



# *Event Report*

**Regional Workshop on the Implementation of the Marine Strategy  
Framework Directive and the Water Framework Directive**

**15 – 16 October 2019**

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- Annex 2: List of Participants (provided as a separate document)



## 1. Introduction

### The regional workshop

The regional workshop on “Building coherence and synergy in the implementation of MSFD and WFD: Water management issues facing land-locked EPPA Beneficiaries” took place on 15-16 October, 2019, in Skopje, North Macedonia. The workshop was organized in cooperation with TAIEX, and under the EPPA project work programme, activity 3.4 “Assistance with water management issues facing land-locked countries based on their identification of key issues”.

The participants of the workshop came from the relevant authorities of the EPPA beneficiaries. They represented the beneficiaries’ water management departments, waste treatment departments, and EIA and SEA departments from the relevant Ministries, State Inspectorates, and river basin authorities. Civil society was also represented by Milieukontakt Macedonia and Eko-svest.

Speakers covering multiple water management topics and involvement of civil society in water management were provided by the project. They were complemented by EU Member State speakers from Croatia and Romania, bringing to the fore those countries experience with the transposition and implementation of the Marine Strategy Framework Directive and the Water Framework Directive.

The presentations will be available at both the TAIEX website and the EPPA project website.

### The Marine Strategy Framework Directive

The Marine Strategy Framework Directive (MSFD) - Directive 2008/56/EC - establishes a framework for community action in the field of marine environmental policy. Within this framework, Member States (MS) shall take the necessary measures to achieve or maintain Good Environmental Status in the marine environment by the year 2020 at the latest. For that purpose, marine strategies shall be developed and implemented in order to protect and preserve the marine environment, prevent its deterioration or, where practicable, restore marine ecosystems in areas where they have been adversely affected. In addition, marine strategies shall prevent and reduce inputs into the marine environment, with a view to phasing out pollution (as defined in Art. 3(8) in the MSFD), so as to ensure that there are no significant impacts on or risks to marine biodiversity, marine ecosystems, human health or legitimate uses of the sea. The MSFD aims to contribute to the coherence between the different EU policies, including the EU’s maritime policy, Common Fisheries Policy and the existing water and nature directives, such as the Water Framework Directive, WFD (2000/60/EC), Habitats Directive (92/43/EEC).

One of the key requirements of the MSFD is that Member States must take a coordinated approach to implementation, cooperating with other states within the appropriate marine region or sub-region<sup>1</sup>, ensuring coherent and coordinated strategies. For the Mediterranean Sea, the key forum is the Barcelona Convention, implemented through the United Nations Environment Programme (UNEP) Mediterranean Action Plan (MAP). The Contracting Parties to the Barcelona Convention<sup>2</sup> developed a set of ecological objectives, operational objectives, and indicators, which reflect Mediterranean priorities and are coherent with the MSFD.

### The Water Framework Directive

The main purpose of the Water Framework Directive (WFD) - 2000/60/EC – is to establish a framework for the protection of inland, transitional and coastal waters, as well as groundwater. The key objectives are: general protection of the aquatic ecology, specific protection of unique and valuable habitats, protection of drinking water resources, and protection of bathing water. All these objectives must be integrated for each river basin. The Directive requires Member States to establish river basin districts and a River Basin Management Plan (RBMP) for each of these districts which must set out ways to achieve ‘Good Ecological Status for both terrestrial and coastal water bodies by a number of management cycles by 2027 (a six-yearly cycle, as with the MSFD).

<sup>1</sup> The Mediterranean Sea region includes the Western Mediterranean Sea, the Adriatic Sea, the Ionian Sea and the Central Mediterranean Sea, and the Aegean-Levantine Sea, while for the Black Sea no sub-regions is specified

<sup>2</sup> Contracting Parties to the Barcelona Convention include as well the maritime EPPA countries: Albania, Bosnia & Herzegovina, Montenegro and Turkey.



## Synergies between the MSFD and the WFD and the role of landlocked countries

There are elements of the MSFD for which particular attention is needed from landlocked countries<sup>3</sup> when it comes to establish a comprehensive set of environmental targets and associated indicators according to article 10 of MSFD as well as the elaboration of the programmes of measures according to article 13 of the MSFD. More specifically, the article 11(6) of the WFD has a similar goal as the MSFD when stipulating that “Member States shall take all appropriate steps not to increase pollution of marine waters” and the respective measures are elements of the River basin management plans (RBMP) according to part A, point 7.11 of Annex VII of the WFD. Thus, in relation to the programmes of measures, synergies between both directives are obvious.

In addition, four key issues are of particular relevance to landlocked countries, in relation with the Commission Decision 2010/477/EU<sup>4</sup> which sets the criteria and methodological standards on good environmental status of marine waters<sup>5</sup>:

1. Abundance/distribution of key trophic groups/species, including, where appropriate, long-distance anadromous and catadromous migrating species (Descriptor 4.3);
2. Minimising human-induced eutrophication (Descriptor 5);
3. Concentration of contaminants (Descriptor 8);
4. Marine litter (Descriptor 10).

Therefore, the development of the program of measures, the methodology and assumptions used to generate the business as usual scenarios should be consistent in the whole marine region or subregion and the transboundary impacts need to be considered through regional cooperation and coordination between marine and land-locked countries in the catchment area, if the run-off from these countries affects the marine environment<sup>6</sup>.

## 2. Objectives of the training and expected results

The workshop sought to give participants the opportunity to cross-learn about the challenges and perspectives in establishing regional cooperation particularly in landlocked EPPA beneficiaries. The workshop seeks to deepen the understanding of the synergies and differences between the WFD and MSFD and enhance capacities to formulate and implement strategies and program of measures by linking them with the country’s overall development strategies and international requirements.

The wider objective was to strengthen national capacities of EPPA countries for effectively addressing the large number of the MSFD and the WFD, analyzed in synergy with the process of reaching the WFD objectives.

The specific objectives were:

- To address the synergies between the WFD and the MSFD in relation to the conceptual relations between Good Environmental Status (MSFD) and Good Ecological Status (WFD)
- To examine the DPSIR, a methodological approach to assess the risk of failing to achieve good ecological status (WFD) and Good Environmental Status (MSFD)
- To explore the tasks of setting environmental targets under WFD and MSFD
- To present and discuss the role of landlocked countries in the implementation of the MSFD in synergy with the WFD
- To present the policy areas connected with WFD and MSFD implementation, and their interlinkages and social and economic dimensions
- To discuss the science policy interface in the water and marine sectors

<sup>3</sup> EPPA landlocked countries are: Kosovo\*, North Macedonia and Serbia

<sup>4</sup> Commission Decision 2010/477/EU of 1 September 2010 on criteria and methodological standards on good environmental status of marine waters

<sup>5</sup> The MSFD sets out, in Annex I, eleven qualitative descriptors which describe what the environment will look like when GES (Good Environmental Status) has been achieved.

<sup>6</sup> Art 6(2) of MSFD requires landlocked countries to bring into force only those measures that are necessary to ensure compliance with requirements under Art 6 (Regional Cooperation) and Art 7 (MSFD).



- To investigate any national obstacles (involvement and commitment, data and methodologies, coordination and cooperation, capacity building needs) towards addressing MSFD requirements for landlocked countries
- To facilitate dialogue among the countries on the synergy between WFD and MSFD, including approaches, results, funding and international cooperation with the frame of international agreements, conventions and action plans
- To benefit of TAIEX assistance for a more profound understanding of key requirements for landlocked countries and regional cooperation needs based on countries priorities
- To encouraged dialogue between EPPA beneficiary countries, and water and marine experts, invited to share their perspectives, ideas and knowledge regarding the implementation of the WFD and MSFD.

### 3. Highlights from the workshop

#### 3.1. Introduction to the workshop

North Macedonia, as host country, gave the opening remarks to the participants. The importance of the topic, and the impact of landlocked countries due to the land based sources of pollution was highlighted. An appeal was made for better regional cooperation to improve the environmental quality of a shared natural resource: water. In addition, North Macedonia noted the importance of increasing administrative capacities for EU directives implementation.

The EU Delegation (EUD) struck the same message and highlighted the importance of participating in projects like EPPA, due to its regional dimension. The EUD stressed the importance of water management in the Western Balkans and Turkey, given its socio-economic and environmental implications. The region is now at a stage when water management needs strategic decisions to be made, and that those decisions and other commitments need to be transformed into implementation of the needed measures, in a cooperative way. The EUD also mentioned its involvement in efforts to improve the implementation of the WFD in North Macedonia with different investments.

The project team, represented by its team leader, then gave an overview of the project and its regional, multi-country approach, and how it aims to reinforce cooperation between the beneficiaries and EU Member States. The workshop was also contextualized within the project work plan and project objectives for water management. It was shown that it was important for the workshop to produce ideas on how to move forward with the implementation of the MSFD provisions for landlocked countries, taking into account the links with the WFD, within the EPPA beneficiaries.

The agenda, the logic behind work proceedings and the speakers' profile were introduced by the EPPA project key expert for water.

#### 3.2. Current status WFD and MSFD - Legislation and institutions in the EPPA sea based and landlocked countries

The beneficiaries presented their legislative developments and competent institutional framework for the implementation of the WFD and MSFD. The interventions are presented in alphabetical order.

##### **Albania**

The Agency for Management of Water Resources is the responsible entity in Albania for water management. The country fully transposed the WFD in 2012. The water law was followed by a national strategy for integrated water resources management 2018-2027. The drinking water directive (DWD), environmental quality standards directive (EQSD) and bathing water directive (BD) were also transposed. The MSFD is not yet transposed. There is a legislative draft prepared under an IPA project, but further technical assistance is needed for its future transposition.

