Organized Session 6

Wetlands for a Sustainable Urban Future

Society for the Conservation of Philippine Wetlands, Inc.

Urban wetlands make cities liveable

•Ramsar Convention on Wetlands

World Wetlands Day
2 February 2018
Wetlands for a sustainable urban future

Ramsar Convention on Wetlands

World Wetlands Day 2018 – get involved!

Celebrated every 2 February to mark the adoption of the Ramsar Convention in Iran in 1971

Wetlands for a sustainable urban future, the theme for 2018 highlights the important role of urban wetlands in making cities liveable

Ramsar Convention on Wetlands: Working to reverse wetland loss and degradation

- First global environmental treaty; only one to focus on a single ecosystem
    - Adopted in Ramsar, Iran in 1971
- Parties commit to designating protected wetland Ramsar Sites, wise use of wetlands and cooperation on transboundary issues
- Number of Contracting Parties: 169
- Number of Ramsar Sites: 2,284
- Total surface area of Ramsar Sites: 220,673,362 ha (slightly larger than Mexico)
    - www.ramsar.org/sites-countries/the-ramsar-sites

Meeting Standing Committee 53, Gland, Switzerland
Photo: Ramsar Convention

Ramsar Convention on Wetlands: Committed to sustainable development

Ramsar Convention's 4th Strategic Plan contributes to 16 different SDGs; many relating to urban development:

- **Goal 6:** Ensure water & sanitation for all
- **Goal 9:** Build resilient infrastructure
- **Goal 11:** Making cities inclusive, safe, resilient and sustainable
- **Goal 12:** Ensure sustainable consumption and production patterns
- **Goal 13:** Combat climate change
- **Goal 15:** Protect, restore and promote sustainable use of terrestrial ecosystems

Mangrove planting, Balanga City Wetland Park, Philippines
Photo: Ramsar Convention

Ramsar Convention on Wetlands Wetland City Accreditation Scheme

- Voluntary accreditation scheme for cities
  - Stem loss of urban and peri-urban wetlands due to growing urbanization
  - Decision of Contracting Parties Resolution XII.10 adopted in 2015
  - Encourages cities to take deliberate actions to conserve, restore and wisely use urban wetlands
  - First eligible cities to receive a certification in 2018 accrediting them as a wetland city.

Wetland City Accreditation winners will be announced at the 2018 Ramsar Conference of Parties (COP) in Dubai.
Photo: ramsar.org

Wetlands and cities: A long symbiotic relationship

- Earliest cities sprung up in the fertile Tigris & Euphrates floodplains
  - Benefits of agriculture, water supply, transport
- Wetland: a land area that is flooded with water, either permanently or seasonally
- Types of wetlands include:
  - Rivers & floodplains, marshes, peatlands
  - Mangroves, salt marshes, estuaries, coral reefs
- Urban and peri-urban wetlands:
  - Any wetlands found in or around cities, their suburbs and outlying areas

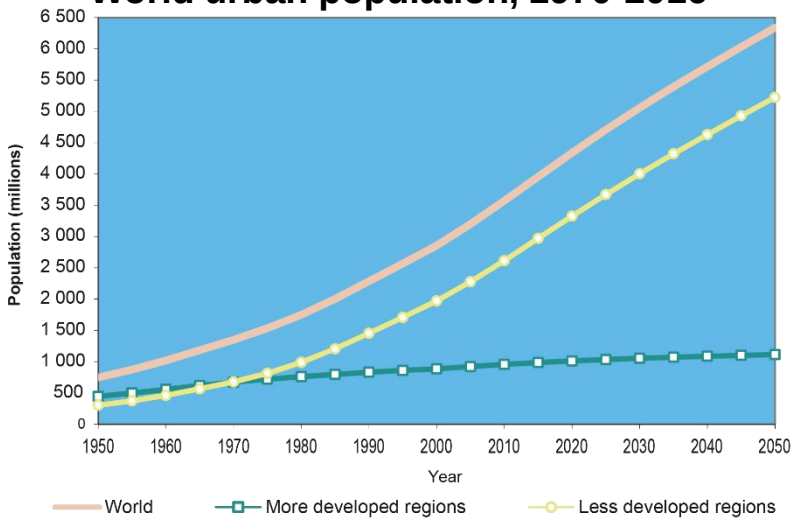
Wetlands in Kowloon, Hong Kong
Photo: urbanwetlands.org

Wetlands and cities: On opposite trajectories

•While cities are growing . . .

