INBO
International Network of Basin Organizations

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EURO-INBO 2025 – Opening Panel Report

Discussion Panel on Current EU Policies Related to Basin Management

Parma, Italy - May 2025

Inviting authorities:

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The discussion panel was introduced by Dr. Eric Tardieu, Secretary General, International Network of Basin Organizations (INBO). Mr. Tardieu presented the focus of the panel, which is to address questions related to the new water resilience strategy that is in the final stage of preparation at the European Commission, with a particular focus on climate change adaptation. He then invited Joachim D'Eugenio, from the European Commission, to share preliminary comments and launch the panel.

Mr. Joachim D'Eugenio, Policy Adviser for Zero Pollution, Water Resilience & Green Urban Transition, Directorate-General for the Environment (DG ENV), European Commission

Mr. D'Eugenio opened the panel with a short talk about the European Commission's new European Water Resilience Strategy (EWRS) in response to emerging environmental challenges that are altering the baseline assumptions underpinning historical water management practices. The strategy reflects the recognition that we can no longer take for granted hydrological patterns from the past. Floods and droughts are happening every year across the EU, water is becoming a political issue.

Since the early 1990s, the European Union has progressively developed a strategic approach to water management. Discussions culminated in 2000 with the adoption of the Water Framework Directive (WFD). The EWRS marks a continuation and evolution of this trajectory, responding to new challenges and institutional requirements.

The EWRS aims to initiate a policy shift toward next-generation water governance, emphasizing the need for cross-sectoral integration with agriculture, industry, urban development, transport, and the digital economy. Its largest topics will be improved governance and implementation.

EWRS is built upon EC's assessment of River Basin Management Plans published in February 2025 that provided country-specific recommendations. It shall be complementary with the Marine Strategy Framework Directive. Water resource management is now considered a horizontal priority within the Commission's policy framework, linked explicitly to the EU's Vision for Agriculture and Competitiveness Compass.

EU companies are already advanced when it comes to innovative technologies for water resilience. EWRS's role will be to propose concrete recommendations on their massive implementation.

Ms. Marie-Laure Métayer, Executive Vice-Presidency of INBO, Deputy Director of Water and Biodiversity, Ministry of Ecological Transition and Territorial Cohesion (MTECT), France

Question 1: What concrete actions does France wish to take to contribute to the European resilience strategy?

Water has become a strategic issue across Europe, increasingly affected by climate-related pressures such as prolonged droughts, destructive rainfall, and deteriorating water quality. These phenomena, exacerbated by climate change, impact all EU member states. France strongly advocates for the development of a European water resilience strategy that is ambitious, pragmatic, and adapted to territorial specificities. Such a strategy should enhance the resilience of the water cycle by addressing both hydrological and climatic vulnerabilities.

Water security is intrinsically linked to food production, health, and public safety, and addressing the vulnerability of populations and regions is a key concern. France has already initiated efforts to reduce water withdrawals by 10% by 2030 and conducted

hydrological modeling studies—such as the “Explore 2” project—to help sectors anticipate and adapt to climate scenarios.

A future EU strategy should rest on several pillars: integrating water management into all EU policies; aligning water and climate goals; and enhancing consistency among directives on floods, marine environments, and land-sea interactions. Nature-based solutions should play a central role, as highlighted in the proposed Nature Restoration Law, which links ecological restoration with water management.

France emphasizes the importance of reducing pollution at the source and fostering cooperation among all stakeholders. The strategy should extend beyond EU borders, promoting an ambitious and coherent international water diplomacy. Water is not only a resource but a central component of territorial resilience, sustainability, and geopolitical stability.

Ms. Inês Andrade, Board Member, Portuguese Environment Agency

Question 1: What are the key challenges for water management in Portugal in adapting to climate change, especially in securing water availability and protecting ecosystems in drought-affected regions?

Ms. Andrade replied that drought always tested Portugal’s water management, but with climate change, it became a system threat. A 60 % decrease of water resources availability is expected in the coming decades.

Portugal sees three main challenges ahead:

- Increasing efficiency, reducing losses in the system and promoting water reuse. Losses in the water supply system now amount to 27 % and in irrigation 25 %. Massive increase of water reuse in agriculture and industry will be needed.
- Building resilience to safeguard ecosystems. Portugal must capture and store water more efficiently. There is a need for interconnection of water supply networks and building desalination plants. At the same time, riparian systems, ecological flows and sediment movement must be restored. Portugal needs to combine human needs, biodiversity and natural flow.

Smart governance, institutional change. At present, governance is fragmented. Water management must be more strategic and water authorities must be strengthened. Cost recovery and polluter pays principles should be implemented. Remote sensing will enable a shift from reactive to proactive water management.

Ms. Audrey Bardot, President, Rhine-Meuse Basin Committee, France

Question 1: The Rhine-Meuse basin was once spared from the effects of climate change, but that is no longer the case. What actions are you taking as part of your climate change adaptation strategy?

The Rhine-Meuse river basin, located in northeastern France and home to more than four million people, is increasingly affected by climate change. Although the region had long been spared from water scarcity, it is now experiencing intensified impacts, with projections indicating a temperature rise of 4.5°C by 2100, well above the global average of 3°C. In response, a comprehensive Climate Change Mitigation and Adaptation Plan was developed in 2018 and updated in 2023, recognizing that both mitigation and adaptation are essential and inseparable responses to the climate emergency.

A central element of the plan is the implementation of a water-use reduction trajectory, aiming to decrease withdrawals by 10% by 2030, which corresponds to 168 Mm^3 annually.

This goal is particularly pressing, as the basin represents 14% of France's total water withdrawals, twice the national average per capita, due to high industrial demand and an extensive navigation canal network.

The strategy is built around six fundamental principles designed to support a systemic approach. These include avoiding maladaptation, favoring "no-regret" actions beneficial under any climate scenario, and promoting solutions that minimize dependence on water, soil, and energy. Furthermore, the plan encourages actions with multiple benefits, such as wetland and grassland restoration, emphasizes fair water-sharing among users, and places a strong focus on nature-based solutions. This last point marks a significant paradigm shift, underscoring the need to recognize and restore the essential services provided by healthy ecosystems. The Rhine-Meuse plan offers a replicable model for building water and climate resilience through integrated, place-based strategies.

Mr. Mario Andrés Matías Urrea Mallebrera, President, Hydrographic Confederation of the Segura river basin, Spain

Question 1: What is the strategy on water resilience at the Segura River Basin in this context of climate change?

The Segura River Basin, located in southeastern Spain, is one of the most water-stressed regions in Europe. Structural water scarcity characterizes the basin due to low annual rainfall (365 mm), limited natural water resources (785 Mm^3/year), and high agricultural demand, which accounts for 80% of total water use. Even without considering the effects of climate change, the basin faces a structural water deficit of approximately 300 Mm^3 per year.

Climate change further exacerbates this vulnerability, with projections indicating a 20–40% decrease in water availability by 2050 and increased frequency and severity of droughts and floods. Ecosystem impacts include habitat loss for cold-water species, declining oxygen levels, proliferation of invasive species, and a growing risk of desertification.

To address these challenges, an integrated water resource management strategy has been implemented, relying heavily on non-conventional resources. Reuse plays a vital role, with 94% of treated wastewater being reused (142 Mm^3/year) for agriculture and recreational use. Desalination contributes an additional 404 Mm^3/year, supported by twelve coastal plants, both public and private. Tariffs for irrigation water are low or subsidized, and ongoing investments aim to expand desalination capacity and implement solar energy solutions for plant operations.

Supplementing these efforts, the Tajo-Segura aqueduct supplies an average of 295 Mm^3/year. In response to extreme hydrological events, drought and flood risk management plans have been adopted, supported by real-time hydrological monitoring systems, emergency water supply plans for municipalities, and strategic groundwater reserves. Together, these actions aim to ensure long-term water resilience in a highly vulnerable region.

Dr. Musonda Mumba, Secretary General, Convention on Wetlands (Ramsar)

Question 1: You recently wrote, together with the UN Special Envoy, Ms. Retno Marsudi, that wetland ecosystems are nature's most effective water managers. Given the vital role wetlands play in managing water resources, how can we more effectively integrate these ecosystems into river basin governance?

Wetlands play a crucial role in climate resilience, economic stability, and ecological health across Europe and beyond. The Ramsar Convention, the most spatially comprehensive

multilateral environmental agreement, recognizes over 2,600 wetlands of international importance globally, with all EU countries as contracting parties. Recent years have underscored their vulnerability, particularly during the severe droughts in Europe in 2020, which caused several major wetland sites—including those along the Rhône and in the Czech river systems—to dry out completely.

Wetlands are essential to Europe's economy and society. Wetlands in Lombardy and Emilia-Romagna, such as the Po Delta, are ecologically vital and support key sectors like agriculture and industries.. Water from wetlands underpins these activities, highlighting the deep connection between ecological systems and economic infrastructure. The importance of wetlands also extends to cities, where increasing urbanization raises questions about the state of urban wetlands and their role in future water resilience.