##### **Bosnia and Herzegovina**

In Bosnia and Herzegovina 75% of waters belong to the Danube River Basin, whereas 25% belong to the Adriatic Sea. The presentation gave an overview of the ecological status of surface and ground waters



in the Sava Basin and Adriatic Basin. It also provided an overview of the institutional set up for water management.

The MSFD is not yet transposed, but the country is a party to the Barcelona Convention. There are however a number of strategic documents for water management, among them the Water Management Strategy in Federation of B&H (2010 – 2022) and the Integrated Water Management Strategy of RS (2014-2024). More recently, the country also adopted the Sava River and Adriatic Watershed Management Plans in FB&H 2016-2021, adopted in May 2018 and the Sava River and Trebišnjica Watershed Management Plans in RS, 2018-2021, adopted in April 2018.

Bosnia and Herzegovina is in the process of preparing two RBMPs (2022 – 2027) and a Flood Risk Management Plan, funded by WBIF – the Western Balkans Investment Framework, an initiative funded by the European Union. The adoption of the RBMPs is scheduled for December 2021.

### **Kosovo\***

Kosovo\* partially transposed the WFD into primary and secondary legislation. The 2 main pieces of legislation transposing the WFD are the Water Law and the Waste Law. The presenter noted some difficulties with the transposition of all requirements of the WFD. In implementation, there are also challenges with the discharge of waste waters into rivers. However, Kosovo\* is committed to continuing its alignment and implementation efforts.

### **Montenegro**

Montenegro presented its institutional framework for water management, especially for the WFD and the MSFD. The country has transposed roughly 90% of EU Directives related with water management. Under a current IPA project, the country is developing 2 RBMPs. The first drafts exist and are now in public consultation. The drafts are available online. The expectation is for them to be adopted in 2021. Regarding the MSFD, and in connection with the Law on Water, coastal waters are defined 1 nautical mile from the shore. There is also a law for marine environmental protection under preparation, with the support of an IPA 2016 project, which should facilitate the transposition of the MSFD.

### **North Macedonia**

North Macedonia presented its four river basins, all international in character. The presenter listed and explained the several projects running in each river basin that laid the basis for the development of RBMPs or other management tools.

The WFD is 98% transposed. The transposition of the MSFD is facing some challenges, for instance, taking into consideration other water and waste planning documents, integrating WFD and MSFD synergies in the RBMPs, lack of administrative capacity for implementation of MSFD, and need to reinforce cooperation and coordination with neighbouring countries in implementation of MSFD.

### **Serbia**

Serbia presented its institutional framework for the implementation of the WFD. There are 2 responsible Ministries, the Ministry of Agriculture, Forestry and Water Management and the Ministry of Environmental Protection. It is the Republic Water Directorate, under the Ministry of Agriculture, Forestry and Water Management, that is responsible for the development of RBMPs in Serbia in cooperation with 2 public water management companies. There are other institutions involved covering monitoring (SEPA and Hydrometeorological Services).

The first RBMP following WFD is currently under development, which should be completed by the end of 2020, and valid between 2021 and 2027. Serbia is planning a new water law to fully transpose the WFD and the MSFD.

### **Turkey**

In Turkey, the implementation of the WFD and the MSFD are implemented by different Ministries, the Ministry of Forestry and Agriculture and the Ministry of Environment and Urbanization respectively. Regarding the WFD, alignment is complete. Turkey plans to have 25 river basin management plans



(RBMP) ready by 2023. RBMPs have been finalized for 5 basins, and there are another 6 currently in progress.

The representative of the Ministry of Environment and Urbanization of Turkey started by clarifying that the country, at the moment, has no commitment to implement the MSFD. Nevertheless, some work has been done towards the management of marine ecosystems. Namely, Turkey implemented 4 projects of relevance to the MSFD:

1. Quality Assessment and Classification of Turkish Marine and Coastal Waters (DEKOS Project), 2011-2013, which sought to obtain the necessary information and application tools to support the ecosystem-based management principle for transitional-coastal and coastal-marine waters (as in the WFD and MSFD). The project identified 12 marine assessment areas for coastal waters, and made pollution maps for Turkish seas.
2. Update of National Action Plan on Protection of National Seas from Land-Based Sources Project (LBS NAP Project), 2016-2017, which performed a baseline budget of land-based pollutants, and determined the priorities in relevant sectors and regions, leading to the establishment of a program of measures. The National Action Plan was updated to cover the years 2016-2025.
3. The Project Capacity Building on Marine Strategy Framework Directive in Turkey (MARinTURK Project), 2016-2018, which sought to better the understanding of the legal, institutional and technical requirements of the MSFD and to facilitate effective decision making for future implementation in Turkey. The project also proposed definitions of Good Environmental Status for the Turkish Mediterranean and Black Sea and environmental targets for the Turkish Mediterranean and Black Seas, and suggested next steps for the adoption of the MSFD (among other results).
4. Development of Turkish Marine Environmental Strategy Project, 2018-2020, which seeks to develop a Marine Environmental Strategy and National Marine Environmental Action Plan of Turkey, in the framework of country necessities considering the United Nations Sustainable Development Goals, European Union Policy and Regional Sea Conventions, to provide efficient usage of marine and coastal water in line with blue economy strategy, and with a focus on ecosystem based approach.

### 3.3. Importance of marine related issues in the WFD

The presentation explained the maritime governance components of the WFD. It started with an introduction to the importance of the WFD and its relation with the MSFD.

The Water Framework Directive 2000/60/EC (WFD) replaced traditional management practices predicated upon the command and control paradigm, moving to a holistic approach integrating all parts of the wider environmental system. Regarding the marine environment, the WFD explicitly aims to prevent and eliminate pollution from the marine environment. In its scope it also includes maritime waters to 1 nautical mile for ecological status and to 12 miles for chemical status. The MSFD enlarges governance, through the use of the concept “good environmental status”, to the full extent of Member States territorial waters over which they have or exercise jurisdictional rights.

The application of the WFD has direct impact on the quality of marine waters. The level of urban waste water treatment, the implementation of measures for reducing the agricultural pollution, the level of treatment for reduction/removing of priority substances, the reduction of pollution with plastic and microplastic and supplementary measures for bathing and shellfish waters are all areas in which the WFD can synergize with the MSFD to achieve good environmental status.

The presentation then went into detail on the obligations set by the MSFD for both marine and landlocked countries, and specific requirements in WFD mandated RBMPs to achieve GES.

In order to demonstrate the connection between these two key policies, the presentation gave the example of the Danube River Basin and its connection to the waters of the Black Sea, focusing on Romania’s experience with coastal water management under the WFD and the interactions with other policies, namely the directive on Bathing waters, the Shellfish directive, the Birds and Habitats directives, and the Urban waste water treatment directive.



### 3.4. Specific MSFD provisions related to landlocked countries

The presentation offered the MSFD conceptual framework and looked in detail to the interlinkages between MSFD and WFD. It then explained the obligations of landlocked countries under the MSFD, which are article 6 (regional cooperation through existing institutions including the Regional Seas Conventions) and 7 (designation of competent authorities to pursuit the cooperation established in article 6).

Following the thread of linkage between the different directives, the presentation showed how the criteria for “good environmental status” is also present in other directives, like the Birds and Habitats directives, and how the WFD especially has impact on the governance of coastal waters.

The presentation then moved to marine strategies, which must include a detailed assessment of the state of the environment, a definition of "good environmental status" at regional level and the establishment of clear environmental targets and monitoring programmes. The Marine Spatial Planning directive was also referred as an important reference point to manage land-sea interactions.

### 3.5. Comparable objectives, similarities, differences, areas of overlap within WFD and MSFD

The presentation made a more detailed, comparative analysis between MSFD and WFD. It showed that the structure of both directives is similar, but the WFD is more prescriptive in terms of approach, baseline and targets. The geographical scale and topic scope are significant differences in the two Directives, but both provide an holistic approach for achieving GES of MS waters. WFD assessments should contribute to MSFD assessments. There is also a need to avoid duplication and ensure coherence on monitoring and reporting.

The presentation then used the example of Romania to demonstrate how the directives are being implemented in a Member State. It started with the legal and institutional framework, while also highlighting the regional coordination institutions in which Romania is involved, it listed the main environmental issues and pressures covered by each directive in the territory of Romania and how they are being addressed. The main issues to improve implementation are knowledge gaps, particularly for open sea for biological elements, waste, noise; gaps in institutional capacity regarding monitoring and assessment methods for contaminants, biological elements (angiosperm, macroalgae), sampling, treatment and analysis for samples from different matrixes (with focus on biota samples); capacity gap to perform economic analysis to set up and assess the sustainability of the protection measures.

### 3.6. DPSIR framework - Integrative, participatory management framework at RB-scale, within WFD and MSFD

The presentation showed how the methodological tool Driver-Pressure-State-Impact-Response (DPSIR) Framework can be used in the context of river basin management, and, in particular, within efforts to implement the WFD and MSFD.

The DPSIR provides a structure within which to present the indicators needed to enable feedback to policy makers on environmental quality and the resulting impact of the political choices made, or to be made in the future. It works based on 5 key points of analysis: drivers, pressures, state, impacts, and responses. They provide a chain of causal links of observable assessments to give policy makers and enforcers a tool to understand the interactions of the state of environment with its interacting forces. Drivers (economic and social policies of governments, and economic and social goals of those involved in industry, economic sectors, human activities) translate into measurable pressures (emissions, waste, etc, and the specific ways that ecosystems and their components are perturbed) that determine the state of environment (physical, chemical and biological). That state, in turn, has its own impacts on ecosystems, human health and functions, leading to responses, which can be policy measures, such as regulations, information and taxes, prioritisation, etc or structural measures.

For the purpose of the workshop topic, the DPSIR framework can be chosen as the underlying conceptual framework to develop programs of measures, addressing different categories of pressures. The presentation then demonstrated how the DPSIR can be used to address eutrophication, the



management of coastal and transitional waters, and the impacts of land based sources of pollution on GES.

