatively impact the construction, extractive and navigation and transport sectors (See Figure 29)

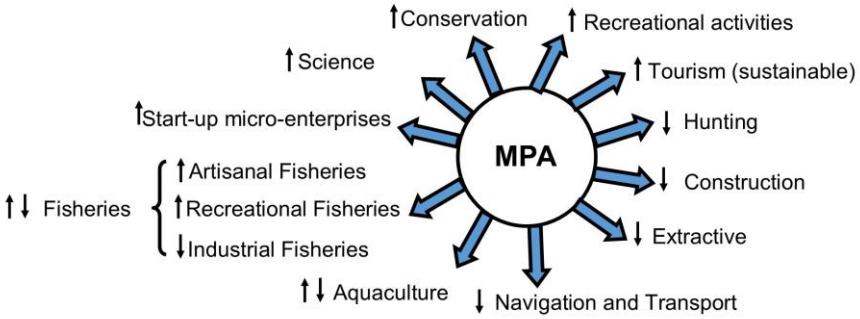


Figure 29. Summary of respondent´s perceptions of the impacts of MPAs onto marine sectors / activities.

Most respondents, in both the Mediterranean and Black Sea, acknowledged that when MPAs are clearly beneficial to a particular sector (e.g. tourism) this sector should be developed. However, they expressed concerns about these developments and stated that sustainable, and ecologically sensitive, development should be encouraged.

For the Danube Delta region, there were some differences in the responses between the Ukrainian and Romanian respondents. On both sides of the delta respondents believe that the existing conservation measures, plans, management and networking are clearly sufficient. However, Romanian respondents did not think the development measures and plans or governance structures are sufficient, whilst the Ukrainian respondents were happy with their situation

In general, most respondents believe existing conservation measures and plans, management and networking is insufficient. These respondents would like to see future additional conservation measures target more and/or better protection for coastal integrity, the control of marine fisheries, water pollution issues and the enhancement of MPA networks and connectivity. To achieve these targets it is believed the participatory approach involving all relevant parties needs to be developed.

It was stated by respondents that MPAs improve water quality, lead to the protection of coastal integrity and help in the protection of rare and endangered species (See Figure 30). Respondents also stated that MPAs have the potential to serve as a tool to enhance the cooperation between countries and sectors. Therefore, MPAs could be a method through which future conservation measures and actions could be delivered.

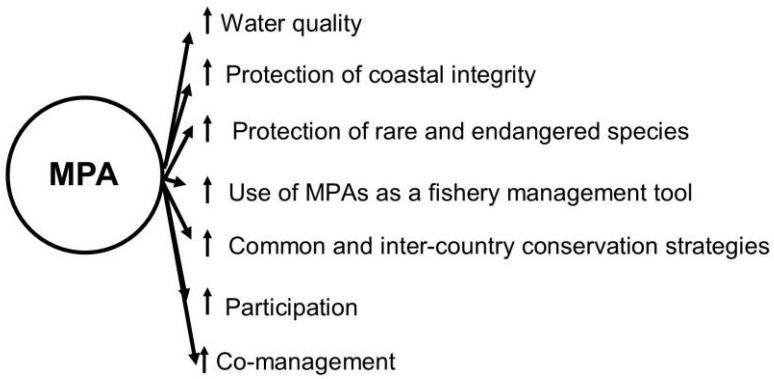


Figure 30. Summary of respondent´s perceptions of MPAs impact onto the marine environments and marine management.

Respondents also highlighted their preferences towards future marine uses scenarios. When analysing the scenarios (Figures 31-33), it becomes clear that some conflicts might occur between the scenarios in the Apulia and Albania regions. In the Apulia region respondents would like to see development of renewable energies and fisheries (with a greater regulation on fishing activities) and would not like any further tourist developments. Respondents in the Albania region did not show a preference for renewables of fisheries development and instead would prefer new tourist facilities to be developed. Bearing in mind that the Apulia/Albania region is a narrow area, the push towards renewables in the Italian part and towards tourism in the Albanian part would need to be inclusive and would require cooperation between the two countries. Greece should also be considered in this situation as they have stated their desire to develop marine renewables and oil and gas extraction in their jurisdictional waters (See section 1.1.2).

