



Convention on
Biological Diversity

East Africa Workshop for implementing the Strategic Plan for Biodiversity through the National Biodiversity Strategies and Action Plans

Reducing the Direct Pressures on Biodiversity and Promoting
Sustainable Use

CBD Secretariat
27 -30 June 2011





Status and Trends in Biodiversity

According to the Third Global Biodiversity Assessment (GBO-3):

→ Terrestrial ecosystems are on the decline e.g.

→ *forests*, which occupy 31% of land surface and contain almost half of all terrestrial species continue to be lost at a high rate, although in some countries the rate of loss is slowing down. Losses are highest in South America and Africa, while some gains are recorded in Europe and Asia.

→ *savannas and grasslands* are also experiencing severe declines. Losses are experienced in North America, Brazil and Southern Africa (miombo woodlands).

→ Inland water ecosystems are also at high risk with wetlands being lost at a rapid rate, and although trends are variable, on the whole water quality is being threatened by pollution. Fragmentation is also a big problem.

→ Marine and coastal ecosystems continue to decline. Coastal habitats are under pressure from development and pollution; mangroves continue to decline albeit at a slower rate; deep water ecosystems are under threat





Status and Trends in Biodiversity

According to the Third Global Biodiversity Assessment (GBO-3) and the Living Planet Report (2010):

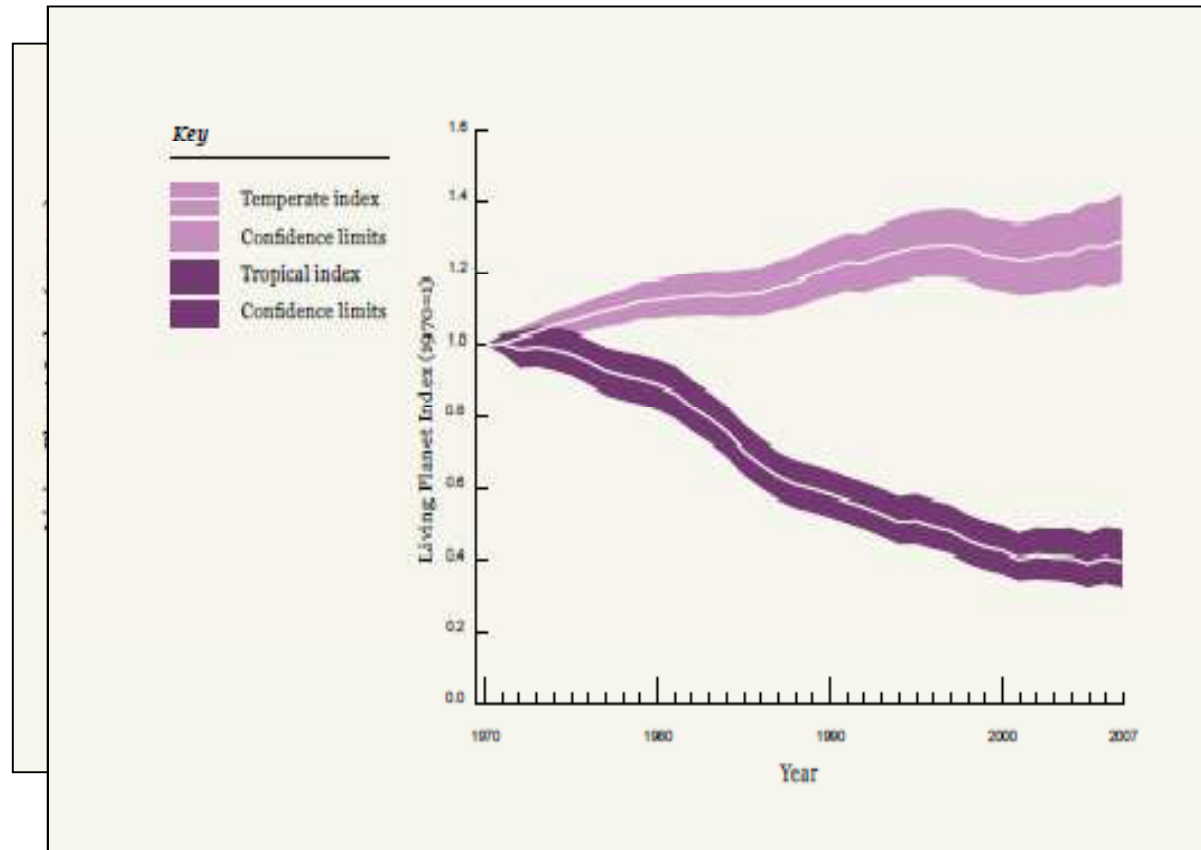
→ Wild vertebrate populations decreased overall by 30% in the period between 1970 – 2007; sharper declines in the tropics (59%) and freshwater systems (41%); temperate species are on the increase (29%)