### 3.7. Regional conventions and treaties delivering some of the key policy objectives of MSFD

The presentation set the scene by providing an overview of the impacts of oceanic pollution, including human health impacts of contaminated coastal waters, the contamination of the food chain with Persistent Organic Pollutants, the negative effects on marine life and the economic impact of such damage, estimated to be billions of dollars annually across the world.

The situation requires a governance response. In Europe, there are four cooperation structures which aim to protect the marine environment and bring together Member States and neighbouring countries that share marine waters - the Regional Sea Conventions. They are:

- The Convention for the Protection of the Marine Environment in the North-East Atlantic of 1992 (further to earlier versions of 1972 and 1974) – the OSPAR Convention (OSPAR)
- The Convention on the Protection of the Marine Environment in the Baltic Sea Area of 1992 (further to the earlier version of 1974) – the Helsinki Convention (HELCOM)
- The Convention for the Protection of Marine Environment and the Coastal Region of the Mediterranean of 1995 (further to the earlier version of 1976) – the Barcelona Convention (UNEP-MAP)
- The Convention for the Protection of the Black Sea of 1992 – the Bucharest Convention

The Marine Strategy Framework Directive includes numerous provisions, which aim to ensure that the implementation of the Directive not only contributes, but also builds upon the activities of the Regional Sea Conventions, which cover EU marine regions or sub-regions. Article 6 of the Directive requires Member States to use the institutional structures and activities of the RSC to facilitate the implementation of the Directive notably in relation to third countries. The Directive also ensures that RSC and other international agreements are taken into account at all stages of the development of marine strategies.

It is believed that Regional Sea Conventions can support the implementation of the MSFD in at least three main ways: 1) by improving regional and cross-regional coherence of national implementation 2) by making the RSCs' long-standing experience and established structures for cooperation available to increase the efficiency and effectiveness of national implementation, 3) by offering practical opportunities for the mobilisation and coordination of relevant third countries' activities.

In order to operationalize the necessary synergies between the MSFD and the RSCs, the MSFD requires MS to coordinate with the activities of the RSCs the development of marine strategies, namely:

- MS are required to take into account assessments carried out jointly in the context of RSCs when preparing the initial assessment and ensure that the methodologies used are consistent across the marine regions or sub-regions and transboundary impacts are considered
- The Commission should consult with RSCs when developing standards and methodological criteria on GES
- MS must ensure that their environmental targets are compatible with the objectives to which the EU and the MS have committed to under relevant international agreements (including regional ones)
- When developing monitoring programmes, MS should build upon and ensure they are compatible with relevant provisions laid down under international agreements
- When planning their programmes of measures, MS should integrate the relevant measures required under international agreements, in particular, spatial protection measures

The role of existing Regional Conventions within the catchment area of a marine region or subregion (e.g. ICPDR, ICPR, IKSE, IMK, ...), is, where appropriate, to extend coordination and cooperation between MS with marine waters and landlocked MS (MSFD Art. 6). Four key issues were identified of particular relevance to landlocked MS: 1) Abundance/distribution of key trophic groups/species, including, where appropriate, long-distance anadromous and catadromous migrating species



(Descriptor 4.3), 2) Minimising human-induced eutrophication (Descriptor 5), 3) Concentration of contaminants (Descriptor 8), 4) Marine litter (Descriptor 10).

### **3.8. The role of the Business as Usual (BAU) scenarios in developing the programme of measures for achieving GES (MSFD)**

The presentation defined what is a Programme of Measures as defined in the MSFD (article 13). In this context, the Initial Assessment (article 8) provides the baseline for assessing if GES (article 9) is being achieved or maintained. In order to achieve and maintain GES, environmental targets (article 10) were developed to guide the progress from the present status to GES. The environmental targets form the main basis for devising national, regional, EU and international measures that are required under Article 13 MSFD to achieve and/or maintain GES.

The presentation then walked through the step by step process for the development of the programme of measures. Summarily, the current situation and objectives must be set. Intermediate targets for the objectives are derived from the objectives and translated into a set of measures that should be feasible, cost-effective, and sustainable. The programme of measures thus developed should be consulted with the public, implemented, monitored and adjusted if necessary.

At the beginning of the process is the baseline scenario, or “business as usual”. It is a projection of the development of a chosen set of factors in the absence of policy interventions. According to MSFD article 10, environmental targets should be set to guide progress towards achieving good environmental status, i.e., to bridge the gap between the baseline scenario (i.e. the current environmental status described under the Art. 8 assessment) and the desired status of the marine environment (GES).

The development of a baseline scenario requires a range of economic and technical expertise to account for, and investigate, trends and evolutions of a wide range of hydrological, technical, socio-economic and regulatory parameters. Some of the methods that need to be mobilised include economic and environmental modelling; review of existing planning documents that develop scenarios for key socio-economic sectors; interaction with, or participation of, key stakeholders.

The presentation then gave the case study of how Romania made its own baseline scenario. The main factors considered were tourism, shipping, fishery, shipyards, harbours, transport, and oil extraction. These activity sectors were then distributed along categories of pressures. Each had indicators defined for activity volume and relative importance as a source of pressure. In addition, the Danube RBMP was taken into consideration as a major source of pollution to the Black Sea, as well as existing measures (36 existing measures were identified and proposed to be included into Programme of measures). That made possible to identify the sectors that are negatively contributing, which measures are in place, and which measures are still needed.

### **3.9. Sea based and land-based sources of pollution – sources regulated by IED**

The presentation made an overview of pollution sources. It provided an inventory of the main sources of pollution in the marine environment from land-based sources and sea-based sources, while also looking at its consequences.

It is estimated that 80% of marine pollution comes from land-based sources. Municipal, industrial and agricultural wastes and run-off account for as much as 80 per cent of all marine pollution. Sewage and wastewater, persistent organic pollutants (including pesticides), heavy metals, oils, nutrients and sediments - whether brought by rivers or discharged directly into coastal waters - take a severe toll on human health and well-being as well as on coastal ecosystems. The result is more carcinogens in seafood, more closed beaches, more red tides, and more beached carcasses of seabirds, fish and even marine mammals.

Industrial pollution is generated on a wide scale along the Mediterranean coastline. Industrial pollution is one of the major environmental pressures addressed by the Land-Based Protocol (LBS) of the Barcelona Convention. Most of the countries are making significant efforts to control pollution from this source by developing specific strategies for dealing with wastewater treatment, solid waste



management and abatement of air pollution, and are issuing, inter alia, legislation on Effluent Limit Values (ELVs) for specific industrial sectors and/or specific pollutants, as well as Environmental Quality Standards (EQSs) for the receiving waterbodies (EEA-UNEP/MAP, 2014). Regarding the releases of pollutants to the marine environment from industrial development, according to the National Baseline Budget (NBB) data for 2003, 2008 and 2013 (UNEP/MAP, 2015) pollutants most emitted/ discharged are:

- 2003-hydrocarbons (minerals), BOD5 and sulphur oxides (SO<sub>x</sub>/SO<sub>2</sub>)
- 2008-oils and greases (organic), carbon monoxide (CO) and nitrogen oxides (NO<sub>x</sub>/NO<sub>2</sub>)
- 2013-atmospheric pollutants such as Nitrous Oxide (N<sub>2</sub>O), Carbon Monoxide (CO), Nitrogen Oxides (NO<sub>x</sub>/NO<sub>2</sub>) and Sulphur Oxides (SO<sub>x</sub>) and BOD5

The Industrial Emissions Directive is the most ambitious policy at EU level to deal with industrial pollution. It is based on an integrated approach, the use of best available techniques, inspections, and public participation.

Industry is one of many actors competing for water resources and polluting them as well. The legislative framework encompasses the Water Framework Directive (WFD), the Marine Strategy Framework Directive (MSFD), the Urban Waste Water Treatment Directive (UWWTD), the Industrial Emission Directive (IED), the Regulation on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) and all EU legislation on biocides, pesticides, pharmaceuticals, the content of chemical substances in goods or products and on their design. Industrial plants' water consumption and emissions to water and to waste water treatment plants impact whether the water objectives can be achieved or not.

In many EU MS emissions from industries into sewers are a load on wastewater treatment plants (WWTPs). Technology cannot remove all pollutants, which consequently are emitted to the aquatic environment. The load on the environment increases also if the incoming volume of water to the WWTP increases but the emitted concentrations of pollutants remain constant. Emissions to the sewers can contaminate sludge, obstructing a resource-efficient circular economy, e.g. on phosphorus recovery. Producers, importers and users of chemicals take insufficient account of EU requirements on water quality, especially as the water resources decrease and competition for water is intensifying.

In addition, in agriculture, excessive use of the fertilizers nitrogen and phosphorus create eutrophication of marine waters which is the accelerated, enhanced growth of phytoplankton and higher plant forms and an undesirable disturbance of the balance of organisms in the water. Land-based sources of nutrients both diffuse sources - from artificial fertilisers used in agriculture and from animal manure - and point sources from urban wastewater treatment plants, whilst reducing, are still the main sources of nutrients to waterways. Consequently, nutrient pollution affects supporting ecosystem services. The problems caused are serious and are manifested by algal blooms, anoxic water, destruction of habitats, reduced size and fecundity of marine organisms, and loss of biodiversity.

An emerging threat is pollution by pharmaceuticals. The effects are still not studied, but increasing concentrations may pose a danger to ecosystems and contaminate the food chain. Other treats mentioned were marine litter, especially polymers, and chemical pollution.

