THE WORLD WATER QUALITY ALLIANCE NEWSLETTER

May 2025

The World Water Quality Alliance is convened by the United Nations Environment Programme. It proudly presents its monthly newsletter, YEMAYA, named after the ancient African goddess of the ocean and motherhood. She is associated with fertility, femininity, protection, healing, and childbirth. Her domains are symbolized as water creatures: the seas, rivers, and lakes. She is honoured and revered in the African diaspora, particularly in Cuba, Haiti, Brazil, and the United States.

We, the World Water Quality Alliance Coordination Team, welcome articles about water quality. Tell us about your experiences. Describe the challenges you and your people face. Talk to our global community; talk to people from around the World. Send your articles to wwqa-coordination@un.org.

International Day of Living Together in Peace and International Day for Biological Diversity

Freshwater is fundamental to peaceful coexistence and biodiversity. Shared rivers, lakes, and aquifers can unite communities, fostering cooperation over conflict. At the same time, healthy freshwater ecosystems are hotspots of biodiversity, supporting countless species and livelihoods.

These days call us to protect freshwater as a source of harmony among people and a lifeline for nature, reminding us that living together in peace includes living in balance with our environment.

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- *Job Openings*
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Water Quality in Focus: WWQA's Milestones and Momentum

The World Water Quality Alliance (WWQA) continues to foster collaborative momentum and advance key initiatives aimed at bridging knowledge gaps, aligning strategies, and driving global action on freshwater quality. Recent developments highlight both the strategic foresight and the collective commitment of the Alliance and its partners.

Enhancing Synergies with GEO AquaWatch

Ongoing discussions between WWQA and GEO AquaWatch (www.geoaquawatch.org) are paving the way for deeper collaboration. Both groups recognize the importance of aligning efforts to avoid duplication and strengthen impact. WWQA is pleased with the spirit of cooperation and the progress made so far. In addition to joint programming, both entities are exploring funding opportunities to support innovative workstreams and ensure the sustainability of shared initiatives.

As part of this evolving partnership, **WWQA and GEO AquaWatch**, in collaboration with **IAGLR**, will co-host a session titled *"The Importance of Ecological Knowledge in Great Lakes Research"* at the **68th Annual Conference on Great Lakes Research**, taking place **2–6 June 2025**. The

session is scheduled for **4 June, 8:00–11:00 AM CDT**, under the broader conference theme *Creating Great Lakes Resilience*.

This indigenous -focused session will emphasize that the resilience of Great Lakes systems depends on the **equitable inclusion of Indigenous Peoples** and the **recognition of their knowledge systems**, including their observations, data sovereignty, and the intrinsic value of Indigenous ecological knowledge. It will also explore global efforts to address challenges in integrating Indigenous knowledge with Earth observation tools and ensuring respectful, informed decision-making.

Global networks such as **MAGIK (Melding AquaWatch and Global Indigenous Knowledge)** are leading the way in combining satellite-based monitoring with deeper cultural and ecological understanding, while also drawing attention to the critical issue of data sovereignty when working in Indigenous territories.

A recording of the session will be made available following the conference.

