



Progress on Water-related Ecosystems

Mid-term status of SDG Indicator 6.6.1 and acceleration needs, with a special focus on Biodiversity

2024



Introduction

This Visual Summary presents the key messages and findings from the full 2024 Progress Report for SDG Indicator 6.6.1: **Progress on Water-related Ecosystems. Mid-term status of SDG indicator 6.6.1 and acceleration needs, with a special focus Biodiversity.** ([Full report here.](#))

It utilizes the most recent nationally approved indicator data reported from 2023, along with all previously approved and reported data for the indicator, **to present information on:**

LONG-TERM
TRENDS

CURRENT
STATUS

SCALE OF
ECOSYSTEM
DEGRADATION

To highlight that degraded water-related ecosystems deserve our utmost attention in protection and restoration policies.

TARGET 6.6 AND SDG INDICATOR 6.6.1

SDG Target 6.6 encompasses a broad and ambitious goal of protecting and restoring various water-related ecosystems, including:

SURFACE WATER

MANGROVES

RIVERS

AQUIFERS

WETLANDS

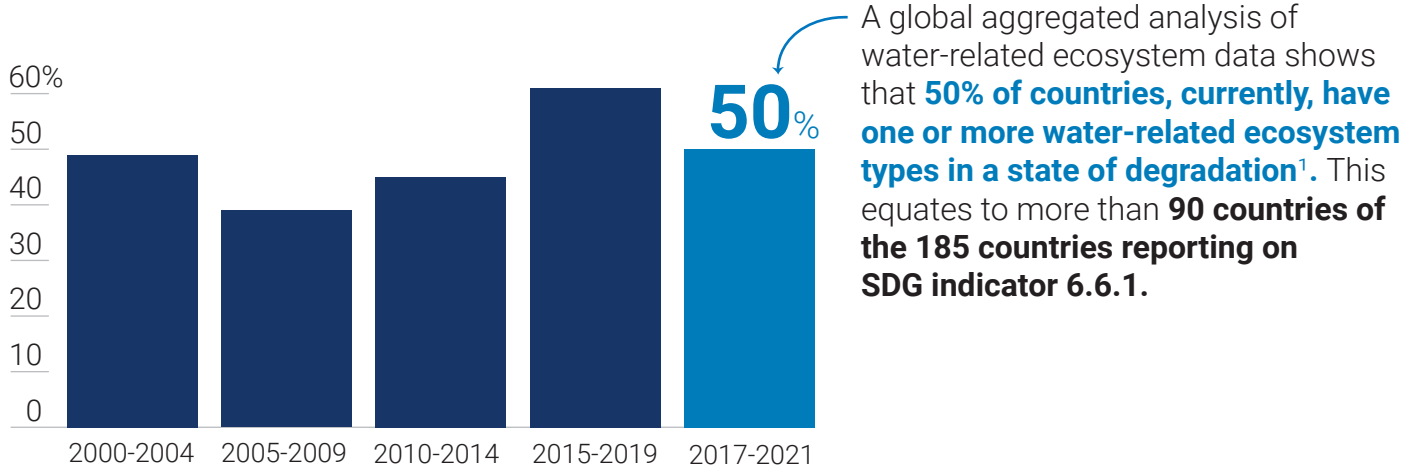
LAKES

SDG Indicator 6.6.1 assesses changes in the extent of water-related ecosystems over time.

Key Findings and Messages

Key Findings from aggregated freshwater ecosystem data

FIGURE 1: PERCENTAGE OF COUNTRIES EVERY FIVE YEARS WITH DEGRADED WATER-RELATED ECOSYSTEMS



Healthy and functioning freshwater ecosystems are essential for:

Ensuring water and food security



Mitigating climate impacts



Preserving biodiversity



The SDG 6.6.1. data trends show water-related ecosystems are continuing to face **significant levels of degradation**, primarily driven by pollution, dams, land conversion, over-abstraction and climate change.