•50% about 4 billion people live in urban areas today and by 2050 that number will reach 66%

- **World urban population, 1970-2016**

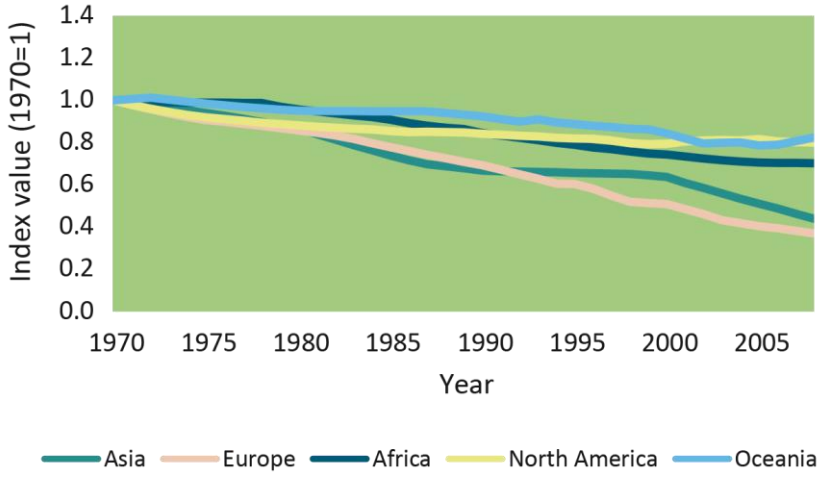


Estimated and projected urban populations of the world, the more developed regions and the less developed regions, 1950-2050

•Wetlands are disappearing.

•More than 64% of the world's wetlands have been lost since 1900.

•Wetland Extent Index 1970-2008



Wetlands and cities: the challenge Retain & restore wetlands to make future cities liveable!

- The sustainability balancing act for urban planners:
  - Provide land for building, and basic services like water and waste removal while also
  - Preserving and restoring natural resources – including wetlands – for the long term
- Urban population rising 2.4% a year
  - number of mega-cities (more than 10 million inhabitants) will jump from 31 to 41 by 2030
- Huge opportunity: use urban wetlands to make cities more liveable.

Cardiff Wetlands, Wales, United Kingdom
Photo: Wikimedia Commons

Urban wetlands make cities liveable by: Reducing flooding

- Wetlands act as giant sponges to lessen the impact of flooding.
  - Rivers, ponds, lakes and marshes soak up and store heavy rainfall, releasing it gradually over time
- Saltmarshes and mangroves act as a buffer against storm surges.
  - One kilometer of intact mangrove forest can reduce a storm floodsurge by up to 50cm
- Example: Hurricane Sandy
  - Wetlands avoided an estimated $625 million in damage when this storm hit densely populated US east coast in 2012

San Jacinto Marsh near Houston, Texas, USA
Photo: goofreeephotos.com

Urban wetlands make cities liveable by: Improving water quality

- Only 3% of water on the planet is fresh; most of this is frozen. Water is a scarce resource!
- Deep groundwater aquifers provide half of all drinking water, including water supply to:
  - 2 billion people in Asia
  - 380 million people in Europe
- Wetlands on the surface filter the water that seeps into these aquifers from above, helping to replenish the water supply.