The presentation also explained the impact of pollution from activities at sea (shipping, fishing, oil or gas offshore, production, etc). One particular case related to shipping is the importance of ballast waters. Globally, it is estimated that about 10 billion tonnes of ballast water are taken on board ships and dumped each year. The water taken on board for stabilizing a vessel may contain dormant stages of microscopic toxic aquatic plants, such as dinoflagellates, which may cause harmful algal blooms after their release. Pathogens such as the cholera bacteria have been transported with ballast water. Many varieties of fish, plants, and other animals have all been found in ballast water and are carried around the world raising issues with invasive species.

The presentation ended with a few examples of damaging cases of coastal pollution in Dubrovnik and Korcula Island, Croatia.



### 3.10. The role of landlocked countries in the implementation of the MSFD

The presentation sought to highlight the role of EPPA land-locked beneficiaries in the implementation of the MSFD. The role of landlocked countries derives from the synergies between the WFD and the MSFD in relation to the conceptual relations between Good Environmental Status (MSFD) and Good Ecological Status (WFD). The existing cooperation structures implicated in the implementation of the WFD at river basin district level, especially the international river commissions, should play a crucial role in relation to achieve the common targets of both the MSFD and the WFD. All EU landlocked are involved in one or more of the relevant international river commissions which exist in the international river basin districts of the Danube (International Commission for the Protection of the Danube River), Elbe (International Commission for the Protection of the Elbe), Meuse (International Meuse Commission), Odra (International Commission for the Protection of the Odra River against Pollution) and Rhine (International Commission for the Protection of the Rhine) rivers. Several international river commissions have the MSFD on the agenda of their working activities in line with the requirements referred to article 6(2) of the MSFD. Several international river commissions and regional sea conventions have cooperation agreements in place as a support towards better implementation of WFD and MSFD goals.

Landlocked countries should pay particular attention when establishing WFD environmental objectives, MSFD environmental targets and associated indicators according to article 10, as well as the elaboration of the programmes of measures according to article 13. The consideration of the synergies between both directives in relation with the Programme of Measures: the WFD Article 11(6) has a similar goal as the MSFD Article 13 when stipulating that “Member States shall take all appropriate steps not to increase pollution of marine waters” and the respective measures are elements of the River basin management plans (RBMP) according to part A, point 7.11 of Annex VII of the WFD.

Finally, four key issues are of particular relevance to landlocked countries as highlighted in the EC Decision 2010/477/EU (which sets the criteria and methodological standards on GES of marine waters):

- The abundance/distribution of key trophic groups/species (RBMP - river continuity, etc) (Descriptor 4.3)
- Minimising human-induced eutrophication (N, P - UWWTD, ND, Phosphate –free detergents) (Descriptor 5)
- Concentration of contaminants (EQSD, REAC) (Descriptor 8)
- Marine litter (Descriptor 10)

### 3.11. Programs of Measures - The operational parts of the WFD and MSFD implementation

The presentation looked at how programmes of measures should be designed under the MSFD. It also provided a brief comparison with the operationalization of the WFD via RBMPs.

The WFD aims at protecting and enhancing all waters – groundwater, rivers, lakes, transitional waters (estuaries) and coastal waters – and includes terrestrial ecosystems and wetlands directly dependent on aquatic systems. The river basin management plans (RBMPs) are the key tools for the implementation of the WFD. The planning process should include an economic analysis of all the water uses in each RBD, as well as determining the pressures and impacts on the water environment.

The MSFD aims to protect the marine environment across Europe while allowing the continuation of sustainable uses of the sea. It requires EU Member States to establish national marine strategies to achieve or maintain Good Environmental Status (GES) in their marine waters by 2020. Member States shall, in respect of each marine region or subregion concerned, identify the measures which need to be taken in order to achieve or maintain good environmental status in their marine waters, including spatial protection measures, contributing to coherent and representative networks of marine protected areas and report on the exceptions where environmental targets or good environmental status cannot be achieved by 2020.

Member States shall indicate in their programmes of measures how the measures are to be implemented and how they will contribute to the achievement of the environmental targets. Such



measures can be existing ones under an EU regime or new measures under MSFD. To do this, Member States need to analyse the contribution that existing measures make to the achievement of each target and - if necessary – supplement this with new measures. MS must provide justification for exceptions where no measures will be taken. The types of measures available to the Member states are:

- Input controls: management measures that influence the amount of a human activity that is permitted.
- Output controls: management measures that influence the degree of perturbation of an ecosystem component that is permitted.
- Spatial and temporal distribution controls: management measures that influence where and when an activity is allowed to occur.
- Management coordination measures: tools to ensure that management is coordinated.
- Measures to improve the traceability, where feasible, of marine pollution.
- Economic incentives: management measures which make it in the economic interest of those using the marine ecosystems to act in ways which help to achieve the good environmental status objective.
- Mitigation and remediation tools: management tools which guide human activities to restore damaged components of marine ecosystems.
- Communication, stakeholder involvement and raising public awareness.

In order to ensure implementation, the programmes of measures should be followed by planning for implementation. The planning will change according to the circumstances of each Member State. The programmes of measures should also undergo a process of public consultation.

The presentation then gave the case-study of how Romania developed its programme of measures and what was included therein. Romania reports 36 existing measures (out of which two exist but are not yet implemented) and 38 new measures, out of which 16 were developed within the project 'Technical and administrative support for the joint implementation of the Marine Strategy Framework Directive (MSFD) in Bulgaria and Romania – phase II' funded by DG Environment. These measures are coordinated with Bulgaria. In the existing measures, the focus was on improving collection and treatment of urban wastewater, reduction of pollution from agricultural sources, ceasing/elimination/reduction of dangerous substances discharge, integrated coastal zone management, and protection of habitats. In the new measures focus was given to improvement of the monitoring and assessment (energy and noise), sustainable fishery, marine litter, and maritime planning.

Almost 9.5 billion Euro has been spent in the implementation of the 1st planning cycle, 97% for basic measures and 3% for supplementary measures.

The crucial lessons to be learnt from the Romanian experience are:

- The development of the program of measures involves proper monitoring and assessments
- There is a need for involvement of all stakeholders from an early stage
- Most of the measures are to be implemented by the stakeholders
- Economic analysis is essential for selection of measures and for exemptions
- Correlations between MSFD PoM and WFD PoM
- Financing is an issue which will determine proper implementation

### **3.12. WFD and MSFD implementation and results of cooperating within regional conventions, such as Barcelona Convention, in Croatia**

The presentation sought to present Croatia's experience with the implementation of MSFD and its cooperation with RSCs, as well as with RBMPs.

For the MSFD, the monitoring and observation programme in Croatia started 2016 the extent to which the available financial means have been allowed and continued during 2017 and 2018. The data was collected for the assessment of the condition by means of eight descriptors: D1 – biodiversity, D2 – non-species, D4 – nutrition networks, D5 – eutrophication, D7 – permanent changes in hydrographic conditions, D8 – pollutant concentrations, D10 – marine litter, D11 – underwater noise.



Croatia reported its programme of measures to the EC with delay. In fact, only 6 Member States reported their national programme of measures on time. The Commission launched the appropriate infringement procedures. By the cut-off date of February 2017, for the EC's report on the MS programme of measures, dated July 31, 2018, a total of 16 out of the 23 marine EU Member States 15 had eventually reported their national programmes.

The priorities for Croatia, in 2019, are to step up work on the identification of pressures, in particular in transitional and coastal waters; provide all relevant information on the level of compliance and the timing to reach compliance of agglomerations in accordance with Directive 91/271/EEC; ensure also compliance with Article 5 UWWTD for more stringent treatment, especially in big cities; take steps to clarify the method for the prioritisation of measures, including the assessment of costs and benefits in relation to the Flood Risk Management Plan.

Regarding the WFD, Croatia adopted and reported the second generation of River Basin Management Plan under the WFD and the EC assessed the status and the development since the adoption of the first River Basin Management Plan (RBMP), including suggested actions in the 2017 EIR. The most significant pressure on surface water bodies is diffuse pollution from agriculture (57% of surface waterbodies) and discharges not connected to sewerage network (54%). For groundwater bodies the most significant pressure is also diffuse pollution from agriculture (6%). Nutrient pollution was the most significant impact on surface water bodies (43%) and on groundwater (6%).

Croatia adopted operational monitoring in coastal and transitional waters in the second River Basin Management Plan. Only 10% of surface water bodies in Croatia are included in operational monitoring and 6% in surveillance monitoring. 42 % of surface water bodies are at good or better ecological status/potential. It indicates that Croatia has a long way to go to achieve the good status / potential objectives set down in the WFD. The total number of groundwater bodies failing good quantitative status recently decreased (from 1.9% to 0.5% of the total groundwater body area). Measures to mitigate the lack of finance and governance issues are still to be defined.

Based on the findings emerging from its 2nd River Basin Management Plans (RBMPs), Croatia is particularly encouraged to:

- Step up work on the identification of pressures, in particular in transitional and coastal waters
- Develop an appropriate methodology for the designation of Heavily Modified Water Bodies.
- Consider additional measures on point source pollution beyond the requirements of the UWWTD and IED to fulfil the WFD objectives
- Ensure that abstraction controls are in place and that information on uses, water exploitation and trends is collected and reported; consider use of natural water retention measures to mitigate risk to water quality from agricultural pollutants, consider adopting Drought Management Plan(s) and continue revising existing controls to ensure that agricultural practices do not cause hydro-morphological pressure and update controls where necessary
- Provide further details on the approach to public consultation and the active involvement of stakeholders, etc.

Regarding the RSCs, the Croatian Ministry of Environment and Energy (MEE) and its Marine Protection Service established in Rijeka (since 1970) participates in implementation of activities of Barcelona Convention and related Protocols. Croatia participates in the implementation of the work plan of The Mediterranean (MAP), The Mediterranean Pollution Assessment and Control Programme (MEDPOL), Ecosystem Approach in the Mediterranean (ECAP), The Priority Actions Programme Regional Activity Centre (PAP RAC) and Mediterranean Commission on Sustainable Development (MCSD MEE). Croatia regularly submits Annual Reports related to implementation of Barcelona Convention and its Protocols.

