

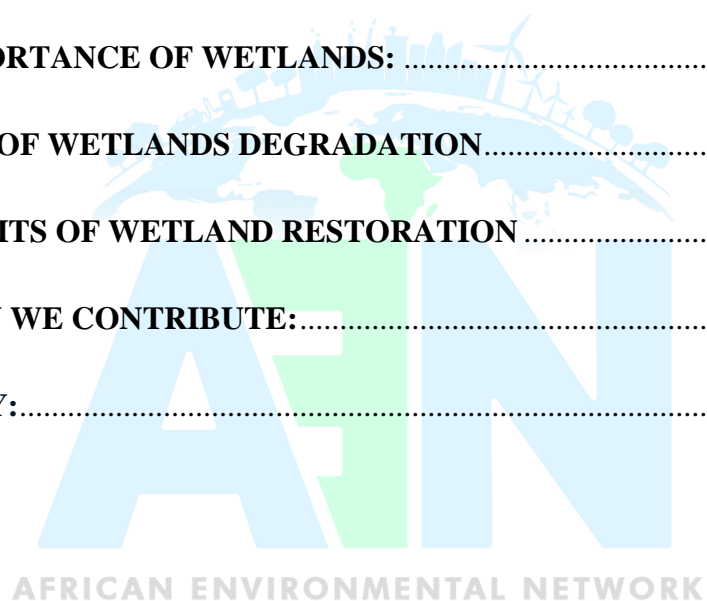
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KNOW MORE ABOUT: WETLANDS

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I. DEFINITION

Wetlands are lands areas that are saturated or flooded with water either permanently or seasonally. According to the convention, there are areas where water is the primary factor controlling the environment and the associated plant and animal life. They occur where the water table is at or near the surface of the land, or where the land is covered by water.

II. TYPE OF WETLANDS

We have three types of wetlands: Inland wetlands, Coastal Wetlands and Human-made wetlands.

1.1 Inland wetlands

Inland wetlands are water bodies and other areas that are regularly or periodically covered by water due to poorly draining soils. Inland wetlands can be defined by both vegetation and soil type, though for local regulatory purposes, the State of Connecticut defines wetlands by soil type, with 'poorly drained' or 'very poorly drained' soils considered wetlands.

- Example: marshes, lakes and ponds, rivers, floodplains, and swamps



Image 1: Marsh



Image 2: Swamp



Image 3: Floodplain



Image 4: Lake and Pond

1.2 Coastal Wetlands

According to the university of New Orleans, the term *coastal wetlands* defines an area of land that is permanently or seasonally inundated with fresh, brackish, or saline water and contains a range of plant species that are uniquely adapted to the degree of inundation, the type of water that is present, as well as the soil conditions.

What exactly are Coastal Wetlands?

- The region of land that is permanently or periodically inundated with fresh, brackish, or saline water is known as coastal wetlands.
- Coastal wetlands are unique habitats that are influenced by changing water levels and provide habitat for a diverse range of organisms, including many endangered species.
- In certain circumstances, such as in southern Louisiana along the north-central Gulf of Mexico, coastal wetlands can cover vast swaths of land.
- These vital elements serve as a water purifier, breeding and feeding grounds for fish, and habitat for a variety of animal species.
- By providing friction against an incoming storm surge, they help buffer inland populations from the huge storm surges that tropical cyclones can create, reducing the volume and breadth of inland flooding during tropical storms.
- The more intact wetlands there are, the less probable it is that further inland places will be hit by the full brunt of a tropical cyclone.



Image 5: lagoons(are shallow water bodies that are separated from large water bodies.)



Image 6:Creek(creek is defined as a narrow piece of water on the land.)



Image 7: Sand Beaches (are formed along the coast due to the actions of waves. They are coastal landforms that contain loose particles.)



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Image 8: Mangrove (are permanently and semi-permanently submerged in water and are mainly found in tropical and subtropical areas.)



Image 9: Salt marshes (have nonwoody vegetation (herbaceous) which is formed in wet soil conditions.)



Image 10: Coral Reefs (are the most vulnerable ecosystem, consisting of underground reef-building corals)

1.3 Humand-made wetland

- Any type of wetland constructed or maintained by humans for e.g. water storage, irrigation, aquaculture Exemple: Fish ponds, rice paddies and salt pans