Scientific studies, including recent articles in Nature, emphasize that water is the "currency of the global economy," yet economic arguments for wetland conservation remain underdeveloped. Restoration and connectivity initiatives—such as the Danube Ramsar Regional Initiative and projects in the Po catchment and Alpine regions—are beginning to address this. The Alpine region, now two degrees warmer, exemplifies the urgency of these efforts.

Wetlands are central to Europe's water resilience strategy, and initiatives like the Nature Restoration Law reflect growing alignment between Ramsar values and EU environmental policy. Improved communication around the science of water and wetlands is essential for advancing these goals at both regional and global levels.

Dr. LI Lifeng, Director, Land and Water Division, Food and Agriculture Organization of the United Nations (FAO)

Question 1: How does the interdependence between water and agriculture underscore the need for Integrated Water Resources Management at the basin level?

Mr. Li highlighted the critical interdependence between water and agriculture, pointing out a concerning disconnect between the two sectors. When asking participants from the food sector to raise their hands, only two responded, underscoring the gap in cross-sectoral engagement. While this allowed Mr. Li to share his perspective, it also signalled the urgent need for greater integration.

With 95% of global food production coming on land, and 70% of agricultural water sourced from surface water and 30% from groundwater, the challenge is significant. Future projections indicate that to meet rising food demand, 50% more food must be produced, requiring 20–30% more water. Achieving this will necessitate enhanced cooperation between agriculture and industry, as well as discussions at the basin level, where the majority of water resources are managed. 60% of water resources lie in transboundary basins.

Mr. Li stated that solutions do exist. He cited China's ability to increase agricultural output while reducing water usage by 64%, and Sri Lanka's project to rehabilitate traditional water tank systems. He stressed the need to consider all elements of the agri-food system to develop sustainable solutions.

Ms. Marie-Laure Métayer, Executive Vice-Presidency of INBO, Deputy Director of Water and Biodiversity, Ministry of Ecological Transition and Territorial Cohesion (MTECT), France

Question 2: How can we extend and reinforce the ambitions of the Water Framework Directive beyond 2027, in order to sustainably guarantee the good ecological status of water bodies in the face of persistent pressures and climate change?

The adoption of the European Water Framework Directive marked a major turning point in water resource and aquatic ecosystem protection. This directive significantly strengthened water policy across Europe by promoting a long-term vision, enhancing coordination among stakeholders, structuring action programs, and encouraging open dialogue with users, local authorities, professionals, and citizens. It also contributed to a shift in public perception—from viewing water as a utilitarian resource to recognizing it as a vital natural asset to be preserved.

As the third management cycle of the directive approaches its end, attention turns to the 2027 milestone set for achieving good ecological status of water bodies. While tangible progress has been made, major challenges remain. In France, nearly 56% of water bodies have not yet reached good ecological status. The 2027 target is not a finish line but a crucial step toward long-term sustainability, especially in the context of increasing climate pressure that renders water more scarce, vulnerable, and contested.

Meeting this goal requires sustained engagement from all actors. It involves maintaining consistent protection objectives aligned with all water uses, better integrating water issues across public policies—especially in agriculture, urban planning, and energy—reducing diffuse and chronic pollution, supporting nature-based solutions, and assisting the most vulnerable regions. Crucially, success depends on inclusive governance that ensures all stakeholders are involved.

Only under these conditions can Europe and France embed long-term ambition in water policy and make water a pillar of ecological integrity, territorial cohesion, and environmental justice.

Ms. Inês Andrade, Board Member, Portuguese Environment Agency

Question 2: What is the situation of the state of water bodies in Portugal and what are the strategic measures and other challenges that are proposed to pursue the WFD targets?

Ms. Andrade stated that at the moment, the state of water bodies in Portugal is still far from the goals proposed by the WFD, but this is a reality that permeates all of Europe.

If we look at the most recent data from the 3rd cycle of the River Basin Management Plans, we see that less than half of the surface water bodies are in good condition — we're talking about around 45%. And in groundwater, which is essential during periods of drought, the situation has also worsened, with only 65% in good condition.

The main causes are agricultural pollution, with excessive nutrients such as phosphorus and nitrogen in surface and groundwater, followed by excessive water extraction, especially in agricultural areas, which is depleting the aquifers.

To address this, there is a plan with more than 800 measures, which range from:

- Improving the treatment of urban wastewater
- Reducing agricultural pollution and controlling pesticides
- Restoring rivers and ecosystems
- Controlling invasive species
- And strengthening monitoring with more sensors and automatic stations.

In addition, there is a strong focus on water efficiency, with targets to reduce water losses in urban and agricultural systems, and to prepare the country for the effects of climate change.

Collective effort, the State, municipalities, farmers, businesses, and citizens, is crucial to

ensure that water is managed more sustainably and remains available to everyone, now and in the future.

Currently, EU Member States are preparing regulations that could act as accelerators for achieving the goals of the Water Framework Directive — the new Urban Wastewater Treatment Directive, and EU Nature Restoration Law.

The revised Urban Wastewater Treatment Directive and the Nature Restoration Law represent major legislative advancements in EU environmental policy. The new Directive updates the 1991 framework by broadening its scope to include public health protection, greenhouse gas reduction, and circular economy principles, while mandating stricter treatment standards, enhanced monitoring, and energy efficiency targets to reduce pressure on surface waters. Complementing this, the Nature Restoration Law sets legally binding targets to restore 20% of EU land and sea by 2030 and all degraded ecosystems by 2050, focusing on riparian, coastal, and transitional waters. It mandates progressive restoration targets, prioritizes Natura 2000 sites, and requires Member States to submit national restoration plans by September 2026. These combined measures are expected to significantly improve the ecological status of water bodies, particularly through riparian restoration and improved river connectivity.

Ms. Audrey Bardot, President, Rhine-Meuse Basin Committee, France

Question 2: Where do you stand on the status of water bodies in the Rhine-Meuse basin, and what can you say about the objectives set by the Water Framework Directive?

In the Rhine-Meuse basin, current water quality indicators show that 33% of surface waters meet good ecological status and 23% meet good chemical status, while 53% of groundwater bodies meet good chemical status and 95% meet good quantitative status. However, interpreting these figures is complex. First, measurement methods have evolved over time, with the number of monitored parameters growing from fewer than 100 in the 1980s to over 1,000 today, making comparisons difficult. Second, the “one out, all out” rule, where a single failing parameter can downgrade the overall status of a water body, often masks real progress.

To better reflect improvements, sub-indicators should be considered. For instance, while overall ecological status may appear stagnant, significant improvements have been recorded in general water quality parameters such as oxygen, organic matter, nitrogen, and phosphorus—demonstrating the effectiveness of investments in wastewater treatment, which now serves 95% of the population, compared to only 20% in 1980.

The main challenge today lies in managing toxic and emerging pollutants such as pesticides, pharmaceuticals, and PFAS. Pesticides are the most closely monitored (600 substances), severely impacting both surface and groundwater. Pharmaceuticals (68 substances) affect aquatic life but currently pose no known risk to drinking water. PFAS are more recent concerns; while current concentrations are low, detection capabilities are increasing, and their persistence in the environment makes them particularly problematic.

Lastly, a more comprehensive approach is needed, ensuring that other EU policies—such as agricultural policy—do not undermine the objectives of the Water Framework Directive.

Mr. Mario Andrés Matías Urrea Mallebrera, President, Hydrographic Confederation of the Segura river basin, Spain

Question 2: How can EU countries, such as Spain — and specifically in the Segura River

Basin District — maintain their commitment to achieving Good Status of water bodies by 2027 without lowering the level of ambition set by the Water Framework Directive ?

The EU WFD defines Good Ecological Status as water bodies supporting diverse biological communities, maintaining natural flow regimes, and being free from significant pollution. Achieving this by 2027 remains a key but ambitious objective, given that only around 38% of EU surface waters currently meet this standard. In Spain, about 60% of surface water bodies reach high or good ecological status, while in the Segura River Basin, this figure stands at 45%, including well-preserved upstream areas designated as Natural River Reserves.

Sustaining Good Ecological Status toward 2027 requires continued commitment. Climate change poses serious threats, with water availability in the Segura Basin expected to drop by 20–40% by 2050. In addition, emerging contaminants such as microplastics are becoming increasingly problematic. The WFD's strength lies in its six-year cycle of River Basin Management Plans, which allow adaptation to such evolving challenges.

Previous plans have yielded notable progress, particularly in reducing organic and nutrient pollution through improved wastewater treatment. However, diffuse pollution, especially from agriculture, remains a major concern, compounded by growing risks from emerging chemical contaminants. Across the EU, ecological status has shown limited improvement due to better monitoring, increasing pressure on water bodies, or delays in implementing effective measures.