Partial Rollout of the New WWQA Website

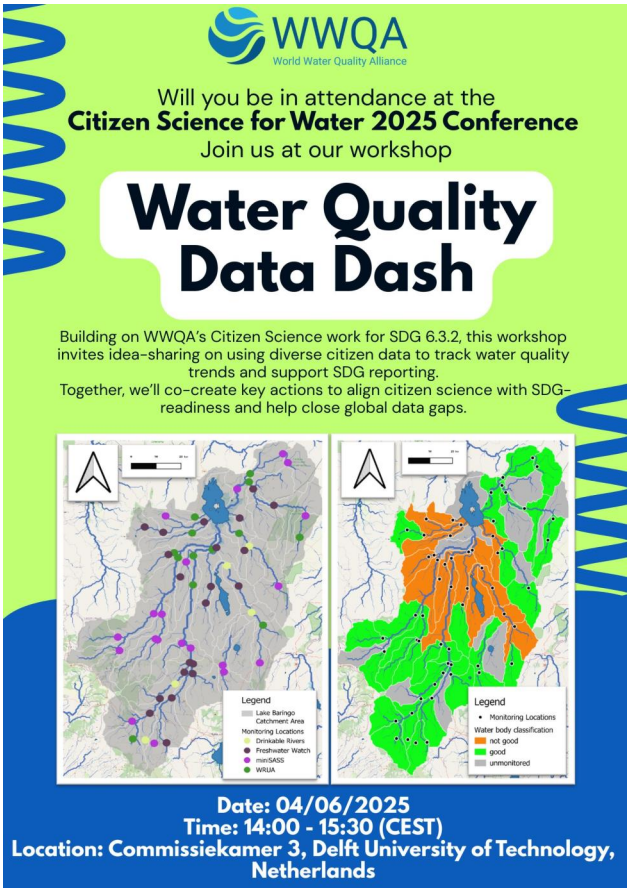
The updated version of the WWQA website has been *partially launched*. Due to unforeseen delays, it has taken slightly longer than anticipated to finalize all pages. As a result, a decision was made to roll out the sections that are ready. Users may encounter some non-functional buttons, broken links, or incomplete workstream pages — rest assured, we are working to have everything fully operational as soon as possible.Workstream leads are kindly requested to contact the WWQA Coordinator to *schedule a call and finalize their workstream page*. Your timely engagement is key to ensuring a complete and functional website experience for all members and visitors.

Advisory Committee Supports World Water Quality Assessment

In a recent meeting, the WWQA Advisory Committee reconvened following updates from the inter-workstream session. There was broad consensus on the need for a world water quality assessment. The Committee was brought up to speed on the foundational work previously undertaken by the Technical Advisory Committee, and new ideas and pathways were discussed to advance the assessment collaboratively. While enthusiasm is strong, it was acknowledged that the primary constraint remains the availability of adequate funding to scale the initiative.

Citizen Science on the Global Stage: CS4Water 2025 Conference

Building on previous work by the WWQA Workstream on Citizen Science for SDG Indicator 6.3.2, WWQA will host a workshop session at the upcoming **Citizen Science for Water (CS4Water) Conference**, taking place from **3–5 June 2025 in Delft, Netherlands**. The session will bring together experts from around the world to explore how citizen science water quality data can be integrated to track long-term trends and support reporting at multiple levels. The workshop will delve into challenges and opportunities in harmonizing data from projects that vary in scale, methodology, and participation. By identifying actionable workflows and principles of "SDG-readiness," the session aims to help close the global water quality data gap and promote inclusive water governance.



WWQA in Action: Tackling Riverine Plastics at UN Ocean Conference Virtual Side Event

The WWQA Plastics Workstream will join an official virtual side event of the **UN Ocean Conference**, hosted by the **EU-funded INSPIRE project** in collaboration with **VITO** on **13 June 2025**.

📅 WWQA in Action: Tackling Riverine Plastics

🕐 13 June | 11:00–12:30 CEST / 5:00–6:30 EDT

📎 Register here to join the virtual webinar

The session explores how bridging research and policy can reduce plastic pollution from rivers to oceans. WWQA will share its ongoing work to strengthen freshwater plastic monitoring and contribute to global efforts for harmonized, scalable solutions. The event also features regional case studies from across Europe, highlighting innovative technologies and community-driven actions.

This session aligns with **Ocean Action Panel 4** and supports SDG 14 by promoting collaboration across disciplines and sectors to tackle marine pollution at its source.