### **3.13. Economic and social analysis of the cost of degradation and approaches for analysing the cost of degradation of the marine ecosystem**

The presentation sought to show the analysis of the cost of degradation can constitute a basis for the cost-benefit analyses of measures (article 13 MSFD) and/or as a justification for the discussion of potential exemptions (article 14 MSFD). There are three approaches for analysing the cost of



degradation of the marine ecosystem: the ecosystem services approach, the thematic approach, and the cost-based approach.

The cost-based approach is based on existing quantitative data on costs of measures currently implemented to prevent degradation of the marine environment (i.e. basically setting the costs of degradation equal to the costs of protecting the marine environment). This approach is based on the assumption that current costs for measures to prevent environmental degradation would only have been made if the value of what is obtained (preventing degradation) is higher than the cost of the measures. The potential value of ES under GES is calculated, and the difference between this value and the expected value (under BAU) represent the costs of degradation.

Ecosystem degradation is any process or activity that removes or lessens the viability of ecosystem processes. The traditional approach to ecosystem degradation combines land degradation and some changes in the particular non-physical patterns within an ecosystem.

The thematic approach is a simplified version of the Ecosystem Services Approach, which includes an analysis of the present costs, expenses and loss of benefits related to the anthropogenic degradation of the marine environment.

The key recommendations for analysing the cost of degradation of the marine ecosystems are to:

- To strengthen methodology for the socio-economic analysis with additional assessment of the degradation/restoration costs and MSFD implementation costs/benefit analysis;
- To improve GES definitions including through regional cooperation using the work of the Regional Seas.
- To identify knowledge and information gaps and address these, i.e., through the monitoring programs under the MSFD
- To further develop its approaches to assessing (quantifying) impacts from the main pressures
- To ensure that the targets cover all relevant pressures and meet requirements and timelines of the MSFD.

### **3.14. Cost-Effectiveness Analysis (CEA) of measures and justification of disproportionate costs under the WFD**

The presentation gave a detailed explanation of the cost-effectiveness analysis for the programme of measures as mandated by annex III of the WFD: “make judgements about the most cost-effective combination of measures in respect of water uses to be included in the programme of measures under Article 11 based on estimates of the potential costs of such measures.”

Cost effectiveness analysis (CEA) is an appraisal technique that ranks various measures on the basis of their cost and effectiveness, where the most cost effective has the highest ranking. The CEA is used to assess the cost effectiveness of measures which could be used to achieve the environmental objectives set out in the Directive by plotting cost vs expected results in terms of water status.

Based on the initial assessment of pressures and polluters, the appropriate measures will be identified together with its expected impacts on water status. The selection of measures will also take into account the different mixtures of measures possible as the interaction can have (or not) synergetic effects. The cost calculation is then done for the measures and/or combination of measures. The calculation will allow to establish the most cost-efficient measure or combination of measures (prioritized based on their efficiency). While establishing the cost component it is important to take into account direct (investments, operations, etc) and indirect costs (expenses required to operate the measure that are not direct labor, direct materials, or other direct expenses). The effect measurement can be done quantitatively and/or qualitatively, for instance, “reduced impact”, “medium impact”, “high impact”.

The Identification of most cost-effective combination of measures is itself rated according to a set of criteria:

- Reaching the environmental objective until 2021-2027
- Ecological efficiency of measures/instruments has to be assessed on a proper scale.



- Time till the effectiveness is achieved
- Costs

A cost-effectiveness analysis (CEA) can be a decision support for selecting the most cost-effective combinations of measures for inclusion in the Programme of Measures as described in Article 11 of the WFD. Conducting a full CEA, however, faces significant challenges, most of them linked to data requirements and availability, e.g. on the costs of measures, or on the quantified impact in terms of reaching WFD objectives. These challenges apply to both the national (and sub-national), as well as the transboundary levels.

The Water Framework Directive (WFD) offers the possibility to Member States (MS) to use exemptions to take longer time periods to achieve environmental objectives or to achieve lower ones as those specified by the Directive. The analysis of costs and benefits should remain in most cases the basis for deciding on cost disproportionality. Disproportionate costs remain an issue, without firm conclusions, due to:

- The lack of a standard procedure that combines different assessment steps as basis to justifying exemptions in a transparent manner
- The scale or the combination of scales at which the tests or procedure would be applied: individual economic sector (ability to pay?), water body (costs?), sub-basin (protected areas, benefits?) or larger river basin (political ambitions) or country/regional government (budgetary implications)
- The practical implications that would result from the application of this procedure in terms of information, data and tools/methods to be mobilised.
- The need to propose threshold values or limits to decide in a coherent manner (a) when to develop more complex assessments or (b) when “it” is disproportionate or not. Threshold values have been proposed for example (a) for the relative share of additional costs of the programme of measures as compared to existing water management costs, (b) to compare total costs of the programme of measures to GDP or c) when assessing benefits from achieving good water status classified as low, medium and high.

The presentation then went into the example of the Romanian approach to disproportionate costs. Romania did a preliminary pre-screening to select the measures with respect to cost effectiveness analysis. It then made the CEA (step 1), shared costs between sectors without transfers (step 2) and finally assessed the affordability and alternative financing mechanisms (step 3). If the benefits are below 80% of the costs, the costs can be considered as disproportionate without any additional analysis. If the benefits represent more than 80% of the costs it will be proposed to implement step 2 and 3 on affordability and alternative financing mechanism in order to conclude whether the costs are disproportionate.

In step 2, sharing the costs between sectors, Romania applies the user pays principle. It means that 100% of the costs are shared at sub basin level between agriculture, households, and industry. For households, the new price will be compared to the incomes of the households. If the price overweighs 2 to 3% of the incomes, according to World Bank OECD ratios, the costs can be considered as disproportionate. Regarding agriculture and industry, the impact of the costs of the programme of measure is calculated on a relevant indicator (added value, EBE, net benefit, raw benefit,...) to be defined is close relation with both institutes of statistic and forecasts. If the costs overweight 2 to 3% of the chosen indicator, the costs can be considered as disproportionate.

In step 3, affordability and alternative financial mechanisms, Romania integrates the relevant alternative financing mechanisms in order to diminish the financial constraint on the local actors. At the end of this step it will be possible to see if the costs remain disproportionate even with alternative financing mechanism or if these alternatives allow that the costs are no longer disproportionate.

Ultimately, the presenter concluded, the judgement on the disproportionality of costs will be a political decision. Accordingly, objective criteria have to be developed to ensure a transparent decision-making process.



### 3.15. Cost-benefit analyses of measures for the discussion of potential exemptions (Art. 14 MSFD and Art. 4.7 WFD)

The presentation started by comparing the programme of measures requirements in the WFD and the MSFD, transitioning to the cost benefit assessment in the frame of MSFD. A "measure" in the MSFD should be considered as any action on a national, European or international level with a view to achieving or maintaining GES and with reference to the environmental targets.

The cost benefit analysis (CBA) is a method for comparing policy measures against the baseline situation in terms of their advantages (benefits) and disadvantages (costs). It is similar with costs assessment in the frame of WFD. CBA essentially involves estimating all the negative and positive economic, social and environmental impacts. CBA can be done at various levels, depending on data availability. It can be either a full CBA when the most significant part of both costs and benefits can be monetised utilising economic values derived through various economic techniques (e.g. market, revealed and stated preference based methods); or a partial CBA in cases where only a part of the costs and benefits can be quantified and/or monetised.

In terms of cost assessment (similar to WFD CEA), the costs of new measures differ depending on whether they refer to technical measures or policy instruments. In case of technical measures, costs mainly consist of direct investment and operational and maintenance costs. However, the costs associated with the policy instruments and their implementation are indirect costs (administrative costs for the regulator).

Regarding the benefit assessment, the benefits from new measures can be described by identifying use and non-use values. The use values can be separated into direct use values such as fishery production and recreation and indirect use values such as values of environmental functions or the effects on living conditions. Non-use values capture the less tangible values derived from the implementation of the measure within the MSFD. A number of the expected benefits (both environmental and socio-economic ones) associated with new measures can be presented for impact assessments. These can be either fully monetised or in certain circumstances due to scale of uncertainties given for illustrative purposes only. One of the main issues with applying CBA for the MSFD, is the lack of knowledge on the links between potential measures, improvement of marine ecosystems and corresponding economic and social value. Similar to the WFD CEA issue on effects, individual and cumulative impacts of different pressures on the status of the marine environment are not yet well understood. Specifically related to CBA, information is limited on how these impacts translate into changes in human welfare (i.e. the benefits derived from the ecosystem or the changes in ecosystem goods and services which affect human welfare).

Art 4.7 of the WFD refers to exemption. Under the first limb of Article 4(7), Member States are considered not to be in breach if the failure to achieve good ecological status or, where relevant, good ecological potential, or to prevent deterioration in the status of a body is the result of new modifications to the physical characteristics of a surface water body. Under the second limb of Article 4(7), Member States are considered not to be in breach if the failure to prevent deterioration from high status to good status of a body of surface water is the result of new sustainable human development activities. The article provides further conditions to be met for the exemptions to be considered lawful, namely the existence of mitigating steps, that such reasons are taken into account in RBMPs, the reasons are in the public interest, and that the reasons are linked to disproportionate costs. Regarding the interplay between MSFD vs WFD Art 4.7, both the MSFD and the WFD address coastal water bodies, but the MSFD clarifies its scope in covering coastal water bodies to those particular aspects of the environmental status of the marine environment which are not already addressed through the WFD. The MSFD consequently applies to WFD coastal water bodies for additional topics such as birds, cetaceans, fish, litter, underwater noise and other aspects not already addressed by the WFD (coastal erosion). Article 14 of the MSFD thus provides for certain exceptions to achieving good status in its coastal and marine waters. Article 14(1) 291 (d) provides that Member States must notify the Commission in case they identify an instance where good status cannot be achieved due to modifications or alterations to the physical characteristics of marine waters brought about by actions taken for reasons of overriding public interest which outweigh the negative impact on the environment,



similarly to the provisions in the WFD. However, Member States have to take appropriate ad-hoc measures aiming to continue pursuing their environmental targets, to prevent further deterioration in the environmental status and to mitigate the adverse impact at the level of the marine region or sub-region concerned or in the marine waters of other Member States.

