



# Cooperation in the **Danube-Black Sea** basin: example of the **Black Sea Commission**

Iryna Makarenko

LL.M., Pollution Monitoring and Assessment Officer  
Permanent Secretariat of the Commission on the Protection of the Black  
Sea against Pollution

# Bucharest Convention (1)



# Bucharest Convention (2)



## Convention on the Protection of the Black Sea Against Pollution

- Was signed in **Bucharest** in April **1992**;
- Ratified by all six Black Sea Countries in the beginning of **1994**;
- Its basic objective is to substantiate the general obligation of the Contracting Parties **to prevent, reduce and control the pollution in the Black Sea** in order to **protect and preserve the marine environment** and to **provide a legal framework for co-operation and concerted actions** to fulfil this obligation.

# Bucharest Convention (3)



## It has 4 thematic Protocols:

1. Protocol on the Protection of the Black Sea Marine Environment Against Pollution from **Land Based Sources (LBS Protocol)**;
2. Protocol on the Protection of the Black Sea Marine Environment Against Pollution by **Dumping**;
3. Protocol on Cooperation in Combating Pollution of the Black Sea Marine Environment by **Oil and Other Harmful Substances in Emergency Situations**;
4. The Black Sea **Biodiversity and Landscape Conservation Protocol (CBD Protocol)**.
  - **Strategic Action Plan (SAP)** on the Protection and Rehabilitation of the Black Sea – adopted in **1996** and amended in **2009**.

# Bucharest Convention (4)



- ▶ **Strategic Action Plan (BS SAP)** on the Protection and Rehabilitation of the Black Sea (2009):

Item 3.1 Key management approaches.

The Black Sea SAP will adhere to 3 key environmental management approaches. These are:

- ▶ Integrated Coastal Zone Management (ICZM);
- ▶ **The Ecosystem Approach; and**
- ▶ **Integrated River Basin Management (IRBM).**

The BS SAP was elaborated from consensus reached at a multinational level in relation to a series of proposals that include: **Ecosystem Quality Objectives (EcoQOs)**; short, medium and long term targets; and legal and institutional reforms and investments necessary to solve main environmental problems identified within the 2007 BS TDA.

# BS SAP 2009

## Four Ecosystem Quality Objectives:

1. **Preserve commercial marine living resources** through:
    - ▶ Sustainable use of commercial fish stocks and other marine living resources
    - ▶ Restore/rehabilitate stocks of commercial marine living resources
  
  2. **Conservation of Black Sea Biodiversity and Habitats** through:
    - ▶ Reduction of risk of extinction of threatened species
    - ▶ Conservation of coastal and marine habitats and landscapes
    - ▶ Reduction and management of human mediated species introductions
  
  3. **Reduce eutrophication** through:
    - ▶ Reduction of nutrients originating from land-based sources, including atmospheric emissions
  
  4. **Ensure Good Water Quality for Human Health, Recreational Use and Aquatic Biota** through:
    - ▶ Reduction of pollutants originating from land-based sources, including atmospheric emissions
    - ▶ Reduction of pollutants originating from shipping activities and offshore installations
- 

# Bucharest Convention (5)



## 6 Advisory Groups

- The Advisory Groups to the Black Sea Commission are the **main source of expertise, information and support** in the implementation of the Black Sea Strategic Action Plan.
- 1. **ESAS** – Advisory Group on the Environmental **Safety Aspects of Shipping**;
- 2. **PMA** – Advisory Group on the **Pollution Monitoring and Assessment**;
- 3. **LBS** – Advisory Group on Control of **Pollution from Land Based Sources**;
- 4. **ICZM** – Advisory group on the Development of Common Methodologies for **Integrated Coastal Zone Management**;
- 5. **CBD** – Advisory Group on the **Conservation of Biological Diversity**;
- 6. **FOMLR** – Advisory Group on the Environmental Aspects of the **Management of Fisheries** and other Marine Living Resources.

# Bucharest Convention (6)



Ongoing collaboration with relevant Multilateral Environmental Agreements (MEAs), UN Agencies and International Financial Institutions (IFIs)

Mutual **Observer Relations** with 9 International and Public Organizations:

- UN Environment;
- EU;
- GEF/UNDP;
- IMO;
- **ICPDR;**
- BSEC;
- ACCOBAMS;
- BSC-Port State Control MoU;
- Black Sea NGO Network.

Currently **deepening cooperation** with the Secretariats of European RSCs and relevant MEAs:

- **UNEP/MAP (MoU signed in 2016);** HELCOM; OSPAR, CBD Convention.
- ▶ MoUs with **IMO, ACCOBAMS** (Conservation Plan for Black Sea Cetaceans), **UN GFCM, IAEA, EMODNet Project** etc.