Upcoming BBMA Workshop on Bioassessment Best Practices

Following a successful funding application, the Biological and Biomonitoring Methods and Assessment (BBMA) Workstream in collaboration with IUCN SSC Global Freshwater Macroinvertebrate Sampling Protocols Task Force (GLOSAM) will host a workshop from 16–18 July 2025. The event will build on the findings of the first global assessment of macroinvertebrate sampling protocols in rivers and lakes, focusing on defining and promoting best practices in bioassessment.

The goals of the workshop include:

1. *Reviewing Protocols:* Identifying aspects of macroinvertebrate protocols that meet criteria for best practice (ease of use, economy, scientific soundness), while addressing quality control, harmonization, and metric selection.
2. *Drafting a Best-Practice Guide:* Taking a bottom-up approach that respects methodological diversity and balances scientific rigor with feasibility.
3. *Promoting Dual Use:* Exploring how protocols can serve both ecosystem health assessments and biodiversity monitoring.
4. *Scaling Implementation:* Developing strategies to harmonize practices across different national contexts, including communication approaches, behavioral change tools, and value-based considerations.

Written by Anham Salyani (WWQA Coordinator) on behalf of the WWQA Coordination team.

Biodiversity Begins with Water: The Role of Freshwater Quality in Safeguarding Life on Earth

Freshwater ecosystems—lakes, rivers, wetlands, streams, and aquifers—are among the most biodiverse yet most threatened habitats on the planet. As we mark the International Day for Biological Diversity, it is essential to recognize that freshwater quality is not only a human health issue—it is a biodiversity issue.

Covering less than 1% of the Earth's surface, freshwater systems support over 10% of all known species, including one-third of all vertebrates (Tickner et al., 2020). However, they are degrading faster than marine or terrestrial ecosystems. Pollution, over-extraction, habitat alteration, and climate change are driving alarming rates of biodiversity loss. The Living Planet Report 2022 documented an average 83% decline in freshwater vertebrate populations since 1970—the steepest decline of any ecosystem type (WWF, 2022).

Water Quality and Biodiversity: A Two-Way Relationship

Poor water quality directly undermines freshwater biodiversity. Excessive nutrients trigger eutrophication, leading to algal blooms that deplete oxygen and cause fish kills. Toxic substances—such as heavy metals, pesticides, and endocrine-disrupting chemicals—harm reproduction and survival in aquatic species.

For instance:

- Lake Naivasha, Kenya suffers from nutrient runoff linked to floriculture and urban discharge. This has led to fish die-offs, degradation of aquatic vegetation, and reduced prey for iconic species such as the African fish eagle (WWQA, 2023).
- In India's Yamuna River, extreme pollution levels and high biochemical oxygen demand have led to the near disappearance of sensitive aquatic fauna, including the endangered Ganges river dolphin (CPCB, 2022).

At the same time, healthy freshwater biodiversity helps maintain water quality. Aquatic organisms filter pollutants, break down organic matter, and cycle nutrients—showing how ecosystem health underpins chemical safety.

1 - Vrindavan - Uttarpradesh. Image credit - Marie Bourbon (GEMS/Water)

The Silent Cornerstone: Water Quality in Biodiversity Strategies

Despite its importance, water quality is often overlooked in biodiversity policy and programming. The UN World Water Development Report (2023) estimates that over 80% of global wastewater is discharged untreated, introducing pollutants that severely impact aquatic life. Nutrient pollution from agriculture causes eutrophication in over 50% of lakes and reservoirs worldwide (UNEP GEO, 2023). Meanwhile, chemical contaminants like pharmaceuticals and pesticides accumulate in freshwater species, disrupting reproduction and immune function.Without water quality, habitat restoration and species protection efforts will fall short. Protecting biodiversity without clean water is incomplete.