As the WFD covers all coastal waters out to one nautical mile beyond the baseline from which territorial waters are drawn, new physical modifications, like dredging, port construction, drainage or flood protection taking place within this area or with an impact on this area must be assessed for WFD compliance and the possible application of Article 4(7) requirements.

The presentation concluded with the case study of mitigation of coastal erosion under WFD Art 4.7. The mitigation measures (new coastal structures including above 1 mile, beach sand recharges, bio structures and artificial reefs) were put to a WFD compliance assessment of cause-and-effect mechanisms. The project was authorized based on WFD article 4.7.

### **3.16. Financing structure for the protection of the marine environment vs the cost recovery issue in Art. 5 WFD**

The presentation looked at the available co-funding mechanisms available in the EU to support the implementation of the MSFD in the framework of the coming 2021-27 EU budget. The budget poses some challenges as there will no longer be contributions from the UK and the emerging priorities in another policy areas. The new approach will focus on EU Added Value, i.e., focus on areas where the Union can have a bigger impact than public spending at national level, while increasing flexibility and simplifying funds structure.

In the new budget, there is a forecast for a strong sustainability pillar, which will likely include a significant increase for LIFE, 25% earmarking for climate action and mainstreaming of environmental objectives in main spending programmes. The natural resources and environment budget pillar is expected to have 378 billion euros (it also includes agriculture and maritime policy).

In terms funding organization, cohesion policy funds are the second biggest EU investment programme with € 273 bn. (-7%) to support the economic, social and territorial cohesion of the European Union. For the first time, environment is part of the thematic grouping. There is earmarking for PO2 “A greener, low-carbon Europe” in some regions. However, there will be lower co-financing rates, back to the pre-financial crisis levels. Environment investments will be subject to Enabling Conditions (Annex IV ERDF/CF regulation).

The Neighborhood, Development and International Cooperation Instrument (External Action), whose objective is to uphold and promote EU values and interests worldwide, will include €89,5 bn. There will be a stronger focus on geographic pillar and reduced thematic pillar.

A separate instrument (IPA) will exist for candidate countries, for humanitarian aid, and for Greenland and OCTs. There will be five IPA windows grouped in the logic of specific objectives. There will be indicative annual envelopes for each window, there will be no overall national envelopes from the onset, and it will be based on "fair share" principle and criteria (project/programme maturity, expected impact and progress on accession), leading to more focus on performance of the entire envelope.

Regarding Life, the Program for Environment and Climate action, the budget increases from €3.2 bn. to €5.4 bn, with two main fields of action (Environment and Climate) and four sub-programmes (nature and biodiversity, and circular economy and quality of life; mitigation and adaptation, and renewable energy transition, respectively). Life will seek to strengthen integrated projects and create strong synergies with other funds.

Horizon Europe (research and innovation) will significantly increased (close to € 100 bn) in line with the new policy priority on innovation.

The InvestEU Fund is the Union's new investment instrument (EFSI successor). It provides an EU guarantee (€15,2 bn) to mobilise public and private financing for strategic investments supporting EU policies. It is expected to mobilise more than €650 billion of additional investment.

The European Maritime Fishing Fund will provide several opportunities to finance the Common Fisheries Policy and the Integrated Maritime Policy. Specifically, dedicated support is provided for the management, restoration and monitoring of coastal and marine Natura 2000 sites. In addition, support



is also made available for the management, restoration and monitoring of other marine protected areas (MPAs) to support the implementation of MSFD.

WFD Article 9 calls for the recovery of costs for water services based on an adequate contribution of the different water uses, disaggregated into at least industry, households and agriculture based on the economic analysis conducted according to WFD Annex III and taking account of the polluter pays principle. The application of the article can help Member States secure funding for water management investments. In the EU the definition of water services varies among countries. The narrow definition of water services is limited to traditional drinking water and sewage services. The wider definition includes all man-made changes in the hydrological system that serve a given water use (e.g. a dam built for generating hydropower is viewed as a water service provided to the electricity company). This is considered one of the barriers to harmonisation of water pricing across the EU.

### 3.17. The role of CSOs and civil society in implementation of MSFD

The presentation looked at the requirements for public participation called for in a number of EU water related directives, including the WFD, MSFD, Floods Directive, and the Maritime Spatial Planning Directive. A summary view can be had from the following figure.

Directive	Forms of public participation			
	Access to information	Information supply	Consultation	Active involvement
WFD, 2000	On request, to background documents and information	Shall publish draft documents for comments	Make available for comments to the public	All interested parties in production, review and updating of the RBMP
FD, 2007	make available to the public	In coordination with WFD	All interested parties in production, review and updating of the flood risk management plans, in coordination with WFD	
MSFD, 2008	Reference to the Directive 2003/4/EC	Shall publish summaries of documents for comments	Make available to the public for comment	All interested parties in implementation
MSP Directive, 2014	Access to the final MSP: relevant stakeholders; authorities; public concerned	Informing all interested parties on MSP development	Consulting relevant stakeholders; authorities; public concerned; Reference to the Directive 2003/35/EC	Encourage relevant stakeholders to share information

Figure 1 - Forms of public participation in Water Directives

The presentation highlighted the key success factors for public participation:

- A timely involvement of stakeholders, ideally from the beginning of the process
- The selection of the group of stakeholders to involve in the process, which should be well balanced, reflecting the social/cultural, economic and ecological interests in the management area
- Transparency of the public participation process
- Management of expectations of all involved
- A feed-back-mechanism informing stakeholders on which inputs were taken up in the final plan, which were not, and why.

The role of CSOs and civil society in implementation of MSFD is crucial. There is no successful policy implementation without having the wider public on-board and active, especially in marine litter issues in the MSFD context. As an example, the presentation looked at the expressed priorities by a coalition of NGOs for MSFD descriptor 10, marine litter. They were organized under 3 targets: 1) end of input of litter to the seas (by 2035), 2) setting 50% quantitative reduction target for 2020 (legally binding), and 3) adopt binding, (ambitious) recycling and waste prevention targets, incl. specific plastic recycling target (to reduce damage to marine environment). These targets were broken down into suggested, specific measures on general policy level, EU level, and national level.



As a conclusion, and an encouragement to do better and involve civil society, the presentation ended with the results of eNGOs evaluation of national Programmes of Measures (2016):

- Low level of ambition
- “soft” measures prevail
- Public consultation process still to be improved (e.g. post consultation feedback missing, need for wider audience)
- Lack of financial commitments

### 3.18. Key recommendations for landlocked countries

In order to better reflect on the content of the workshop, and to more clearly have the perspective of the beneficiaries, the work for the remaining time was structured in working groups. The attendants were divided in three working groups, according to their interests. Each group had 8 to 10 members, elected a rapporteur and discussed a set of pre-defined questions. Their conclusions were the reported back in plenary by the rapporteurs. The working groups, their respective topics, and answers were:

#### 1. Working Group 1 - Policy and Institutional issues for efficient and harmonized WFD and MSFD implementation

##### 1.1. Policy response in the national water legislation reflecting requirements of MSFD for landlocked countries. Are any provisions reflected in the Water Law or Water Strategy, Actions Plans, other regulatory framework?

*In the group there was only one landlocked country. From their experience, there are clear responsibilities set forth and competent institutions in the Water Law. There are also transboundary memorandums with the marine neighbouring countries in which actions are established to protect the marine environment and to contribute to the MSFD. There are also specific provisions in the law to reach the same goals.*

##### 1.2. Do you consider that the national legal and regulatory framework need to be improved to support setup and management of Marine Protected Areas?

*In most countries there is specific legislation related to the protected areas of NATURA 2000, but updates are necessary and a new drive for implementation in marine areas is needed taking into account the MSFD.*

##### 1.3. Do you think that a strategic plan for marine and coastal protected areas needs to be prepared to facilitate the joint WFD and MSFD implementation?

*Yes, it is an issue to be supported. In some countries there are provisions for the integrated coastal zone management, which is an instrument that connects land and sea and the WFD and the MSFD. This could be improved based on experience exchange within the EPPA project.*

##### 1.4. Do you think that topics connected with regulatory framework, management scenarios for existing coastal protected areas, conservation approaches, cost-effective management of protected areas can represent specific topics of interest to be further discussed for tailor-made training for one country and future workshops under EPPA? Or any others?

*Yes. In addition, the group identified financial issues (cost recovery, tariffs) and economic mechanism for water and wastewater services, to be of interest for future events. The focus is on finding financing sources for the measures. Other subjects of interest are hydropower and industrial waste waters discharged in public sewage systems, in particular in terms of regulations and measures that can enhance water protection. Public participation should also be taken into account. Management scenarios for existing protected areas, conservation approaches, cost effective management of protected areas can be also of high interest.*



## 2. Working Group 2 – Land and sea interaction and integration

### 2.1. Are the land and sea interaction and integration considered in your country within the WFD and MSFD implementation process? If yes, how? (planning phases, development of RBMP, Initial Assessment under MSFD, pressures assessment under WFD, Program of Measures)

- *From the Turkish point view, integrated implementation can still be further developed because there are 2 different ministries competent for WFD and MSFD. Turkey is missing a common legislative background to deal with these 2 synergetic processes. Two different Program of Measures (PoM) envisage on one side the coastal waters and on the other side the marine waters. This due to the fact that two different Ministries coordinates the above two PoM, but most of all due to lack of cooperation in terms of achieving an integrated approach.*

*It is clear that Serbia and Bosnia Herzegovina as land lock countries in relation with Black Sea do not need to consider specific actions in relation with sea protection taken into account MSFD provisions. However, as signature countries of Danube Convention the above countries contributes to the development of Danube River Basin Management Plan and implicitly to the Joint Program of Measures (JPM). The JPM is built upon the results of the pressure analysis, the water status assessment and includes, as a consequence, measures of basin-wide importance oriented towards the agreed visions and management objectives. It should be highlighted that the ICPDR's basin-wide vision for nutrient pollution is the balanced management of nutrient emissions via point and diffuse sources in the entire Danube River Basin District that neither the waters of the Danube River Basin District nor the Black Sea are threatened or impacted by eutrophication. As for Adriatic Sea (BH has a small opening length to Adriatic Sea approx. 30 Km) there is an integrated approach in terms of common wastewater collection pipe, which is an old one.*

*The conclusion is therefore clear that the above land lock countries acts in line with MSFD by contributing to common measures with positive effect in terms of reaching the MSFD objectives.*

### 2.2. What type of measures would you consider most useful, from those listed below?

- Developing methods to map and analyze how activities on land affect the sea and vice versa
- Working across different governance systems and administrative levels with different approaches to marine environment
- Integrating planning processes across borders, sectors and levels
- Integration different stakeholders' needs, interests and time frames in an efficient, equal and transparent way
- Collecting and compiling different, often fragmented knowledge and data across borders and levels

*From the landlocked countries perspective, urban wastewater treatment is one of the most useful measures, as well as working to develop and implement RBMPs. For Turkey, the focus should be on industrial pollution in addition to urban wastewater.*

### 2.3. Which of these questions/topics would you consider useful to be further discussed for tailor-made training for one country and future workshops under EPPA? Or any others?

- *There is an interest in learning more about national, common legislative provisions for the implementation of WFD and MSFD, including any interinstitutional bodies dealing with marine environment and river basins. How are such bodies set up and what is the administrative and legal set up behind them? How the effect is assessed and integrated? Which are the related financing sources. Clarification is needed for who finances what.*



### 3. **Working Group 3 - MSFD interaction with other sectors' policies**

#### 3.1. **Would you consider the following sectors policies as being relevant for the MSFD interaction: Biodiversity, Fishery, Integrated Coastal Zone Management, Maritime Spatial Planning, Agriculture, Climate change, Aquaculture, Energy. Others?**

*Working group 3 considered all listed sectors' policies as relevant for the Marine Strategy Framework Directive. Furthermore, Working group 3 considers also some other sectors' policies also relevant:*

- *Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). It aims to improve the protection of human health and the environment including through the better and earlier identification of the intrinsic properties of chemical substances. The large number of substances have been manufactured and placed on the market in Europe for many years, sometimes in very high amounts, and yet there is insufficient information on the hazards that they pose to human health and the environment inc. water and maritime environment.*
- *Waste Management and Hazardous Waste Management inc. Single Use Plastic Directive. Directive 2008/98/EC on waste (Waste Framework Directive) sets the basic concepts and definitions related to waste management and lays down waste management principles such as the „environment protection“, the "polluter pays principle" and the "waste hierarchy". Hazardous wastes pose a great risk to the environment and human health and thus require a strict control regime. This is laid down in particular in Articles 17 to 20 of Directive 2008/98/EC. It provides additional labelling, record keeping, monitoring and control obligations from the "cradle to the grave", i.e. from the waste production to the final disposal or recovery. In addition, mixing of hazardous waste is banned to prevent risks for the environment and human health. The EC proposed on May 2018 new EU-wide rules to target the 10 single-use plastic products most often found on Europe's beaches and seas, as well as lost and abandoned fishing gear. Together these constitute 70% of all marine litter items. Sustainable consumption policy is also relevant.*
- *IED Directive 2010/75/EU of the European Parliament and the Council on industrial emissions (the Industrial Emissions Directive). Industrial production processes account for a considerable share of the overall pollution in Europe due to their emissions of air pollutants, discharges of waste water and the generation of waste.*

#### 3.2. **Do you consider that the MSFD interactions with other policies need to be reflected through ecosystem-based spatial plans? Or which are tool can be used?**

*Group 3 considered that the MSFD interactions with other policies need to be reflected through ecosystem-based spatial planning.*

*The EU Maritime Spatial Planning Framework Directive (2014/89/EU) aims to set the framework for maritime spatial planning with the objective of promoting the sustainable growth of maritime economies, sustainable development of marine areas and sustainable use of marine resources, applying an ecosystem-based approach, promoting the coexistence of relevant uses and activities and taking into account land-sea interactions. In this sense, the ecosystem-based approach must seek to contribute to the sustainability of development of marine areas, of activities at sea and of uses of marine and coastal resources.*

*The Directive requires EU Member States to establish maritime plans before 31 March 2021 and apply the ecosystem-based approach to enable the sustainable development of*



*maritime activities and the preservation, protection and improvement of the environment.*

*Behind this risk-based approach should also be in place. Risk-based approach to Good Environmental Status (GES) aims to support the development and operational implementation of regional indicators, lists of elements and threshold values and integration rules for Good Environmental Status. The representatives from Montenegro presented the testing of ecosystem-based spatial planning through recently performed assessment of vulnerability of Boka Bay in Montenegro as a part of ecosystem-based approach in spatial planning.*

**3.3. Do you think that the run-off of nutrients from an agricultural area into a freshwater body that ends up in coastal waters and contributes to eutrophication of the seas needs to be considered in the Program of Measures under WFD?**

*Answer is yes.*

*The Water Framework Directive (WFD) establishes a framework for sustainable water management through the development of River Basin Management Plans (RBMPs) and Programmes of Measures (PoMs), with the objective of preventing deterioration of the aquatic environment and of achieving good status of all water bodies by 2015. According to the WFD, the PoMs are established in order to achieve the environmental objectives of the Directive, and should therefore include the actions that Member States plan to take for that purpose. PoMs already has some measures that tackle the problem of the run-off of nutrients.*

**3.4. From the listed questions/topics which are those that can be further examined as specific topics for tailor-made training for one country or during regional workshops under EPPA?**

*Group 3 expressed the interest that follow questions / topics could be further examined in tailor – made training for one country or during regional workshops:*

- maritime spatial planning for sea based countries*
- monitoring system in sea based as well as in land locked countries*
- the run-off of nutrients from agriculture into freshwaters and interaction with MSFD*
- the use of sludges from UWWTP in agriculture sector*
- the impact of mining sites and mining slages*
- the management of all sources of pollution in sea based and in land locked countries (e.g. industrial sector, waste sector, reduce using of plastic, ...)*

## 4. Conclusions

The main conclusions of the workshop proceedings are that it is vital for the authorities to understand the need to plan the implementation of the WFD and the MSFD in synergy. In addition, landlocked countries have an important role to play in marine environments through the management of their river basins, in addition to the provisions of the MSFD that apply to them. To pursuit these goals both inter-institutional cooperation at national level, and international cooperation are needed. International cooperation can take the form of cross boundary agreements between states or in the framework of existing structures like the Regional Seas Conventions and international river basin bodies.

Policy responses to MSFD from the beneficiary landlocked countries seem to either be in place or in the process of starting, showing regional awareness to the international dimension of marine environments. In the marine beneficiaries, there are in place provisions for marine environment, but they need to be reinforced with full transposition of the directive and implementation efforts need to start in earnest. Beneficiaries see the value of integrated coastal zone management as an important tool to connect land and sea management and the WFD and the MSFD. In some of the beneficiaries the integration of WFD and MSFD management is seen to need improvement.



One of the issues seen as more pressing, especially from the landlocked countries perspective, is urban wastewater treatment, as well as working to develop and implement RBMPs. Industrial pollution was also considered to be an important source of marine pollution that needs to be tackled.

The beneficiaries also recognized the linkages between different policy areas, without which a good marine environment cannot be achieved. Some of the main linkages identified were with agriculture (nutrients runoff and eutrophication of the seas), to be tackled within the WFD, ecosystem-based spatial planning, REACH, IED, Waste Framework Directive, biodiversity (related directives), fisheries and aquaculture, energy, and climate change.

Finally, the beneficiaries identified the following topics as relevant for further policy developing and implementation, and to be supported in EPPA's capacity building activities:

- Funding sources for measures, including the use of tariffs or/and taxes to cover costs
- Industrial waste waters discharged in public sewage systems
- Public participation in water management
- Hydropower - ecosystem impacts and regulation options
- How to develop and maintain cross-border planning processes, including also the economic sector
- Interinstitutional bodies dealing with marine environment (MSFD) and river basins (WFD). How are such bodies set up and what is the administrative and legal support behind them.
- Maritime spatial planning for sea-based countries
- Monitoring systems in maritime, as well as in land locked countries
- The run-off of nutrients from agriculture into freshwaters and interaction with MSFD
- The use of sludges from UWWTP in the agricultural sector
- The impact of mining sites and mining sludges

### **Workshop outputs**

The workshop's main outputs were:

- Facilitated regional cooperation in transboundary water management and protection of the marine and coastal environment
- Enhanced understanding of the topics, challenges and tasks, and related responsibilities along meeting targets connected with landlocked countries requirements on MSFD and WFD implementation
- Enhanced exchange of experiences within the beneficiary region and between the beneficiary region and EU Member states
- Established contacts between water management practitioners of the beneficiaries, resulting in better regional cooperation
- Identified key obstacles impeding the tasks implementation and related solutions
- Better capacity to deal with the requirements of the relevant EU acquis

## **5. Evaluation**

The participants were asked to evaluate the workshop post-factum. They received a paper format questionnaire at the end, consisting of six questions along two pages, in order to assess the impact of the workshop in light of the EPPA project objectives. Later, the participants also filled in a second questionnaire circulated electronically by TAIEX, asking them to provide feedback on technical and logistical aspects. This report presents the results of both evaluations.

