Economic Values of Wetlands

Integrating Economics into Water Management

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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

- **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

- **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

- **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

- **Area**: 2,400 km²
- **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

- **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

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

Wetland Function	Median Wetland Economic Value (US$ per hectare per year, 2000)
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
TOTAL	185,667	2,848,575	73,382	3,836	333,223	**3,444,682**

Global Economic Value

- **Value transfer**

Relative low-cost and quick estimations

- **Global Economic Value**

Application to Ramsar global wetland area (12.8 million km²): $70 billion per year

Status of the World's Wetlands

- **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


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 ec… analysis guidanc… (WAT…

Better communication of economic values

…ication strategies on …omic benefits of …FD

- Public participation
- Capacity building
- Financial resources

Balance… interests &… and benefits… of the fresh… environment

…mental …vices as is … through … (cost recovery)


Thank You