FOR PEOPLE



Loss of available **drinking water**

Reduced capacity to irrigate **food crops** sustainably



Increase in severity and frequency of **climate change** impacts

FOR NATURE

83% since 1970

Decline in freshwater species populations

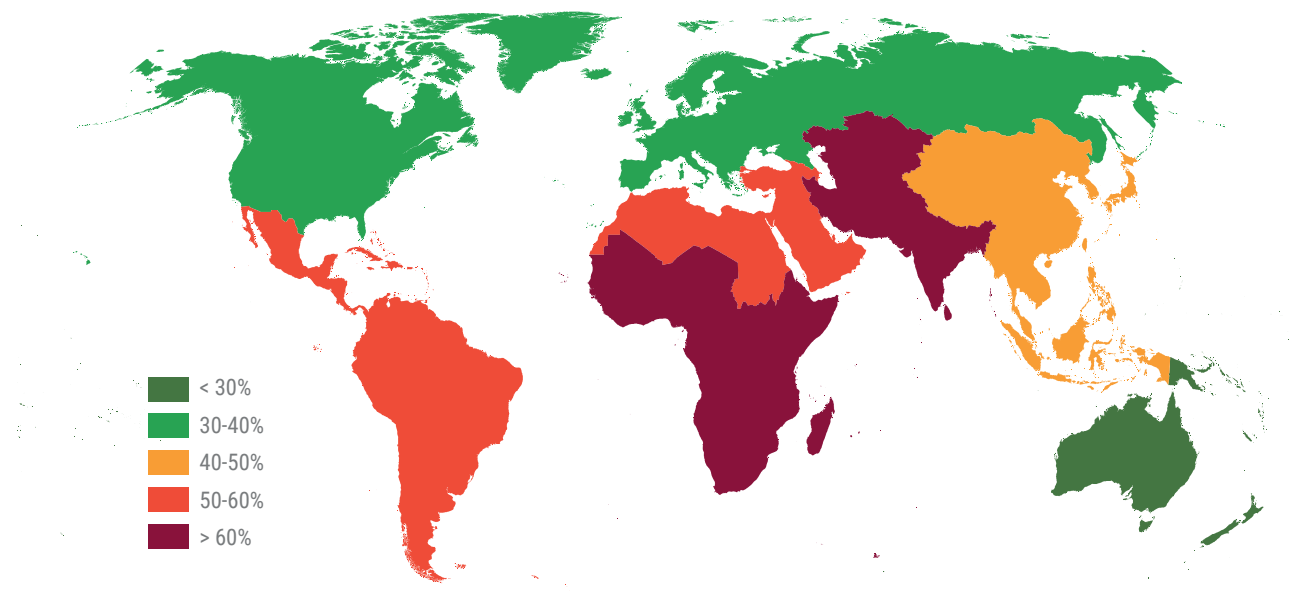


Migratory animals rely on healthy freshwater ecosystems to survive



¹Seasonal surface water data is excluded from the global assessment because an increase or decrease in seasonal water cannot confidently be attributed to positive or negative changes in any given location, however these data are presented at national and basin levels on UNEPs Freshwater Explorer. Inland wetlands data are currently only available as a baseline and therefore also not included.

FIGURE 2: REGIONAL SDG 6.6.1 TREND: PERCENTAGE OF COUNTRIES WITHIN EACH REGION WITH ONE OR MORE DEGRADED WATER-RELATED ECOSYSTEM TYPE FOR THE CURRENT FIVE YEAR OBSERVATION PERIOD

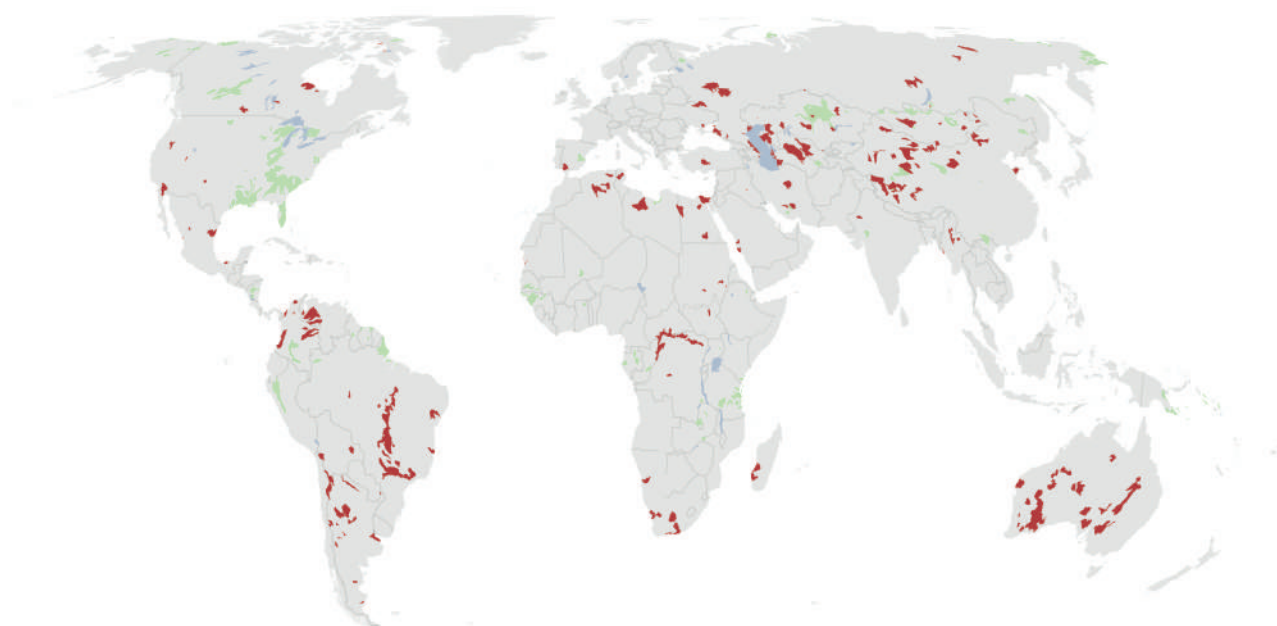


The interdependent and interconnected nature of freshwater ecosystems means that actions taken to address ecosystem degradation must ensure all freshwater ecosystems remain hydrologically connected, across rivers, lakes, wetlands and groundwater systems.

Limiting degradation of water-related ecosystems is achievable but requires Member States to include action on those ecosystems in the protection and restoration plans and policies that they develop according to **SDG Target 6.6**.

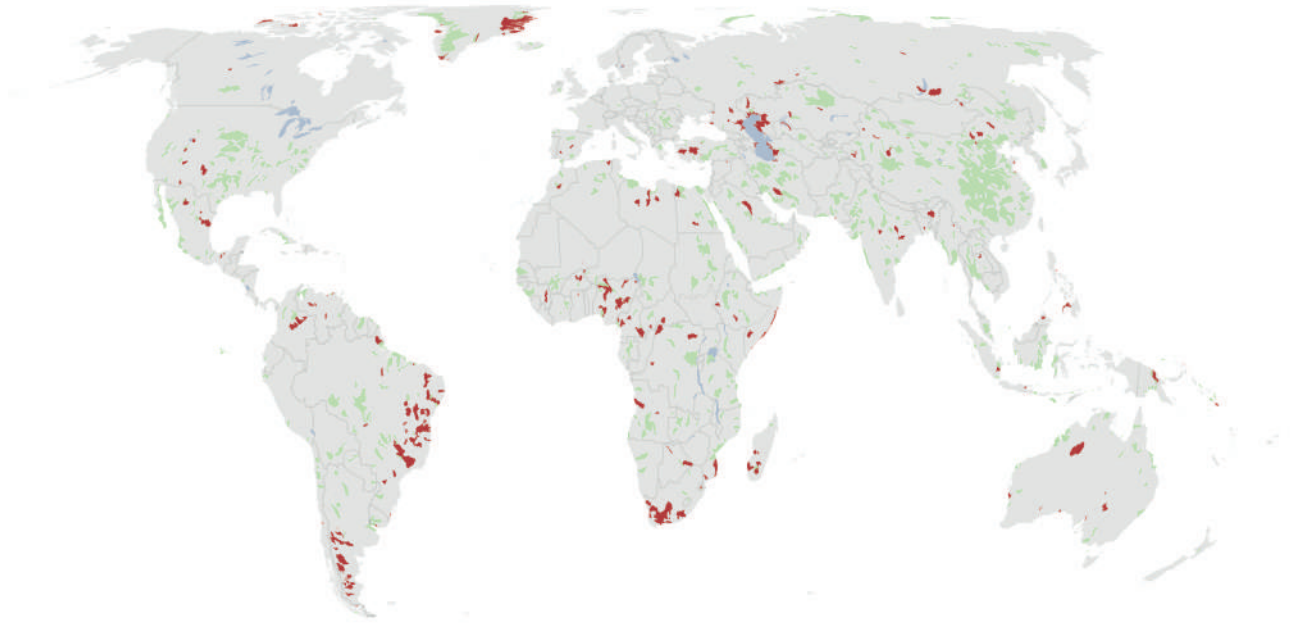
Key Findings from sub-indicator data assessment

FIGURE 3: RIVER BASINS EXPERIENCING A LOSS OR GAIN IN MINIMUM RIVER FLOW IN THE CURRENT OBSERVATION PERIOD (2017-2021) COMPARED TO THE BASELINE REFERENCE (2000-2019)



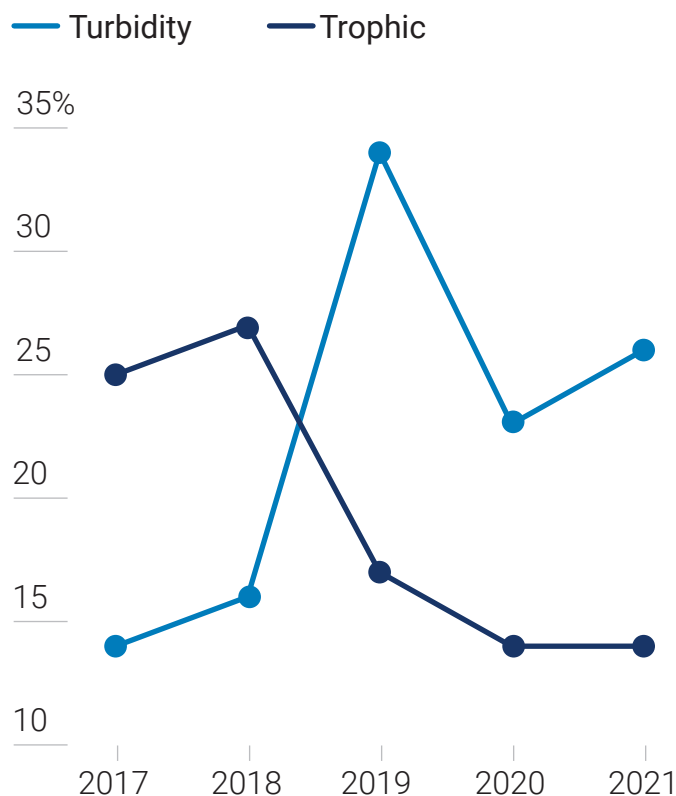
River flow has decreased in 402 river basins worldwide. This is a fivefold increase from 15 years ago.

FIGURE 4: RIVER BASINS EXPERIENCING A LOSS OR GAIN IN PERMANENTLY OBSERVED WATER IN THE CURRENT OBSERVATION PERIOD (2017-2021) COMPARED TO THE BASELINE REFERENCE (2000-2019)



Surface water bodies, such as lakes, are shrinking or being lost entirely in 364 basins worldwide.

FIGURE 5: GLOBAL PERCENTAGES OF LARGE LAKES WITH HIGH TO EXTREME CHANGES IN LEVELS



A significant proportion of the world's large lakes continue to have high to extreme levels of turbidity and eutrophication.

These freshwater bodies support millions of livelihoods and are critical for freshwater biodiversity.

Summary of Global and Regional Data Analysis

This report provides a comprehensive overview of the global status and trends related to **SDG Indicator 6.6.1**, which focuses on tracking changes to freshwater ecosystems.

