

**World
Wetlands Day**

2 February 2015

Wetlands for
our Future



Wetlands: Why should I care?

How wetlands are essential to our future

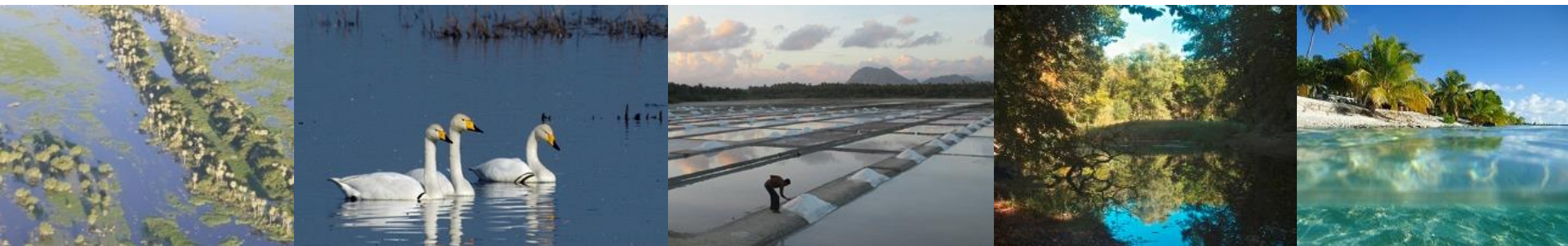
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What are wetlands anyway?

- Broad definition: land areas that are flooded with water, either seasonally or permanently
- Inland wetland types:
 - Marshes, ponds, lakes, fens, rivers, flood plains and swamps
- Coastal wetland types:
 - Mangroves, saltwater marshes, estuaries, lagoons – even coral reefs
- Man-made wetlands include fish ponds, saltpans, rice paddies
- Range in size from less than one hectare to the Pantanal in Brazil, Bolivia, and Paraguay; three times the size of Ireland





Wetlands provide fresh water for us all

- Less than 3% of the world's water is fresh – the rest is saltwater
 - Most of this is frozen
 - Of the available freshwater, the largest share can be found in aquifers
- At a very basic level, humans require 20-50 litres of water per day
 - Minimum for drinking, cooking and cleaning needs
- Almost two billion people in Asia and 380 million EU residents depend on groundwater for their water supply
- Wetlands help purify and replenish the aquifers humanity depends on





Wetlands purify water and filter waste

- Plants from wetlands can help lessen water pollution
 - Absorb some harmful fertilizers and pesticides
 - Retain some heavy metals and toxins from industry
- Example: Nakivubo Swamp (Kampala, Uganda)
 - Filters sewage and industrial effluents for free
 - Treatment plant would cost \$2 million per year
- Interesting fact: one single adult oyster in a tidal flat can filter nearly 200 litres of water per day
 - Removes sediments and chemical contaminants from coastal waters





Wetlands feed humanity

- Rice, grown in wetland paddies, is the staple diet of nearly three billion people
 - 20% of the world's nutritional intake
- 70% of groundwater extracted is used for irrigation
- Average human consumes 19kg of fish each year
 - Much higher per capita consumption in Asia
- Two-thirds of all commercial fish types depend on coastal wetlands at some point in their lives
 - Breeding and spawning grounds
 - Mangroves and estuaries especially important





Wetlands are bursting with biodiversity

- Home to more than 100,000 known freshwater species alone
 - 257 new species of freshwater fish were discovered in the Amazon between 1999-2009
- Essential for many amphibians and reptiles, as well as for bird breeding and migration
- Individual wetlands often hold 'endemic species'
 - Forms of life unique to one particular site
 - Lake Baikal in Russia or the Rift Valley lakes of East Africa have many





Wetlands fight climate change

- Peatlands alone cover an estimated 3% of the world's land area, but they hold 30% of all carbon stored on land
 - Twice the amount stored in all the world's forests!
- In the face of rising sea levels, coastal wetlands reduce the impact of typhoons and tsunamis
 - Saltmarshes, mangroves act as buffers ; their roots bind the shoreline and resist erosion
 - Coastal wetlands increase resilience to the impacts of climate change
- Wet grasslands and peatlands act as natural sponges
 - Absorb rainfall, create wide surface pools, ease flooding in river basins
 - Same storage capacity safeguards against drought





Wetlands provide sustainable products and livelihoods

- 61.8 million people earn their living directly from fishing and aquaculture
 - Including their families, more than 660 million people are dependent on fisheries and fishing for survival
- Sustainably managed wetlands provide:
 - Timber for building
 - Vegetable oil
 - Medicinal plants
 - Stems and leaves for weaving
 - Fodder for animals





A future without wetlands?