If we look at the proposed scenarios for the Danube Delta region we also observe that some conflicts may arise in the area. Respondents in the Romanian part of the region would like to see some marine renewables, conservation and tourism development while clearly decreasing the extractive, navigation, transport and industrial uses in the area. In the Ukrainian part respondents would like to keep a-business-as-usual scenario with a clear decrease in fishing activities in the region. This may cause conflicts if any developments and/or changes occur in the border regions.

In the Tarkhankut Peninsula, respondents stated that in the future they would like to see a clear increase in recreational activities and tourism while conservation should stay as it is. No clear preferences towards fisheries were present as some would like the sector to stay as it is whilst others would move towards an increase or decrease of their activity.

In the Black Sea Biosphere Reserve all respondents stated that the industrial, navigation and transport sector´s development should stay as they are with a clear decrease in the extractive sector. An increase in the development of recreation, tourism and conservation is also desired, which could bring conflicts to the area if they are not done in a sustainable manner and meet the conservation requirements of the area.

Across all regions, there is a common consensus between respondents towards the extractive sector and that its activities should remain either constant or decrease.

Similar perceptions exist towards oil and gas pipelines where respondents stated their desire for them to remain equal or slightly decrease (except in the Tarkhankut Peninsula where some respondents stated their wish for a slight increase in the activities of this sector).

Marine renewables, and in particular the development of offshore wind farms, is mostly envisaged as remaining constant or with a slight increase in the future. However, in Albania there seems to be a clear opposition towards the development of offshore wind farms in the region.

The navigation and transport sector is expected to slightly or clearly increase in the Mediterranean, while it is desired to remain equal or clearly decrease in the Black Sea.

Recreational activities, tourism development and conservation are expected to slightly or clearly increase in both Seas, except for the Apulia region where there is a negative attitude towards future tourism development due to the existing high levels. However, it is not clear if this perception is felt towards both eco and traditional tourism.

In the Black Sea and Albania the feeling towards fishing activities is that they should remain as they are or clearly decrease. However, in the BSBR there is a clear desire that fishing activities should either remain as they are or increase. A comparable attitude is seen in the Apulia region.

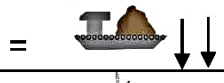
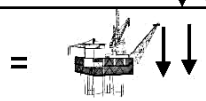
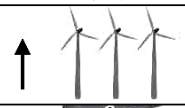
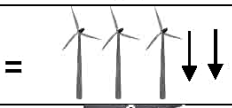
	Activity	Desired Change	Notes	Graphical Representation
Apulia	Extractive	= / <<	NEW not desired	
	Gas/oil pipelines	= / <<	NEW not desired	
	Offshore wind farms	>	50% of responses	
	Maritime Transport	>	Infrastructures. 62% of responses	
	Recreational	>	Facilities. 56% of responses	
	Tourism	= / <<	NEW not desired	
	Conservation	>>	93% of responses	
	Fisheries	>>	Control. 87% of responses	
Albania	Extractive	= / <<	NEW not desired	
	Gas/oil pipelines	= / <<	NEW not desired	
	Offshore wind farms	= / <<	NEW not desired	
	Maritime Transport	>>	Infrastructures	
	Recreational	>>	Facilities	
	Tourism	>>	Facilities	
	Conservation	>>	60% of responses	
	Fisheries	= / <<	Control not desired	

Figure 31. Respondent´s preferences towards future scenarios on conservation and development in the Apulia and Albanian Regions.

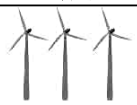
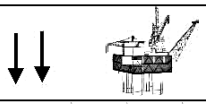
Danube Delta (Ukrainian Part)	Extractive	=	100% of responses	= 
	Gas/oil pipelines	=	100% of responses	= 
	Offshore wind farms	=	100% of responses	= 
	Maritime Transport	=	100% of responses	= 
	Recreational	>>	50% of responses	
	Tourism	>>	58% of responses	
	Conservation	=	≈ 100% of responses	= 
	Fisheries	= / <<	Control desired.	= 
Danube Delta (Romanian Part)	Extractive	<<	75% of responses	
	Gas/oil pipelines	<<	75% of responses	
	Offshore wind farms	>	75% of responses	
	Maritime Transport	<<	50% of responses	
	Recreational	>>	50-100% of responses	
	Tourism	>>	50-100% of responses	
	Conservation	>>	75% of responses	
	Fisheries	=	75% of responses	= 

Figure 32. Respondent´s preferences towards future scenarios on conservation and development in the Danube Delta Region.