Filling Data Gaps through Bioassessment

Water quality data remains fragmented, particularly in the Global South. Traditional methods are resource-intensive and poorly sustained. Biomonitoring offers a scalable, cost-effective

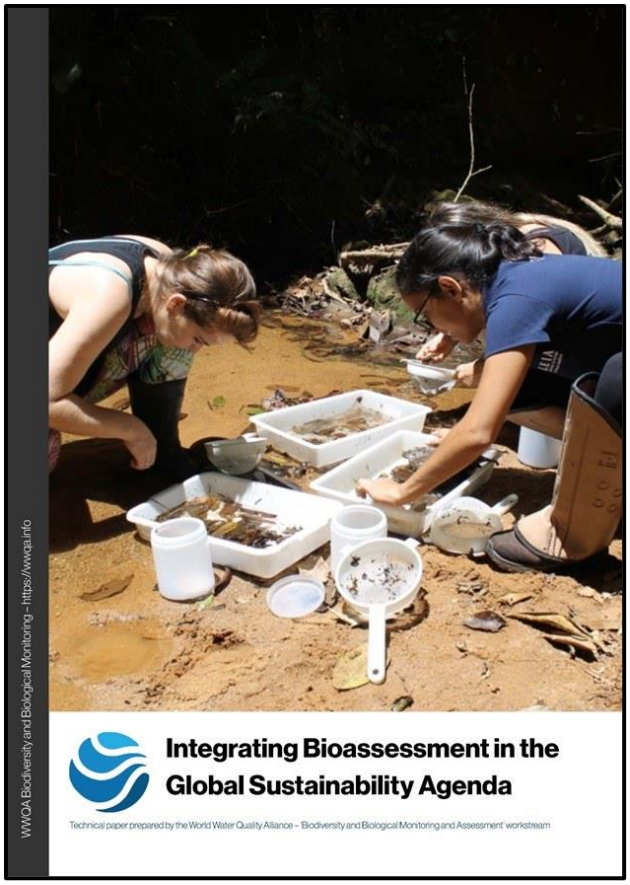
solution by tracking the presence and abundance of indicator organisms like macroinvertebrates, fish, and algae. These organisms reflect cumulative impacts over time—often missed by chemical testing alone.

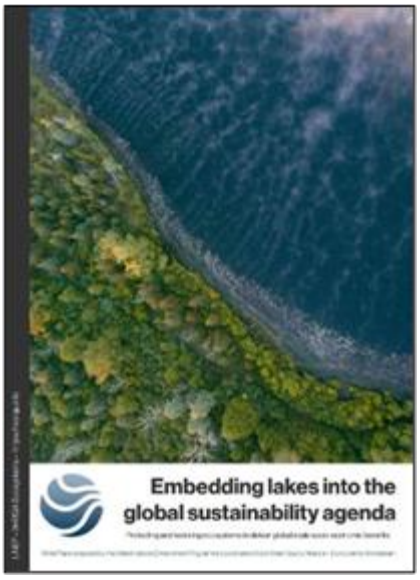
The WWQA Biodiversity and Biological Monitoring and Assessment (BBMA) Workstream is championing this shift. Two key publications released in 2024 help guide integrated approaches:

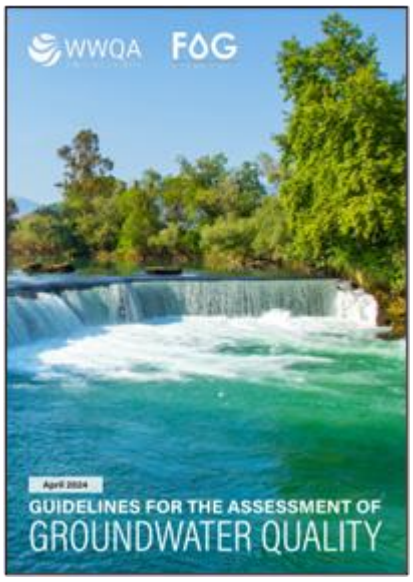
Policy Brief: *Bridging the Global Data Gap by Integrating Biomonitoring in Water Quality Monitoring*

Technical Paper: *Integrating Bioassessment in the Global Sustainability Agenda*

These tools support Target 2 of the Kunming-Montreal Global Biodiversity Framework (CBD, 2022) and the Ramsar Convention on Wetlands, which will be further discussed at Wetlands COP15 in Victoria Falls, Zimbabwe (July 23–31, 2025) and CBD COP16 in Colombia (October 2025).