Here are the key findings:

01

GLOBAL TREND
AND POLICY
IMPLICATIONS



- The percentage of **countries with degraded water-related ecosystems** has fluctuated between 40-60% since 2000 but reduced following the introduction of the SDGs.
- Half of countries currently have **at least one sub-indicator in a state of degradation** however this reflects the inclusion of new data on lake water quality.
- Protection and restoration plans policies should be tailored to address the key drivers of freshwater ecosystems degradation including pollution, land use change and climate change.

02 REGIONAL
DIFFERENCES



- **Significant variations exist across regions** with Africa, Central and South East Asia having the highest percentage of countries off track. Oceania shows positive trends.
- Regional challenges underscore the need for **tailored solutions** based on climate variability, geographic and socio-economic development priorities.

03

RIVER
FLOW
TRENDS



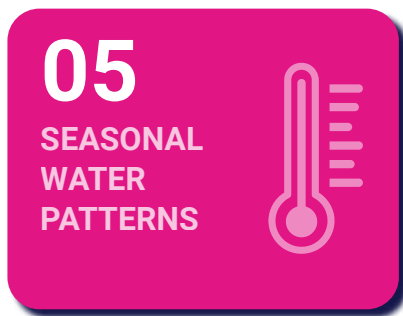
- **Changes in river flow**, influenced by climate change and land use, impact freshwater biodiversity and ecosystem health globally.
- The number of **river basins** experiencing decreased flows has had a five-fold increase since 2000.

04

PERMANENT
SURFACE
WATER
TRENDS



- The construction of **reservoirs** contributes to the global net-gain in permanent water, mainly in certain regions like North America, Europe, and Asia.
- Significant **declines in permanent water** are observed in some river basins, with implications for biodiversity and socio-economic development.



- **Climate change** is driving alterations in seasonal surface water patterns, with potential impacts on ecosystems and water supply.
- Local factors such as **topography** and **human activities** also influence seasonal water dynamics.



- Human activities, such as **land clearance and urbanization**, significantly affect water quality, leading to eutrophication and harmful algal blooms.
- **Weather events** can exacerbate water quality degradation.



- Mangroves play a crucial role in **maintaining freshwater resources** and biodiversity.
- The largest **decreases** were recorded in **Southeast Asia**.
- The net rate of **deforestation** has leveled off in the last decade.
- Human activities like **aquaculture and agriculture**, are the primary drivers of mangrove loss.

Overall, the findings underscore the interconnectedness of environmental changes and the urgent need for targeted policies and management strategies to protect freshwater ecosystems.

Next Steps for SDG Target 6.6 And Indicator 6.6.1

New river flow data was added to the SDG 6.6.1 metadata and used in the global and regional analysis of this report. While these new global data series has been approved by the Inter-Agency Expert Group for SDGs, these data will be shared with countries for approval during the next global round of data validation starting in 2026. New data are also anticipated on inland wetlands by the end of 2025 and ready for global dissemination and approval during the next data round.

The next global monitoring round for SDG Indicator 6.6.1 will start in 2026.

6 CLEAN WATER AND SANITATION



SDG 6 Progress Update Series, by SDG 6 global indicator

This Visual Summary is part of a series of reports providing an in-depth update and analysis of progress towards the different SDG 6 targets and identifies priority areas for acceleration: Progress on household drinking water, sanitation and hygiene (SDG indicators 6.1.1, 6.2.1), Progress on wastewater treatment (6.3.1), Progress on ambient water quality (6.3.2), Progress on water-use efficiency (6.4.1), Progress on level of water stress (6.4.2), Progress on integrated water resources management (6.5.1), Progress on transboundary water cooperation (6.5.2), Progress on water-related ecosystems (6.6.1) and Progress on international cooperation and local participation (6.a.1, 6.b.1).

The reports are produced by the responsible custodian agencies, coordinated by UN-Water through the Integrated Monitoring Initiative for SDG 6 ([IMI-SDG6](#)). They present the latest available country, region and global data on the SDG 6 global indicators, and are published every two to three years.

See the full collection of reports and associated products at www.unwater.org/publications/sdg-6-progress-reports or scan the QR code below.