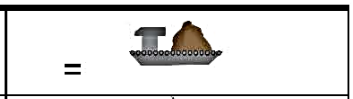
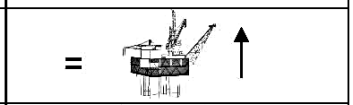
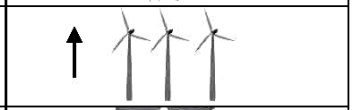
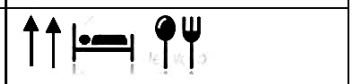
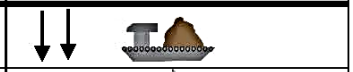
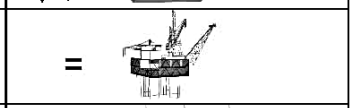
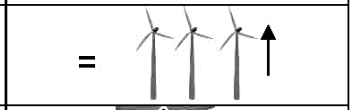
Tarkhankut Peninsula	Extractive	=	42% of responses	
	Gas/oil pipelines	= / >	40-90 % of responses	
	Offshore wind farms	>	42% of responses	
	Maritime Transport	=	67% of responses	
	Recreational	>>	50% of responses	
	Tourism	>>	50% of responses	
	Conservation	= / >>	42-100% of responses	
	Fisheries	<</ = / >>	Both ways	
Black Sea Biosphere Reserve	Extractive	<<	67% of responses	
	Gas/oil pipelines	=		
	Offshore wind farms	= / >	80% of responses	
	Maritime Transport	=	75-80% of responses	
	Recreational	= / >>	40-75% of responses	
	Tourism	= / >>	40-75% of responses	
	Conservation	= / >	50-90% of responses	
	Fisheries	= / >>	30-90% of responses	

Figure 33. Respondent´s preferences towards future scenarios on conservation and development in the Tarkhankut and Black Sea Biosphere Reserve Regions.

The lack of respondents from the extractive, energy, navigation and transport sectors in the Black Sea might explain why those activities were not included in future scenarios. Equally, this lack of representativeness could explain why the majority of respondents wished to see these sectors activities either remain the same or decrease. This lack of representativeness is also seen in the Apulia/Albanian region where no representatives from the extractive sector were interviewed.

However, few representatives from the education sector were also interviewed yet the perceptions of the sector were generally positive.

As a result, any future studies should focus on involving stakeholders from these sectors in order to gather their opinions and perceptions towards management of the marine environment.

A key point highlighted by this study is that most respondents felt there were serious institutional barriers to sound conservation and management. These included: weak political will, unregulated activities, weak enforcement and control and a lack of social awareness. This is an important issue which needs to be explored in greater depth if realistic future conservation plans are to be developed.

In conclusion, the main aim of this research was not to obtain the overall perception of all stakeholders in the two case study areas, but to have a first glance at the perceptions of some of the most relevant stakeholder groups. Therefore, all perceptions and opinions should be treated as individual ones and further studies should be conducted to gather wider, more detailed opinions of the stakeholders in the regions.

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6. FIGURES

7. TABLES

8. ANNEXED DOCUMENTS

Annex 1. Main stakeholder´s template.

Field	Notes
Institution/organization name	
Stakeholder classification	Decision-makers concerned by marine and coastal affairs
	Administrations and agencies who manage economic sectors and uses of marine waters
	Professional representatives of the coastal and marine economic sectors
	Environmental NGOs active in marine and costal environment and resources
	Experts & consultants specialized in marine and costal environment and resources
	Donors
	Other
Role of institution, organization	
User classification	Fishers
	Hotel–restaurant industry
	Consulting companies
	Fisheries management
	Port authorities and services
	Environmental regulation agencies
	Freshwater management/damming
	Public health authorities
	Wastewater management
	Integrated coastal management

Field	Notes
	Ecotourism, tourism
	Conservation and amenity
	Consumers of seafood
	Recreational swimming
	Recreational boating
	Research and education
	Scientific community
Country	
Address	Address of the institution/organization
Contact name	Those most involved in the use and relation to MPA, include many contact persons if needed, two is desired for each case.
Contact email	
Contact phone	
Contact position in the institution	
Contact function in the institution	
Website	Website of the specific working group of the contact person
Potential interests	Stake interest and motivations in the pilot area
Comments	

Annex 2. Main International Agreements on the Mediterranean and Black Seas.

