





# **CONSERVATION, MANAGEMENT AND RESTORATION OF WETLANDS**

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# DEFINITIONS

- Wetland creation - bringing a wetland into existence, whether by accident or intentional, where none existed previously; this includes creation of wetlands for mitigation, habitat, and water quality purposes (Fields, 1993).
- Wetland enhancement - the modification of a natural or created wetland to enhance one or more functions. Enhancement of some wetland functions may negatively affect other functions.
- Wetland restoration - the reestablishment of a disturbed or altered wetland as one with greater function or acreage. This may involve reestablishing original vegetation, hydrology, or other parameters to reestablish original or closer-to-original wetland functions

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- “Wetland degradation” is a direct human-induced impact resulting from wetland conversion to a specific sectoral or multi-sectoral economic use, causing an increase in GHG emissions and loss of carbon stocks.

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- “Wetland restoration” is a direct human-induced activity to reduce GHG emissions and increase
  - carbon stocks from previously drained and degraded wetlands that covers a minimum of xx hectares.

# Management of wetlands

- *The management of wetlands and their use for water quality purposes has resulted in the introduction of a number of terms.*
- *Wetland management generally involves activities that can be conducted with, in, and around wetlands both natural and man-made to protect, restore, manipulate, or provide for their functions and values.*

*wetland management is divided into issues associated with:*

*1) natural wetland protection*

*2) activities , involving natural wetlands, that are specifically exempted from regulatory requirements*

*3) wetland creation and restoration and*

*4) wetland construction for water quality improvement*

# *1) natural wetland protection*

- The values of wetlands are by now well recognized.
- This protection goal involves not only buffering wetlands from direct human pressures, but also maintaining important natural processes that operate on wetlands from the outside and that may be altered by human activities.
- Management toward this goal should emphasize long-term sustenance of historical, natural wetland functions and values.


## ***2)activities , involving natural wetlands, that are specifically exempted from regulatory requirements***

- Many activities affecting natural wetlands must be conducted within the framework of government regulatory and other protection programs .
- Manipulation of natural wetlands, within regulatory jurisdiction, is typically limited to restoration of degraded habitats.
- The use of natural wetlands for primary water quality treatment of either point or nonpoint pollution sources is inappropriate (Fields, 1993).



### ***3) wetland creation and restoration***


- Wetland creation by man outside of any regulatory requirements presents opportunities for development of wildlife habitat and other valued functions as well as for capitalizing on a rapidly expanding technology for water quality improvement of both point and nonpoint pollution sources within the watershed.

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- Effective wetland management requires knowledge on a range of wetland subjects. Other sections within this Wetlands portion of the Education component provide current wetland information and lead to other materials that can assist wetland and watershed managers.
  - This information can help a decision-maker evaluate wetland resources in a watershed to determine their functions, values, and roles in the watershed, assess risks, and prioritize protection

# Conservation of wetlands

- **Wetland conservation** is aimed at protecting and preserving areas where water exists at or near the Earth's surface, such as swamps, marshes and bogs
- Wetlands cover at least six per cent of the Earth and have become a focal issue for conservation due to the ecosystem services they provide
- More than three billion people, around half the world's population, obtain their basic water needs from inland freshwater wetlands
- The same number of people rely on rice as their staple food, a crop grown largely in natural and artificial wetlands.

- In some parts of the world, such as the Kilombero wetland in Tanzania, almost the entire local population relies on wetland cultivation for their livelihoods.
- Fisheries are also an extremely important source of protein and income in many wetlands.
- According to the United Nations Food and Agriculture Organization, the total catch from inland waters (rivers and wetlands) was 8.7 million metric tones in 2002
- In addition to food, wetlands supply fibre, fuel and medicinal plants

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- They also provide valuable ecosystems for birds and other aquatic creatures, help reduce the damaging impact of floods, control pollution and regulate the climate
  - From economic importance, to aesthetics, the reasons for conserving wetlands have become numerous over the past few decades.

# Conservation Strategies

- Nearly all wetland conservation work is done through one of 4 channels
- They consist of easements, land purchase, revolving land, and monetary funding
- **Easements**

Conservation easements can meet the needs of interested owners of working farms, ranches, timberlands, sporting properties and recreational lands, who wish to protect valuable natural resources while retaining ownership of the property

- In locations where wildlife habitat has been degraded & the land is for sale,
- Once purchased, the habitat will be restored and easements will be placed on land to perpetually protect resource values
- where intact waterfowl habitat is at imminent risk or of high importance, groups or individuals may seek to acquire the property instead. Once purchased, the habitat is restored and can be entered into easements to ensure their continued protection or be kept in their ownership

- Monetary funding exists most often as a subsidy, grant, or tax-break from the government. Instead of doing all the work and labor themselves, they seek to encourage others to take on those tasks themselves. All of these methods are important to ensuring protection for wetlands, now and in the future.



# Restoration of wetlands

- *Wetlands are one of the most valuable and fragile components of a watershed, but for many years they were filled and drained for agriculture and development*
- *Now we are learning that wetlands are crucial to the health of our waters and wildlife.*
- *Wetland restoration, the renewal of natural and historical wetlands that have been lost or degraded, is a growing activity.*
- *It can improve water quality and wildlife habitat across the nation.*

# What Is Restoration?

- Restoration is the return of a degraded wetland or former wetland to its preexisting naturally functioning condition, or a condition as close to that as possible
- It is a complex process that requires expertise, resources, and commitment from many different stakeholders
- Ideally, a successfully restored wetland will mimic the functions of a healthy natural wetland.

# Why Restore Wetlands?

- Restoring our lost and degraded wetlands to their natural state is essential to ensure the health of watersheds
- Unless we reverse the tide of wetland loss, the quality of our waters will continue to be threatened and a part of our natural heritage will be lost
- The quality of America's waters is closely linked to the integrity of America's wetlands. Over the past 200 years, wetlands have vanished at an alarming rate

- Many of the wetlands that remain today continue to be degraded. Such losses and damage hamper wetland functions, such as water quality protection, habitat for fish and other wildlife, and flood prevention.



Thank you