

World Basin Summit 2026 Session 3 Report

Healthy waters, resilient basins: bringing consistency to water and biodiversity policies



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Thematic Context

The degradation of aquatic ecosystems is a primary indicator of basin health and a direct cause of biodiversity collapse. Despite clear interlinkages, water policies (focused on quality and quantity) and biodiversity policies (focused on species and habitats) are often developed and implemented in parallel, leading to inefficiencies and missed synergies. The challenge is to overcome this sectoral fragmentation to address common drivers like pollution, habitat destruction, and water flow alteration in a coherent manner. A resilient basin is one where healthy aquatic ecosystems provide essential services, from water purification and flood mitigation to climate regulation. Basin management planning is the strategic level where this consistency must be achieved. It can integrate objectives from both domains, for instance, by prioritizing Nature-based Solutions (NbS) such as wetland restoration or river re-naturalization, which simultaneously improve water quality, regulate flow, and enhance biodiversity. The plan should serve as the operational framework that aligns investments, regulations, and monitoring efforts for water and biodiversity, ensuring they are mutually reinforcing.

Speakers

HEALTHY WATERS, RESILIENT BASINS: BRINGING CONSISTENCY TO WATER AND BIODIVERSITY POLICIES

 Ms. Busadee Santipitaks Chief Executive Officer, Mekong River Commission (MRC)	 Mr. Mu Dongjing Senior Engineer, Haihe River Conservation, Ministry of Water Resources, China	 Ms. Elodie Galko Director General, Adour-Garonne Water Agency (AEAG), France	 Mr. Jorge Urbina Executive Secretary, Trinational Commission of the Trifinio Plan (CTPT)
 Ms. Audrey Bardot President of the Rhine-Meuse Basin Committee, Rhine-Meuse Water Agency (AERM), France	 Ms. Marie Ikemoto Undersecretary for Climate Change and Biodiversity Conservation, Secretariat of Environment and Sustainability (SEAS), State of Rio de Janeiro, Brazil	 Ms. Emma Liwenga Executive Director, Lake Tanganyika Authority (LTA)	 Ms. Rita de Cássia Guimarães Mesquita Secretariat of Biodiversity, Forests and Animal Rights, Ministry of Environment and Climate Change, Brazil

Session Report

Problems and challenges

The session underscored the growing recognition that biodiversity conservation, water resources management and climate resilience are inseparable components of sustainable basin governance. Participants agreed that the degradation of freshwater ecosystems represents not only an environmental concern but also a major threat to water security, economic development and human well-being. Across regions and institutional contexts, speakers highlighted that the deterioration of aquatic ecosystems reduces the capacity of river basins to regulate water flows, maintain water quality, preserve biodiversity and provide essential ecosystem services.

Despite this interdependence, the discussions revealed that **water and biodiversity continue to be addressed through largely fragmented policy and governance frameworks**. As highlighted in the opening remarks by the Mekong River Commission, institutional responsibilities are often distributed across multiple sectors (including water, biodiversity, agriculture, land-use planning and climate adaptation) with insufficient coordination mechanisms. This fragmentation extends to financing arrangements, where disconnected funding programmes often reduce the effectiveness, coherence and long-term impact of public investments.

Several regional experiences illustrated the magnitude of these challenges. In the State of Rio de Janeiro, increasing exposure to floods, landslides and droughts demonstrates the growing impacts of climate change on water resources and ecosystems. At the same time, Northern China's experience showed how decades of rapid urbanization, industrial development and increasing water demand have altered river systems, reduced environmental flows, degraded wetlands and contributed to groundwater depletion. Both examples illustrated the need to move beyond sector-specific responses towards integrated approaches capable of addressing multiple environmental pressures simultaneously.

Similar challenges were described in transboundary contexts. The Lake Tanganyika Authority emphasized that one of the world's richest freshwater ecosystems is increasingly threatened by habitat degradation, pollution, unsustainable exploitation of natural resources and land-use change. These pressures directly affect biodiversity while compromising the livelihoods of millions of people who depend on the lake's ecosystem services. Likewise, the Plan Trifinio Commission highlighted that deforestation, climate variability and basin degradation continue to undermine water security and socio-economic development across the shared territories of El Salvador, Guatemala and Honduras.