Don’t Forget the Ground Beneath Us: Groundwater and Biodiversity

While rivers and lakes get more attention, groundwater ecosystems are biodiversity refuges in their own right. Home to unique subterranean life (stygobionts), these systems are vulnerable to contamination and overuse. Groundwater sustains baseflows in rivers and wetlands, meaning damage below ground has cascading effects on surface ecosystems.The WWQA promotes surface–groundwater integration through country assessments and guidance like the:

Global Groundwater Quality Guidelines for Decision-Makers

Lakes and the Global Biodiversity Agenda

Lakes are among the most ecologically and culturally significant ecosystems, yet they face growing threats. The WWQA Ecosystems Workstream calls for urgent global attention and support through:

White Paper: Embedding Lakes in the Global Sustainability Agenda

It proposes the creation of a Global Coalition for Lakes to safeguard these systems through collaborative governance, monitoring, and restoration.

Freshwater biodiversity is in crisis—but not beyond recovery.

What's needed is:

- Political will
- Inclusive and equitable partnerships
- Sustained investments in water quality monitoring and ecosystem restoration

As part of the World Water Quality Alliance, YEMAYA proudly supports these goals—amplifying science, stories, and solutions that place freshwater quality at the heart of biodiversity protection.

Let us remember: Biodiversity begins with water.

References

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Written by Anham Salyani (WWQA Coordinator) on behalf of the WWQA Coordination team.

Peace by the Drop: The Role of Water in Peacebuilding

In 1979, following the Egypt-Israel Peace Treaty, President Anwar Sadat issued a prophetic warning: “The only matter that could take Egypt to war again is water.” Over four decades later, that statement resonates globally.

Water, our most essential resource, can be a source of division—but also a platform for peace. Across continents, rivers, lakes, and aquifers transcend political boundaries. When managed collaboratively, these shared waters become powerful tools for regional development, diplomacy, and conflict prevention.

When Water Becomes a Fault Line

Water-related tensions are rising. According to the Pacific Institute, over 785 water-related conflicts have been documented globally to date—surpassing the total from the entire 2010–2019 decade (Pacific Institute, 2024). These incidents stem from scarcity, population pressures, pollution, and political instability.