Image 11:Salt pans

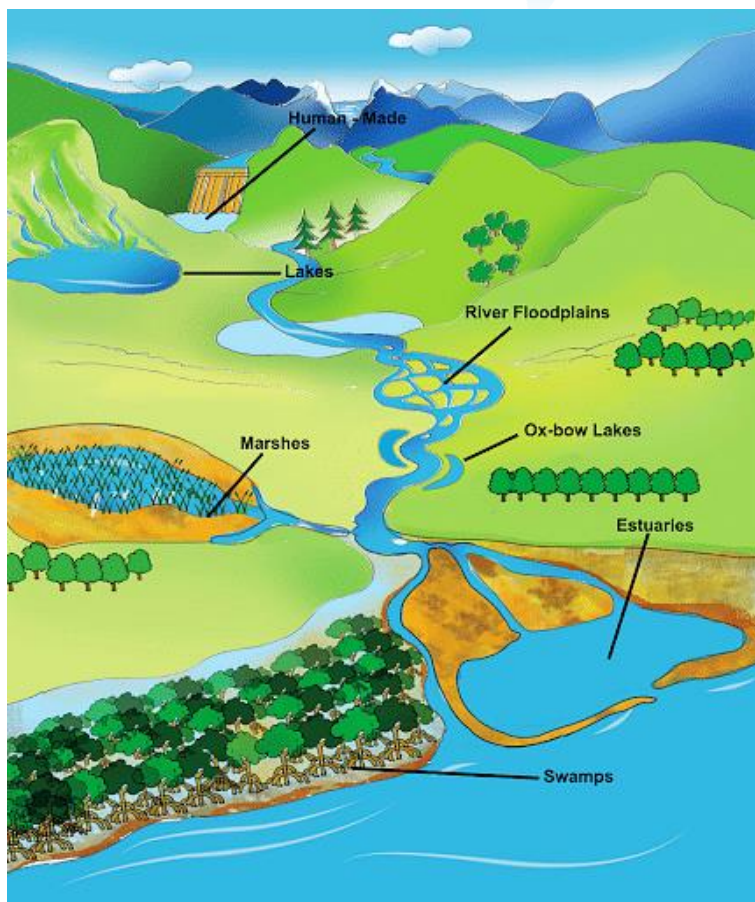


Image 12:Rice Paddy



Image 13: Fish Pounds

Wetlands are some of the most important ecosystems on our planet. They provide a home to many species, help filter pollutants from water and regulate climate.



NETWORK

Image 14: Wetlands

III. THE IMPORTANCE OF WETLANDS:

- ✓ Wetland provide most of the freshwater: 2.5% of water on the earth , mostly stored in glacier and acquifers, less than 1% is usable , and over 30% of that is found in Wetlands such as rivers and lakes.
- ✓ Wetlands store more carbon than forests: Peatlands cover 3% od our planet yet store around 30% of all land-based carbon. Coastal wetlands like mangroves sequester and store carbon up to 55 times faster than tropical rain forest.
- ✓ Wetlands help us scope with storms and flooding; 60% of humanity lives and works in coastal areas. Saltmarshes, mangrove, seagrass beds and coral reefs shields coastal communities, inland, a single acre of wetland can absorb up to 1.5 million gallons of floodwater.
- ✓ Wetlands give livelihoods to one billion and feed 3.5 billion: more than a billion people live from fishing, aquaculture and tourism. Wetland’s paddies provide rice for 3.5 billion people

Unfortunately, human activities have led to the destruction and degradation of wetlands worldwide.

IV. DRIVERS OF WETLANDS DEGRADATION

According to Dugan (1990) and Shearer (1997) we have the following table:

Direct impacts	Potential effects
Drainage for agriculture, forestry, mosquito control	Reduction in inundated/saturated area
Dredging for navigation, flood control	Reduction in inundated/saturated area due to increased through-flow
Filling for solid waste disposal, road construction, residential, commercial and industrial development	Reduction in inundated/saturated area
Erosion	Reduction in inundated/saturated area (due to formation of drainage gullies)
Groundwater abstraction	Reduction in inundated/saturated area
Flooding due to construction of dams	Increase in area of inundated habitat
Mining of wetland soils for peat, coal, gravel, phosphate, salts and other materials	Changes in water quality, infilling, creation of areas of standing water (e.g. borrow pits)
Discharge of pollutants from point-sources, diffuse sources (agriculture, informal settlements, urban areas), air pollution	Changes in water quality, impacts on biota and creation of areas of standing water
Poorly managed grazing, mowing and burning	Changes in vegetation composition and structure
Indirect impacts	
Sediment diversion by dams, channels and other structures	Drainage of wetland due to erosion channels forming. Reduction in inundated/saturated areas.
Hydrological alterations by canals, roads and other structures	Draining or creation of areas of standing water
Subsidence due to extraction of groundwater, oil, minerals	Formation of areas of standing water

The time to act:**Wetlands are being lost three times faster than forests.**

- Earth's most threatened ecosystem.
- More than 80% of all wetlands have disappeared since the 1700s.
- Trend is accelerating. Since 1970, at least 35% of wetlands have been lost.

Human activities are driving degradation.

