

Realizing the full potential of marine and coastal wetlands: why their restoration matters

Exceptionally biodiverse, and among the most socially and economically valuable ecosystems on Earth, marine and coastal wetlands are in jeopardy. Already, between one-third and one-half of these ecosystems have been degraded or depleted – and they continue to diminish at a much faster rate than terrestrial systems.

Ecosystem restoration of coastal and marine wetlands promotes food and water security for sustainable development. And it delivers on climate change mitigation and adaptation, as well as on biodiversity conservation targets.

Why are marine and coastal wetlands so important?

Healthy, functioning natural wetlands are critical to human health and well-being – as well as to sustainable development. But despite the tremendous value they bring, an estimated 35% of the world's marine and coastal wetland areas were lost between 1970 and 2015 – at three times the rate of forest loss.

Blue carbon ecosystems are powerhouses for capturing and storing carbon.

- Carbon dioxide captured by marine and coastal wetlands is commonly called blue carbon.
- Flooded regularly by tidal waters, mangrove forests, intertidal marshes, and seagrass beds capture and store carbon in their sediment up to 55 times faster than tropical rainforests
- If undisturbed, the carbon stored in these sediments is stable and can remain for hundreds or thousands of years. But once disturbed or drained, substantial amounts of carbon can be rapidly released.

- Including the restoration of blue carbon ecosystems in Nationally Determined Contributions provides a nature-based approach for delivering on the Paris Agreement on Climate Change.

Maintaining healthy coastal wetlands is often the most cost-effective method for preventing shoreline erosion.

- Mangroves and coral reefs absorb more than 90% of the energy of wind-generated waves.
- Mangroves, saltmarshes, and coral reefs all reduce the speed and height of storm surges. And because their roots bind the shoreline, they resist erosion by wind and waves while increasing resilience against climate change.

WHAT ARE MARINE AND COASTAL WETLANDS?

Most of the world's coastline — including ecosystems such as mangroves, lagoons, seagrass beds, saltwater marshes, estuaries, unvegetated tidal flats, kelp forests, and coral reefs — fall within the definition of marine and coastal wetlands of the Convention of Wetlands. Roughly 7% of all the Earth's wetlands are marine and coastal.

Marine and coastal wetlands are important fish spawning, nursery, and feeding grounds.

- Marine and coastal wetlands specifically help guarantee our food supply – as most commercial fish depend on coastal wetlands for part of their life cycle.
- At least two-thirds of all the fish consumed worldwide are dependent on coastal wetlands.

Why should we restore marine and coastal wetlands specifically?

As we look toward the future, the restoration and wise use of marine and coastal wetlands can help underpin and drive sustainable development in ways that are unique to these ecosystems. Restoring mangroves, for instance, simultaneously provides food, raw materials, habitat for species, and carbon sequestration and storage – while bolstering the socio-economic resilience of coastal communities.

Restoring marine and coastal wetlands can produce far-reaching benefits and help achieve the Sustainable Development Goals (SDGs)

- The restoration of marine and coastal wetlands directly delivers on SDG Target 14, “Conserve and sustainably use the oceans, seas and marine resources for sustainable development.”
- The restoration of blue carbon ecosystems increases carbon

sequestration and reduces emissions from degradation, contributing toward SDG Target 13.2. This also indirectly contributes to targets of SDGs 1, 2, 8, and 9.

- Improving the health of wetlands often yields financial returns for local economies. In fact, estimates show that improving coral reef health could unlock US \$35 billion by 2030 in Mesoamerica, and an additional \$37 billion (or \$2.6 billion per annum) in Indonesia – in addition to the current value of these ecosystems.

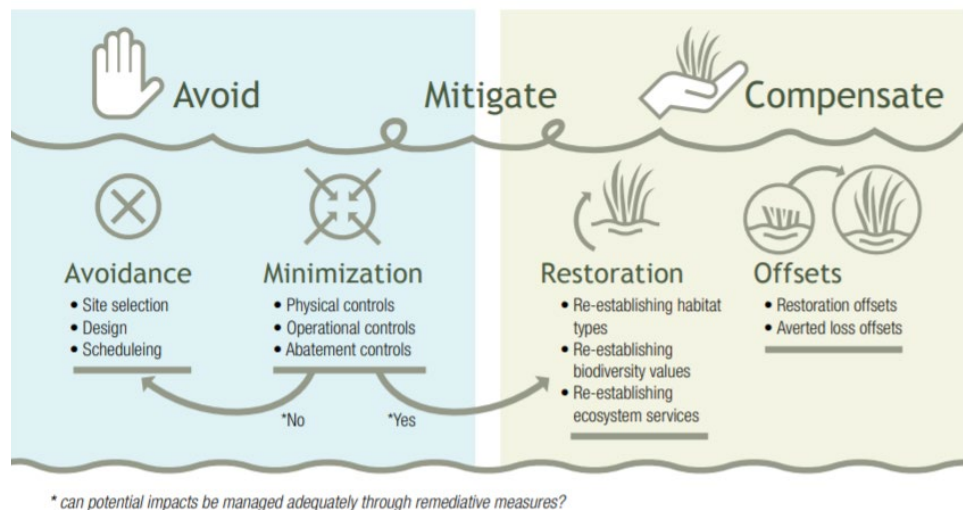
How does the Convention support the restoration of marine and coastal wetlands?