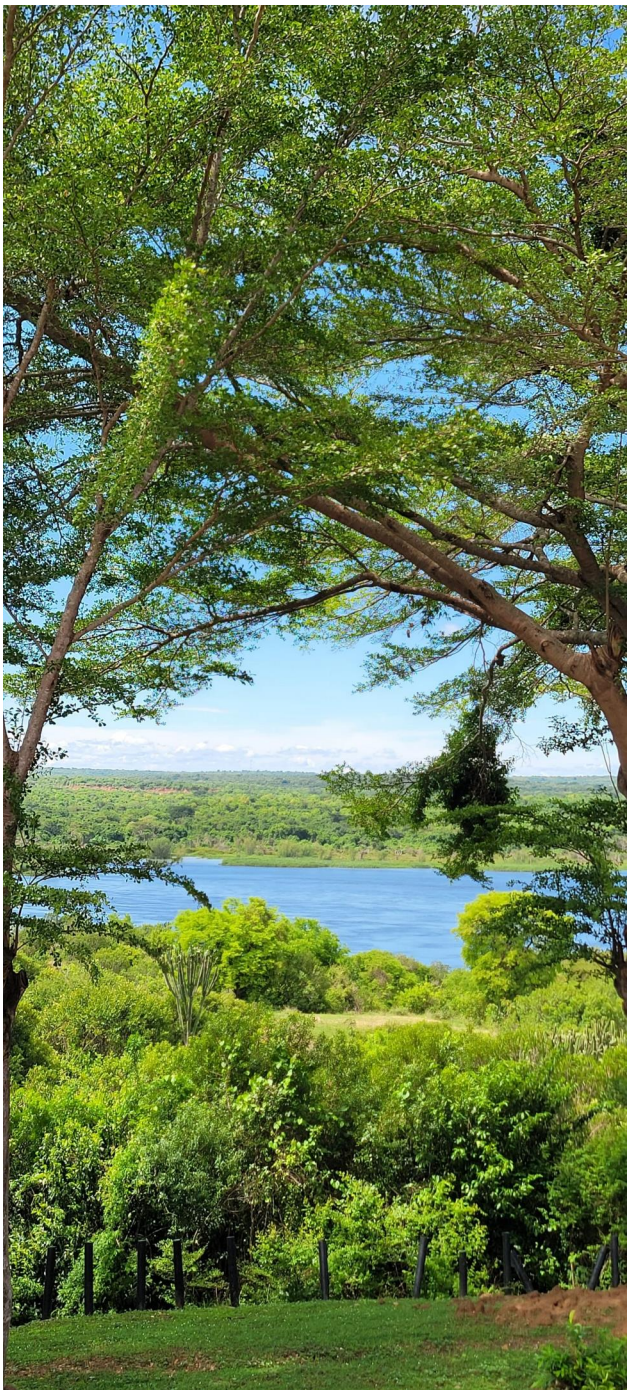
The Nile Basin offers a clear example. Ethiopia's Grand Ethiopian Renaissance Dam (GERD) is nearly complete and promises electricity for millions. Yet Egypt and Sudan remain deeply concerned about the dam's downstream impact on water flow critical to agriculture and livelihoods. Negotiations, facilitated by the African Union, continue, but regional trust remains fragile (UNESCO WWAP, 2024). Enhanced cooperation on water quality monitoring and real-time data sharing is essential to de-escalate tensions and build resilience.

Navigating Cooperation Through Shared Rivers

Despite decades of tension, India and Pakistan have upheld the 1960 Indus Waters Treaty, one of the world's most enduring water agreements. However, in early 2025, India called for amendments, citing security and development needs (Reuters, 2025). Although the treaty has not been revoked, the call to revise it reflects growing pressure on shared water governance frameworks. Crucially, water quality remains a blind spot in the treaty.

Helmand River

Iran and Afghanistan's dispute over the Helmand River spans more than 100 years. While a 1973 treaty grants Iran a specific allocation, shifting rainfall patterns, upstream dam projects, and prolonged drought have intensified disagreements. In May 2025, Afghan officials reaffirmed their commitment to water-sharing obligations, emphasizing dialogue and cooperation (Iran Press, 2025). Strengthening bilateral data systems and investing in water quality infrastructure could ease tensions and improve trust.



2 - Nile from Uganda. Image credit - Aisha Memon.

Water Quality: The Unseen Peacekeeper

Often overlooked, water quality plays a central role in sustaining peace. Contaminated water compromises public health, agricultural productivity, and ecosystems, creating conditions for instability. According to UN-Water, over 80% of wastewater globally is released untreated, much of it into shared waters (UN-Water, 2024).

Hosted by UNEP, the WWQA brings together partners to co-develop tools and policy support that inform action. It helps turn data into shared solutions that has the ability to build trust across borders (WWQA, 2024 – https://www.wwqa.info). In addition, Citizen science, promoted by WWQA and its partners, empowers local communities to monitor water quality. This participatory approach strengthens social cohesion, ensures that data reflects lived realities, and allows for timely responses to emerging risks. When communities monitor water together, they build not just data, but dialogue.

Models of Cooperation

Europe's Danube River shows the power of hydro-diplomacy. Since 1998, 14 countries have worked under the International Commission for the Protection of the Danube River (ICPDR), coordinating efforts on pollution control, flood risk, and sustainable development. Despite diverse political interests, the Danube has become a symbol of unity (ICPDR, 2024).