The treaties described below are given according to the abbreviations used in Table 4 of this deliverable (Table 83. from Suárez de Vivero (2010); Source: European Commission (2008). See also Annex 2 of this deliverable for further details on these agreements).

- **1982 LOS Convention** - *United Nations Convention on the Law of the Sea* (Montego Bay, 12 December 1982), in force as from 16 November 1994: Albania, Algeria, Bosnia-Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Italy, Lebanon, Malta, Monaco, Montenegro, Morocco, Slovenia, Spain, Tunisia, European Community. See http://www.un.org/Depts/los/index.htm
- **1995 SFS Agreement** - *United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks* (New York, 4 December 1995), in force as from 11 December 2001: Cyprus, France, Greece, Italy, Malta, Monaco, Slovenia, Spain, European Community. See http://www.un.org/Depts/los/index.htm
- **2001 UCH Convention** - *Convention on the Protection of the Underwater Cultural Heritage* (Paris, 2 November 2001), in force as from 2 January 2009: Croatia, Lebanon, Libya, Montenegro, Slovenia, Spain, and Tunisia. See http://portal.unesco.org/en
- **1992 CBD** - *Convention on Biological Diversity* (Rio de Janeiro, 5 June 1992), in force as from 29 December 1993: Albania, Algeria, Bosnia-Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Montenegro, Morocco, Slovenia, Spain, Syria, Tunisia, Turkey, European Community. See http://www.cbd.int
- **1979 CMS** – *Convention on Migratory Species* (Bonn, 23 June 1979): Albania, Algeria, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Libya, Malta, Monaco, Morocco, Slovenia, Spain, Syria, Tunisia, European Community. See http://www.cms.int
- **1979 Bern Convention** - *Convention on the Conservation of European Wildlife and Natural Habitats* (Bern, 19 September 1979), in force from 1 June 1982: Albania, Bosnia-Herzegovina, Croatia, Cyprus, France, Greece, Italy, Malta, Monaco, Morocco, Slovenia, Spain, Tunisia, Turkey, European Community. See http://conventions.coe.int
- **1974 SOLAS** - *International Convention for the Safety of Life at Sea* (1 November 1974), in force from 25 May 1980: Albania, Algeria, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Montenegro, Morocco, Slovenia, Spain, Syria, Tunisia, Turkey. See http://www.imo.org
- **1973/78 MARPOL** - *International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto* (2 November 1973), in force from 2 October 1983: Albania, Algeria, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, 61 Malta, Monaco, Montenegro,Morocco, Slovenia, Spain, Syria, Tunisia, Turkey. See http://www.imo.org
- **1989 Salvage** - *International Convention on Salvage* (28 April 1989), in force from 14 July 1996: Albania, Croatia, Egypt, France, Greece, Italy, Slovenia, Spain, Syria, Tunisia. See http://www.imo.org
- **1988 SUA** - *Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation* (10 March 1988), in force from 1 March 1992: Albania, Algeria, Bosnia-Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Italy, Lebanon, Libya, Malta, Monaco, Montenegro, Morocco, Slovenia, Spain, Syria, Tunisia, Turkey. See http://www.imo.org
- **2000 Smuggling Prot.** - *Protocol against the Smuggling of Migrants by Land, Sea and Air, supplementing the United Nations Convention against Transnational Organized Crime* (New York, 15 November 2000), in force from 28 January 2004: Albania, Algeria, Bosnia-Herzegovina, Croatia, Cyprus, Egypt, France, Italy, Lebanon, Libya, Malta, Monaco, Montenegro, Slovenia, Spain, Tunisia, Turkey, European Community. See http://www.unodc.org/unodc/index.html
- **1976 Barcelona Conv.** - *Convention for the Protection of the Mediterranean Sea Against Pollution* (Barcelona, 16 February 1976), in force from 12 February 1978: Albania, Algeria, Bosnia-Herzegovina,

Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Montenegro, Morocco, Slovenia, Spain, Syria, Tunisia, Turkey, European Community. See http://www.unepmap.org

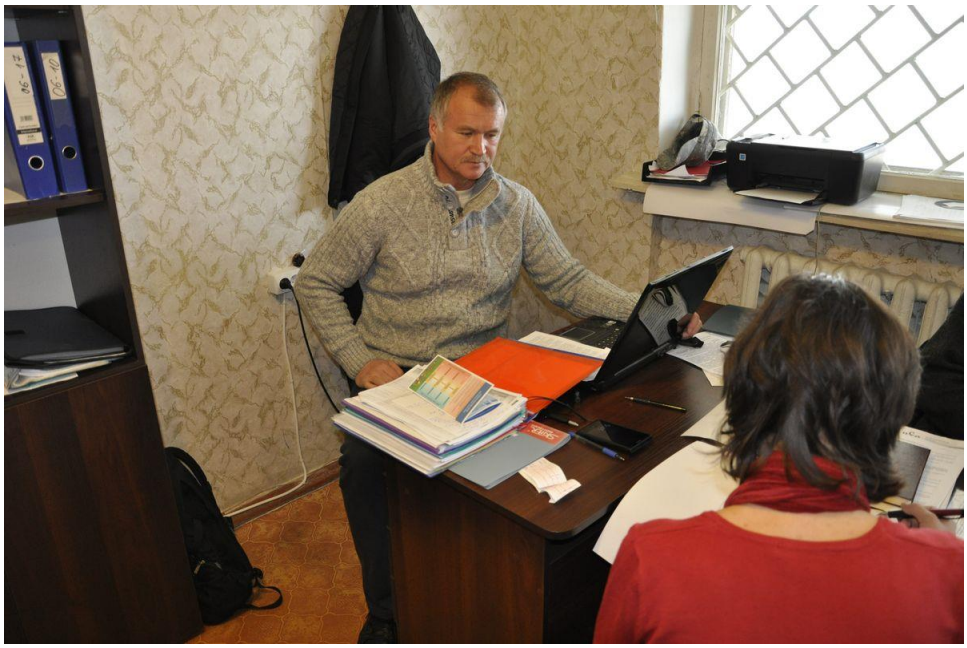
- **1995 Barcelona Amend.** - *Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean* (Barcelona, 16 February 1976 as amended 10 June 1995), in force from 2 July 2004: Albania, Algeria, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Malta, Monaco, Montenegro, Morocco, Slovenia, Spain, Syria, Tunisia, Turkey, European Community. See http://www.unepmap.org
- **1976 Dumping Prot.** - *Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft* (Barcelona, 16 February 1976), in force from 12 February 1978: Albania, Algeria, Bosnia-Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Morocco, Slovenia, Spain, Syria, Tunisia, Turkey, European Community. See http://www.unepmap.org
- **1995 Dumping Prot.** - *Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft or Incineration at Sea* (Barcelona, 16 February 1976 as amended 10 June 1995), not yet in force: Albania, Croatia, Cyprus, Egypt, France, Italy, Malta, Monaco, Montenegro, Morocco, Slovenia, Spain, Tunisia, Turkey, European Community. See http://www.unepmap.org
- **1976 Emergency Prot.** - *Protocol concerning Co-operation in Combating Pollution of the Mediterranean Sea by Oil and other Harmful Substances in Cases of Emergency* (Barcelona, 16 February 1976), in force from 12 February 1978: Albania, Algeria, Bosnia-Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Morocco, Slovenia, Spain, Syria, Tunisia, Turkey, European Community. See http://www.unepmap.org
- **2002 Emergency Prot.** - *Protocol concerning Co-operation in Preventing Pollution from Ships and, in Cases of Emergency, Combating Pollution of the Mediterranean Sea* (Malta, 25 January 2002), in force from 17 March 2004: Croatia, Cyprus, France, Greece, Malta, Monaco, Montenegro, Slovenia, Turkey, European Community. See http://www.unepmap.org
- **1980 LBS Prot.** - *Protocol for the Protection of the Mediterranean Sea Against Pollution from Land-based Sources* (Athens, 17 May 1980), in force from 17 June 1983: Albania, Algeria, Bosnia-Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Morocco, Slovenia, Spain, Syria, Tunisia, Turkey, European Community. See http://www.unepmap.org
- **1996 LBS Prot.** - *Protocol for the Protection of the Mediterranean Sea Against Pollution from Land-based Sources and Activities* (Syracuse, 7 March 1996), in force from 11 May 2008: Albania, Croatia, Cyprus, France, Greece, Italy, Malta, Monaco, Montenegro, Morocco, Slovenia, Spain, Syria, Tunisia, Turkey, European Community. See http://www.unepmap.org
- **1982 SPA Prot.** - *Protocol Concerning Mediterranean Specially Protected Areas* (Geneva, 3 April 1982), in force from 23 March 1986: Albania, Algeria, Bosnia-Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya,Malta, Monaco, Morocco, Slovenia, Spain, Syria, Tunisia, Turkey, European Community. See http://www.unepmap.org
- **1995 SPA Prot.** - *Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean* (Barcelona, 10 June 1995), in force from 12 December 1999: Albania, Algeria, Croatia, Cyprus, Egypt, France, Italy, Malta, Monaco, Montenegro, Slovenia, Spain, Syria, Tunisia, Turkey, European Community. See http://www.unepmap.org
- **1994 Offshore Prot.** - Protocol for the Protection of the Mediterranean Sea Against Pollution Resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil (Madrid, 14 October 1994), not yet in force: Albania, Cyprus, Morocco, Tunisia. See http://www.unepmap.org
- **1996 HW Prot.** - *Protocol on the Prevention of Pollution of the Mediterranean Sea by Transboundary Movements of Hazardous Wastes and their Disposal* (Izmir, 1 October 1996), in force from 28 December 2007: Albania, Malta, Montenegro, Morocco, Tunisia, Turkey. See http://www.unepmap.org
- **2008 ICZM Prot.** - *Protocol on Integrated Coastal Zone Management* (Madrid, 21 January 2008), not yet in force. See http://www.unepmap.org
- **1996 ACCOBAMS** - *Agreement on the Conservation of Cetaceans in the Black Sea, Mediterranean Sea and contiguous Atlantic Area* (Monaco, 24 November 1996), in force from 1 June 2001: Albania, Algeria,