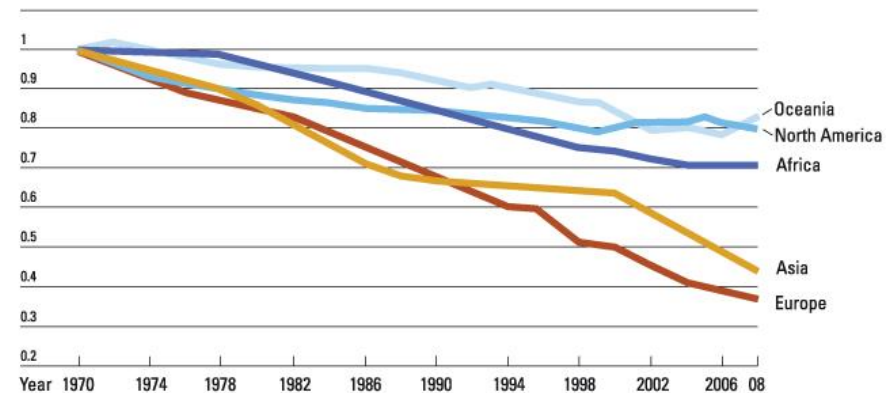
- 64 % of the world's wetlands have disappeared since 1900
 - Loss is much higher in some regions, esp. Asia
 - Measured against 1700, wetland loss is an estimated 87% worldwide
- Rapid decline means
 - Access to fresh water is eroding for one to two billion people worldwide
 - Coastal areas are more exposed to storm surges
- Biodiversity has also been affected
 - WWF Living Planet Index: populations of freshwater species declined by 76 % between 1970 and 2010





Wetland Extent Index

- Jointly-sponsored indicator of decline in wetlands
- Observed a sampling of more than 1000 wetland sites globally between 1970 and 2008
- Average loss in extent of the sites surveyed over this period: 40%
- Individual sites vary sharply





What drives wetland loss and degradation?

- Wetlands often viewed as wasteland
- Major changes in land use, specifically increases in:
 - Agriculture
 - Grazing animals
 - Other harvesting such as logging
- Water diversion through dams, dikes and canalization
- Infrastructure development, particularly in river valleys and coastal areas
- Air and water pollution and excess nutrients





How can the trend be reversed?

- Make policies that consider wetlands carefully
 - Understanding of ecosystem services that wetlands provide
 - Integrate into land use planning
- Use all remaining wetland sites wisely
 - Meet human needs while sustaining biodiversity and other wetland services
- Restore wetlands that have been degraded
- Develop financing sources for wetlands conservation
- Educate others about the benefits of wetlands





The Ramsar Convention

- Intergovernmental treaty on wetlands
 - Provides the framework for the conservation and wise use
 - 168 Parties (member countries)
 - First modern global environmental agreement
 - Named after Ramsar in Iran, where the Convention was adopted
- Members commit to:
 - Wise use of all their wetlands
 - Designate suitable wetlands for the list of Wetlands of International Importance (the “Ramsar List”)
 - Cooperate on transboundary wetland systems and shared species





Ramsar Sites

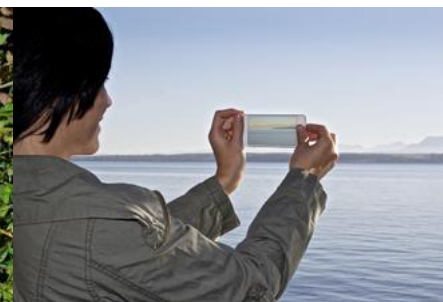
- 2,186 designated Wetlands of International Importance
 - Status as of 1st October 2014
- Cover 208,449,277 hectares
 - Area slightly larger than Mexico
- Official list is available online
 - www.ramsar.org/sites-countries/the-ramsar-sites
 - Downloadable as pdf or ...
 - Zoom in on world map to find a Ramsar Site near you
 - Click on individual sites for information and link to Ramsar Sites Information Service (RSIS)





What can I do as an individual?

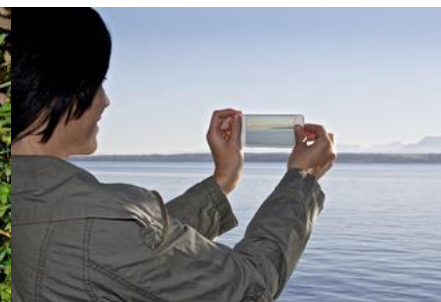
- Experience wetlands for yourself
 - Ramsar Sites list www.ramsar.org/sites-countries/the-ramsar-sites
 - See if there's a designated Wetland of International Importance in your area
 - Talk with the managers and see if they can use help
- Educate others
 - Host an event
 - Help others understand wetland benefits
- Organize a wetlands clean-up
 - Together in a group, clean-up can be achieved in a few hours
 - Take pictures before and after to highlight the difference





What can I do as an individual?