# Bucharest Convention (7)



- ▶ Bucharest Convention was elaborated 28 years ago, latest version of BS SAP is dated 2009, some new challenges as **climate change, marine litter, marine noise, green economy, MSFD requirements (definition of GES), neither blue growth or circular economy** etc. were not reflected;
- ▶ Work to incorporate these considerations in the documents of the Bucharest Convention (**text of Convention, BS SAP, BSIMAP etc.**);
- ▶ Relevant chapters of **Black Sea SoE** and **SAPIR** include socio-economic aspects and new challenges;
- ▶ 30 datasets contribute to the indicators relevant to MSFD which are hosted by BSC and **Regional Activity Centre for Pollution Monitoring and Assessment (PMA RAC)**, **activities shall be sustained.**

# Bucharest Convention (8)



- ▶ LBS Protocol in force, *inter alia*, sets the **obligations to control, monitor and assess pollution from land-based sources, including the riverine loads;**
- ▶ Very important document is **Strategic Action Plan (SAP)** on the Protection and Rehabilitation of the Black Sea – adopted in 1996 and amended in 2009 in Sofia;
- ▶ 2 out of 6 countries are members to the EU, therefore, **EU environmental legislation is not legally binding.**

# Bucharest Convention (9)



- ▶ **Short format of reporting** elaborated and adopted (based on indicators agreed by consensus (E-TRIX, BEAST, H-Shannon 95 (biomass), Landings per unit of effort etc., compatible with MSFD, GFCM, ACCOBAMS and global approach to indicators (UNEP) and SDGs);
- ▶ text of the Black Sea Integrated **Monitoring and Assessment Program** - BSIMAP for years 2017-2022 (drafted within EU MSFD Project, main approaches are harmonized, **definition of GES and descriptors**, reporting format to **ICPDR**, data-bases for harmonization);
- ▶ First Report on the Implementation of the (amended) BS SAP (2009) – **SAPIR and** “State of the Black Sea Environment” Report – **SoE** (outlines reflect the MSFD requirements and global approach);

## Agreed PMA Regional Reporting Indicators:



Agreed Indicators	Explanation	Comments
<b>Trix</b>	$\text{TRIX} = [\log (\text{Chl} \times \text{D}\% \text{O}_2 \times \text{Nmin} \times \text{Ptot.}) + k] / m^*$	K=1.5 and m=1.2 are constant use particularly for Northern Adriatic. For Black Sea could be necessarily to calculate another.
<b>Oxygen Saturation level at critical depth</b>	<ol style="list-style-type: none"> <li>1) in bottom layer in coastal waters (up to 50m depth) in late summer times</li> <li>2) for deep water column sigma-T equals to 15,4-15,5 in late summer times</li> </ol>	.
<b>Inorganic N, P, Si in the surface layer</b>	Maximum concentrations in surface layer end of winter-spring	
$N_{\text{inorganic}}/P_{\text{inorganic}}$	<b>Inorganic N per Inorganic P</b> in surface layer	
$N_{\text{inorganic}}/Si$	<b>Inorganic N per Si</b> in surface layer	
<b>BEAST (Black Sea Eutrophication Assessment Tool)</b>	<b>Core set indicators grouped as causes - inorganic nitrogen, inorganic phosphorus (phosphates), direct effects - chlorophyll a , indirect effects - bottom oxygen (where available), Secchi.</b>	To be defined by each country according to its reference values – within B2B each country had an expert who worked for BSC
<b>Water transparency, where relevant</b>		

## Agreed LBS Regional Reporting Indicators:



- ▶ **Parameters/Status**
  
- ▶ Annual Flow km<sup>3</sup>/year
- ▶ TP Tonnes/year
- ▶ TN Tonnes/year
- ▶ Inorganic N (will be calculated as sum of N-NO<sub>3</sub>, N-NO<sub>2</sub>, N-NH<sub>4</sub>) T/year
- ▶ Inorganic P-PO<sub>4</sub>discharge T/year
- ▶ Trace Metals (common ones will be selected and recommended to be reported in rivers and industrial sources\*) Cadmium Cd, mercury Hg, copper Cu and lead Pb Tonnes/year
- ▶ TSS Tonnes/year
- ▶ TPH Tonnes/year
- ▶ BOD5 Tonnes/year
  
- ▶ \* Indicators to be taken from PMA reporting (for each point): Inorganic N, P, (micromoles/l) at sea