### **5.1. The EPPA impact evaluation**

The EPPA impact evaluation questionnaire is composed of six questions, the first five looking at the specific impacts of the workshop, and one asking the respondents to offer their opinion on their country's priorities and suggestions for future EPPA events.



The first five questions are “agree/disagree” questions, in a scale from “strongly disagree” to “strongly agree”. Each includes a space allowing the respondents to explain or offer more information about their level of agreement. The final question is of open-ended type. The results of each question are presented here, one by one.

Twenty participants filled in the paper-based questionnaire. There were no answers received from North Macedonia.

Answers per beneficiary	
Beneficiaries	Nr of answers
Albania	2
Bosnia and Herzegovina	3
Kosovo*	4
Montenegro	3
North Macedonia	0
Serbia	3
Turkey	4
Undisclosed	1

Figure 2 - Answers to EPPA evaluation questionnaire per beneficiary

**Question 1 - The event agenda, and corresponding outcomes, were relevant to my country’s priorities and needs in the given subject**

The majority of participants were satisfied with the workshop agenda, with 25% strongly agreeing and 70% agreeing that it was relevant. If compared with the results of the next questions, the data shows a smaller level of satisfaction regarding the agenda (only 25% strongly agreed). Even if the workshop was successful, as shown by the numbers below, it can be concluded the participants are demonstrating ambition for evermore challenging and complex approaches to the topics.

In the comments to the question, one participant mentioned that the topics were useful and that they showed a lot of work still remains ahead to improve implementation of the two directives in the beneficiary region.

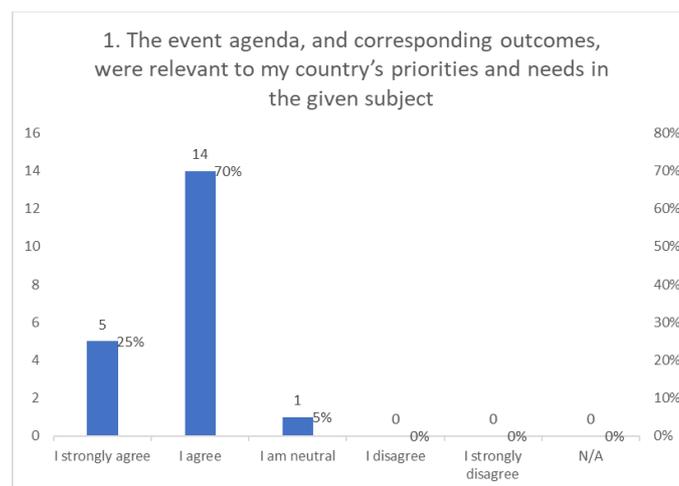


Figure 3 - Agenda and outcomes relevance

**Question 2 - My work performance will benefit from the event in terms of knowledge/expertise gained, contacts established, best practices, others.**

As to whether the workshop contributed to the participants' knowledge in the area, the answers were overwhelmingly positive with 45% strongly agreeing and 50% agreeing.

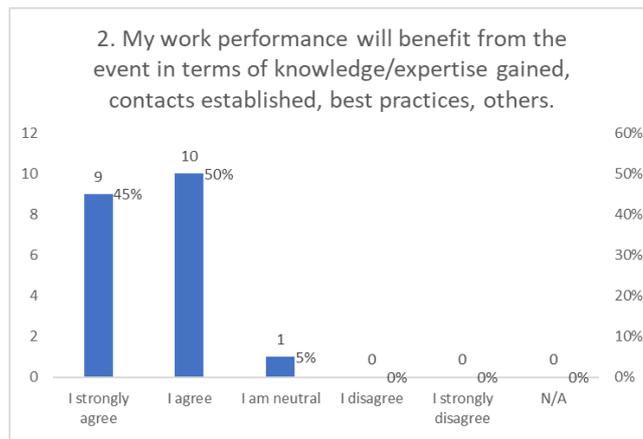


Figure 4 - Better work performance

**Question 3 - This event contributed to enhanced regional cooperation in the EU candidate countries and potential candidates in the implementation of the EU environmental acquis**

The results were also positive in terms of the workshop's contribution to enhanced regional cooperation. 90% agreed or strongly agreed, whereas 10% were neutral.

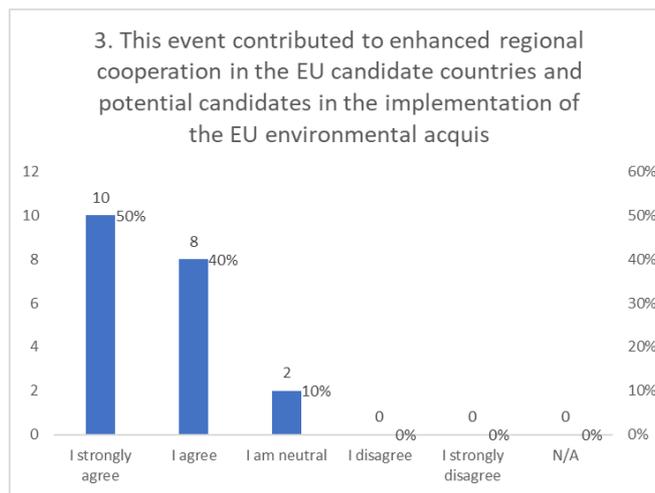


Figure 5 - Regional cooperation

**Question 4 - This event contributed to increased alignment of my country's legislation with the EU environmental acquis, and its enforcement.**

The answers were also positive regarding the contribution the workshop provided to assist alignment efforts with water policy. 50% agreed, and 35% strongly agreed. There was a comment that explained the contribution of the workshop to alignment was neutral, in their opinion, because the beneficiary has a complicated administrative structure. This fact helps to explain why 15% declared themselves neutral.



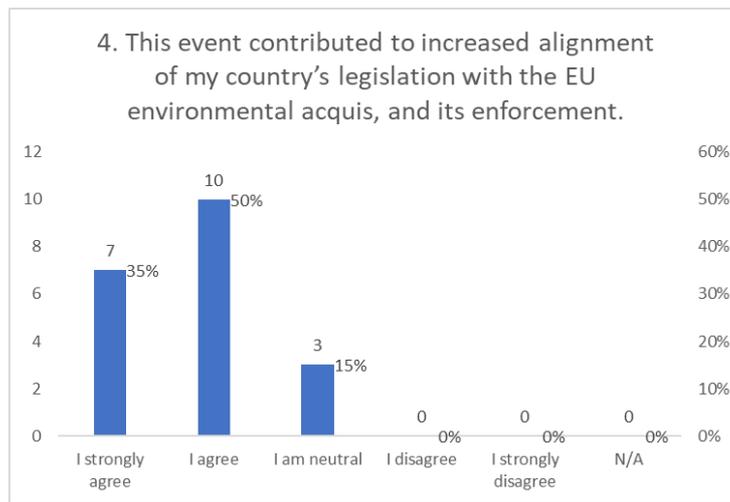


Figure 6 - Alignment with the EU acquis

**Question 5 - This event contributed to increased capacity and technical knowledge of my organization to deal with transboundary environmental issues, in line with EU acquis**

The participants were 100% satisfied (45% strongly agreed, 55% agreed) with the workshop's contribution to increase capacity and knowledge to tackle transboundary water issues, as laid out in the WFD and MSFD.

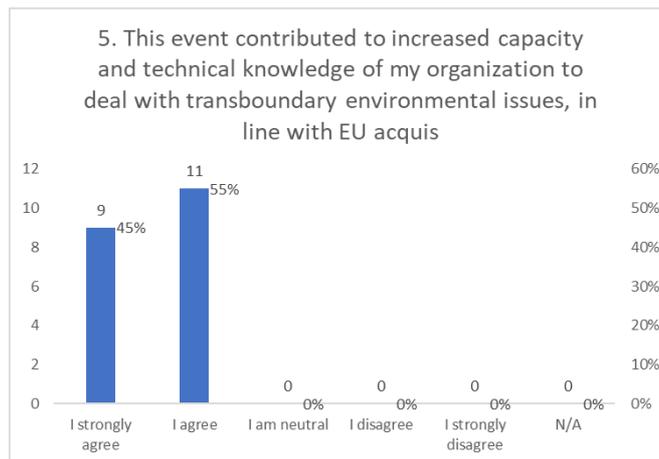


Figure 7 - Capacity for transboundary issues

**Question 6 - Do you have general recommendations, for the future, regarding the topic and how best to address your country's needs?**

The participants provided valuable input in terms of the topics they would like to see broached in future occasions. Several pointed out the need to cover the issue of water pricing and tariff calculation, implementation of metering, the discharge of industrial waste waters into public sewage systems or surface waters.

Also mentioned was the use of, and treatment of, sludge from waste water treatment plants, small hydropower plants and their influence on waters and linked biosphere, particular sources of land based pollution (nutrients from agriculture and pharmaceuticals), EU best practices on how to integrate planning and implementation of WFD and MSFD across different institutions, especially when competences are legally shared by multiple actors, and more case-studies of WFD and MSFD implementation (highlighting challenges and regional cooperation).

One other topic was suggested repeatedly, namely public participation in water management.

Finally, one participant, referring to the particular situation of their country, suggested that the EU should increase available funds to finance implementation of river basin management plans in order to



increase the percentage of waste water treated and thus to improve the ecological status of the Black and Adriatic Seas.

## **5.2. The TAIEX technical and logistical evaluation**

*To be completed once TAIEX evaluation data is made available.*

\*This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence