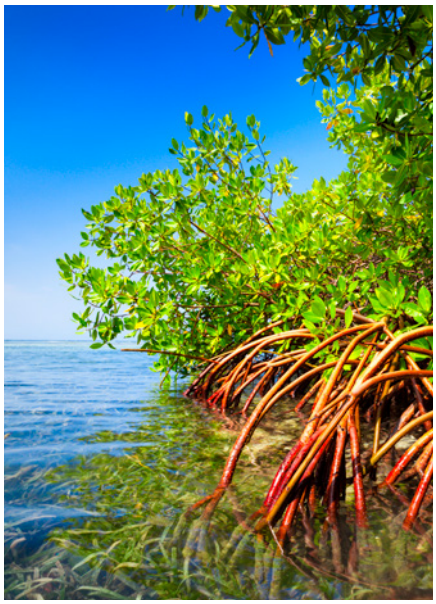
WETLANDS AND CARBON CAPTURE

Wetlands are a natural solution to the era-defining global threat of climate change. Peatlands, mangroves, and seagrasses are the most effective carbon sinks on Earth, absorbing and storing twice as much carbon as all the world's forests combined. But, when drained and destroyed, wetlands emit vast amounts of carbon. Action to protect wetlands is a key part of the fight against climate change.

WHY WETLAND CARBON CAPTURE MATTERS



Earth's climate is changing. Temperatures are rising, the ocean is warming, snow and ice are melting, and sea levels are rising faster than recorded during any previous century. The cause is well known: increasing amounts of carbon dioxide (CO2), methane, and other greenhouse gases (GHG) in the atmosphere due to human activity.

Wetlands are a natural solution. These vital ecosystems can help us to prepare for, cope with, and bounce back from the impacts of climate change. Most crucially, some types of wetlands play an essential role in stabilizing GHG emissions by naturally absorbing and storing vast amounts of carbon. Peatlands, mangroves, and seagrasses are the most effective carbon sinks on Earth.

Peatlands deserve a special mention. These water-saturated lands contain decomposed plant material up to 30 metres deep that has accumulated over time. They cover about 3% of our planet's land yet store approximately 30% of all land-based carbon. That's twice as much as all the world's forests put together.

Capturing carbon is one of many ways that the world's wetlands help make our planet liveable.

WHAT ARE WETLANDS?

Wetlands are a major, planet-wide habitat that make life on Earth possible. Article 1.1 of the Convention on Wetlands defines wetlands as: "areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres." They are ecosystems where water is the primary factor controlling the environment and the associated plant and animal life. This encompasses all inland wetlands, such as marshes, ponds, lakes, fens, rivers, floodplains, and swamps; a range of coastal wetlands, including saltwater marshes, estuaries, mangroves, lagoons, and coral reefs; and human-made wetlands like fishponds, rice paddies, and salt pans. Global inland and coastal wetlands cover over 12.1 million km^2, an area larger than Canada.

WHAT ARE THE CHALLENGES?

When wetlands are drained or burned for agriculture or construction – as wetlands often are – they switch from being a carbon sink to being a source of CO_2, rapidly releasing centuries of stored carbon into the atmosphere. Instead of a natural solution, they become a big part of the problem. Carbon emissions from drained and burned peatlands equate to 10% of all annual fossil fuel emissions.

Nearly 90% of the world's wetlands have been lost since the 1700s, 35% have disappeared since the 1970s, and the wetlands that remain are vanishing three times faster than forests. At the same time, the level of GHGs in the atmosphere has increased by 40% since the pre-industrial era, driving accelerating climate change. The principal reasons: fossil fuel use and changes in land use, including the conversion of natural carbon sinks for agriculture and infrastructure development.

With the impacts of climate change increasing in intensity, the frequency of disasters worldwide more than doubling in just 35 years, and average sea levels rising by 19cm over the last century, we cannot afford for the current trend in wetland loss to continue.

Unless we act now to protect and restore the world's wetlands, we will be depriving ourselves of one of the most powerful natural weapons against climate change just when we need it most.

WHAT CAN WE DO?

We are not powerless against climate change and we are not powerless against the wetland loss that is making it worse.

The world is beginning to take action to stabilize and reduce GHG emissions, including through the Paris Agreement commitment to limit the global average temperature rise this century to below 2°C. Sustainable Development Goal 13 on Climate Action encourages us all to take action to reduce the impacts of climate change. This must include individuals, communities, governments and businesses working together to conserve and restore the amazing wetland ecosystems that store carbon.

To maximize the carbon capture potential of the world's wetlands, we must take urgent action to:

- **Integrate wetlands** *into national and international climate change policies*
- **Develop financing sources** *for wetland conservation*
- **Restore wetlands** *that have been degraded or destroyed*
- **Ensure that all remaining wetlands** *are used wisely and sustainably*
- **Educate others** *about how wetlands help mitigate climate change.*

RESTORING MANGROVES IN WEST AFRICA GENERATES MULTIPLE BENEFITS

The world's largest mangrove reforestation project is underway in the Casamance and Sine Saloum regions of Senegal. The project has planted 79 million mangrove trees on more than 10,000 hectares, helping to restore a portion of the 45,000 hectares that have been lost since the 1970s. Healthy mangroves serve as effective salt water filtration systems, provide protection against storms, and act as nursery grounds for fish.

Thanks to the restoration of these wetlands, coastal areas will be buffered against storms, rice paddies will flourish, up to 18,000 extra tons of fish will be produced each year, 350 local villages and 200,000 people will be involved and protected, and 500,000 tons of CO2 will be stored over 20 years.

TRANSFORMING NORDIC-BALTIC PEATLANDS FROM CARBON SOURCES TO CARBON SINKS

An intensive restoration of the Nordic-Baltic region's peatlands is now taking place, with more than 20,000 hectares already restored. The initiative is part of the Nordic Council of Ministers' commitment to "preserving peatlands for climate change regulation". Representing Denmark, Finland, Iceland, Norway, and Sweden, the Council is working to restore the 45% of peatlands in Nordic and Baltic countries that have been drained, and are responsible for almost 25% of the region's total annual CO2 emissions.

Once restored, these peatlands will return to being carbon sinks, not carbon sources, helping to limit GHG in the atmosphere.

THE CONVENTION ON WETLANDS

Adopted in Ramsar, Iran in 1971, the Convention on Wetlands is the only global treaty to focus on a single ecosystem. Its 171 Contracting Parties commit to:

- **Designate wetlands of high value on the list of Wetlands of International Importance (Ramsar Sites), and**
- **Use all wetlands wisely and cooperate on transboundary issues.**

Today there are 2,400 designated Ramsar Sites, covering a total surface area of over 250 million hectares (an area slightly larger than Algeria). The network of Ramsar Sites includes coastal and inland wetlands of all types. The Convention on Wetlands is working to reverse wetland loss and degradation around the world. The Convention supports sustainable development, disaster resilience, and climate action, contributing to 16 different Sustainable Development Goals.