→ All species that have been assessed for their risk of extinction are in fact being pushed closer to extinction; between 12% and 55% of selected vertebrate, invertebrate and plant groups are currently threatened with extinction

→ Species of birds and mammals used for food and medicinal purposes are most at risk



Trends



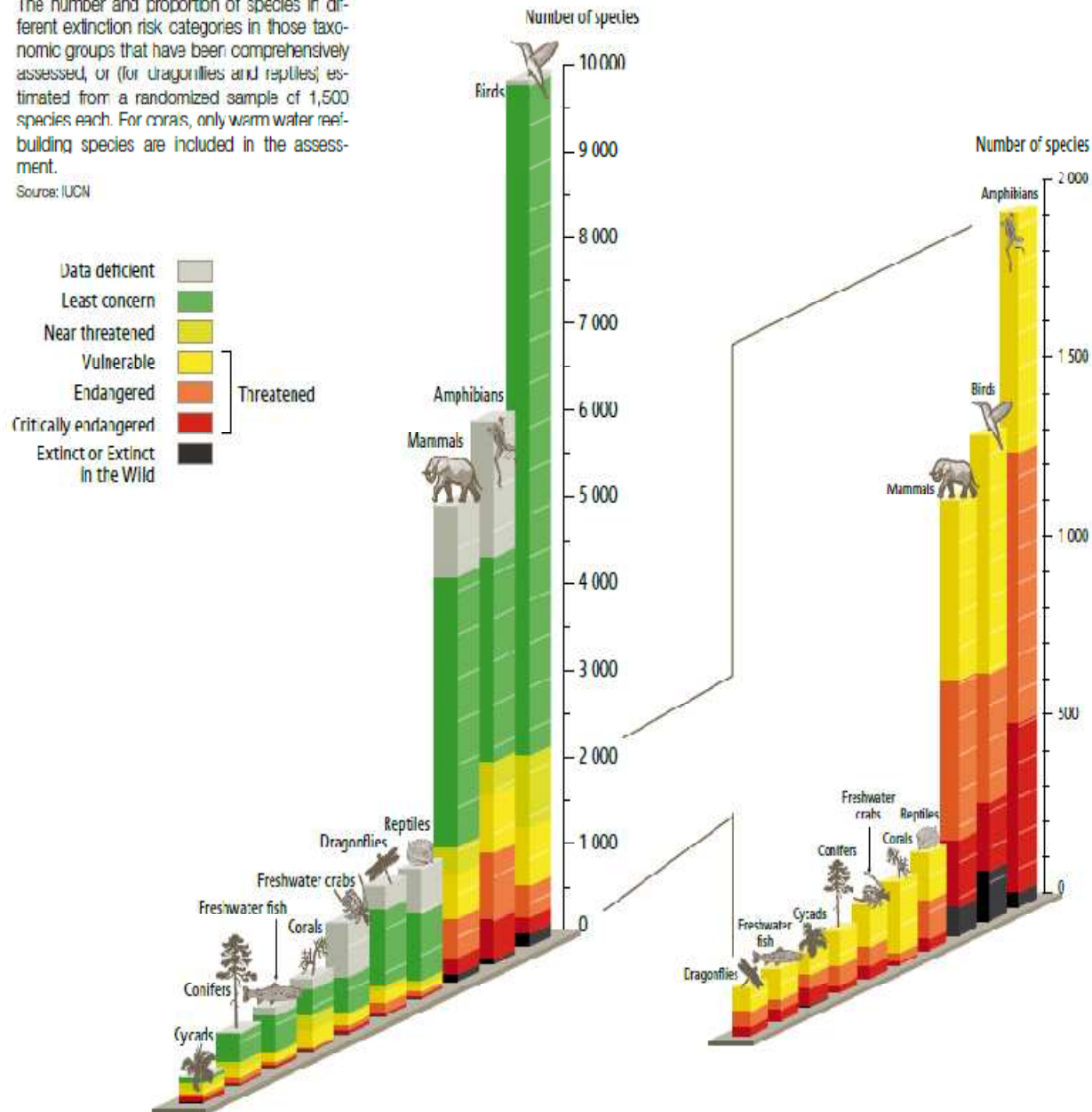
- The WWF's Living Planet Index shows an overall decline in species of birds, mammals, fish, reptiles and amphibians of 30% (1970 – 2007)