Photo: Pixabay.com

Urban wetlands make cities liveable by: Filtering and treating waste

- Silt-rich soil and abundant plants in wetlands act as filter for
  - Harmful toxins,
  - Agricultural pesticides and
  - Industrial waste
- Urban wetlands can also treat sewage cost-effectively
- Example: Nakivubo Swamp, Kampala, Uganda
  - 550 hectare urban wetland stretching from city's industrial center to Lake Victoria
  - Filters water and reduces contaminants
  - Water treatment worth $US2 million per year

Wetland water treatment pond in Melitopol,Ukraine
Photo: Wikimedia Commons

Urban wetlands make cities liveable by: Improving local air quality

- Wetlands radiate moist air thanks to their high water levels and lush plant life.
- They naturally cool the air in the local surroundings.
- Offer relief in both tropical cities and in climates where the air is extremely dry

Restored wetland landscape at London Wetland Centre
Photo: Wikimedia Commons

Urban wetlands make cities liveable by: Providing green space for relaxation

- Urban wetlands offer stressed city dwellers the chance to decompress and encounter diverse plant and animal life.
- Studies confirm that interacting with nature improves our health.
- Example: Huangshan City, China; city of 1.4 million people
  - 7.5km bank of the Xin'an River in city center restored to natural wetland
  - Provides natural flood control plus
  - New green belt with park, botanical gardens and housing

Chen Bridge, Henan, China
Photo: Pixabay.com

Urban wetlands make cities liveable by: Providing jobs to local residents

- Many types of fish spawn and breed in wetlands, making them popular fishing grounds.
  - 660 million people depend on fishing and aquaculture for their livelihoods worldwide
- Wetlands produce valuable goods to gather and process, often benefiting the poor.
  - Reeds and grasses for weaving
  - Wood for building
  - Medicinal plants and fruits
- Wetlands attract tourism, also a major source of employment.

Wetland fisherman, Nepal
Photo: Ramsar Convention, WWD Photo Contest

Mismanaging urban wetlands: Makes cities prone to disasters

- At least 64% of wetlands have disappeared since 1900.
- Canalizing rivers can make floods more powerful.
- Dumping rubbish ruins natural green spaces.
- Clearing mangroves and mining coral reefs can expose city coastlines to storms.
- Burning or draining peatlands releases CO2.

Los Angeles River, California, USA
Photo: Wikipedia

Treating urban wetlands right: Integrate wetlands into policy and planning

- Plan for wetlands as a natural part of water infrastructure.
- Adopt policies to limit degradation, promote efficient water use.
- Example: Accra, Ghana
    - Fast growth threatening local wetlands
    - City responded with integrated measures
        - Enforcing building regulations
        - Creating green belts to control sprawl
        - Education programs for local residents
        - Designating two local wetlands as Ramsar Sites

Sakumono Lagoon Ramsar Site in greater Accra, Ghana
Photo: Wikimedia Commons

Treating urban wetlands right: Preserve and restore urban wetlands

- Many cities are located in coastal areas and river floodplains where wetlands were once widespread.
- Actively restore wetlands – and their benefits.
- Example: London Wetland Centre
  - 40-hectare restored wetland on site of four old water reservoirs
  - Now home to wide range of wildlife including 180 bird species
  - Visitor Centre for wetland education

Grey heron at London Wetland Centre
Photo: Wikimedia Commons

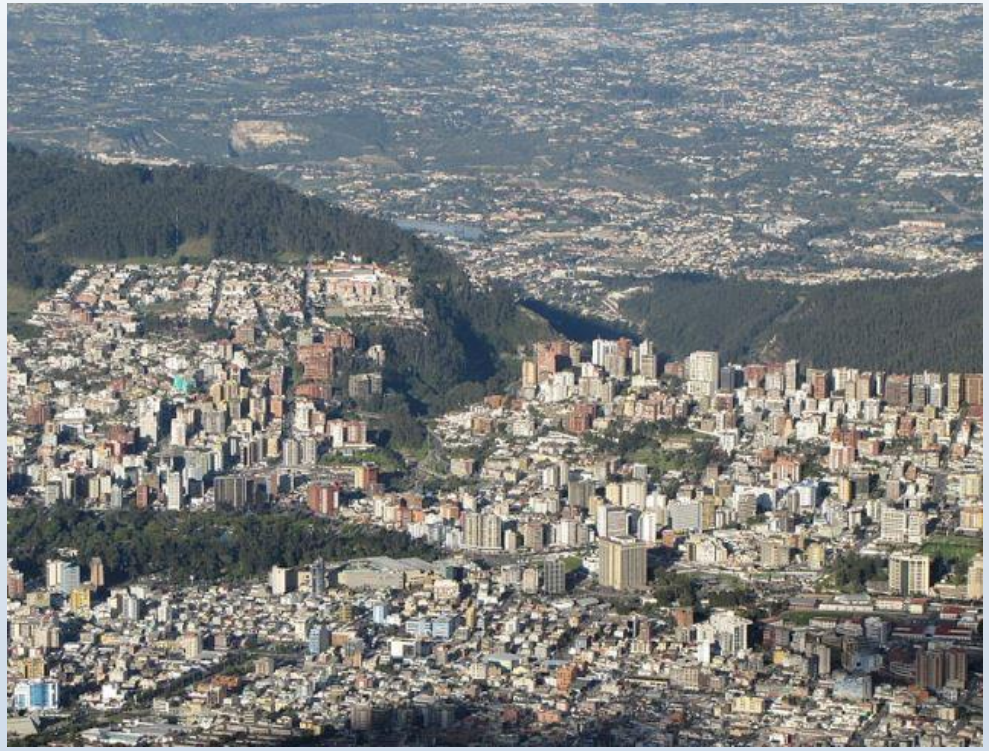
Treating urban wetlands right: Involve local residents in planning

- People often depend on local wetlands for their living; it's important to understand their views and get their buy-in
- Example: Stung Treng Ramsar Site, Cambodia
  - 14,600-hectare site with 21 villages and 10,000 people dependent on fishing
  - Home to several endangered species
  - Communities have restricted fishing in critical zones during spawning seasons, and larger fish are now returning

Putting up sign at Stung Treng Ramsar Site
Photo: Ramsar Convention

Treating urban wetlands right: Reduce water consumption and harmful run-off

- As individuals avoid toxic materials that drain into wetlands
- As cities measure, then act to reduce water consumption
- Example: Quito, Ecuador
    - Detailed measurement of water use in 2012-14 with Cities Footprint Project
    - Aim: cut water footprint by 68% by 2032
    - Promoting ecological toilets, water-efficient appliances



Quito, Ecuador
Photo: Wikimedia Commons

Treating urban wetlands right: Engage youth and community

- Join or organize a local wetland clean-up exercise
- Organise community based training on wetlands conservation and wise
- Example: Bolsa Chica Ecological Reserve, California
    - 356-hectare protected coastal wetland near Los Angeles
    - Non-profit conservancy holds 2 Public Service Days per month
    - Volunteeers remove 10 tons of trash and debris every year

Clean-up of a Ramsar Site in Ghana, 2015
Photo: Ramsar Convention WWD Photo Contest

Session 6: Wetlands for a Sustainable Urban Future

An ecological assessment for offset site wetland conservation and management	Dr Simplicia A. Pasicolan Chief, Urban Ecosystems Research Division Ecosystems Research and Development Bureau-DENR
Integrating wetlands into tourism planning for the sustainable development of communities and the environment using a Ridge-to-Reef ecosystem approach	Arch Celestino B. Ulep President, SCPW
A pilot implementation of constructed wetland system for domestic wastewater treatment and reuse in a Green Village	Ms. Ma. Cheryl F. Prudente, Trustee, SCPW
Active, clean, and bountiful rivers: The Wetlands BioBlitz Program	Prof. Ivy Amor Lambio, SCPW and Institute of Biological Sciences University of the Philippines
Urban waterfronts as Wetland Learning Centres – The story of the Las Piñas – Parañaque Critical Habitat and Ecotourism Area	Arch Aaron Lecciones SCPW Special Projects Officer
Mapping Vulnerability of Inland Wetlands in the Philippines to Climate Change Hazards	Ms Amy M Lecciones, Vice-President and Executive Director SCPW

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Thank You!




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Organised Session 06

Society for the Conservation of Philippine Wetlands, Inc.

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