- Wetlands are being drained and filled in for crops, grazing and construction.
- Water pollution and overfishing are harming wetland ecosystems, along with invasive species.

Wetland species are facing extinction.

- One in three freshwater species and 25% of all wetland species face extinction from wetland decline.
- 81% of inland wetland species and 36% of coastal and marine species have declined in the last 50 years.

The Best Ways to Approach Wetland restoration:

According to the convention on Ramsar we have seven (07) best practices to follow:

Restore multiple benefits

- Natural wetlands provide many services, from flood control to livelihoods.
- Aim to recapture multiple benefits; don't concentrate on just one or two.

Create a self-sustaining wetland

- Wetland vegetation, wildlife and the site itself all draw from and give to each other.
- Aim to re-create this complex, self-sustaining cycle.

Involve the community

- Ensure that local residents and businesses have a voice in planning and implementing the restoration.
- Give them a role in maintaining the restored site.

Limit the causes of degradation

- Remove or limit pressures that affect the area, such as overharvesting of water or pollution.

Clean up the degraded area

- Remove any debris, trash and waste that has accumulated in the wetland.

Restore native flora and fauna

- Re-create the original hydrological conditions
- Replant native vegetation, reintroduce wildlife, weed out invasive species.

Structure access to the wetland

- Create specific spaces for people to access the wetland. List which activities are allowed where. Designate zones where wildlife can thrive undisturbed

V. THE BENEFITS OF WETLAND RESTORATION

Restoration of wetlands is essential for the protection and conservation of these fragile ecosystems. It is a complex process that involves sustainable solutions such as restoring vegetation, improving water quality, and controlling invasive species. Restoration efforts must be tailored to each wetland's unique characteristics in order to ensure successful outcomes. Then, restored wetlands bring 7 key benefits:

Revive biodiversity

- 40% of the world's species live or breed in wetlands. Restoring wetlands powers the local food chain and attracts wildlife.

Replenish and filter water supply

- Wetlands naturally filter water, remove pollutants and boost the local water supply.

Store carbon

- Specific types of wetlands, especially peatlands, mangroves, intertidal marshes and seagrass beds are exceptionally efficient carbon sinks.

Blunt the impact of floods and storms

- Restored wetlands can act as sponges against excess rainfall and flooding, buffer coastal storm surges, and can shield communities in extreme weather.

Improve livelihoods

- Wetlands create livelihoods in fishing and aquaculture, and also provide goods like reeds and grasses. These opportunities often benefit indigenous populations.

Boost eco-tourism

- A restored wetland can be a sustainable magnet for visitors; a natural attraction that draws tourists along with opportunities to serve them.

Enhance quality of life

- Revitalized wetlands provide a place to relax, experience nature – and a enjoy sense of satisfaction at their resurgence.



Wetlands restoration: stakeholders**You**

- Enthusiastic individuals like you support restoration with your own choices, voices and actions, and by getting involved in local initiatives.

Public sector:

- Local, regional and national governments typically enable, encourage and facilitate a wetland restoration initiative. They gather input from key stakeholders, make trade-off decisions, and often lead and manage the project.

Funders:

- Governments, financial institutions, foundations and individuals provide the actual funding needed to make the restoration project a reality.

Community leaders:

- Understand which benefits are most important to residents, and ensure that locals have a voice.

Private sector:

- Local fishers and farmers often depend on wetlands, so restoration can enhance their livelihoods. The agricultural, beverage and food industries are also beneficiaries.

Educators:

- Teachers and other educators work to raise awareness of the advantages of wetland restoration.

Scientists and wetland practitioners

Technical experts provide in-depth knowledge to the community and the project leaders, and ensure technology and innovation play a role in wetland restoration.

VI. HOW CAN WE CONTRIBUTE:

The Vision of the Ramsar convention can be stated as follow: “Wetlands are conserved, wisely used, restored and their benefits are recognized and valued by all.” The Ramsar Mission: Conservation and wise use of all wetlands through local and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world.

The Ramsar convention has three (03) strategic goals and one (01) Operational goal:

- ✓ **STRATEGIC GOAL 1** Addressing the Drivers of Wetland Loss And Degradation
- ✓ **STRATEGIC GOAL 2** Effectively Conserving and Managing the Ramsar Site Network
- ✓ **STRATEGIC GOAL 3** Wisely Using All Wetlands
- ✓ **OPERATIONAL GOAL 4** Enhancing Implementation

In fact, we can raise two (02) levels of action: decision process and field action.

- ✓ **decision-making process:** Adocavy and National/regional/international meeting participations
- ✓ **Field action:** Social media campaign, field trip, host a talk to support the restoration.

Through restoration efforts, we can ensure that wetlands remain healthy and resilient in the face of changing environmental conditions. By doing so, we can help protect these vital ecosystems for future generations and reap the many benefits they provide us with.

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