The IUCN Extinction Risk Categories: numbers and proportions

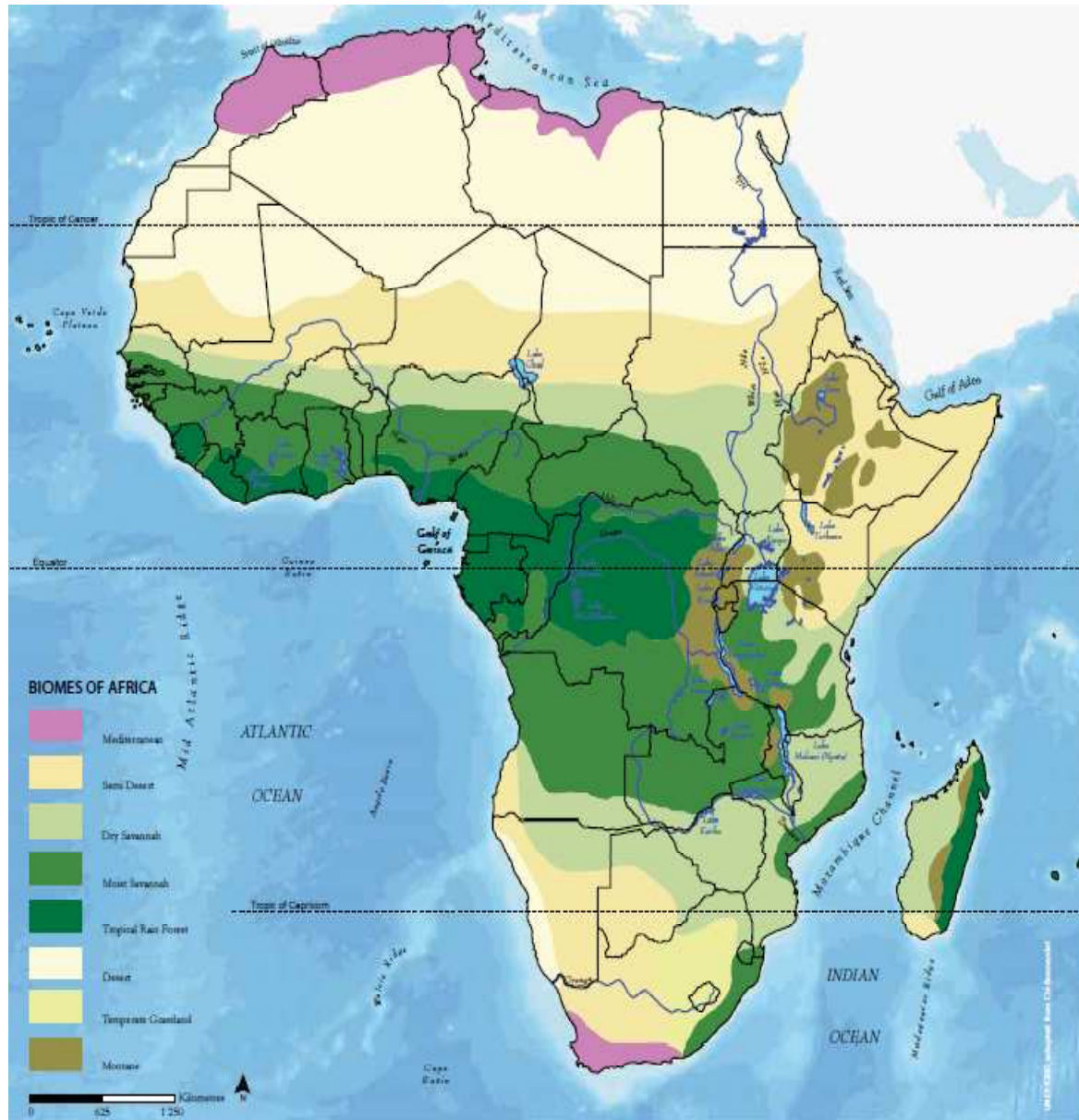
The number and proportion of species in different extinction risk categories in those taxonomic groups that have been comprehensively assessed, or (for dragonflies and reptiles) estimated from a randomized sample of 1,500 species each. For corals, only warm water reef-building species are included in the assessment.