### Agreed indicators to report to ICPDR:



- ▶ **Provisional List of indicators to demonstrate changes over time in Black Sea Ecosystems due to nutrient inputs**
- ▶
- ▶ **Nutrient concentrations in the water column - [N, P, Si (total/available)]**
- ▶ **Secchi depth**
- ▶ **Total suspended solids**
- ▶ **Chlorophyll-a**
- ▶ **Macro-algae (indicative species) presence/absence**
- ▶ **Oxygen content**
- ▶ **Phytoplankton (key groups in numbers, biomass, and average volume of cells)**
- ▶ **Zooplankton -( biomass and percentage of key groups, number of Noctiluca)**
- ▶ **Macro - zoobenthos (biomass, percentage of key groups)**
- ▶ **Pollutants - inorganic and organic**
  
- ▶ **A short written report assessing the Black Sea ecosystem together with selected data on the above indicators will be presented to the ICPDR by the end of the respective year. This report would be the official Black Sea report that would involve synthesis and interpretation of the data from the Advisory Groups of the Black Sea Commission on the ecosystem status of the Black Sea.**
- ▶

# BSIMAP 2017-2022 (4)



Annex 9

## **Priority thematic studies to be implemented in 2017-2022.** **Subjects for international and national research projects**

- ▶ **EQS 3 Reduce eutrophication:**
  - ▶ discharges of nutrients to the Black Sea;
  - ▶ BEAST tool application in the Black Sea;
  - ▶ zoning ;
  - ▶ diffuse sources assessment, atmospheric deposition;
  - ▶ remote sensing.
  
- ▶ **EQS 4 Ensure Good Water Quality for Human Health, Recreational Use and Aquatic Biota:**
  - ▶ 5 years socio-economic analysis of drivers-pressures;
  - ▶ Assessment of **Marine Litter from ships**
  - ▶ Comparative analysis and assessment of emissions from ships and LBS of pollution Guidance/Road Map on application of principles of Ballast Water Convention (IMO) in the Black Sea;
  - ▶ Port reception facilities (PRFs) and management of waste under MARPOL Annex VI.

# BSIMAP 2017-2022 (5)



## BSIMAP 2017-2022

Annex 2

### Relevant data-bases for possible future harmonization with BSIS

**GMES** - Global Monitoring for Environment and Security

**GEOSS** - Global Earth Observation System of Systems

**Eionet** - Partnership network of the European Environment Agency (EEA)

**WISE** - Comprehensive and shared European data and information management system which supports MSFD

**GOOS** - Global Ocean Observing System (Black Sea)

**EmodNET** - European Marine Observation and Data Network (Project of EC DG MARE)

**IODE** - International Oceanographic Data and Information Exchange

The other relevant databases should be inventoried and linked to BSIS as appropriate.



# Cooperation with ICPDR

One of our main partners, we also have **mutual observer status** since 2001 and we **implement the MoU** between our Commissions.

The Danube - Black Sea Joint Technical Working Group was established between our Commissions. The main objectives are the following:

- ▶ **Information Exchange** between ICPDR and the Black Sea Commission (including Marine Directive Reporting);
- ▶ Exchange of **data on loads of pollution from the Danube** to the Black Sea as provided by the Transnational Monitoring Network of the ICPDR (set of parameters agreed);
- ▶ Exchange of data on indicators for the **assessment of the ecological status of the Black Sea** (reporting format and method of analysis for the data, because both Romania and Bulgaria have designated coastal water bodies, monitoring and assessment of these water bodies has been carried out in connection with the obligations under the WFD);
- ▶ **Harmonizing of the assessment methodologies** for point and diffuse pollution (based on the ICPDR experience on the Emission inventories, Hot Spots analysis and review of ranking methodologies).

# Bucharest Convention (10)



- ▶ **MoU with ICPDR** – annual reports;
- ▶ The BSC PS negotiated with **Danube Sturgeon Task Force (DSTF)** on cooperation to implement the Program for sturgeon revival in the Danube Region and the Black Sea;
- ▶ Started cooperation with **WWF Turkey on sturgeons conservation.**

# Bucharest Convention (11)



- ▶ Work on incorporation of deliverables of **relevant projects** (EMBLAS+, DEVOTES, PERSEUS, IRIS-SES, EMODNET, Baltic2Black, MSFD, MISIS etc.);
- ▶ Signature of the **MoU between UNEP/MAP** and BSC PS, work on Marine Litter;
- ▶ The Commission **adopted the Guideline on Integrated Coastal Zone Management in the Black Sea**;
- ▶ Signature of **Practical Arrangements with International Atomic Energy Agency** on **QA/QC** (cooperation in the Area of Strengthening Data Quality Assurance in the Analysis of Contaminants in the Black Sea Marine Environment, first results of the PT in 2016);

