

# WETLAND VALUES AND FUNCTIONS

*Wetland ecosystems are part of our natural wealth. A recent assessment of the dollar value of our natural ecosystems estimated them at US\$ 33 trillion<sup>1</sup>. The study estimated the global value of wetland ecosystems at an amazing US\$ 14.9 trillion, 45% of the total. This reflects the many functions of wetlands:*

**FLOOD CONTROL**  
**GROUNDWATER REPLENISHMENT**  
**SHORELINE STABILISATION & STORM PROTECTION**  
**SEDIMENT & NUTRIENT RETENTION**  
**CLIMATE CHANGE MITIGATION**  
**WATER PURIFICATION**  
**RESERVOIRS OF BIODIVERSITY**  
**WETLAND PRODUCTS**  
**RECREATION/TOURISM**  
**CULTURAL VALUE**

It is no accident that river valleys and their floodplains have been the focus of human civilisations for over 6,000 years – and that many other wetland systems have been equally critical to the development and survival of human communities. This simply reflects the key role that water and wetlands have played throughout human life. Our advancing technological skills may seem to have supplanted the role of Nature, but recent environmental catastrophes – floods, landslides, storms, many with their roots in unsustainable land use practices – suggest otherwise. The reality is that we still depend on our natural ecosystems to sustain us.

The multiple roles of wetland ecosystems and their value to humanity have been increasingly understood and documented in recent years. This has led to massive expenditures to restore lost or degraded hydrological and biological functions of wetlands. But it's not enough – the race is on to improve practices on a significant global scale as the world's leaders try to cope with the accelerating water crisis and the effects of climate change. And this at a time when the world's population is set to increase by 70 million every year for the next 20 years.

<sup>1</sup> From Costanza *et al.* 1997. The value of the world's ecosystem services and natural capital. *Nature* 387, 253-260.

# WETLAND VALUES AND FUNCTIONS...

Global freshwater consumption rose sixfold between 1900 and 1995 – more than double the rate of population growth. One third of the world’s population today lives in countries already experiencing moderate to high water stress. By 2025, two out of every three people on Earth may well face life in water stressed conditions.

The ability of wetlands to adapt to changing conditions, and to accelerating rates of change, will be crucial to communities and wildlife everywhere as the full impact of climate change on our ecosystem lifelines is felt. Small wonder that there is worldwide focus on wetlands and their services to us.

Wetlands are hugely diverse. But whether they are ponds, marshes, coral reefs, peatlands, lakes or mangroves, they all share one fundamental feature: the complex interaction of their basic components – soil, water, animals and plants – that fulfils many functions and provides many products that have sustained humans over the centuries. Of course not every wetland performs all these functions – but most wetlands perform many of them.

The recent ecosystem study valued the ecosystem services of different wetland types, as defined by the Ramsar Convention, as follows\*:

Valuation of wetlands	Total value	Total global flow value
	US\$ per hectare per year	US\$ per year
Estuaries	22,382	4,100,000,000,000
Seagrass/algae beds	19,004	3,801,000,000,000
Coral reefs	6,075	375,000,000,000
Tidal marsh/mangroves	9,990	1,648,000,000,000
Swamps/floodplains	19,580	3,231,000,000,000
Lakes/rivers	8,498	1,700,000,000,000

*\*This excludes the study’s “continental shelf” category since only part of this would be defined as wetland under the Ramsar Convention.*

While the study acknowledged that this is a first approximation to valuing ecosystem services, the authors also consider it to be a minimum estimate. A dollar value on wetland functions is powerful ammunition to convince decision-makers that wetlands should be conserved and wisely used. The figures above quite simply confirm what the Ramsar Convention has always known – **wetlands are well worth looking after!**

The following sheets each provide a more detailed summary of the wide variety of wetland functions. Wherever possible, examples of dollar values from specific wetlands are included, illustrating why economists have placed such a high value on wetland ecosystems.

**AS PART OF YOUR WORLD WETLANDS DAY CELEBRATIONS PERHAPS YOU CAN ASSESS JUST WHICH OF THESE MANY FUNCTIONS APPLY TO YOUR WETLANDS AND WHETHER YOU CAN PLACE A DOLLAR VALUE ON THEIR UTILITY - AND TELL US IN THE BUREAU SO THAT WE CAN COMPILE AND DISSEMINATE EVEN MORE INFORMATION ABOUT THE VALUE AND IMPORTANCE OF YOUR WETLANDS. ◆**

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CONVENTION ON WETLANDS  
CONVENTION SUR LES ZONES HUMIDES  
CONVENCIÓN SOBRE LOS HUMEDALES  
(Ramsar, Iran, 1971)