Source: IUCN





Biomes of Africa



Living in harmony with nature





Status and Trends in Biodiversity - Africa

According to the Second Africa Environment Outlook (2006) and the Atlas of Africa's Changing Environment (2008):

- In Africa, the overall status of biodiversity is good and the opportunity still exists for proactive intervention but:
 - about half of the continent's terrestrial systems have been decreased by 50% or above due to cultivation, urbanization or degradation
 - 120 plant species have become extinct with another 1773 being threatened with extinction
- In Eastern Africa, biodiversity faces various threats including:
 - high levels of human-wildlife conflict
 - drought, land degradation and desertification
 - alien invasive species
 - unsustainable tourism activities
 - ever-increasing human settlements



Drivers of Change

- The Millennium Ecosystem Assessment recognizes 5 main drivers of biodiversity loss:
 - Habitat loss, alteration and fragmentation
 - Over-exploitation of wild species
 - Pollution
 - Climate change
 - Invasive alien species



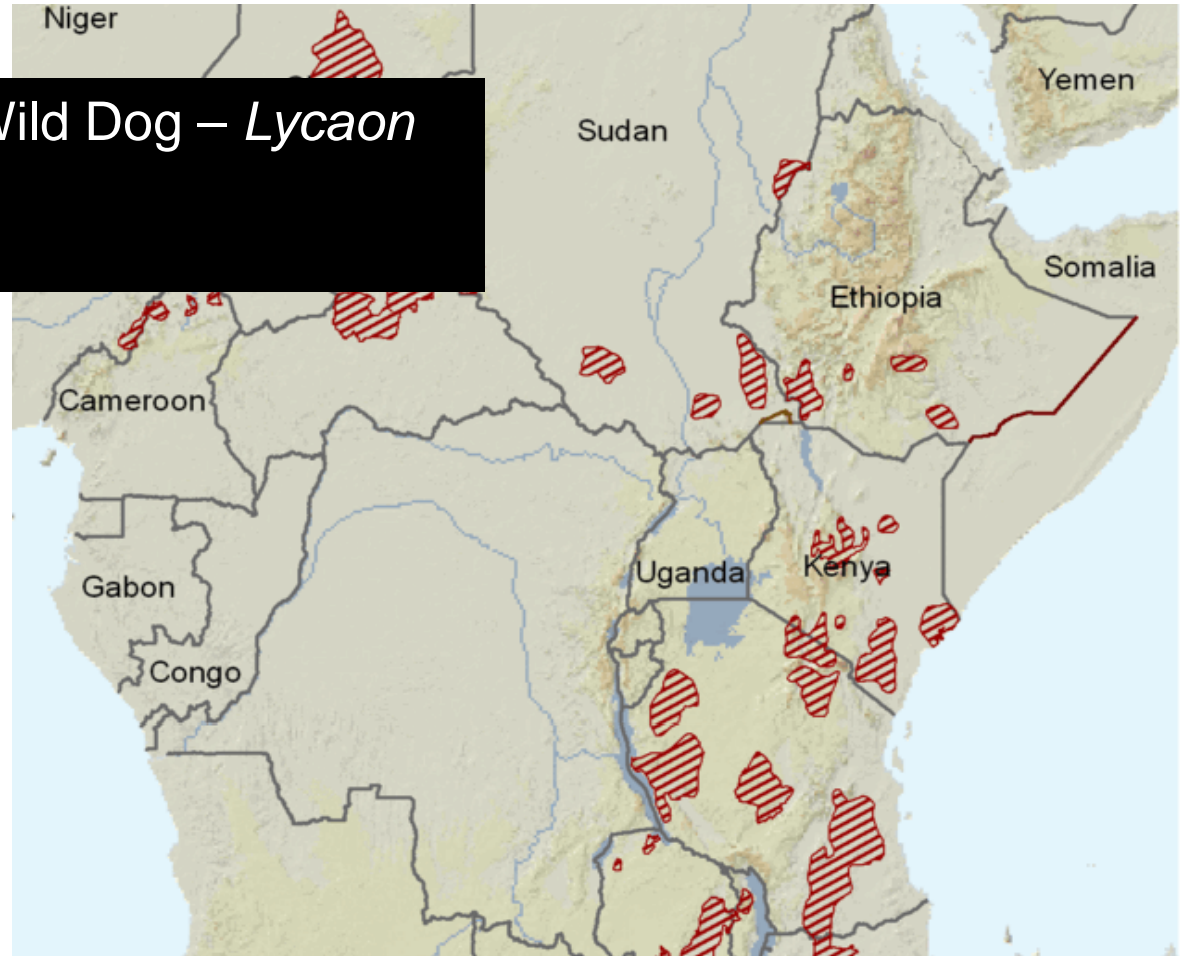
Habitat Loss, Alteration and Fragmentation

- It is considered the number one and most pervasive anthropogenic cause of biodiversity loss
- Impacts on biodiversity are high in areas where high human population/ activity coincides with areas of high biodiversity value;
- Most commonly occurs as a result of human settlements, agricultural cultivation and human industrial activity