Participants also stressed that **governance challenges** are particularly acute in river basins, where hydrological systems rarely coincide with administrative or political boundaries. The Adour-Garonne Water Agency recalled that effective

governance remains difficult because water resources must be managed at the scale of ecosystems rather than institutional jurisdictions. Similar observations were made by the Mekong River Commission, the Lake Tanganyika Authority and the Plan Trifinio Commission, all of which emphasized that transboundary cooperation requires permanent dialogue, institutional coordination and shared planning mechanisms.

Another recurring challenge concerned the **need to reconcile economic development with ecosystem conservation**. Agricultural expansion, urban growth and infrastructure development continue to increase pressure on freshwater ecosystems worldwide. Participants noted that biodiversity objectives often remain insufficiently integrated into broader development policies, while sectoral approaches may overlook the long-term value of ecosystem services. As emphasized during the discussions, the cost of ecosystem degradation frequently exceeds the investments required for restoration and conservation.

Finally, speakers consistently highlighted the importance of **strengthening the science-policy interface**. Robust scientific knowledge, environmental monitoring and evidence-based decision-making were recognized as essential prerequisites for effective basin planning. The preparation of a comprehensive basin assessment by the Lake Tanganyika Authority, together with the long-term monitoring programmes implemented by the Adour-Garonne Water Agency, illustrate how scientific evidence can guide restoration priorities and support adaptive management. Participants agreed that stronger links between scientific institutions and policy-makers remain essential for addressing increasingly complex environmental challenges.

Suggested recommendations

1. **Participants called for biodiversity to be systematically mainstreamed into water governance, climate adaptation and development planning.** Ecosystem conservation should no longer be considered as a separate environmental objective but rather as a prerequisite for achieving long-term water security, climate resilience and sustainable socio-economic development.
2. **Stronger governance frameworks are required to improve coordination across sectors, administrative levels and national boundaries.** Integrated planning mechanisms should facilitate dialogue among institutions responsible for water, biodiversity, agriculture, land-use planning and climate policy while strengthening stakeholder participation. In transboundary contexts, permanent basin organizations with clear institutional mandates, technical capacities and sustainable financing were recognized as particularly effective mechanisms for promoting long-term cooperation.
3. **Nature-based Solutions**, as modern, evidence-based responses to contemporary environmental challenges, should be further integrated into

national and basin-level strategies. The panelists' experiences demonstrated that ecosystem and forest restoration, wetland conservation, ecological flow management and green infrastructure can simultaneously contribute to biodiversity conservation, climate adaptation, disaster risk reduction and water resource management.

4. Participants stressed the importance of **adopting long-term planning approaches supported by adaptive management**. Restoration programmes require sustained political commitment, continuous environmental monitoring and stable financing over extended periods. Planning instruments should therefore integrate biodiversity, water management and climate objectives within coherent strategic frameworks capable of adapting to evolving environmental conditions.
5. **Strengthening the science-policy interface** through greater investments in environmental monitoring, scientific cooperation and knowledge generation will improve evidence-based decision-making and facilitate the evaluation of restoration outcomes.
6. Panelists also encouraged **increased exchanges of experience between river basin organizations** in order to accelerate the dissemination of successful practices across regions.
7. Finally, participants emphasized that **financing mechanisms should evolve towards greater coherence and integration**. Better coordination among existing public funding instruments, broader implementation of Payment for Ecosystem Services, and increased mobilization of private-sector investment would strengthen the long-term sustainability of restoration programmes. Demonstrating tangible environmental and socio-economic benefits through successful pilot projects was also identified as an effective means of building political support and attracting additional investment.

Examples of solutions and good practices implemented by the panelists

A first key message was that **biodiversity should be recognized as fundamental natural infrastructure supporting the functioning of river basins**. Rather than considering biodiversity conservation as an isolated environmental objective, participants emphasized its central role in regulating hydrological cycles, maintaining water quality, reducing disaster risks and strengthening ecosystem resilience. The Adour-Garonne Water Agency clearly illustrated this evolution, explaining how biodiversity has progressively become a core component of water policy, and demonstrated that effective water management and biodiversity conservation are mutually reinforcing objectives.

Nature-based Solutions (NbS) emerged as one of the principal approaches promoted throughout the session. Rather than relying exclusively on conventional grey infrastructure, numerous examples illustrated how ecosystem restoration can provide multiple environmental, economic and social benefits. In France, river

re-meandering, wetland restoration, ecological continuity programmes and urban renaturation have become integral components of basin management. These interventions contribute simultaneously to flood mitigation, biodiversity conservation, groundwater recharge and water quality improvement.