In the Segura Basin, 69% of groundwater bodies are in poor condition, 60% due to over extraction and 36% due to chemical pollution, mainly from nitrates and pesticides. Recovery is underway through extraction control plans and targeted water quality measures, though full restoration may take decades. Maintaining high ambition is crucial, especially as future planning cycles may allow for exemptions that risk undermining progress.

Dr. Musonda Mumba, Secretary General, Convention on Wetlands (Ramsar)

Question 2: You also highlighted: "Investing in wetlands now prevents far greater costs in the future. Each restored wetland means cleaner water, fewer disasters, and a stronger foundation for resilience". So what are your views on the draft EU Water Resilience Strategy from the perspective of wetland conservation and restoration?

The evolution of the EU Water Framework Directive since its adoption in 2000 has been remarkable. Its growing emphasis on water resilience is welcomed, particularly due to the essential role of wetlands in maintaining the hydrological cycle. Recent findings—such as those presented in October 2024 in the OECD report under the Global Commission on the Economics of Water— warns about an 'out of balance' global hydrological cycle and emphasizes the need to simultaneously consider blue and green waters.

Wetlands, including both coastal and inland systems, are central to the planet's water dynamics, forming the backbone of what scientists refer to as "sky rivers"—global atmospheric and hydrological connections that link regions like the Amazon and Europe. These systems exemplify how water issues transcend geographical boundaries and must be addressed through coordinated global action.

The European Union's participation in the Freshwater Challenge, launched at the second UN Water Conference in March 2023, is a significant step toward promoting restoration and sustainable water management. Financial institutions such as the European Investment Bank are also taking a proactive role by funding studies and initiatives on water adaptation and catchment-based management. Businesses are beginning to reassess their dependence on water resources, a shift noted in recent reports by the

European Central Bank.

Dr. Musonda Mumba concluded by emphasizing the global interconnectedness of water systems and inviting participants to the 15th meeting of the Conference of the Contracting Parties to the Convention on Wetlands (Ramsar COP15), held from *23 to 31 July 2025* in Victoria Falls (Zimbabwe).

Dr. LI Lifeng, Director, Land and Water Division, Food and Agriculture Organization of the United Nations (FAO)

Question 2: What challenges impede the integration of water and agriculture through IWRM, and how can these be addressed to enhance political consistency and implementation?

Mr. Li answered that challenges start at the top level. He noted that at the 2021 UN Food Systems Summit, of the 190 participating countries' Pathways to Food Security fewer than one-third mentioned water, including those facing water scarcity. Water is also often not included in countries' land use plans. Additionally, water governance is often fragmented across ministries, leading to a siloed approach. Different views on water pricing and divergent sectoral views—where water is seen variously as a disaster risk, an energy resource, or a food input—further complicate coordination.

To address these issues, the speaker advocated for enhanced intersectoral dialogue and for positioning water at the centre of global conversations on agriculture and food security. Water was acknowledged for the first time at a recent FAO conference multi sectoral dialogue must be strengthened. National water use strategies should explicitly demonstrate their contributions to the Sustainable Development Goals (SDGs), and water must be clearly integrated into national SDG planning, including in EU's legislation and strategies.

Mr. Joachim D'Eugenio, Policy Adviser for Zero Pollution, Water Resilience & Green Urban Transition, Directorate-General for the Environment (DG ENV), European Commission

Mr. Joachim D'Eugenio concluded the debate with the following thoughts:

EU needs to focus on the "Five Is": Implementation, Infrastructure, Investment, Innovation, and International Dimension:

- Implementation: Progress has been made in addressing chemical pollutants, with 27 of the 33 substances originally listed in 2000 no longer considered problematic. However, legacy pollutants such as mercury and emerging contaminants including pharmaceuticals and PFAS were underestimated in 2000. Reaching good status is an ongoing dynamic project. The 2027 horizon remains a key milestone.
- Infrastructure and Investment: The core challenge is not the availability of funding, but the effective conversion of financial resources into meaningful investment.
- Innovation: Mr. D'Eugenio was delighted to hear about the decoupling of food production from water use. More innovation in this field is needed and sustainable development depends on our ability to separate resource consumption from prosperity.
- International Dimension: The strategy is explicitly outward looking, designed to align with global water governance efforts, including outcomes from the 2023 United Nations Water Conference.

Mr. D'Eugenio concluded with a call to unify diverse perspectives through a shared commitment to science-based policy, affirming that while views may vary, a common

understanding and direction are both possible and essential.