



GLOBAL WETLAND OUTLOOK

State of the world's
wetlands and their
services to people
Executive Summary 2018

KEY MESSAGES

- Healthy, functioning natural wetlands are critical to human livelihoods and sustainable development.
- Although still covering a global area almost as large as Greenland, wetlands are declining fast, with 35% losses since 1970, where data are available.
- Wetland plants and animals are therefore in crisis, with a quarter of species at risk of extinction.
- Quality of remaining wetlands is also suffering, due to drainage, pollution, invasive species, unsustainable use, disrupted flow regimes and climate change.
- Yet wetland ecosystem services, ranging from food security to climate change mitigation, are enormous, far outweighing those of terrestrial ecosystems.
- The Ramsar Convention promotes wetland conservation and wise use and is at the centre of efforts to halt and reverse wetland loss.
- Key steps in conserving and regaining healthy wetlands include:
 - enhancing the network of Ramsar Sites and other wetland protected areas;
 - integrating wetlands into planning and the implementation of the post-2015 development agenda;
 - strengthening legal and policy arrangements to conserve all wetlands;
 - implementing Ramsar guidance to achieve wise use;
 - applying economic and financial incentives for communities and businesses;
 - ensuring participation of all stakeholders in wetland management;
 - improving national wetland inventories and tracking wetland extent.

INTRODUCTION

Conservation and wise use of wetlands are vital for human livelihoods. The wide range of ecosystem services wetlands provide means that they lie at the heart of sustainable development. Yet policy and decision-makers often underestimate the value of their benefits to nature and humankind.

Understanding these values and what is happening to wetlands is critical to ensuring their conservation and wise use. The Global Wetland Outlook summarizes wetland extent, trends, drivers of change and the steps needed to maintain or restore their ecological character.



Status and Trends

Extent

Accuracy of global wetland area data is increasing. Global inland and coastal wetlands cover over 12.1 million km², an area almost as large as Greenland, with 54% permanently inundated and 46% seasonally inundated. However, natural wetlands are in long-term decline around the world; between 1970 and 2015, inland and marine/coastal wetlands both declined by approximately 35%, where data are available, three times the rate of forest loss. In contrast, human-made wetlands, largely rice paddy and reservoirs, almost doubled over this period, now forming 12% of wetlands. These increases have not compensated for natural wetland loss.

Biodiversity

Overall available data suggest that wetland-dependent species such as fish, waterbirds and turtles are in serious decline, with one-quarter threatened with extinction particularly in the tropics. Since 1970, 81% of inland wetland species populations and 36% of coastal and marine species have declined.

Global threat levels are high (over 10% of species globally threatened) for almost all inland and coastal wetland-dependent taxa assessed. Highest levels of extinction threat (over 30% of species

globally threatened) are for marine turtles, wetland-dependent megafauna, freshwater reptiles, amphibians, non-marine molluscs, corals, crabs and crayfish. Extinction risk appears to be increasing. Although waterbird species have a relatively low global threat level, most populations are in long-term decline. Only coral reef-dependent parrotfish and surgeonfish, and dragonflies have a low threat status.

Water quality

Water quality trends are mostly negative. Since the 1990s, water pollution has worsened in almost all rivers in Latin America, Africa and Asia. Deterioration is projected to escalate.

Major threats include untreated wastewater, industrial waste, agricultural runoff, erosion and changes in sediment. By 2050, one-third of the global population will likely be exposed to water with excessive nitrogen and phosphorous, leading to rapid algal growth and decay that can kill fish and other species. Severe pathogen pollution affects a third of rivers in Latin America, Africa and Asia, with faecal coliform bacteria increasing over the last two decades. Salinity has built up in many wetlands, including in groundwater, damaging agriculture. Nitrogen oxides from fossil fuels and ammonia from agriculture cause



acid deposition. Acid mine drainage is a major pollutant. Thermal pollution from power plants and industry decreases oxygen, alters food chains and reduces biodiversity. At least 5.25 trillion persistent plastic particles are afloat in the world's oceans and have huge impacts in coastal waters. In nearly half OECD countries, water in agricultural areas contains pesticides above national recommended limits. These impacts harm our health, undermine ecosystem services and further damage biodiversity.

Ecosystem processes

Wetlands are one of the most biologically productive ecosystems. They play a major role in the water cycle by receiving, storing and releasing water, regulating flows and supporting life. River channels, floodplains and connected wetlands play significant roles in hydrology, but many “geographically isolated” wetlands are also important. However, land use change and water regulation infrastructure have reduced connectivity in many river systems and with floodplain wetlands. Wetlands regulate nutrient and trace metal cycles and can filter these and other pollutants. They store the majority of global soil carbon, but in the future climate change may cause them to become carbon sources, particularly in permafrost regions.

Ecosystem services

Wetland ecosystem services far exceed those of terrestrial ecosystems. They provide critical food supplies including rice and freshwater and coastal fish, and fresh water, fibre and fuel. Regulating services influence climate and hydrological regimes, and reduce both pollution and disaster risk. Natural features of wetlands often have cultural and spiritual importance. Wetlands offer recreational possibilities and tourism benefits. While some global data on ecosystem services are available, more targeted information is urgently required for national and local decision-makers.

Storage and sequestration of carbon by wetlands play an important role in regulating the global climate. Peatlands and vegetated coastal wetlands are large carbon sinks. Salt marshes sequester millions of tonnes of carbon annually. Despite occupying only 3% of the land surface, peatlands store twice as much carbon as the world's forests. However, freshwater wetlands are also the largest natural source of methane, a greenhouse gas, especially when not well managed. Tropical reservoirs also release methane, sometimes offsetting the reported low-carbon benefits of hydropower.



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Drivers

Wise use of wetlands requires a thorough understanding of the drivers of change so that the root causes of wetland loss and degradation can be addressed. Wetlands continue to be lost and degraded through drainage and conversion, introduction of pollution and invasive species, extraction activities, and other actions affecting the water quantity and frequency of flooding and drying.

These immediate drivers are in turn affected by indirect drivers, relating to supply of energy, food, fibre, infrastructure, tourism and recreation. Climate change is a direct and indirect driver of change. Therefore, adaptation and mitigation measures can have multiplier effects in addressing other drivers of wetland change. Global megatrends are also important, including demography, globalization, consumption and urbanization, with climate change creating uncertainty at every level.



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The Ramsar Convention

The purpose of the Ramsar Convention is to promote wetland conservation and wise use. This ensures that the benefits of wetlands contribute towards meeting the UN Sustainable Development Goals (SDGs), Aichi Biodiversity Targets, Paris Agreement on Climate Change, and other related international commitments. The fourth Ramsar Strategic Plan guides the work of the Convention in addressing the drivers of loss, fostering wise use of wetlands, enhancing implementation of the Convention and effectively conserving and managing the Ramsar Site network. Parties to the Convention have already committed to maintaining the ecological character of over 2,300 Wetlands of International Importance covering nearly 250 million hectares, 13-18% of global wetlands.

The Ramsar Convention is uniquely positioned to reverse the loss of global wetlands. As the only international treaty focused on wetlands, it provides a platform to deliver many global wetland-related targets. In fact, wetlands contribute directly or indirectly to 75 SDG indicators. Of critical importance is the Convention's role in reporting on wetland extent drawing on information from national reports as a co-custodian with UN Environment of SDG indicator 6.6.1. The Convention provides a platform like no other to foster collaboration and partnership in support of other international policy mechanisms through providing the best available data, advice and policy recommendations to enable national governments to realize the benefits of fully functional wetlands to nature and society.



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Responses

Urgent action is needed at the international and national level to raise awareness of the benefits of wetlands, put in place greater safeguards for their survival and ensure their inclusion in national development plans. In particular:

- **Enhance the network of Ramsar Sites and other wetland protected areas:** designation of over 2,300 internationally important wetlands as Ramsar Sites is encouraging. However, designation is not enough. Management plans must be developed and implemented to ensure their effectiveness. Less than half Ramsar Sites have done this as yet.
- **Integrate wetlands into planning and the implementation of the post-2015 development agenda:** include wetlands in wider scale development planning and action including SDGs, the Paris Agreement on Climate Change, and the Sendai Framework on Disaster Risk Reduction.
- **Strengthen legal and policy arrangements to protect all wetlands:** wetland laws and policies should apply cross-sectorally at every level. National Wetland Policies are needed by all countries. An important tool here is the avoid–mitigate–compensate sequence recommended by Ramsar and reflected in many national laws. It is easier to avoid wetland impacts than to restore wetlands.
- **Implement Ramsar guidance to achieve wise use:** Ramsar has a wide range of relevant guidance. Ramsar mechanisms – such as reports on changes in ecological character, the Montreux Record of Ramsar Sites at risk and Ramsar Advisory Missions – help to identify and address challenges to the conservation and management of Ramsar Sites.
- **Apply economic and financial incentives for communities and businesses:** funding for wetland conservation is available through multiple mechanisms, including climate change response strategies and payment for ecosystem services schemes. Eliminating perverse incentives has positive benefits. Businesses can be helped to conserve wetlands through tax, certification and corporate social responsibility programmes. Government investment is also critically important.
- **Integrate diverse perspectives into wetland management:** multiple wetland values must be taken into account. To ensure sound decision-making, stakeholders need an understanding of wetland ecosystem services and their importance for livelihoods and human well-being.
- **Improve national wetland inventories and track wetlands' extent:** knowledge supports innovative approaches to wetland conservation and wise use. Examples include remote sensing and field assessments, citizen science and incorporating indigenous and local knowledge. Identification and measurement of indicators of wetland benefits and drivers of change are key to supporting wise use policy and adaptive management.

A broad range of effective wetland conservation options is available at the international, national, catchment and site level. Good governance and public participation are critical throughout, management is required, investment essential and knowledge critical.



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The Ramsar Convention on Wetlands, also known as the Ramsar Convention, is a global inter-governmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. It is the only global treaty to focus on one single ecosystem.