Avoiding the loss of any wetlands is imperative. But when this is not possible, or where degradation has already occurred, restoration is an important response option. This is enshrined in the Convention’s avoid-mitigate-compensate framework (Res. XI.9), as well as in many national laws and policies.

- Resolutions XII.3 and XIII.14 encourage Contracting Parties to develop and engage in the implementation of plans for the conservation, restoration, and sustainable management of blue carbon ecosystems specifically.
- The Convention has developed a range of tools and information products to support efforts to restore marine and

coastal wetlands, including Handbook 12: Coastal management; Briefing Note 4: The benefits of wetland

restoration; and Briefing Note 10: Wetland restoration for climate change resilience.



Key takeaways

Prioritize marine and coastal wetlands protection and restoration. Doing so can deliver benefits for enhanced climate mitigation, adaptation, and coastal resilience. Decision-makers should take immediate and appropriate measures to recognize the full suite of environmental, cultural, and socio-economic benefits gained from wetland restoration. In fact, restoring marine and coastal wetlands directly

contributes to the delivery of globally agreed upon goals and targets, including the SDGs and the Paris Agreement on Climate Change.

Recognize that the restoration of wetlands is not a substitute for protection. While restoration is important, maintaining healthy coastal and marine wetlands provides a broader range and fuller magnitude of services.

Restoration should be pursued in the context of broader management efforts.

Take a comprehensive ecosystem approach. To be successful, the restoration of marine and coastal wetlands requires an ecosystem approach and site-specific measures. The Convention and other institutions have developed a suite of tools and guidance to support restoration efforts.

Notable examples of the restoration of marine and coastal wetlands

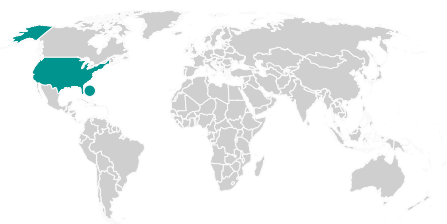


North Nusa Tenggara, Indonesia

In 1992, after a Tsunami hit North Nusa Tenggara, Indonesia, the coastlines of several villages – including Talibura Village, Flores – eroded up to 100 metres, endangering thousands of coastal dwellers from storm surges, typhoons, and saltwater intrusion.

Scope of the project

- In Talibura Village, Flores, the community built an affordable 180-meter semipermeable dam from natural, locally sourced materials.
- This reduced erosion and trapped sediment at a rate of 4.5-6.5 cm a year.
- After eight months, mangroves started to grow again, and people noted an increase in fish, shrimp, and birds.
- The community re-planted 6,000 mangroves in 2013, providing coastal defenses and a source of livelihood.



Tampa Bay Estuary, Florida, United States

The Tampa Bay Estuary Program in the U.S. state of Florida has successfully restored seagrass beds to their 1950s extent.

Scope of the project

- After the U.S. federal government approved limits on nitrogen in 1972, the Tampa Bay Estuary Program facilitated fair and equitable nitrogen load allocations through the Tampa Bay Nitrogen Management Consortium (NMC). The federal government had prohibited the sale and use of fertilizer during the rainy season and regulated coastal zone development.
- By 2015, seagrasses stretched across more than 40,000 acres of Tampa Bay, surpassing the extent of their cover in 1950 – before the problems began.
- Today, the water is cleaner than ever, waterbirds have returned, and fishermen report better fishing.

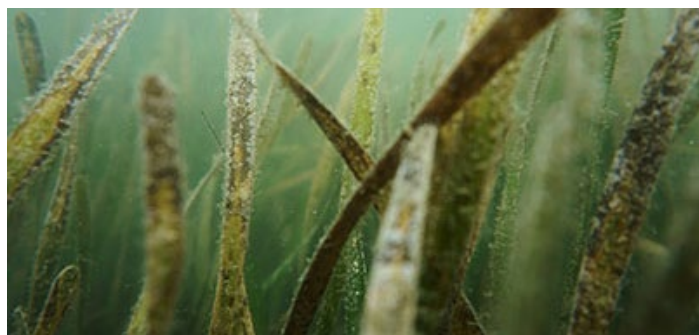


Manglares de Nichupté Ramsar Site, Mexico

The Comisión Nacional de Areas Naturales Protegidas (CONANP) implements since 2008 successful conservation and restoration actions in this peri-urban wetland, a provider of essential ecosystem services for the inhabitants of Cancun.

Scope of the project

- Suffering of intense pressure from the development of tourism in the zones surrounding the Site, restoration efforts resulted in just over 69,000 mangrove specimens planted as well as 3,300 of another seven species.
- Hydrological restoration also allowed the reforested areas to be linked up to the Nichupté Lagoon System through 850 square meters of canals.
- An invasive exotic species, *Casuarina equisetifolia*, was controlled, with over 7,600 specimens being removed from 11.1 hectares of the protected area.
- The restoration work led to an average survival rate of 91% of the Mangrove samplings and the maintenance of the essential ecosystem services of the Site.



The Tampa Bay Estuary Program, Turtle grass (*Thalassia testudinum*)



Red mangrove reforestation (Photo CONANP)

This Fact Sheet is made available by the Ramsar Convention on Wetlands 2021. Information is drawn from a variety of publications of the Ramsar Convention on Wetlands including its Scientific and Technical Review Panel or other relevant sources of information.

The Ramsar Convention on Wetlands

The Convention on Wetlands is a global intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources.