

State of the World's Wetlands and their ecosystem services

– a style & design suggestion

Important note:

The pages that follow provide a mock-up of one possible style of presentation of SoWW findings, as a report to COP11, with headline statements, backed up by simple presentation of evidence, examples etc.

The material in these pages is a quick 'cut-and-paste' of some available examples - and so no need at this point to comment on the content of the figures and statements as they appear now – they are there to show one example of what a SoWWS report might look like.

Comment should focus on whether the style and level of detail of results presentation works (noting that behind each indicator is likely to be a 'fact-sheet' setting out methods, results and limitations etc.), or whether an alternative presentation style/design would be better – and if so, what?

Nick Davidson

December 2011

The State of the World's Wetlands and their ecosystem services

1st Edition 2015



Contents

Foreword

Mandates, and status of this report

Key messages for decision-makers

The value of wetlands for humankind

The context: global environmental trends

Wetland Indicator results

Drivers:

Threats to the world's Ramsar sites
River fragmentation
[add: water scarcity?]

State:

- Wetland 'vital statistics'
- *Status and trends in wetland ecological character* (a) all wetlands (b) Ramsar sites; and both (a) and (b) disaggregated by region;
- *Wetland ecosystem extent*, and trends in extent [one of which is "composite/all wetlands", and one is an ecosystem-based Living Planet Index for wetland area change]
 - Mangroves
 - Sea grasses
 - Tropical coral reefs
 - Estuaries
 - Saltmarshes
 - Shellfish reefs
 - Peatlands
 - Irrigated rice fields
 - Human-made dams, reservoirs, large lakes
 - Natural lakes
 - Other inland wetland types...
 - Other individual studies/wetland LPI
 - Composite/all wetland types

- *Status and trends of waterbirds*
- *Wetland species Living Planet Index* [disaggregated for inland/coastal]
- *Wetland-dependent species Red List Index*
- *Water quality*

Benefits:

Trends in selected wetland-related ecosystem services

Responses:

- *Progress in designation of candidate Ramsar sites*
- *Ramsar site management effectiveness*
- *Policy responses, and the effectiveness of the Ramsar Convention*

Implications for future action

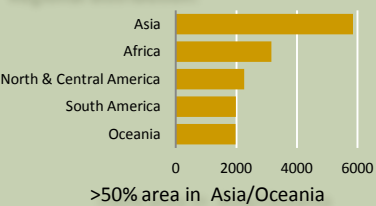
References & sources

Technical notes, caveats and further reading

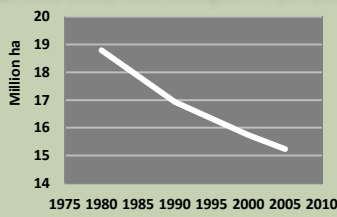
Mangroves



Distribution: coastal - tropical and subtropical
Total area (2005): 15.23 million hectares
Regional distribution:



Global area trend: decreasing (0.7% per year)

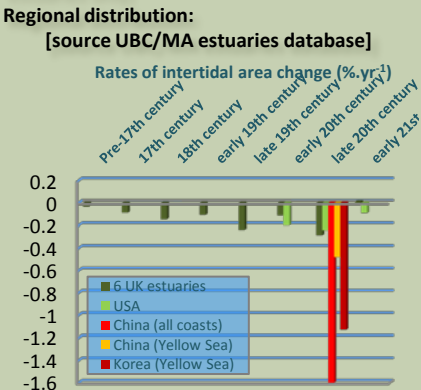


Regional area trends: decreasing in all regions
Rate of change: loss slowing – except in Asia

Estuaries



Distribution: coastal - global
Total area (xxxx): xxxxx million hectares (major estuaries only)
Regional distribution:



Global area trend:
Regional area trends: varies by region:
decreasing Asia; largely stable Europe & N America
Rate of change: largely unknown, except USA, UK and Yellow Sea

Coral reefs



Distribution: coastal & marine - tropical
Total area (xxxx): xxxxx million hectares
Regional distribution:

[check WCMC *Coral reef atlas*]

Global area trend:
Regional area trends:
Condition trend: deteriorating
Rate of change: unknown

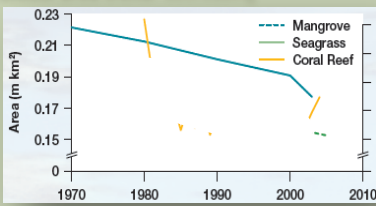
Seagrasses



Distribution: coastal & marine – tropical to temperate
Total area (xxxx): xxxxx million hectares
Regional distribution:

[check WCMC *Seagrass atlas*]

Global area trend: decreasing



Regional area trends: decreasing
Rate of change: increasing

All peatlands



Distribution: inland - global
Total area (year): c. xxx million hectares
Regional distribution:

Global area trend:
Regional area trends: Decreasing rapidly SE Asia; stable Europe & N America
Rate of changes: unknown

Temperate & boreal peatlands



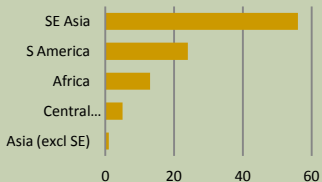
Distribution: inland - global
Total area (year): c. xxx million hectares
Regional distribution:

Global area trend:
Regional area trends: Rate of changes: unknown

Tropical peatswamp forest



Distribution: inland - tropical
Total area (year): 44.1 million hectares [Page et al 2010]
Regional distribution:
56% in South-east Asia; most in Indonesia



Global area trend:

Regional area trends: Decreasing rapidly SE Asia (43% of original SE Asia area lost by 2000); elsewhere trend unknown
Rate of changes: Borneo: -2.2% per year in 2000s; elsewhere unknown

Natural lakes



Distribution: inland – global
Total area (year): c. xx million hectares
Regional distribution:

Global area trend:
Regional area trends:
Rate of changes: unknown

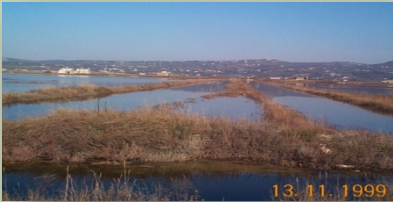
Dams & reservoirs



Distribution: inland - global
Total area (year): c. xxx million hectares
Regional distribution:

Global area trend:
Regional area trends: xxxxxxxx
Rate of changes:

Fish ponds



Distribution: inland - global
Total area (year): c. xxx million hectares
Regional distribution:

Global area trend:
Regional area trends: Rate of changes: unknown

Irrigated rice (rice paddy)



Distribution: inland – tropical, subtropical, mediterranean
Total area (year): c. xx million hectares
Regional distribution:

Global area trend:
Regional area trends:
Rate of changes:

Salt pans (salinas)



Distribution: inland – tropical, subtropical, mediterranean
Total area (year): c. xx million hectares
Regional distribution:

Global area trend:
Regional area trends:
Rate of changes:

Option 1 story sequence

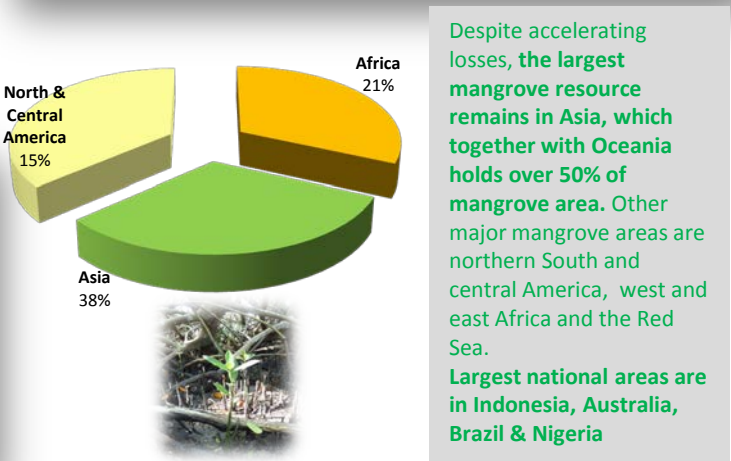
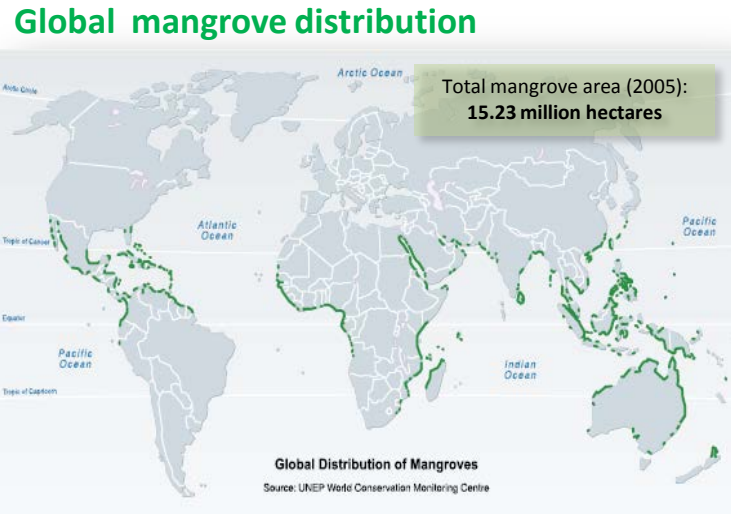
test example for mangrove extent, status and trends



Mangroves – losses continue but have slowed ... except in Asia

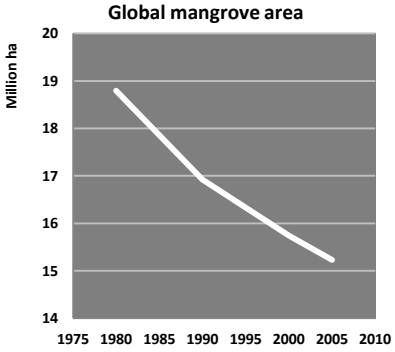
Wetland extent and trends

Mangroves are tropical and subtropical coastal intertidal wetlands delivering many very valuable benefits to people. Yet mangroves continue to be destroyed and converted to other, often single-sector land-uses. Although globally, and in most regions, rates of loss have slowed since the 1990s, in Asia mangrove losses have accelerated again in the 2000s.

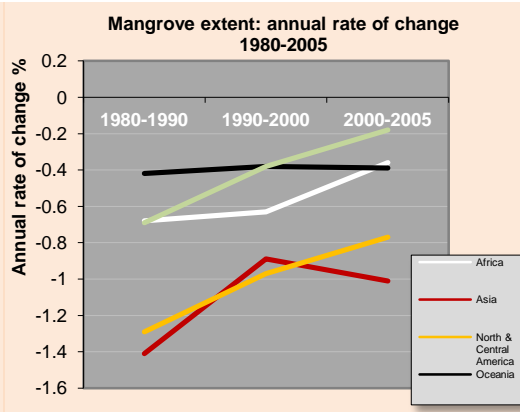


Trends in mangrove area

Globally, mangroves are continuing to decline in area, at a rate of almost 0.7% per year (a loss of over 100,000 hectares annually), but that rate of loss has slowed compared with over 1% per year in the 1980s.



Since the 1980s, rates of mangrove loss have slowed in most regions in which mangroves occur, but rapid losses are continuing in both North & Central America and in Asia, where losses have accelerated sharply again in the 2000s.



Mangroves deliver big benefits and values to people

Mangrove forests sustain more than 70 direct human activities, ranging from fuelwood collection to artisanal fisheries; from nursery areas for pelagic fisheries to storm surge protection and carbon storage and sequestration .



Their relative ecosystem services value is the highest of all coastal ecosystems [MA/DFN report]

The economic value of mangrove ecosystem services varies, but can be very high ... for example:

Thailand: mangrove coastline protection and stabilisation services up to \$3,000/ha/year, and carbon sequestration about \$100/ha/year; total contribution of mangroves to the economy very high - \$27,000 - 35,000/hectare;

Sri Lanka: mangrove storm protection - almost \$80/hectare/year before the 2004 tsunami; overall over \$1,000/ha/year, about three-quarters of which is accounted for by their contribution to lagoonal and near-shore coastal fisheries.

Vietnam: net present value of mangroves in protecting against extreme weather events - around \$50/hectare.

[add TEEB findings– values and implications of losses]



Implications for future delivery of services – and response needs

XXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXX

Restoring for carbon storage and co-benefits to communities ...

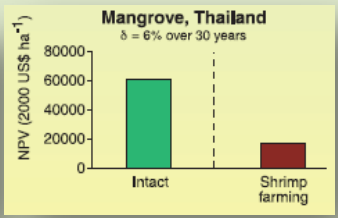
A photograph of a mangrove restoration site. A fence runs along a path, and there are young mangrove trees planted in the ground. The background shows a body of water.

Drivers of change – and their consequences

Main drivers of the continuing mangrove losses are recognised as conversion to aquaculture ponds and agriculture, industrial, urban and tourism expansion, overharvesting for fuelwood, and in some regions drought and deterioration in upstream hydrology.



Conversion of intact mangroves to single-sector use such as aquaculture ponds, whilst providing short-term private gain, greatly reduces their total economic value. In Thailand, benefit values of intact mangroves over a 30-year period were over 3.5 times higher than when converted for shrimp farming. [Source: Balmford et al. 2002. Science]



Overall ecosystem services value foregone from mangrove losses (3.56 million hectares) since 1980 may be as high as \$124 billion.

Option 2 story sequence

[spot the difference ...]



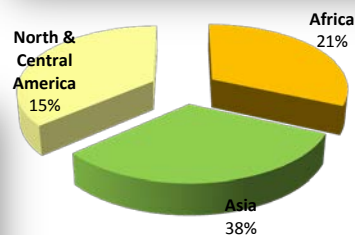
Mangroves - delivering multiple highly valuable services to human well-being

Wetland extent and trends

Mangroves are tropical coastal intertidal wetlands delivering many very valuable benefits to people. Yet mangroves continue to be destroyed and converted to other, often single-sector land-uses. Although globally, and in most regions, rates of loss have slowed since the 1990s, in Asia mangrove losses have accelerated again in the 2000s.



Global mangrove distribution



Despite accelerating losses, the largest mangrove resource remains in Asia, which together with Oceania holds over 50% of mangrove area. Other major mangrove areas are northern South and central America, west and east Africa and the Red Sea.

Largest national areas are in Indonesia, Australia, Brazil & Nigeria

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[add TEEB findings- values and implications of losses]

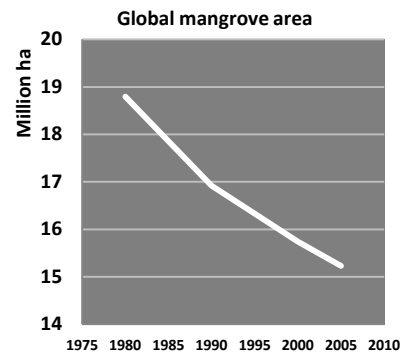


Mangroves – destruction continues but has slowed ... except in Asia

Wetland extent and trends

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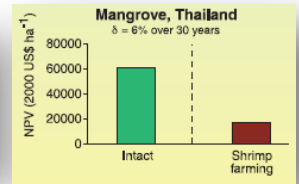
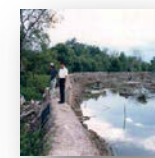


Drivers of change – and their consequences

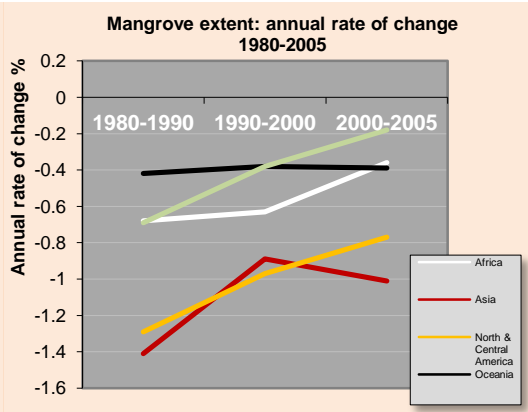
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Implications for future delivery of services – and response needs

XX
XX
XX
XX

Restoring for carbon storage and co-benefits to communities ...

