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International Conference

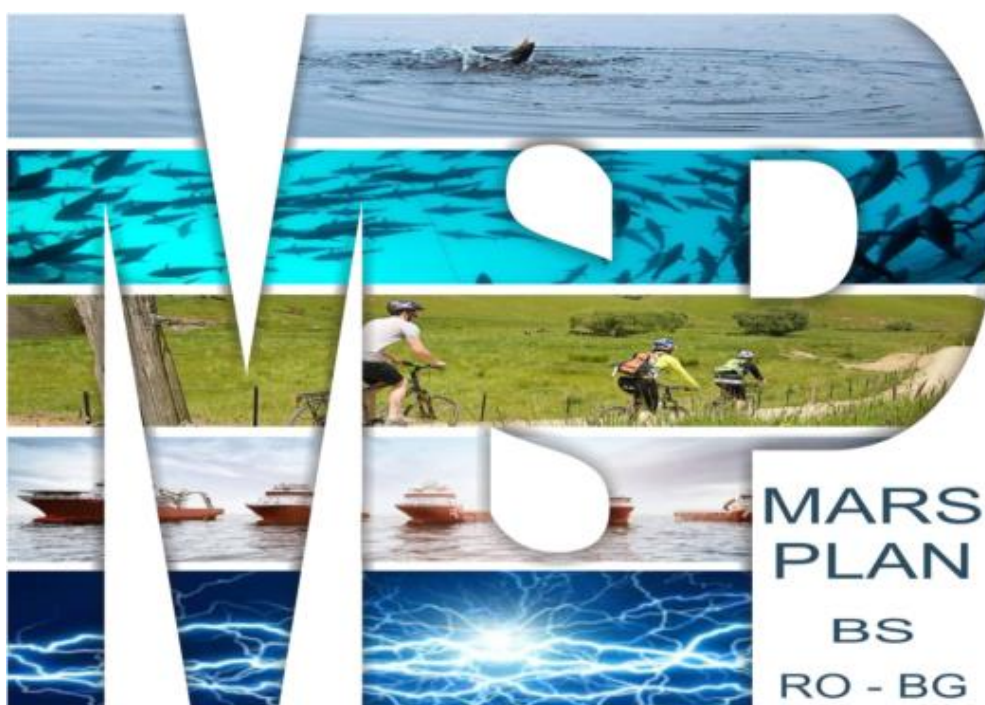
Maritime Spatial Planning in the Black Sea

Constanța, Romania,
May 03-04, 2017



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Maritime Spatial Planning in the Black Sea

Constanța, Romania, May 03-04, 2017

The conference is organized by Ovidius University of Constanța, as part of the Cross Border Maritime Spatial Planning in the Black Sea – Romania and Bulgaria (MARSPLAN – BS) project, funded by the European Commission via the European Maritime and Fisheries Fund (EMFF), through the Executive Agency for Small and Medium-sized Enterprises (EASME).

MARSPLAN-BS aims to support the implementation of the Directive for maritime spatial planning (MSP) (Directive 2014/89/EU of the European Parliament and of the Council of 23 July 2014) in the Black Sea and to facilitate the cross-border maritime spatial planning between Romania and Bulgaria. It focuses on the cross-border maritime spatial planning of Romania and Bulgaria, the only EU Member States in the Black Sea basin, but it will create the premises for expanding the cooperation framework with the other Black Sea countries.

The MARSPLAN-BS consortium includes the main public authorities in Romania and Bulgaria with attributions related to the implementation of the MSP directive, as they coordinate the spatial planning (for terrestrial and marine areas), transport (including navigation), and environmental protection and integrated coastal zone management. Research and higher education institutions from both member states holding significant experience in marine research, coastal management and spatial planning are also involved in the project, ensuring the scientific basis for all proposed activities. The ten beneficiaries are Ministry of Regional Development and Public Administration – RO, as lead partner, Ministry of Regional Development and Public Works –BG, Ministry of Water and Forests – RO, National Institute for Marine Research and Development – “Grigore Antipa” – RO, Danube Delta National Institute for Research and Development in Environment Protection - RO, National Institute for Research and Development in Construction, Urban Planning and Sustainable Spatial Development – RO, Ovidius University of Constanta – RO, Institute of Oceanology at the Bulgarian Academy of



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Sciences – BG, Executive Agency Maritime Administration –BG, Bulgarian Ports Infrastructures Company – BG.

The main goal of the conference is to bring together leading academic scientists, researchers and stakeholders to exchange and share their experiences and research results about all aspects of maritime spatial planning, worldwide but with emphasis on the Black Sea area.

The conference is organized at a time of celebration for Ovidius University of Constanța, as 2017 is the Ovidius Year, at the bimillennial anniversary of Publius Ovidius Naso, the famous Roman poet exiled in the ancient Tomis, Constanța of today.



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Maritime Spatial Planning in the Black Sea

Conference Chairs

Diana ȚENEĂ
General manager, MRDPA

Mihai GÎRȚU
Vice-Rector, UOC

Diane VANCEA
Vice-Rector, UOC

International Organizing Committee

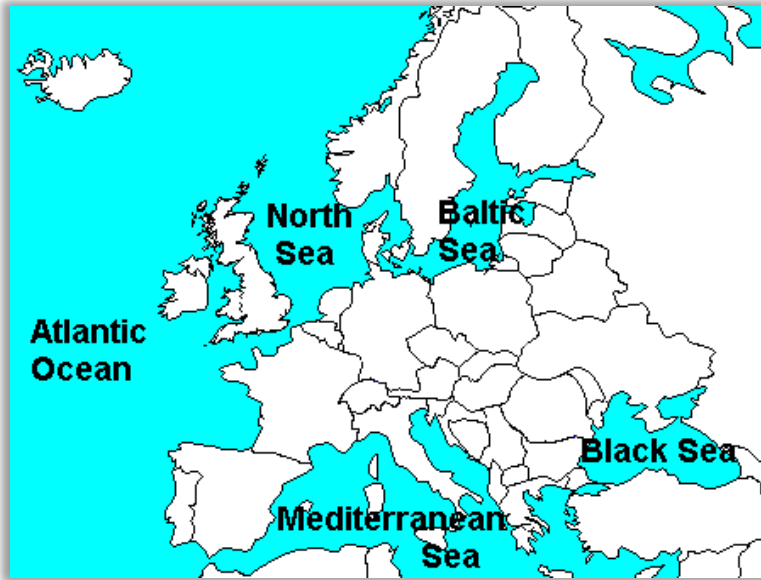
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- Maria GEORGIEVA, MRDPW, BG
- Gheorghe CONSTANTIN, MWF, RO
- Laura ALEXANDROV, NIMRD, RO
- Iulian NICHERSU, DDNIRD, RO
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MARSPLAN-BS





International Conference Maritime Spatial Planning in the Black Sea

Constanța, Romania, May 03-04, 2017

*Ovidius University of Constanța, North Campus, Al. Universității nr. 1,
Building A, Senate Hall*

Wednesday, May 3, 2017 – Morning sessions		
8:30 – 9:00	Registration	
9:00 – 9:30	Opening Ceremony	
	<ol style="list-style-type: none"> 1. Sorin RUGINĂ, Rector of OUC, RO 2. Diana ȚENEA, Project Manager, MRDPAEF, RO 3. Decebal FĂGĂDĂU, Mayor, City of Constanța 4. Adrian NICOLAESCU, Prefect, Constanța County 5. Maria GEORGIEVA, MRDPW, BG 6. Otilia MIHAIL, MWF, RO 7. Tania ZAHARIA, Scientific Director NIMRD, RO 	
9:30 – 11:00	Session 1 - European status and trends in MSP Chairpersons: <i>Mihai GÎRȚU, Laura ALEXANDROV</i>	
9:30-9:55	Irina MAKARENKO, <u>Mamuka GVILAVA</u>	Directive establishing a framework for maritime spatial planning and integrated coastal management – prospect for synergy around Black Sea
9:55-10:20	Susanne ALTVATER	Overview of current status and content of MSP in Europe
10:20-10:40	Maria GEORGIEVA	MSP legislation in Bulgaria and the institutional capacity



10:40-11:00	Gheorghe CONSTANTIN, Otilia MIHAIL, Mihail COSTACHE, Daniela CATANA	Some aspects related to the legislative framework for the protection of the marine environment linked to MSP
11:00-11:30	<i>Coffee break</i>	
11:30-13:00	Session 2 - MSP legislation and institutional capacity development Chairpersons: <i>Tania ZAHARIA, Erdal ÖZHAN</i>	
11:30-11:45	Romeo BOȘNEAGU	EU's Eastern Maritime Facade. Present and future
11:45-12:10	Aneta KOVACHEVA	The Assistance Mechanism for implementation of the Maritime Spatial Planning in the European Union
12:10-12:25	<u>Dragoș-Florian VINTILĂ</u> , Cosmin FILIP, Mari-Isabella STAN, Diana-Doina ȚENEA, Anca Ileana GINAVAR	The legal regulation on Maritime Spatial Planning for Coastal Zone of Romania
12:25-12:40	Diane VANCEA, <u>Ramona Nicoleta DINU</u>	The "Tangible" Corruption in Tourism and Maritime Spatial Planning
12:40-12:55	<u>Laura ALEXANDROV</u> , Bogdan GHINEA, Margarita STANCHEVA	Maritime Spatial Planning Implementation in Romania - Bulgaria. MARSPLAN Project
13:00-14:00	<i>Lunch break</i>	

Wednesday, May 3, 2017 – Afternoon sessions		
14:00 –15:30	Session 3 – Maritime Spatial Planning - Round Table with coastal and marine stakeholders Moderator: <i>Diane VANCEA</i> Panelists: <i>Alexandru SOARE, Maria GEORGIEVA, Ion Dănuț JUGĂNARU</i>	
15:30 –16:00	<i>Coffee break</i>	
16:00 –18:00	Session 4 - Cross-border cooperation in MSP Chairpersons: <i>Margarita STANCHEVA, Marius SKOLKA</i>	
16:00-16:25	Susanne ALTVATER	Institutional capacity development for a better cross-border cooperation in MSP



16:25-16:50	Erdal ÖZHAN	Integrated Maritime Policy. Marine Spatial Planning in Turkey: How close are they?
16:50-17:05	<u>Antonio TACHE</u> , Constantin CHIFELEA, Cristina IVANA, Daniel VÂLCEANU	Black Sea Maritime Spatial Planning
17:05-17:20	<u>Magda Ioana NENCIU</u> , Tania ZAHARIA, Victor NIȚĂ, Dragoș MICU, Adrian FILIMON, Mariana GOLUMBEANU	Romanian Marine Protected Areas (MPAs) in the context of Maritime Spatial Planning (MSP)
17:20-17:35	<u>Marius SKOLKA</u> , Lucica TOFAN, Marius FĂGĂRAȘ	Mangalia – Shabla Area. Threats, pressures and activities with impacts on the Natura 2000 protected areas – factors to be considered for a sustainable maritime spatial planning
17:35-17:50	Gheorghe RADU, Maria YANKOVA, <u>Laura ALEXANDROV</u> , Aurelia TOTOIU, Alexandru NICOLAEV	Black Sea Marine Fisheries. Romanian and Bulgarian Study Case

Wednesday, May 3, 2017 – Evening sessions

18:00 –18:30	Session 5 – Posters Evaluator: <i>Dragoș-Florian VINTILĂ</i>	
	Alina-Daiana SPINU, Razvan MATEESCU, Danut DIACONEASA, Silica PETRISOAIA, Emanuela MIHAILOV	Shoreline changes on Romanian coast in the context of maritime spatial planning process
	<u>Marius SKOLKA</u> , Lucica TOFAN, Marius FAGARAS	Mangalia – Shabla Area. Environment Protection
	Maria - Emanuela MIHAILOV, Gabriel GANEA	Peculiarities of the geostrophic and inertial currents on western continental Black Sea shelf
	Valentina COATU, Luminita LAZĂR, Andra OROS, Nicoleta DAMIR	Chemical status of the marine environment in Eforie area



Oana MARIN	Mass development of some opportunistic macroalgae species during summer season along the Romanian black sea coast
Valeria ABAZA, Adrian FILIMON, Camelia DUMITRACHE	Present status and trends of main molluscs as natural living resources of the Romanian Black Sea
Cornel URSACHE, Tania ZAHARIA, Laura BOICENCO, Florin TIMOFTE, Luminița LAZĂR, Camelia DUMITRACHE, Angelica – Ionela PAIU, Mihaela Elena MIREA CÂNDEA, Romulus-Marian PAIU	Possibilities for the improvement of marine water quality on tourist areas
<u>Daniela Mariana ROȘIORU</u> , Luminița LAZĂR, Andra OROS, Valentina COATU, Elena STOICA	Shellfish waters directive 2006/113EC in Romanian Black Sea coast
19:00 –21:00	<i>Conference Dinner – Harlequin Restaurant, Mamaia</i>



Thursday, May 4, 2017 – Morning sessions		
9:00 – 11:00	Session 6 - MSP towards sustainable Blue Growth Chairpersons: <i>Pierpaolo CAMPOSTRINI, Constantin CHIFELEA</i>	
9:00-9:25	Pierpaolo CAMPOSTRINI	Managing the space in a small and busy sea: the Adriatic case
9:25-9:50	Valentin ENCHEV	Elaboration of detailed study on the establishment of a new ship routing system in territorial sea of the Republic of Bulgaria
9:50-10:05	<u>Tania ZAHARIA</u> , Victor NIȚĂ, Alina SPINU	Necessity for integrating Romanian Marine Aquaculture into Spatial Planning
10:05-10:20	<u>Hristo STANCHEV</u> , Margarita STANCHEVA, Atanas PALAZOV	Coastal and maritime Tourism in Bulgaria under the MSP: Synergies and Competitions
10:20-10:35	Norina POPOVICI, <u>Anca-Cristina STANCIU</u> , Aurelian NICOLA	Coastal Tourism, part of the Maritime Local Spatial Planning and its impact on the development of Constanta County
10:35-10:50	<u>Anca Cristina STANCIU</u> , Ramona Nicoleta DINU, Norina POPOVICI	Aspects regarding the relationship Tourism-MSP
11:00 -11:30	<i>Coffee break</i>	
11:30 –13:00	Session 7 - MSP in the Black Sea Chairpersons: <i>Mamuka GVILAVA, Simion NICOLAEV</i>	
11:30-11:55	<u>Maksym MOTYLOV</u> , Olexander NEPROKIN	UkrSCES experience in Maritime Spatial Planning
11:55-12:10	<u>Mariana GOLUMBEANU</u> , Alina Daiana SPÎNU, Magda Ioana NENCIU, Mihail COSTACHE	New methods for the improvement of the integrated coastal zone management (ICZM) indicators and Maritime Spatial Planning (MSP) in the Romanian coastal zone
12:10-12:25	Răzvan-Doru MATEESCU, <u>Dragos NICULESCU</u> , Elena VLĂSCEANU, Laura ALEXANDROV	Analysis of the coastal erosion risk on the Romanian littoral, its implication on the Marine Spatial Planning's implementation
12:25-12:40	<u>Elena STOICA</u> , Andra OROS, Laura BOICENCO,	Monitoring of Marine Litter at the Romanian Coast: an emerging descriptor



	Magda Ioana NENCIU, Eugen ANTON	for Black Sea Good Environmental Status (GES) assessment
12:40-12:55	<u>Laura BOICENCO</u> , Laura ALEXANDROV, Simion NICOLAEV, Valeria ABAZA, Alina SPINU, Luminita LAZAR, Andra OROS	MSFD implementation in Romania strengths, weaknesses and interconnection with MSP
13:00 -14:00	<i>Lunch break</i>	

Thursday, May 4, 2017 – Afternoon sessions		
14:00 –15:30	Session 8 – Good practices for science-based MSP Chairpersons: <i>Susanne ALTVATER, Iulian NICHERSU</i>	
14:00-14:25	Ertan DÜZGÜNEŞ	Coastal area management and problems in Turkey
14:25-14:40	<u>Iulian NICHERSU</u> , Iuliana NICHERSU, Eugenia MARIN, Florentina SELA	Maritime Spatial Planning – Sf. Gheorghe Case Study – good practices overview
14:40-14:55	Alina-Daiana SPÎNU, Răzvan MATEESCU, <u>Laura ALEXANDROV</u> , Victor NIȚĂ, Dragoş NICULESCU	Land – Sea interaction in Eforie Study Case
14:55-15:10	<u>Nataşa VĂIDIANU</u> , Mădălina RISTEA	Can Romania achieve its 2021 MSP target?
15:10-15:25	George SÎRBURU, <u>Magda Ioana NENCIU</u> , Tania ZAHARIA, Gheorghe RADU	Applying the Ecosystem Approach to the management of valuable commercial Black Sea fish species
15:30-16:30	Closing ceremony	
19:00 –21:00	<i>Dinner – Oxford Restaurant</i>	



Session 1 - European status and trends in MSP

DIRECTIVE ESTABLISHING A FRAMEWORK FOR MARITIME SPATIAL PLANNING AND INTEGRATED COASTAL MANAGEMENT – PROSPECT FOR SYNERGY AROUND BLACK SEA

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Abstract: Directive 2014/89/EU of the European Parliament and of the Council of 23 July 2014 establishing a framework for maritime spatial planning (MSP) provides the legally binding instrument for the implementation MSP in the seas surrounding the European continent, including the Black Sea. It should be recalled, that this directive has started its path to adoption with double title, including the integrated coastal management as well, but for various reasons the final adoption retained only some general reference to integrated coastal management, requiring the Member States to quote “aim to promote coherence between maritime spatial planning and the resulting plan or plans and other processes, such as integrated coastal management or equivalent formal or informal practices”.

It is worth highlighting in this regard, that what is more known as Integrated Coastal Zone Management (ICZM) in the Black Sea Region, has become legally binding for the EU Member States by the Council Decision 2010/631/EU of 13 September 2010 concerning the conclusion, on behalf of the European Union, of the Protocol on Integrated Coastal Zone Management in the Mediterranean to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean.

Although it might be debatable whether the ICZM Protocol for Mediterranean is directly applicable for Member States around the Black Sea, it should be emphasised that with considerable support of European policy research projects (such as FP7 PEGASO and IASON), the six countries through intergovernmental Commission for the Protection of the Black Sea Against Pollution (The Black Sea Commission) at its 32nd Meeting in Istanbul, Turkey, endorsed the Guideline for ICZM in the Black Sea Region, a non-binding document strongly modelled following the Med ICZM Protocol. This conference proceedings discusses the recommendations with regard to synergies which could be achieved in the implementation of MSP and ICZM around the Black Sea.



OVERVIEW OF CURRENT STATUS AND CONTENT OF MSP IN EUROPE

Susanne ALTVATER

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Abstract: The lecture will provide an overview of the current status and content of MSP in the EU Member States. It will share good practices from other sea basins and what they can offer to the MSP process in the Black Sea Region with a focus on cross-border cooperation and data exchange. Questions, which may be answered by the presentation are a) which approaches to install a real plan have been successful and b) which challenges the process has faced. Also whether there are already samples of trans-boundary plans available to show how such a plan could look like with proposals for selected areas and recommendations for designated issues. The working session will hereby present opportunities provided on the EU MSP Platform website and the additional services that the Platform offers. The website is funded by DG Mare and features extensive searchable databases on MSP practices, projects, and funding programmes, as well as training opportunities and a continuously updated events page.

MSP LEGISLATION IN BULGARIA AND THE INSTITUTIONAL CAPACITY

Maria GEORGIEVA

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Abstract: An in depth research and analysis was developed by performing an initial study of the legal and institutional environment context which provides for the transposition of Directive 2014/89/EC of the European Parliament and of the Council establishing a framework for spatial planning. There were studied the relevant legislation of EU and national legislation and adopted strategic documents relevant to the planning or to the activities in the maritime space. In analyzing the legal and institutional environment, was performed a study of the relevant definitions in the Bulgarian legislation related to the legal regulation of the maritime and spatial planning and applicable regimes. The analysis describes also the applicable legal regimes, as well as the existing regulation of the rights as regards the implementation of activities in the maritime spaces. It is analyzed the



ownership regime, in accordance with the existing rules and regulations of the rights related to the implementation of activities in our maritime areas relevant to the sovereign rights of the state. Eleven ministries and their relative bodies were identified and provided information for their institutional competences related to MSP.

A draft for Amending and Supplementing the Law on Maritime Spaces, Inland Waterways and Ports of the Republic of Bulgaria(LMSIWPRB) was prepared at expert level. With this draft amendments are envisaged in all related acts and regulations.

In the last part of the analysis is presented consideration in connection with amendments to the legislation in force from 11.04.2016, according to which the legislator should perform an assessment of the impact of the normative act, where so provided in it.

Acknowledgement: This work has been supported by the European Commission through the European Maritime and Fisheries Fund, grand No. EASME/EMFF/2014/1.2.1.5/2/SI2.707672 MSP LOT 1 /BLACK SEA/MARSPLAN-BS.

SOME ASPECTS RELATED TO THE LEGISLATIVE FRAMEWORK FOR THE PROTECTION OF THE MARINE ENVIRONMENT LINKED TO MSP

Gheorghe CONSTANTIN¹, dr. Otilia MIHAIL¹, Mihail COSTACHE¹, Daniela CATANA¹

¹Ministry of Water and Forest, Bucharest, Romania

Abstract: The presentation will focus on legislation which sets up the framework for the protection and preservation of the marine ecosystem, namely the Black Sea ecosystem.

Romania transposed and implemented the European legislation as Marine Strategy Framework Directive, Water Framework Directive, Nitrates Directive, Directive on the quality required of shellfish waters, Habitats and Birds Directives to achieve the good ecological status of the Black Sea ecosystem. It should be mentioned that Governmental Emergency Ordinance no. 202/2002 regarding coastal zone management approved with further modification and amendments through the Law no. 280/2003 plays an important role in this process.

It is necessary to underline the connection of water legislation with Maritime Spatial Planning. The planning of maritime activities will reduce the impact on marine environment and will facilitate the sustainable development of the Black Sea marine region.



Keywords: water legislation, Marine Strategy Framework Directive, Water Framework Directive, Nitrates Directive, Shellfish Directive, Governmental Emergency Ordinance no. 202/2002 regarding coastal zone management

Acknowledgement: This work has been supported by the European Commission through the European Maritime and Fisheries Fund, grand No. EASME/EMFF/2014/1.2.1.5/2/SI2.707672 MSP LOT 1 /BLACK SEA/MARSPLAN-BS.

Session 2 - MSP legislation and institutional capacity development

EU'S EASTERN MARITIME FACADE. PRESENT AND FUTURE

PhD Romeo BOSNEAGU

Mircea cel Batran Naval Academy, Constanța, Romania

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Abstract: the maritime facade is the contact zone between maritime and continental world. It is a static and a dynamic image too, of the land seen from the sea, once at a natural habitat, however strong anthropic in many places. It connects the sea, and its resources, with the hinterland resources. The maritime facade is an economic space, in particular, characterized by numerous ports, as economic and social strong, dynamic and active engines. The purpose of the paper is to analyze the main present geographic - economical features of the western coast of the Black Sea belonging to Romania and Bulgaria, considered the European Union eastern maritime facade - compared with the European Atlantic facade, and to find the main geographical, economical, political, and social advantages for a sustainable development of this area.



THE ASSISTANCE MECHANISM FOR IMPLEMENTATION OF THE MARITIME SPATIAL PLANNING IN THE EUROPEAN UNION

Aneta KOVACHEVA

Ecorys South East Europe, Sofia, Bulgaria,
Focal Point for Bulgaria within the Assistance Mechanism
for implementation of the Maritime Spatial Planning

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Abstract: An Assistance Mechanism for implementation of the Maritime Spatial Planning (MSP) was set up in 2016. Its objectives are conducting studies on subjects defined by the Commission in cooperation with Member States experts, with the intention of closing gaps in knowledge, and providing support to Member States with regard to the transposition of Directive 2014/89/EU (MSP Directive) and development of Maritime Spatial Plans. To that end, the Assistance Mechanism provides Member States with various services such as studies, a web platform, description of MSP related projects, practices and funding opportunities, a Question and Answer service, a frequently asked questions service, support for organising events and dissemination of information.

Keywords: Directive 2014/89/EU, Maritime Spatial Planning (MSP), MSP funding opportunities, MSP related projects, MSP related practices.

THE LEGAL REGULATION ON MARITIME SPATIAL PLANNING FOR COASTAL ZONE OF ROMANIA

**Dragoş-Florian VINTILĂ¹, Cosmin FILIP¹, Mari-Isabella STAN¹ and
Diana-Doina ȚENEĂ², Anca Ileana GINAVAR^{2*}**

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Abstract: The necessity to use Europe's maritime space for various purposes as well as the multiple pressures on coastal resources have led, on the initiative of some European



states, to elaboration of the legal act establishing a framework for maritime spatial planning - Directive 2014/89 / EU.

The Black Sea is among the most endangered ones in Europe due to continental pressures and contradictory coastal and maritime activities. Thus, Romania and Bulgaria are currently developing the Cross-Border Maritime Spatial Plan for the Black Sea project in order to make progress in supporting the implementation of the Directive and expanding the framework for cooperation with all states in the Black Sea basin.

In this paper, the authors discuss the nature and the context of maritime spatial planning in the Black Sea regarding scientific and prospective researches, exploitation of natural resources, special oil and gas, taking into account all the specific regulations for environment, civil works and cultural heritage.

Acknowledgement: This work has been supported by the European Commission through the European Maritime and Fisheries Fund, grand No. EASME/EMFF/2014/1.2.1.5/2/SI2.707672 MSP LOT 1 /BLACK SEA/MARSPLAN-BS.

THE “TANGIBLE” CORRUPTION IN TOURISM AND MARITIME SPATIAL PLANNING

Diane VANCEA, Ramona-Nicoleta DINU

Ovidius University of Constanta, Constanta, Constanta

Abstract: Coastal and marine tourism is affected by the development of human activities degrading the marine and terrestrial space. The conflicts between preserving the environment and developing touristic activities are hard to mediate. Under these conditions, MSP can negotiate these conflicts and can contribute substantially to achieving synergies between the economic activity in general, the development of tourism infrastructure especially and preserving the natural and anthropogenic ecosystem. MSP can provide solutions for a sustainable usage of the coastal and marine zone so that the economic activity will flourish and the environmental impact will be small at the same time.

Coastal and marine tourism is an important part of the tourism industry. It includes the existence of some facilities and infrastructure such as hotels, restaurants, clubs, bars, marinas, amusement parks etc. and other facilities for sea related activities. Under these conditions, it is extremely important that the development of this sector, which involves significant developments both on sea and on land, to be achieved in a rational and consistent manner so that to ensure a compatibility of activities with the environmentally and between them.



The chaotic, irrational development of tourism infrastructure, contrasting to the requirements of a sustainable development, sometimes changes the environment profoundly and permanently, triggering the failure of a future development of specific tourism activities in that particular space.

The corruption of the local or government administration is the main engine of a profoundly vicious development dynamics, which highly degrades, sometimes irreversibly, the marine and terrestrial space.

This paper focuses on analyzing and presenting how corruption has evolved and influenced the development of tourism infrastructure on the Romanian coast, focusing on Mamaia resort. A deliberately poor legislation or the lack of it allowed the appearance of constructions that degraded and made both marine and terrestrial landscape ugly.

Maybe a bit late, the appearance and obligation to implement the Directive 2014/89/EU on implementing maritime spatial planning, including the Black Sea Basin, can be a recovery and solving solution, in a conclusive manner, to the numerous conflicts arising between the human activity and the need to preserve the balance of the marine and terrestrial ecosystem. At the same time, we can hope for the creation of those synergies absolutely necessary between the various sectors.

Using the grounded theory approach, the paper investigates the stakeholders' views on corrupted development of tourism infrastructure in Mamaia resort and the potential role of maritime spatial planning to set the framework for a more controlled future development. In-depth interview techniques for collecting data were conducted with three categories of stakeholders: public sector/governmental officials, private sector/entrepreneurs, nongovernmental organizations/interests groups. The interview was semistructured in nature consisting mainly of open-ended questions. Line-by-line coding was chosen as the method to analyze the data. The findings were finally discussed in the light of the broader academic literature.

Acknowledgement: This work has been supported by the European Commission through the European Maritime and Fisheries Fund, grand No. EASME/EMFF/2014/1.2.1.5/2/SI2.707672 MSP LOT 1 /BLACK SEA/MARSPLAN-BS.

MARITIME SPATIAL PLANNING ROMANIA - BULGARIA MARSPLAN BS PROJECT

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Abstract: MARSPLAN BS project is under DG-MARE/EASME coordination and aims to support the implementation of the Maritime Spatial Planning Directive/89/2014 at the Black Sea level and to facilitate the cross-border maritime spatial planning. It focuses on the cross-border Maritime Spatial Planning of Romania and Bulgaria, the only EU Member States in the Black Seabasin, but intends to prepare the cooperation framework expanding to other Black Sea countries, with the support of the Black Sea Commission, identified as observer partner. In fact, there is a lack of official integrated planning in the maritime areas in Romania and Bulgaria, even the research in the field started ten years ago in both countries, under the PlanCoast Project/CADSES Interreg III, coordinated by the same leaders (s.Pro, Berlin, Germany) which is in present European MSP Platform administrators, under DG MARE frame. The main Marsplan BS objectives are:

- Supporting the implementation of the Directive on EU Maritime Spatial Planning (MSP);
- Creating an institutional framework for Romania-Bulgaria cross-border MSP;
- Developing the cooperation with all states in the Black Sea basin for regional MSP;
- Consolidating the cross-border cooperation and information exchange between Romania and Bulgaria on issues related to maritime area, starting to create a MSP data base;
- Setting out the vision and strategic goals for Black Sea area, relevant for maritime spatial planning, while also taking into consideration the land-sea interface;
- Elaborate the maritime spatial plan for the cross-border area;
- Contributing to a wider dissemination of all the information gathered on MSP, Black Sea area and best practices to all stakeholders in the Black Sea basin.

The project partnership includes important public authorities in Romania and Bulgaria with attributions related to the implementation of the MSP Directive and it is developed in parallel with MSP authorities nomination, MSP legislation, methodology and indicators elaboration, including all activities identified on the marine space. Also, research institutions from both Member States with significant experience in marine research, coastal management and spatial planning are involved in the project activities. The paper present the main results obtained till present under this project umbrella.



Session 4 - Cross-border cooperation in MSP

INSTITUTIONAL CAPACITY DEVELOPMENT FOR A BETTER CROSS-BORDER COOPERATION IN MSP

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Abstract: The EU MSP Directive stipulates that Member States should ensure trans-boundary cooperation between Member States (Art. 11) as well as promote cooperation with third countries (Art. 12).

A distinction has to be made between a) the cross-border consultation process for a concrete Maritime Spatial Plan and b) the more general, continuous process of cooperation among Member States and their stakeholders within a given sea-basin.

The presentation provides some insights related to this complex topic of MSP at national and transnational scale and shows how recommendations from projects like PartiSEApate have been overtaken in practice. MSP authorities have different backgrounds and need interaction while facing various challenges. Therefore the presentation refers to knowledge and skills necessary for the MSP processes as well as to available sources for legal and institutional needs. Baltic projects on MSP show the range of approaches and how one has built upon the other. The MSP Platform provides various searchable knowledge sources, which are shortly presented as well.

INTEGRATED MARITIME POLICY AND MARINE SPATIAL PLANNING IN TURKEY: HOW CLOSE ARE THEY?

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Abstract: The paper aims to present the status of the maritime economic sectors in Turkey and examines the prospects of development and implementation of integrated



maritime policy (IMP). The paper also addresses the use of marine spatial planning (MSP) in Turkey and proposes some pilot projects.

Turkey is a country that has lengthy shorelines along three seas (Mediterranean, Aegean and Black seas) and possesses an inland sea (Marmara Sea). The total length of the Turkish shoreline including the islands is 8 333 km, of which 1 701 kilometres (20.4 %) belong to the Black Sea.

Economic maritime sectors are well developed in Turkey except marine energy (oil and gas, renewable energy). All of these sectors, except fisheries, however are currently less important in the Black Sea compared to the level of activities in other three seas. Marine economic sectors are administered by different ministries. Ministry of Transportation, Maritime Affairs and Communication (MTMAC) is the leading maritime authority covering marine transportation and ports, maritime safety and ship building. In 2013, MTMAC led the formation of the Maritime Coordination Commission that brings together 10 Ministries, public agencies, the Turkish naval forces, the Coast Guard and several Chambers of Shipping. This could be an important step towards development of IMP for the country.

BLACK SEA MARITIME SPATIAL PLANNING

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Abstract: The increasing pressure on marine natural and biological resources of the Black Sea and the greater use of the sea for human activities demand the development and implementation of a MSP in the Black Sea. To achieve with success the maritime spatial plan, a number of necessary steps are:

1. Identifying need and establishing authority.
2. Organizing stakeholder participation.
3. Analyzing existing and future conditions.
4. Preparing and approving the plan.
5. Implementing, monitoring and adapting the plan to the new situations.

MSP is applied to the **territorial waters** of Romania and Bulgaria, it include also the shore area.



MSP is a new approach which addresses the marine environment; it is essential that the plan must have clear objectives and the stakeholders' engagement. The plan focus on marine natural zones (**habitats**) and human sea uses, taking in consideration the land-sea interactions in the neighboring shoreline areas. The implementation of MSP can contribute to the environment improvement and preservation, economic progress and cooperation in the cross-border area.

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ROMANIAN MARINE PROTECTED AREAS (MPAs) IN THE CONTEXT OF MARITIME SPATIAL PLANNING (MSP)

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Abstract: At European level, the Natura 2000 European ecological network aims to ensure the long-term survival of Europe's most valuable and threatened species and habitats, listed under both the Birds Directive and the Habitats Directive. As a Member State, Romania has implemented these two Directives (79/409/EEC and 92/43/EEC) through national legislation (Emergency Ordinance no. 57/2007, Minister's of Environment and Forests Order no. 2387/2011, amending Minister's of Environment and Sustainable Development no. 1964/2007 and, recently, Minister's of Environment, Waters and Forests no. 46/2016). Pursuant to the most recent legislative document, there are 9 Sites of Community Interest (SCIs) along the Romanian Black Sea coast, as follows: ROSCI0311 Viteaz Canyon (newly established), ROSCI0413 Southern Lobe of Zernov's *Phyllophora* Field al lui Zernov (newly established), ROSCI0281 Cape Aurora, ROSCI0066 Danube Delta - marine zone, ROSCI0094 Mangalia Sulphide Seeps, ROSCI0197 Eforie North - Eforie South Submerged Beach, ROSCI0269 Vama Veche - 2 Mai, ROSCI0273 Marine Area of Cape Tuzla and ROSCI0293 Costinești - 23 August.

Thus, the protected sites practically cover the entire Romanian coastline, being interrupted only by the two major ports (Constanta and Mangalia). Consequently, there is increased likelihood of conflicts arising between maritime uses (nature conservation vs.



fisheries and aquaculture, shellfish waters, offshore exploration and exploitation, tourism etc.). The Romanian MPA network is one of many “interests” which need to be integrated into any future system of Maritime Spatial Planning (MSP) applied in Romanian waters and, in a cross-border context, in Bulgarian waters as well. MSP might be able to resolve some of the issues of concern between these sectors and develop some of the opportunities.

Keywords: MPAs, MSP, management, conflicts, integration

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MANGALIA – SHABLA AREA. THREATS, PRESSURES AND ACTIVITIES WITH IMPACTS ON THE NATURA 2000 PROTECTED AREAS – FACTORS TO BE CONSIDERED FOR A SUSTAINABLE MARITIME SPATIAL PLANNING

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Abstract: Any socio-economic development of coastal areas currently cannot be conceived without taking into account environmental issues. European legislation currently requires environmental impact assessment for any activity in the vicinity or within protected areas of community interest and protected species also benefit from a special status. A chaotic development that ignores environmental protection requirements is not currently possible, and an initiative such as maritime spatial planning cannot overcome these issues.

In the maritime zone between Romanian and Bulgarian coastline there are 9 Natura 2000 protected areas, covering a large area of sea in both states. For these particular protected areas, a number of 53 risk factors for Natura 2000 network were identified for Romanian sector and 68 for Bulgarian one, most of them being from urbanization, residential and commercial development (22), human intrusions and disturbances (18) and agriculture (9) categories.



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BLACK SEA MARINE FISHERIES. ROMANIAN AND BULGARIAN STUDY CASE

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Abstract: The paper is a bibliographic research, presenting an overview on the state of Bulgarian and Romanian marine fisheries. There are similarities but also major differences between the fisheries of the two countries, evidenced by: target species; fishing fleet capacity; fishing gear used; total catches; national strategy, policy, planning, priorities; national legislation and management measures.

The paper also reveals that most fish resources are shared of the riparian countries and that the marine fishery was the most affected sector by the dramatic changes produced in the Black Sea ecosystem. The fisheries themselves contributed to the worsening of ecological status and fish stocks diminishing, through: free access to the resources and management system individually applied by each Black Sea country; over-fishing and illegal fishing; utilization of the destructive fishing tools and techniques.

These large differences in the economic and technical structure among the countries exploiting the common fishery resources of the Black Sea make the regional cooperation a more demanding exercise for their sustainable use.

Keywords: marine fisheries, catches, fishing fleet, fishing gear, national legislation, management measures

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Session 5 – Posters

SHORELINE CHANGES ON ROMANIAN COAST IN THE CONTEXT OF MARITIME SPATIAL PLANNING PROCESS

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Abstract: In the last four decades, increasing of environmental and other risks due to climate change and sea level rise have been registered, leading to negative evolution of shoreline.

Black Sea relative sea-level is rising by an estimated rate of 1- 2 mm/year and many coastal areas are becoming susceptible to erosion. In addition to sea level rise, storm surge and waves are carried to higher levels on rising mean sea level are also factors of the beach erosion.

The surveillance of the shoreline evolution based on GPS and remote sensing modern techniques (UAV aerial photos, LIDAR), shows the need of the shoreline management, coastal protection and rehabilitation, especially for the vulnerable coastal areas.

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MANGALIA – SHABLA AREA. ENVIRONMENT PROTECTION

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Abstract: The coastal area between Mangalia and Shabla is characterized by the presence of a total of nine Natura 2000 protected areas which are home to a rich flora and fauna.



Impact of human activities in the area is moderate in Romanian side of the border and low in Bulgarian one. For this reason, habitats and protected species of Community interest are characterized by a good state of preservation. In this area they are found some of the biggest crowds of waders during migration periods outside the Danube Delta. The complex of coastal lakes are very important step points on the migration routes for an important number of protected species, the most notorious one being the red breasted goose *Branta ruficollis*. The marine habitats on the rocky bottoms on Romanian side of the border and sand bottoms ones from Durankulak – Shabla area are also in a very good shape. Taking into account the EU environment legislation, any social or economic initiative for this area must consider the status of the protected Natura 2000 species and habitats, for a sustainable maritime spatial planning development.

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PECULIARITIES OF THE GEOSTROPHIC AND INERTIAL CURRENTS ON WESTERN CONTINENTAL BLACK SEA SHELF

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Abstract: The western Black Sea shelf has the largest width of the continental platform of entire Black Sea basin, except for the north-western corner. The Black Sea dynamics is driven by two synergic mechanisms: the considerable river input in the north-western corner, deflected southward by the Coriolis force and the surface wind stress that has an average anticlockwise curl. Their combined action controls the global mass transport in the upper (active) layer. In this paper, in-situ measurements of the currents data and diagnostic calculations for the inertial currents are analysed and discussed. The water masses circulation along the Romanian shore is north to south, the current speeds ranging from 50 cm/s at the surface to 5 cm/s in the bottom layer, depending on winds and the location of oceanographic station. Different mesoscale features are present in the surface current patterns. The purpose of the present work is to furnish relevant arguments using the Progressive Vector Diagram as well as the Discrete Fourier Transform on the sea currents data and to report the results on inertial motion in the western Black Sea shelf. The selected time series were recorded in the middle of the Romanian shelf, at 44°10'N,



29°22'E (52m of water depth), with the one or two instruments suspended from a ship anchored for several days, only one series at the southern end of the Mamaia bight at 44°12'N - 28°20'E (12m water depth). The depth-averaged current amplitudes varied by time from 7.6 to 21.3cm/s. Calculated inertial currents periods in the north-western Black Sea range between 16.5 to 17.5 hours.

Keywords: Black Sea, inertial currents, currents, Progressive Vector Diagram, Discrete Fourier Transform

CHEMICAL STATUS OF THE MARINE ENVIRONMENT IN EFORIE AREA

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Abstract: The paper aims to study the chemical status of Black Sea waters and sediments from Eforie area during 2009-2014. According to the good ecological status (GES) targets for eutrophication, Eforie area is at risk to not achieve it for inorganic phosphorus and nitrogen. TPHs concentrations exceeded the maximum admissible value in 23% water and 28% sediment samples. PAHs concentrations indicates a low level of pollution in water and a higher one in sediments. The highest concentrations for organochlorine compounds in water were measured for PCB 52, HCB and lindane, which often exceed the threshold. Exceedances of the GES thresholds were observed also in sediments for some of these compounds. Environmental quality standards for trace metals in seawater and sediments were surpassed only in a small percentage of samples, depending of the element (2-8% seawater; 7-23% sediments). Temporal trends evinced decreased levels in recent years.

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MASS DEVELOPMENT OF SOME OPPORTUNISTIC MACROALGAE SPECIES DURING SUMMER SEASON ALONG THE ROMANIAN BLACK SEA COAST

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Abstract: The ecological role of the phytobenthic communities is especially important, representing a feeding and breeding area for the zoobenthic communities, especially for fish, whose existence is conditioned by the presence of the algal associations. The mass developing of the opportunistic species along the Romanian Black Sea coast is a common phenomenon during the summer season as a consequence of environmental conditions (high water temperature, high amount of nutrients due to increased influx of tourists). The phenomenon is temporary and decreases in intensity with the passage of the warm season. This paper presents the information from the period 2011-2014, based on samples collected along the entire coastal zone from Pescarie to Vama Veche. During the first study period (2011-2012) the highest biomass (over 1,000 g/m²) was developed by *Cladophora* genus, and during 2013-2014, the situation change, *Ulva* genus being the dominant one. Among the red algae, *Ceramium virgatum* dominated the rocky substrate. After these mass development episodes, some deposits can be generated along the shore, creating discomfort to the tourists during summer season. However, these deposits represent a raw material, applicable in various domains.

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PRESENT STATUS AND TRENDS OF MAIN MOLLUSCS AS NATURAL LIVING RESOURCES OF THE ROMANIAN BLACK SEA

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Abstract: The paper aims to identify the present status, distribution and trends of the main mollusc species on the Romanian Black Sea shelf, based on the monitoring data collected in the period 2009-2016. Among them, the molluscs of economic importance are very few: mussels (*Mytilus galloprovincialis*), and rapa whelk (*Rapana venosa*). There is a direct relationship between *Rapana venosa* landings and *Mytilus galloprovincialis* abundance and biomass; while *Rapana*'s landings increased 9 times since 2011, *Mytilus* abundance and biomass decreased 6 times. There are still others that are potentially important, such as *Chamelea gallina* despite their rather small size. Even *Mya arenaria* might be considered as potentially food source for the future. Besides their potential economic role, the molluscs are important especially for their contribution to the sediment structure (biogenic sands) and bio-filter role.

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POSSIBILITIES FOR THE IMPROVEMENT OF MARINE WATER QUALITY ON TOURIST AREAS

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Abstract: Black Sea, as any other basin, has its ecological problems related to human activities, and because it is almost isolated from World Ocean, the problems are more intense. Massive pre-fertilization of Black Sea, disposal of insufficient purified wastewaters, degradation of bottom algal communities, oxygen deficiency in near – bottom water layers, overfishing and bottom trawling are just a few of these important problems. These negative aspects emphasize the need to begin concrete actions to improve the marine environment. The purpose of construction and placement of 8 artificial reefs in Black Sea Romanian coastal waters is to enhance the fish resources, to improve the hydro biological conditions of marine water, to increase production and biomass in the aquatic ecosystems and to increase self-purifying intensity.



The study of artificial reefs is done in the frame of the project “Research and Restoration of the Essential Filters of the Sea (REEFS)”. REEFS project a joint cross-border initiative of five partners from the riparian countries – Bulgaria (Bulgarian Biodiversity Foundation), Ukraine (Odessa Branch of the Institute for Biology of the Southern Seas), Romania (Mare Nostrum NGO), Georgia (Ilia State University) and Turkey (Karadeniz Technical University), within Joint Operational Programme “Black Sea Basin 2007 – 2013”, under the European Neighbourhood and Partnership Instrument.

Key words: Black Sea, artificial reefs, polypropilene, REEFS

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SHELLFISH WATERS DIRECTIVE 2006/113EC IN ROMANIAN BLACK SEA COAST

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Abstract: Within the requirements of the EU legislation implementing in Romania is the EU “Shellfish Waters” Directive No.79/923 EEC. The initial Directive is repealed and now is adopted and applied Directive 2006/113/EC with its amendments.

Based on the studies carried out by NIMRD, the Ministry of the Environment issued the Order No. 1950/2007 completed by the Ministry of Agriculture, Forestry and Rural Development Order No. 38/2008 that delimited and inventoried marine areas suitable for the growth and exploitation of mollusks.

National Institute for Marine Research and Development “Grigore Antipa” (NIMRD) Constanta, Romania has implemented a system of monitoring of littoral waters, sediments and mollusks according to the requirements of the EU Directive 2006/113/EC and of national requirements and a set of mitigation measures towards the reduction of pollution and water quality required by the EU legislation.

Based on the data provided by NIMRD during 2006-2014, Romania has reported to the European Commission (EC) and European Environment Agency (EEA) the conformity to the Directive 2006/113/EC.



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A synthesis of “Shellfish Waters” Directive 2006/113/EC implementation in Romania, adapted to the specific Black Sea conditions and related national legislation during 2006-2014 period is presented in paper.

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Session 6 - MSP towards sustainable Blue Growth

MANAGING THE SPACE IN A SMALL AND BUSY SEA: THE ADRIATIC CASE

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Abstract: Maritime Spatial Planning (MSP) is a practical way to create and establish a more rational organisation of the use of marine space and the interactions between its uses, to balance demands for development with the need to protect marine ecosystems, and to achieve social and economic objectives in an open and planned way (Ehler and Douvère, 2009). The so-called “Blue Economy” in the Adriatic and Ionian Region (AIR) generates an annual turnover that exceeds €21 billion, with an increasing growth trend. An effective spatial planning is an essential condition in order to guarantee a long-lasting development ensuring a sustainable use of marine resources for future generations. This is particularly true in areas such as the Adriatic-Ionian Region, where several uses are competing for the same space and the same resources and where the transboundary dimension needs to be taken into account for the best regulation of those uses. MSP is also an opportunity to connect the marine and the maritime world, essential components of Blue Growth.

The ADRIPLAN Project was focused on the main following fields developed on marine space: Coastal Defence and sand extraction Energy Environment and ecosystem Fisheries and Aquaculture Maritime Transport and Tourism Miscellanea.

Added to these it applied at the sub-regional level an overall MSP methodology entering in more details of the site-specific environmental, socio-economic, regulatory and governance conditions; allowing to propose for those areas more focused, precise, short-term and locally applicable measures or recommendations, including analysis, drafted pilot actions, as following: 1) identification a variety of conflicts and synergies that should be addressed by specific, multi-level and cross-sectoral planning measures, 2) spatially define the localization of the electricity connection between through a submarine cable (Italy and Slovenia), 3) compensatory actions for the fishery sector to be applied following the possible development (in Venice offshore terminal); promotion the infrastructural development of the Trieste port.



ADRIPLAN Conclusions and Recommendations are included in a short manual for MSP implementation in the Adriatic-Ionian Region (PDF Download Available). Available from: https://www.researchgate.net/publication/293581538_ADRIPLAN_Conclusions_and_Recommendations_A_short_manual_for_MSP_implementation_in_the_Adriatic-Ionian_Region [accessed Apr 27, 2017].

ELABORATION OF DETAILED STUDY ON THE ESTABLISHMENT OF A NEW SHIP ROUTING SYSTEM IN TERRITORIAL SEA OF THE REPUBLIC OF BULGARIA

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Abstract: The current manuscript aims to present the main content and results of the analysis of the system for vessel traffic in the territorial sea of the Republic of Bulgaria, consisting of 485 pages.

The content of the study consists of the following pillars: 1) Physico-geographic characteristics of the Bulgarian Black Sea coast; 2) Intensity of the vessel and aircraft traffic; 3) Characteristics of the existing system of zones in the marine waters of the Republic of Bulgaria; 4) Legal Framework; 5) Criteria for the analysis of the existing system for vessel traffic in territorial sea and internal waters of the Republic of Bulgaria; 6) Analysis of the existing system for vessel traffic in territorial waters and internal waters of the Republic of Bulgaria, incl. history of accidents; 7) Concept for amendment of the system for separation of the vessel traffic, incl. methodology for creating a new traffic system and analysis of the proposal; 8) Guidelines for technical equipment and adapting the national regulations for introduction of the new system in operation.

As a result of the study the research team proposed a new ship routing system in the territorial sea of the Republic of Bulgaria to be established. The main reasons for the proposal are:

1. The new vessel traffic system significantly contributes to enhancing the safety of navigation especially because of separation of the cabotage shipping routes from the classic maritime transport;



2. Ecological orientation of the proposal - moving the system eastward (off the coast) provides the coastal state with more time in combating the consequences of an pollution;
3. To improve maritime security by increasing the reaction time in case of detecting threats.

Key words: analysis, routing system, Territorial sea, new traffic separation scheme

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NECESSITY FOR INTEGRATING ROMANIAN MARINE AQUACULTURE INTO SPATIAL PLANNING

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Abstract: Aquaculture, in general, and brackish and marine aquaculture in the Black Sea, in particular, is a sector facing difficulties in reaching an appropriate production level. The constraints limiting aquaculture in the region are mainly related to environmental factors. The implementation of EU legislation on the classification of shellfish growth and harvesting zones in Black Sea riparian Member States is not fully completed, which hinders/blocks the activity of shellfish farms, as well as their possibility for export in the EU. With reference to mollusks, we underline the need to establish accredited laboratories for quality control (National Reference Laboratories for mollusk diseases) in the coastal area, as well as a dedicated Biotoxin Monitoring Programme. Other limiting factors refer to land use and conflicts between users. The need of marine farmers to use on-shore land (for landing points) is not always understood by local authorities and even responsible bodies in the field. Another constraint is the lack of qualified staff for exploiting infrastructures requiring high expertise (such as recirculating systems).

In this context, the present paper tries to underline the importance of integrating aquaculture into Maritime Spatial Planning (MSP) and within the frame of Integrated Coastal Zone Management (ICZM) in Romania, presenting step-by-step the requirements of integration into MSP and ICZM.

Keywords: Marine aquaculture, Maritime Spatial Planning



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COASTAL AND MARITIME TOURISM IN BULGARIA UNDER THE MSP: SYNERGIES AND COMPETITIONS

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Abstract: Coastal and maritime tourism represents over one third of EU's maritime economy and it is one of the leading sectors for sustainable growth of Europe's blue economy. Coastal and maritime tourism also plays a key role in the Bulgarian local economy. However, it is confronted today with new realities and challenges: it heavily depends on the quality of the environment as well as on synergies with different uses, both terrestrial and maritime. Marine Spatial Planning (MSP) has been therefore considered as an important leverage for the growth and sustainability of this sector.

Within the framework for MSP of EU Directive (2014/89) the present paper examines the patterns of various coastal and maritime tourist activities in Bulgaria, their interactions and conflicts with other human uses, as well as with environment and natural ecosystems to be taken into account in the MSP process.

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COASTAL TOURISM, PART OF THE MARITIME LOCAL SPATIAL PLANNING, AND ITS IMPACT ON THE DEVELOPMENT OF CONSTANTA COUNTY

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Abstract: Competition for maritime space highlighted the need for its effective management in order to avoid potential conflicts and trigger synergies between different activities.

Comprehensive approach to spatial development requires that all stakeholders influence the spatial development of a specific territory - natural factors, investment activities, social behaviors, as well as public policies in various fields.

In this paper we propose to analyze the impact of seaside tourism on the turnover and investments in Constanta county, analyzing evolutions of these indicators and possibility of a link between their performances.

A link between these indicators is a starting point in achieving a cohesive public policy in different areas regarding the optimal allocation of resources in order to avoid impacts that oppose to the territorial desired spatial evolution.

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ASPECTS REGARDING THE RELATIONSHIP TOURISM-MSP

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Abstract: The present paper aims to highlight the main aspects regarding the topic of land-sea interactions from the sustainable tourism point of view. Like many other activities taking place in the marine environment , tourism also have an onshore implication and is highly related to the economic impacts of MSPs for the economic development of the region .The correspondence between marine and terrestrial planning is crucial and should be achieved through plans and appropriate policies. In this respect the paper presents the concept and advantages of tourism carrying capacity (TCC) to be included in the planning for maritime areas and a summary guidelines in order to apply the method.



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Session 7 - MSP in the Black Sea

UKRSCES EXPERIENCE IN MARITIME SPATIAL PLANNING

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Abstract: UkrSCES was founded in January in 1992 on the basis of the Odessa Branch State Oceanographic Institute. It is the main institution of the Ministry of Environmental Protection of Ukraine in the field of marine ecological researches. UkrSCES – is a unique institution of all state ecological systems of monitoring within the Black and Azov Seas, which provides a whole complex of tasks of the ecological monitoring.

One of the first experience using the MSP on the National level was preparing proposition to establish MPA in Ukrainian North-Western part of the Black Sea - Zernov's Phyllophora Field. Our institution was appointed as the managing authority of the Zernov's Phyllophora Field.

On the International level the most noticeable results was achieved during 3 projects:

First one - PlanCoast was the Project with the aim to develop the tools and capacities for an effective integrated planning in coastal zones and maritime areas in the Baltic, Adriatic and Black Sea regions. Within the PlanCoast our institution prepared Maritime spatial plan of the Pilot Area – Odessa Agglomeration.

The second is the Pilot Project on Marine Protected Areas (MPA) in Ukraine was carried out in 2008-2010 within the Project on Environmental Collaboration for the Black Sea (ECBSea). After completion of the Project and as the result in the 2012 was established the Botanical Reserve Small Phyllophora Field.

Within the **third Project** - CoCoNet our institute and colleagues from CNR-ISMAR (Bologna, Italy) were responsible for development and creation of the Project's geodatabase and Web-GIS creation.

Ukraine made a commitment to implement European directives till 2020 According to this our organization - Ukrainian Scientific Center of Ecology of the Sea as the main institution of the Ministry of Environment and Natural Resources of Ukraine have the task to provide implementation of international obligations of Ukraine - MSFD in particular.



NEW METHODS FOR THE IMPROVEMENT OF THE INTEGRATED COASTAL ZONE MANAGEMENT (ICZM) INDICATORS AND MARITIME SPATIAL PLANNING (MSP) IN THE ROMANIAN COASTAL ZONE

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Abstract: The paper goal is to identify new methods for the elaboration of a set of indicators specific for the coastal zone, as sustainable tools for a comprehensive assessment of the Integrated Coastal Zone Management (ICZM) and Maritime Spatial Planning (MSP) in the Romanian coastal area. By considering these factors and using GIS (a mix of hardware and software digital geographical data acquisition system), an integrated evaluation of the Romanian coastal zone is targeted.

The study outline the method and the set of indicators specific for the coastal zone aiming to facilitate the compliance with national and EU legislation requirements concerning ICZM and MSP policies. It will also contribute to:

- Elaborating methods and identifying the data for the selection of the most appropriate coastal zone indicators;
- Drawing-up GIS maps and graphic representations of socio-economic indicators in the coastal zone;
- Defining a set of national indicators aiming at assessing the sustainability of the coastal zone;
- Acquiring new data in order to enhance the knowledge required for developing spatial policies in the Romanian coastal zone.

The study applies visualization to coastal issues in order to derive the coastal sustainability indicators for a pilot project along Constanta County. Recommendations on the further application and use of indicators are made, and certain considerations in building the interface between ICZM progress reporting and mapping of coastal sustainability indicators are suggested.

Keywords: Integrated Coastal Zone Management (ICZM), Maritime Spatial Planning (MSP), indicators, GIS, spatial policies.



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ANALYSIS OF THE COASTAL EROSION RISK ON THE ROMANIAN LITTORAL, ITS IMPLICATION ON THE MARINE SPATIAL PLANNING'S IMPLEMENTATION

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Abstract: The coastal erosion studies on Romanian shore was focused on coastal erosion phenomena causes and impacts, paying particular attention to quantification of the natural risks (coastal erosion) and their implications on the natural, social and economic environment, (coastal erosion and its implications for tourism development, but also impact of coastal protection structures on the marine environment).

In order to approach the risks from coastal erosion, it was extended a complex analysis of the strategic coastal Master Plan for Coastal Protection, developed for southern Romanian Littoral in 2011, by Halcrow Romania and National Administration Romanian Waters and Dobrogea Coastal Water Basin Directorate (ANAR – ABADL). After the designing of specific Feasibility Studies, Strategic Environmental Assessment and Environmental Impact Assessment for four priority areas, as identified by the Master Plan, the first phase of priority projects was executed designed coastal protections in 2014-2015 in the following areas: Mamaia South; Tomis North/Centre/South and Eforie North. The risks of landslides in the cliffs areas, together others natural risks: floods, strong winds, waves, are still present in certain area due to big intensity of the flash-floods, despite the arrangements on all cliffs versants, including cuttings, compacting and drains pipeline installations. In this specific area, the new Masterplan for coastal protection recommends several solutions, including consolidations/ reinforcements, groins' system extension and sand nourishments.

On the northern littoral unit, the erosion phenomena is extended rapidly for large sectors. The understanding of the marine hydrodynamics in the new changing climate permits a proper investigation for development of risk mitigation



strategies/methodologies of erosion control in order to provide a rapid response in case of emergency.

Keywords: coastal risks, coastal erosion, cliffs slides, Sector Eforie

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MONITORING OF MARINE LITTER AT THE ROMANIAN COAST: AN EMERGING DESCRIPTOR FOR BLACK SEA GOOD ENVIRONMENTAL STATUS (GES) ASSESSMENT

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Abstract: Marine litter (ML) in the ocean is one of nowadays *emerging issues* of *international* concern that requires integrated *action* to address them. Like many other marine basins, the Black Sea is faced to this environmental problem. ML pollution has been identified as a major *issues* affecting the environmental state of *the Romanian Black Sea*. With the *implementation of* the European Union's (2008/56/EC) *Marine Strategy Framework Directive (MSFD)* in 2010, Romania has *adopted* the qualitative Descriptor 10 focuses on marine litter, stating that GES is achieved only when "properties and quantities of marine litter do not cause harm to the coastal and marine environment". Several national actions on beach, floating, seafloor and micro- litter assessment have been undertaken during the last five years. However, increasing scientific knowledge on the ML is required to adequately achieve the Directive's goal. This knowledge needs to the development, in particular, of the national monitoring ML program in Romanian Black Sea region will be detailed discussed by this paper.

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MSFD IMPLEMENTATION IN ROMANIA STRENGTHS, WEAKNESSES AND INTERCONNECTION WITH MSP

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Abstract: The Marine Strategy Framework Directive (MSFD) is the first major piece of European legislation specifically aimed at the protection of the marine environment. The MSFD requires member states to go through several key stages before the subsequent implementation of management measures to achieve Good Environmental Status (GES) in their seas. In 2012, Romania, as the other European member states, reported on the Initial Assessment of the status, and pressures and impacts on the Black Sea marine environment (Art. 8), definition of GES (Art. 9) and environmental targets and indicators (Art. 10). Based on these steps, Monitoring Programmes (Art. 11) were submitted in 2014, and Programme of Measures is under development.

On the other hand, the EU Directive on Maritime Spatial Planning (2014/89/EU) adopted in 2014, aims at establishing a common European framework for MSP and ICM with a view to ensuring that the growth of maritime and coastal activities and the use of resources at sea remain sustainable.

Thus, the two EU initiatives responding to increasing pressures on the marine environment: MSFD (2008) establishing a legal requirement for member states to attain GES and MSP (2014) encouraging coastal member states to develop cross-sectoral maritime spatial plans by 2021.



Session 8 – Good practices for science-based MSP

COASTAL AREA MANAGEMENT AND PROBLEMS IN TURKEY

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Abstract: Due to their rich potential coastal areas have been most preferred places from past to present. Therefore they are evaluated as a rent-seeking for tourism, industry, transportation and recreation. Thus irrevocable destructions take place such as biological, ecological, climatic, hydro biological, physiological and aesthetic on the coastal areas. For this reason coastal area management plans should be implemented to prevent problems/potential problems.

Turkey has a 8333 km length coastal area. Barely despite of legal legislations with the political–rent oriented policies coastal areas of Turkey cannot be protected. In this paper, problems related with recreation, transportation and utilization are evaluated and these problems examined in the concept of legal legislations. According to evaluations precautions are emphasized.

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MARITIME SPATIAL PLANNING – SF.GHEORGHE CASE STUDY – GOOD PRACTICES OVERVIEW

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Abstract: Spatial planning is a process of shaping places where people live and work and the settlements we live in (PPS 12, 2008). Maritime spatial planning (MSP) works across



borders and sectors to ensure human activities at sea take place in an efficient, safe and sustainable way. The benefits of maritime spatial planning are:

- **Reduce conflicts** between sectors and create synergies between different activities.
- **Encourage investment** – by creating predictability, transparency and clearer rules.
- **Increase cross-border cooperation** – between EU countries to develop energy grids, shipping lanes, pipelines, submarine cables and other activities, but also to develop coherent networks of protected areas.
- **Protect the environment** – through early identification of impact and opportunities for multiple use of space.(EU MSP Platform, 2016)

The Sf.Gheorghe case study has adopted a participatory strategic planning approach for maritime spatial planning process. The planning team has been working on providing information and directing study groups, based on SketchMatch (SM), which is an interactive planning method, developed by the Government Service for Land and Water Management in the Netherlands (DLG) to bring insight into spatial development issues together with regional partners. The sketch match is a method that is used to identify and visualize potential development paths and so facilitate the decision-making process for managers, policymakers and local stakeholders. It is an intensive process that organizations and other interested parties can use in their own development areas.

SM for MSP in Sf.Gheorghe was organized by DDNI Tulcea and consists of three phases: in phase 1- preparatory - the techniques that use Participatory Research Appraisal and spatial integration. Data production process starts with situational assessment, and continued with defining vision and strategic axis, objectives and strategies. The process ends with defining details and priorities of projects and actions. In the second phase is a negotiation process where we produced scenarios using the Think Tank Debates technique on Sectoral Analysis and Evaluation. The third phase, dissemination and public debate for final MSP Black Sea Business Plan.

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LAND – SEA INTERACTION IN EFORIE STUDY CASE

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Abstract: Eforie-North-Eforie South is a complex area, with high touristic potential and natural values which have contributed to the development of important tourist resorts. In the north part of Eforie North sector is developed the Spath sector of Constanta Port.

The Eforie case Study is aimed to follow the land-sea interactions with a special focus on coastal erosion. The study is challenging to emphasize the interactions, conflicts and impacts between stakeholders and uses, both terrestrial and marine domain paying particular attention to – identification of main uses and natural risk (coastal erosion) and their impacts on the natural, social and economic environment (ex. urban and port development tourism), stakeholder involvement and recommendation and solution for key issues and conflict resolution.

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CAN ROMANIA ACHIEVE ITS 2021 MSP TARGET?

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Abstract: Marine spatial planning is a useful and cost-effective tool for the regulation and protection of the marine environment. But the main challenge is how to design proper



governance mechanisms that can foster these interactions. In this context, our study covers highly actual aspects concerning the way the marine spatial planning process evolves. During the ongoing national project MARSEA (www.geo.unibuc.ro/marsea), the activities are structured on three directions: (1) Setting up the scene for MSP in Romania, (2) Mapping and demonstrating MSP (wildlife distribution and human uses, current and future), (3) Create an enabling environment for participatory marine and coastal resource management and capacity building. Analysis revealed that science has sometimes developed separately from society and societal needs and not fully understood by ordinary people. Our findings suggest that more must be done not only to raise public awareness of critical issues, but also to find ways of actively engaging with civil society, stakeholder groups, and the public at large in the preparation and execution of marine spatial plans.

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APPLYING THE ECOSYSTEM APPROACH TO THE MANAGEMENT OF VALUABLE COMMERCIAL BLACK SEA FISH SPECIES

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Abstract: NIMRD is currently working in two projects dealing with the sustainable management of two valuable commercial fish species: turbot (*Psetta maxima maotica*) and sprat (*Sprattus sprattus*). For the first time in the Black Sea, in the frame of the FP7 project MareFrame (“Co-creating Ecosystem-based Fisheries Management Solutions”), the restoration of turbot fisheries to more productive levels, considering both the effect of fisheries and the ecosystem change occurred in the last 30 years, is analyzed. Two ecosystem models (GADGET and EwE) are implemented in the western sector of the Black Sea (Romanian coast). Moreover, the project aims to develop new assessment methods and a Decision Support Framework (DSF) for the management of marine resources. The project “IntelliGent Oceanographically-based short-term fishery FORecasting applicaTions” (GOFORIT) aims to identify links between the ecology of short-lived fish species (sprat, in this case) and climate and oceanographic conditions. Like most pelagic species, sprat stocks have been heavily influenced by variations in environmental



conditions. In recent years, the sprat catches from the Romanian coast of the Black Sea have fluctuated, registering an upward light trend and of maintaining around 100 tons. New relationships between ecosystem parameters and recruitment, spawning stock biomass, stock biomass, L-infinity, mean length, mean weight, growth parameter (k), lipids, protein etc. have been identified.

The outcomes of these two projects will underpin the future implementation of EAFM in Romanian marine fisheries.

Key-words: turbot, sprat, EAFM, forecasting, advice

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