Similarly, in West Africa, the Senegal River Basin Authority (OMVS), founded in 1972, demonstrates equitable water sharing among Guinea, Mali, Mauritania, and Senegal. The organization manages hydropower and irrigation systems collectively, sharing both costs and benefits under a robust legal framework (UNESCO WWAP, 2024).

A New Mindset

Water has the power to divide—but also to heal. As the foundation of ecosystems, economies, and public health, it demands inclusive governance. Treating water solely as a commodity overlooks its role as a catalyst for peace. By integrating water quality, local voices, and science-based diplomacy, we can transform water from a source of conflict into a bridge between nations.

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Article contribution by: Robert Wafula - Sustainability Consultant and Citizen Scientist for the Nairobi River.

The WWQA BULLETIN BOARD

New Publication: Enabling consistent reporting and monitoring for freshwater (inland waters) restoration under Target 2 of the Kunming-Montreal Global Biodiversity Framework

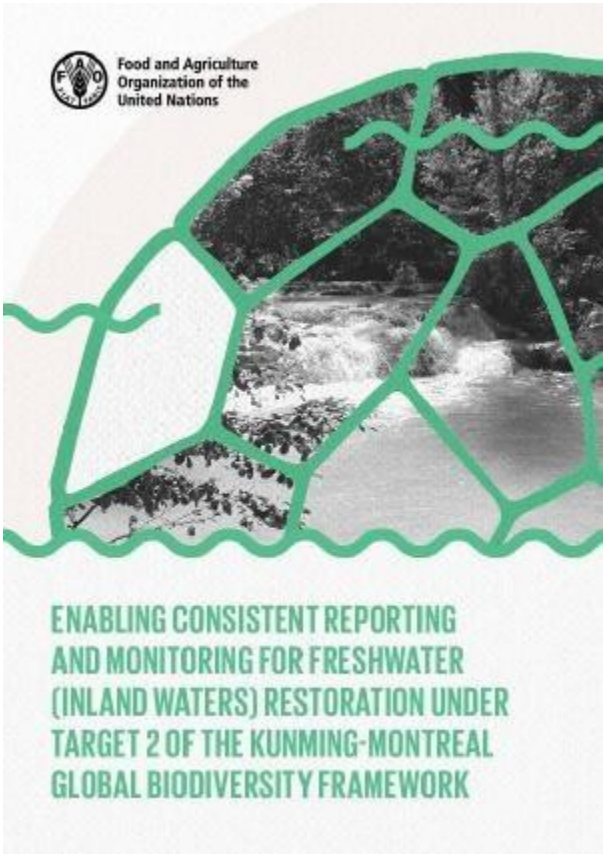
We're excited to share that our **Ecosystems Workstream leaders** contributed to a new FAO report focused on restoring lakes, rivers, and wetlands around the world.

The report helps countries track how well they're bringing freshwater ecosystems back to life — offering clear guidance, practical tips, and a shared approach for better global impact.

💧 Freshwater ecosystems are vital for people and nature, and this work helps make sure they're not left behind in global restoration efforts.

📘 **Check out the full report here:**

📎 FAO Report on Freshwater Restoration



ILEC Webinar: Climate Change Impacts on Lakes and Their Basins: Assessments and Observations from Lake Biwa, the Yodo River Basin, and a Global Perspective

Date: June 23rd 2025

GEMS/Water will present as UNEP's flagship programme for water quality monitoring, GEMS/Water addresses the critical need for water quality data to inform an integrated and sustainable lake management. UNEP's scope of activities includes enhancing knowledge through capacity development and cross-sectoral collaboration to better protect and restore lakes, and supporting countries in embedding lake restoration into national policies and sustainable development planning.