# Bucharest Convention (12)



- ▶ **Cooperation with UN Environment:**
- ▶ Work in Working Group on global indicators together with RSCs;
- ▶ Membership in Global Partnership on ML and implementation of marine litter related activities under the BSC PS - UNEP and UNEP/MAP Small Scale Funding Agreements;
- ▶ Addressing implementation of Sustainable Development Goals (SDGs) (indirectly, in cooperation with UN Environment);
- ▶ Cooperation between BSC and **FAO GFCM** and **ACCOBAMS Agreement**;
- ▶
- ▶ The Commission joined the Group on Earth Observations (**GEO**) and BSC PS was recognized as **GEO Participating Organization** (November 2015);
- ▶
- ▶ Cooperation with **CBD Convention Secretariat** and on description of Ecologically and Biologically Significant Marine Areas (**EBSA process**) and establishment of EBSA sites for the Black Sea (April 2017 joint workshop with Caspian Sea in Baku), 17 sites were endorsed at CBD Convention COP Meeting in Egypt in November, 2018;
- ▶
- ▶ Contribution to **UN World Ocean Assessment II** (WOA II) Report
- ▶
- ▶ Work on the **Post 2020 Biodiversity Outlook** (UNEP+CBD Convention);

# Bucharest Convention (13)



## Cooperation with projects:

- ▶ The BSC PS has become member of the **EMODnet Chemistry 3 consortium** and joined a dedicated '**Board of MSFD experts**' to intensify the direct dialogue and **interaction with Regional Sea Conventions (RSCs)**. The members of the Board of MSFD experts consist of experts in chemistry and in the MSFD implementation process;
- ▶ **EMBLAS+ Project launched;**
- ▶ Implemented joint project with HELCOM on nutrient pollution **Baltic2Black, BEAST** indicator was tested in the Black Sea;
- ▶ Cooperation with EC under **SRIA** and **CMA** for the Black Sea.

# Bucharest Convention (14)



- ▶ Since December, 2016, the **UNEP/MAP Secretariat supports** a number of activities under EU-funded Marine Litter MED project to strengthen bilateral collaboration in the field of Marine litter management;
- ▶ Preparation and finalization of the **draft Regional Action Plan on Marine Litter Management in the Black Sea**, which was **adopted by the Black Sea Commission in October 2018**;
- ▶ Development of the draft **Marine Litter Monitoring Programme for the Black Sea**, which is being discussed now in the region;
- ▶ Mechanism of **regular bilateral cooperation between the Secretariats**, example of successful collaboration between the Regional Seas on the global level;
- ▶ We organized **three annual joint meetings between both Secretariats**, held in 2017, 2018 and 2019, respectively; during these meetings we prepared **a joint work plan** between the UNEP/MAP and the BSC PS;
- ▶ Back-to-back to 3rd bilateral meeting **Regional Verification Workshop on marine litter issues**, UNEP/MAP joined to present best practices and status of implementation of their IMAP and RAP on ML.

# Conclusions:



- ▶ The **BSC PS is taking steps** to promote regional cooperation in the Danube-Black Sea region, *inter alia*, research & innovations activities, contributing to the proper marine assessments and coordination of efforts on data-bases with other RSCs and partners;
- ▶ The document “BSC – ICPDR Reporting format” within the Black Sea Integrated Monitoring and Assessment Program (BSIMAP), provided a legal basis for cooperation on MSFD and other relevant EU directives with ICPDR. Currently **the Commissions exchange the relevant data on the regular basis**, which contributes to the implementation of commitments under MoU and can be considered as step towards elaboration of the **coherent policy between the sea and the fresh water conventions**, it also allows to ensure timely and qualitative assessment of the current status of Danube loads on the Black Sea ecosystems. These efforts contribute to implementation of the requirements of the WFD and MSFD Directives in the Black Sea region, help to harmonize the policies with other relevant regional actors and global approaches, including the implementation of relevant SGDs in the Danube-Black Sea region.
- ▶ **The BSC PS welcomes the JPI initiatives** and stands ready to discuss further collaboration and activities with all organizations engaged.



*Thank you for your kind attention!*

For more information please visit:

[www.blacksea-commission.org](http://www.blacksea-commission.org)

contact:

[irina.makarenko@blacksea-commission.org](mailto:irina.makarenko@blacksea-commission.org)

**or visit our official accounts in FB, twitter, Instagram and LinkedIn!!!**