Croatia, Cyprus, France, Greece, Italy, Lebanon, Libya, Malta, Monaco, Morocco, Slovenia, Spain, Syria, Tunisia. See http://www.accobams.org

- **1982 Paris MOU** - *Paris Memorandum of Understanding on Port state Control* (Paris, 26 January 1982), in operation since 1 July 1982: Croatia, Cyprus, France, Greece, Italy, Malta, Slovenia, Spain. See http://www.parismou.org
- **1996 Mediterranean** MOU - *Memorandum of Understanding on Port state Control in the Mediterranean Region* (Malta, 11 July 1997): Algeria, Cyprus, Egypt, Israel, Lebanon, Malta, Morocco, Syria, Tunisia, Turkey. France, Greece, Italy, Spain and the EC have the status of observers. See http://www.medmou.org
- **1949 GFCM** - *Agreement for the Establishment of a General Fisheries Commission for the Mediterranean* (Rome, 24 September 1949), in force from 20 February 1952: Albania, Algeria, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Montenegro, Morocco, Slovenia, Spain, Syria, Tunisia, Turkey, European Community. See http://www.gfcm.org/gfcm
- **1969 ICCAT** - *International Convention for the Conservation of Atlantic Tunas* (Rio de Janeiro, 14 May 1966), in force from 1969: Albania, Algeria, Croatia, Cyprus, Egypt, France, Italy, Libya, Malta, Morocco, Spain, Syria, Tunisia, Turkey, European
  Community. See http://www.iccat.int

9. ANNEXED PICTURES

Government Stakeholder (above) and MPA manager (below) being interviewed about his perceptions on the Tarkhankut Peninsula area (West Crimea, Black Sea); Interview carried out by Ekaterina Kashirina (PhD cand., IBSS)).



Teacher (above) and Tourism Office Stakeholder (below) being interviewed about his perceptions on the Tarkhankut Peninsula area (West Crimea, Black Sea); Interview carried out by Ekaterina Kashirina (PhD cand., IBSS)).

Stakeholders (above and below) being interviewed about their perceptions towards the Black Sea Biosphere Reserve area