- Take everyday decisions with the environment in mind
 - Buy sustainably raised or caught seafood, organic produce and meat
 - Take shorter showers
 - Recycle household trash, make sure batteries do not end up in landfills
 - Select native plants and use organic fertilizer in your own garden
- Join with others to make a difference
 - Consult the Ramsar website for partners and link up with their efforts
- Get involved in World Wetlands Day





World Wetlands Day 2015

- Celebrated every 2 February to mark the adoption of the Ramsar Convention
- Ways to get involved:
 - Visit a wetland site near you
 - Enter the photo contest (open to contestants aged 15-24)
 - take a photo in a wetland location between 2 February and 2 March 2015 and upload it to www.worldwetlandsday.org
 - Make a pledge to take action for wetlands
 - Educate others about the importance of wetlands



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Thank you
For your attention!





Information sources

For global freshwater resources:

World Business Council for Sustainable Development: *Water Fact and Trends*, 2009 (p. 3)
<http://www.wbcsd.org/Pages/EDocument/EDocumentDetails.aspx?ID=137>

For human basic daily water requirement:

World Health Organization: *Domestic Water Quantity, Service Level and Health* (p.3)
http://www.who.int/water_sanitation_health/diseases/WSH03.02.pdf

For dependence on groundwater in Asia:

IGES White Paper, Chapter 7: *Groundwater and climate change: no longer the hidden resource* (p. 160)
http://pub.iges.or.jp/modules/envirolib/upload/1565/attach/09_chapter7.pdf

For dependence on groundwater in EU and EU population:

<http://ec.europa.eu/environment/water/water-framework/groundwater/resource.htm>
http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Population_and_population_change_statistics

For Nakivubo swamp:

<http://www.bloomberg.com/news/2012-06-17/ugandan-swamp-helps-stiglitz-show-benefits-beyond-gdp.html>

For oyster water filtering capabilities:

<http://www.cbf.org/about-the-bay/more-than-just-the-bay/creatures-of-the-chesapeake/eastern-oyster>

For rice as proportion of worldwide dietary intake:

Food and Agriculture Organization of the UN: *Rice and human nutrition fact sheet*
<http://www.fao.org/rice/2004/en/f-sheet/factsheet3.pdf>

For worldwide share of fresh water going to irrigation:

www.unwater.org/statistics/statistics-detail/en/c/211813/

For worldwide per capita consumption of fish:

Food and Agriculture Organization of the UN: *Fish Trade and Human Nutrition* (p. 2)
<http://www.fao.org/cofi/29401-083ff934c3ccfd8576005d8d0c19b04d6.pdf>

For share of commercial fish species dependent on wetlands:

US Environmental Protection Agency: *Wetland Functions and Values* (p. 11)
<http://cfpub.epa.gov/watertrain/pdf/modules/WetlandsFunctions.pdf>

For number of freshwater species:

Millennium Ecosystem Assessment: *Ecosystems and Human Well-Being: Wetlands and Water* (p. 26) <http://www.millenniumassessment.org/documents/document.358.aspx.pdf>

For discovery of new freshwater fish species:

Worldwide Fund for Nature: *Amazon Alive!: A Decade of Discoveries 1999-2009* (p. 1)
http://assets.panda.org/downloads/amazon_alive_web_ready_sept23.pdf

For peatlands and carbon sequestration:

TEEB: *The Economics of Ecosystems and Biodiversity for Water and Wetlands* (p. 11)
http://www.ramsar.org/sites/default/files/documents/library/teeb_waterwetlands_report_2013.pdf

For fishing industry direct employment:

Food and Agriculture Organization of the UN: *State of World Fisheries and Aquaculture 2012* (p. 41) <http://www.fao.org/docrep/016/i2727e/i2727e.pdf>

For number of fishing industry dependents:

Food and Agriculture Organization of the UN: *Fish Trade and Human Nutrition*
<http://www.fao.org/cofi/29401-083ff934c3ccfd8576005d8d0c19b04d6.pdf> (p. 2)

For the historical loss of wetlands:

How much wetland has the world lost? Long-term and recent trends in global wetland area
N. Davidson, Marine and Freshwater Research, 2014, 65 (pp.934 &940)
<http://dx.doi.org/10.1071/MF14173>

For loss in freshwater species populations:

Worldwide Fund for Nature: *Living Planet Report 2014* (p.22)
http://www.panda.org/about_our_earth/all_publications/living_planet_report/

For the Wetlands Extent Index:

CBD: GB04 Technical Report: *Progress Towards the Aichi Biodiversity Targets* (p.59)