Register here:
https://us06web.zoom.us/webinar/register/WN__syPaciTTCWABXmU4jCeNA#/registration

**********ILEC International Webinar Program**********

Date: June 23, 2025 14:00–17:00 JST
Format: Zoom

14:00–14:05 – Welcome Remarks
Dr. Kazuhiko Takemoto (President, International Lake Environment Committee Foundation (ILEC))

14:05–14:25 – Opening Keynote Lecture
Dr. Kenzo Hiroki (Professor, National Graduate Institute for Policy Studies)
"The Significance of World Lake Day and the Future of Lake Conservation and Development"

Part I : Hydrological Assessments

14:25–15:05 – Presenter I
Prof. Kenji Tanaka (Kyoto University, Disaster Prevention Research Institute)

"Historical Changes and Future Projections of Hydrological Environments of the World's Major Watersheds"
This talk uses the SiBUC land surface model and ISIMIP data to assess both historical and future changes in the global water cycle across major river basins. Drawing on experiments 3a and 3b, it highlights how land use developments and climate scenarios influence trends in water availability, based on multi-model simulations and long-term watershed comparisons.

15:05–15:20 – Discussant I
Ms. Marie Bourbon (Associate Expert, GEMS/Water Early Warning and Assessment Division
United Nations Environment Programme)
"UNEP's Global Environment Monitoring System (GEMS) and its relevance to freshwater assessment and sustainable lake"
Lake protection and restoration are gaining increasing prominence within the UN Agenda. As UNEP's flagship programme for water quality monitoring, GEMS/Water addresses the critical need for water quality data to inform an integrated and sustainable lake management. UNEP's scope of activities includes enhancing knowledge through capacity development and cross-sectoral collaboration to better protect and restore lakes, and supporting countries in embedding lake restoration into national policies and sustainable development planning.

15:20–15:35 – Discussant II
Mr. Takashi Kaji (Water Resources Team 2, Water Resources Group, Global Environment Department,
Japan International Cooperation Agency (JICA)
"Case Studies and Recommendations from Integrated River Basin Management Projects Based on JICA's Cluster Program Strategy "
Through its cluster initiative "Practical Integrated Water Resources Management to Solve Local Water Issues," JICA supports sustainable water use by strengthening stakeholder consensus-building in various countries. This presentation will introduce key case studies and share insights on water governance and enhancing adaptive management.

Job Openings

P4 - Chief Technical Specialist – Climate Change and Environment

Damascus, Syria

United Nations Development Programme (UNDP)

Apply by 06 June, 2025

For more information: https://estm.fa.em2.oraclecloud.com/hcmUI/CandidateExperience/en/sites/CX_1/job/26698

Investment Officer / Senior Investment Officer - Water

Asian Infrastructure Investment Bank (AIIB)

Apply by 13 June, 2025

For more information: https://www.aiib.org/en/opportunities/career/job-vacancies/staff/job-details/investment-officer-senior-investment-officer-water31.html

Dive Into WWQA's YouTube Channel!

Missed a WWQA webinar? No worries! You can catch up on all our past sessions by visiting the WWQA YouTube channel. Dive into discussions on water quality, sustainability, and more. Check it out here: WWQA YouTube Channel

WWQA Membership Application Form

The WWQA coordination team has set up a WWQA Membership Application Form to keep our growing membership organized.

We kindly request all members to fill out the form :)

https://forms.office.com/e/BeF5iRuaP3

In the June issue of YEMAYA

World Environment Day

World Youth Skills Day

Please follow our social media handles at:

LinkedIn: https://www.linkedin.com/company/wwqa

Visit our website at: www.wwqa.info

WWQA
World Water Quality Alliance

*Unless otherwise indicated, all contributions are by the WWQA coordination team.

YEMAYA welcomes articles, opinions and audio-visual material related to the issue of water quality. Please send any contribution to wwqa-coordination@un.org with a short 100-word biography, the name of your organisation and a phone number where you can be contacted.