



# **Economic Values of Wetlands**


**Integrating Economics into  
Water Management**

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An aerial photograph of a lush, green landscape. A winding river or stream flows through the center of the image, surrounded by dense, dark green forest. The river meanders from the top right towards the bottom left. The surrounding land is a mix of vibrant green grass and thick forest. The sky is visible at the top, showing a blue hue with some light clouds. The overall scene is a natural, undisturbed environment.

**Water has enormous and diverse economic values. There is a need to improve our understanding and communication of these values to better integrate them in water management.**

# Functions of Wetlands

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- **Regulation functions**

Water storage & recycling of waste water, flood control

- **Carrier functions**

Human habitation & settlements, tourism, flora and fauna

- **Production functions**

Food, building materials

- **Information functions**

Research & education, role in cultural heritage



# Values of Wetlands

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- **Ecological Value**

Freshwater wetlands hold 40% world's species and 12% world's animal species

- **Socio-cultural Value**

More than 30% of 603 Ramsar sites have archaeological, historical, religious significance

- **Economic Value**

Fish, reeds & papyrus, birds & wild animals, freshwater





# Economic Values of Wetlands

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- Use values

- ☞ Direct use: fish for food and income; water for drinking, washing & cooking

- ☞ Indirect use: water retention capacity; nutrient recycling

- Non-use values

- For example: existence value

# Example: Economic Values

## Lake Chilwa Wetland, Malawi

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- **Area:** 2,400 km<sup>2</sup>
- **Economic values:**

Good/Service	Value p/y (1,000 US\$)
Agriculture	1,300
Fish	19,000
Vegetation	14
Open water	440
Grasslands	640
TOTAL	22,000

# Snapshot of Global Wetland Economic Values

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- **Goal**

Illustration of wetland economic values and costs to society if wetlands are lost

- **Methodology**

Sample of 89 existing economic valuation studies from around the world

- **Snapshot**

Pioneering a methodology with limited resources to show this can be done; others should follow



# Median Economic Values per Wetland Type & Function

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Wetland Type	Median Wetland Economic Value (US\$ per hectare per year, 2000)
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Unvegetated Sediment	374
Freshwater Wood	206
Salt/Brackish Marsh	165
Freshwater Marsh	145
Mangrove	120

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Wetland Function	Median Wetland Economic Value (US\$ per hectare per year, 2000)
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Amenity/Recreation	492
Flood Control	464
Recreational Fishing	374
Water Filtering	288
Biodiversity	214
Habitat Nursery	201
Recreational Hunting	123
Water Supply	45
Materials	45
Fuel wood	14





# Total Economic Values

(thousands US\$ per year)

	Mangrove	Unvegetated Sediment	Salt/ Brackish Marsh	Freshwater Marsh	Freshwater Woodland	Total
North America	30,014	550,980	29,810	1,728	64,315	676,846
Latin America	8,445	104,782	3,129	531	6,125	123,012
Europe	0	268,333	12,051	253	19,503	300,141
Asia	27,519	1,617,583	23,806	29	149,597	1,818,534
Africa	84,994	159,118	2,466	334	9,775	256,687
Australasia	34,696	147,779	2,120	960	83,907	269,462
<b>TOTAL</b>	<b>185,667</b>	<b>2,848,575</b>	<b>73,382</b>	<b>3,836</b>	<b>333,223</b>	<b>3,444,682</b>

# Global Economic Value

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- **Value transfer**

Relative low-cost and quick estimations

- **Global Economic Value**

Application to Ramsar global wetland area (12.8 million km<sup>2</sup>): \$70 billion per year

# Status of the World's Wetlands

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- **More than 50% disappeared since 1900**  
Netherlands lost 55% (1950-1985); France lost 67% (1900-1993)
- **Information breakdown**  
Insufficient understanding of wetlands, including economic values → protection and conservation of wetlands and integration in water management is not a serious alternative

A photograph of a wetland at sunset. The sky is a warm orange-yellow, with a large, bright sun partially obscured by a line of dark trees in the distance. Numerous birds, likely shorebirds, are in flight throughout the scene, their silhouettes dark against the bright sky. In the foreground, many birds are standing on the wet, reflective ground, which shows the reflection of the sun and the sky. The overall atmosphere is serene and natural.

**There is a real need to  
better understand and  
communicate wetland  
economic values for  
integration in decision-  
making processes in water  
management**



# How?

## Better understanding of economic values

Follow the WFD economic analysis guidance (WAT)

## Better communication of economic values

Communication strategies on economic benefits of WFD

- Public participation
- Capacity building
- Financial resources

Balance interests & and benefits, of the freshwater environment

Environmental services as is through (cost recovery)



**Thank You**