Similarly, the State of Rio de Janeiro demonstrated how Nature-based Solutions are being integrated into climate adaptation policies through large-scale forest restoration, green urban infrastructure and ecosystem-based adaptation initiatives. Programmes such as Conexão Mata Atlântica, the Resilient Environment Project and Green and Resilient Guanabara illustrate how ecosystem restoration can contribute simultaneously to climate resilience, biodiversity conservation and sustainable territorial development. The state's extensive network of protected areas also demonstrates the contribution of ecosystem conservation to long-term water security.

Ecological restoration was also presented as a strategic priority in Northern China, where the Haihe River Conservancy Commission described how ecological water replenishment has become an innovative management tool to restore rivers, lakes and wetlands while simultaneously supporting groundwater recovery. Speakers emphasized that successful restoration depends not only on increasing water availability but also on carefully managing the timing, allocation and ecological objectives of environmental flows. The positive results achieved through restoration programmes implemented between 2018 and 2020 demonstrated the effectiveness of integrated ecological management supported by long-term monitoring and adaptive governance.

The importance of **transboundary cooperation** emerged as another central theme throughout the session. The Mekong River Commission presented regional cooperation between Thailand and Cambodia as an example of policy alignment and coordinated governance supporting integrated resource management. Likewise, the Lake Tanganyika Authority illustrated how four riparian countries have established a Strategic Action Programme combining biodiversity conservation, sustainable resource management, climate resilience and socio-economic development within a common regional framework. The Plan Trifinio Commission provided another illustration of effective transboundary governance. Its institutional architecture combines high-level political coordination with a permanent technical secretariat responsible for implementing Integrated Water Resources Management and climate change adaptation strategies. Beyond ecosystem restoration, the Commission emphasized the **importance of stakeholder participation, capacity development, environmental education and the inclusion of women and local communities** as essential components of long-term resilience.

Several interventions also demonstrated the value of **integrating biodiversity objectives into strategic planning instruments**. The Rhine-Meuse Basin Committee presented a comprehensive planning framework embedding biodiversity considerations within both the River Basin Management Plan and the Climate Change Adaptation Plan. Actions including floodplain restoration,

ecological corridor preservation, grassland conservation and sustainable land-use planning illustrate how biodiversity objectives can be mainstreamed into territorial development while generating multiple co-benefits for water quality, carbon sequestration, agriculture and public health. The Committee also highlighted the relevance of the One Health approach as a framework for integrating environmental, human and animal health considerations into basin governance.

Across all presentations, **scientific knowledge** emerged as a fundamental enabling factor. Environmental monitoring, ecosystem assessments and research provide the evidence necessary to prioritize interventions, evaluate restoration outcomes and support adaptive management. Participants consistently emphasized that science should underpin planning processes at every governance level while facilitating cooperation among institutions and countries.

Finally, financing was also discussed as an essential component of successful implementation. Rather than advocating entirely new funding mechanisms, several speakers highlighted the importance of **improving coordination among existing financial instruments**. The Payment for Environmental Services schemes implemented in Rio de Janeiro illustrate how financial incentives can encourage ecosystem restoration while supporting local communities. More broadly, participants emphasized the need to better align public investments with biodiversity and water objectives while mobilizing complementary private-sector financing.

Conclusion

The session reaffirmed that biodiversity conservation and water resources management are mutually reinforcing objectives that must be addressed through integrated governance frameworks. Indeed, healthy ecosystems constitute the foundation of resilient river basins by sustaining water resources, supporting biodiversity, mitigating climate risks and providing essential ecosystem services upon which societies and economies depend. Therefore, embedding biodiversity within water governance is no longer solely an environmental imperative but a strategic requirement for strengthening resilience, ensuring water security and supporting sustainable development at local, national and transboundary scales.

The diverse experiences presented, from the Mekong, Rio de Janeiro, the Lake Tanganyika, Northern China, the Plan Trifinio Commission and the Rhine-Meuse Basin, demonstrated that integrated governance, Nature-based Solutions, ecosystem restoration, scientific knowledge and transboundary cooperation provide practical and effective responses to increasingly complex environmental challenges. While institutional fragmentation, financing constraints and competing development pressures remain significant obstacles, the session demonstrated that these challenges can be addressed through stronger policy coherence, long-term planning and sustained cooperation across sectors and borders.



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