- Declines are continuing in such diverse habitats as forests, grasslands, shrublands and wetlands
- Habitat fragmentation is a serious issue for many species: small fragments can only support small numbers of species leading to extinctions
- Fragmentation can also alter the structure of habitats making them less suitable for some species



Range of the African Wild Dog – *Lycaon pictus* in Eastern Africa

- historically were distributed throughout Sub-Saharan Africa in a range of habitats
- have disappeared from most of their former range (25 out of 30 no longer support populations, e.g. Rwanda)
- all indications of population show downward trends
- main threats to AWD are conflicts with humans and disease but:
 - these are made worse by habitat fragmentation because:
 - AWD require rather large areas to roam and
 - fragmentation of habitats expose them more to human activities and thus place them under more threat



Source: IUCN Red List;
<http://www.iucnredlist.org/apps/redlist/details/12436/rangemap>



Over-exploitation of Wild Species

- Growing human populations are increasing the pressures on biodiversity through unsustainable utilization
- Most commonly over-exploited species are fish and invertebrates, trees, bush-meat species and medicinal plant and animal species
- Most industrial fisheries are almost or fully exploited and it has been found that most marine ecosystems do not fully recover from severe depletion
- Non-timber forest products are also at risk



Olea africana

ICRAF and KEMRI: Tree Species with Anti-Malarial Properties are Threatened with Extinction.

Main causes – deforestation and over-exploitation



Zanthoxylum usambarense



Warburgia ugandensis

Source: World Agroforestry Centre, <http://www.icraf.com/newsroom/press-releases/antimalarial-trees-east-africa-threatened-extinction>



Pollution including from excess nutrients

- Arises from human activities such as agriculture and industry
- Excess availability of nutrients may lead some plants to outcompete others, changing plant species composition
- run-off from croplands, sewage and storm drainage threatens marine and coastal ecosystems

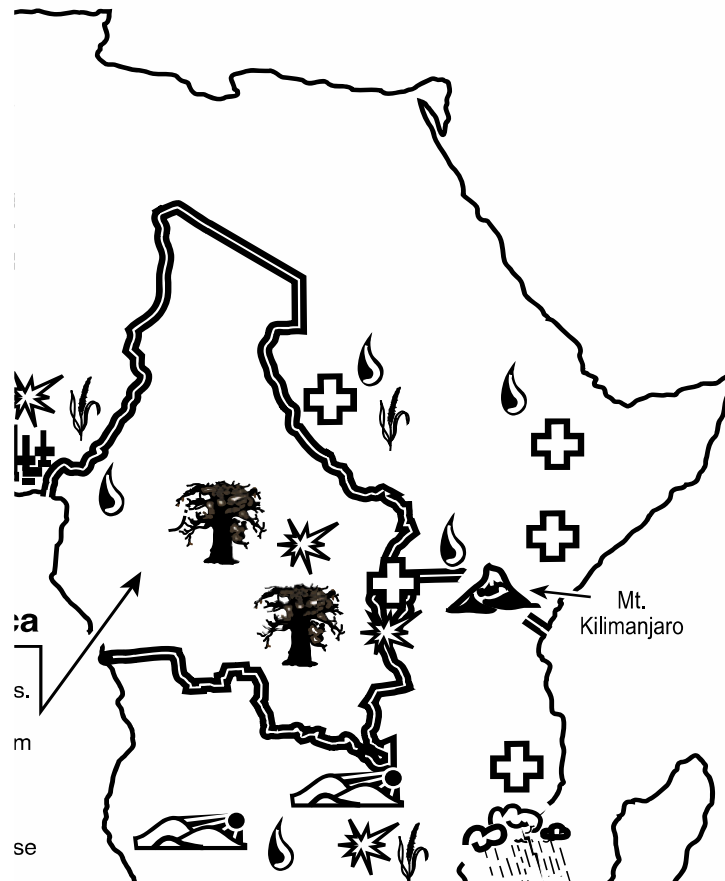


Climate Change

- Already having an impact on biodiversity with ecosystems already showing negative signs
- Predicted impacts in Africa:
 - 5000 species may be impacted; most will lose up to 90% of their geographic range
 - Critically endangered species are expected to be further threatened
 - Marine, coastal, lakes and wetlands will be negatively impacted
 - Grassland ecosystems will also be negatively impacted
 - Negative impacts on agricultural systems are also predicted (particularly marginal and rain-fed systems)
 - Particular impacts on the poor and vulnerable (health, food security, livelihoods)



Predicted Impacts of Climate Change in West and Central Africa the IPCC Fourth Assessment Report





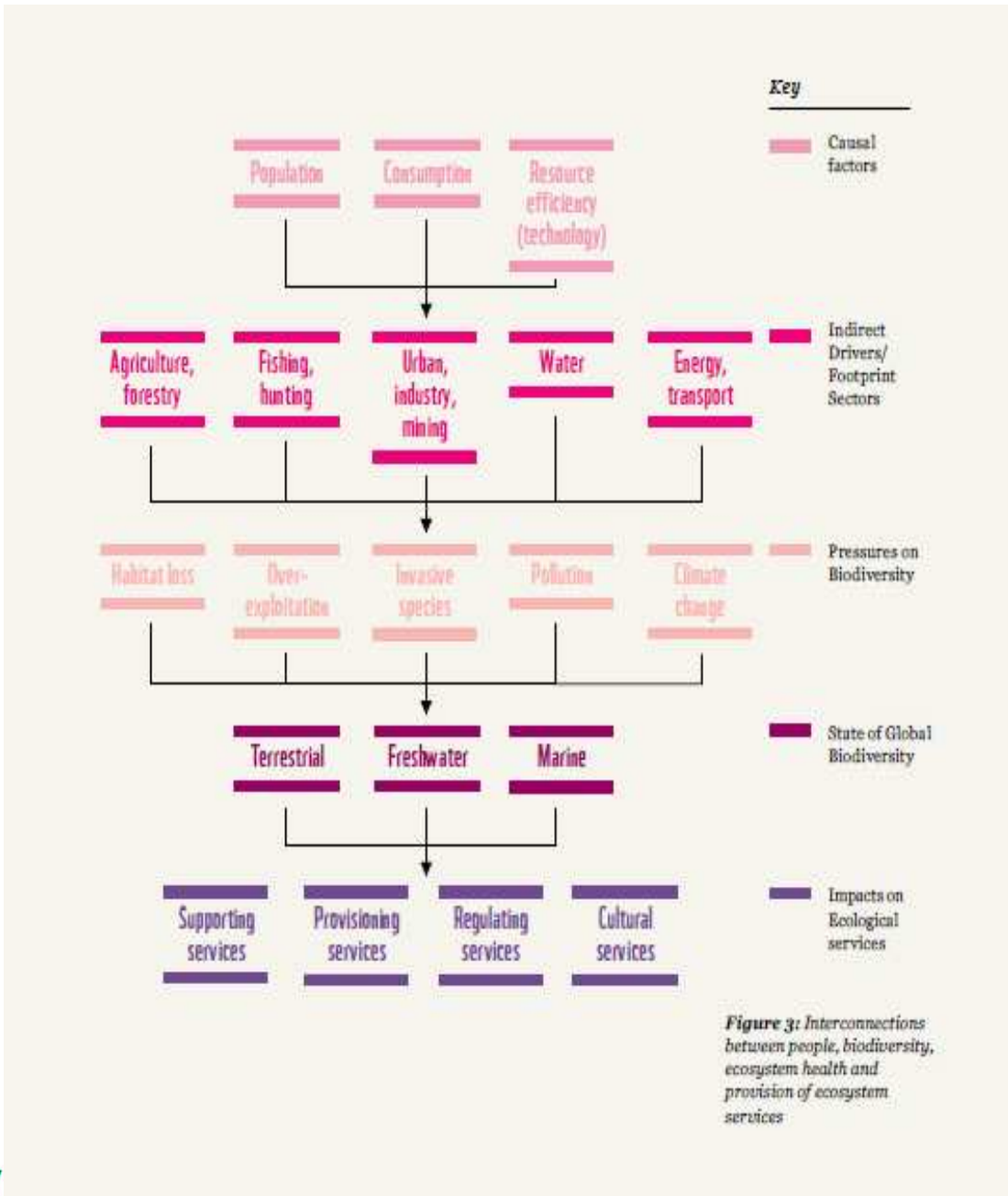
Invasive Alien Species

- Establishment and spread modifies species and habitats, and can have major impacts on biodiversity and sometimes economies
- Major cause of extinction, especially on islands and in freshwater habitats
- Awareness of the need to act is increasing but effective implementation is lacking
- Example: Water hyacinth in Lake Victoria: covers 90% of the surface area of the lake; major disturbance to local biodiversity; has cost local economy millions

To be discussed in more detail later



Aedes albopictus (Asian tiger mosquito), associated with dengue fever; first introduced through a shipment of tyres from Japan to South Africa in 1989. By 1999 these mosquitoes were found to be present in Douala, Cameroon's main commercial harbour

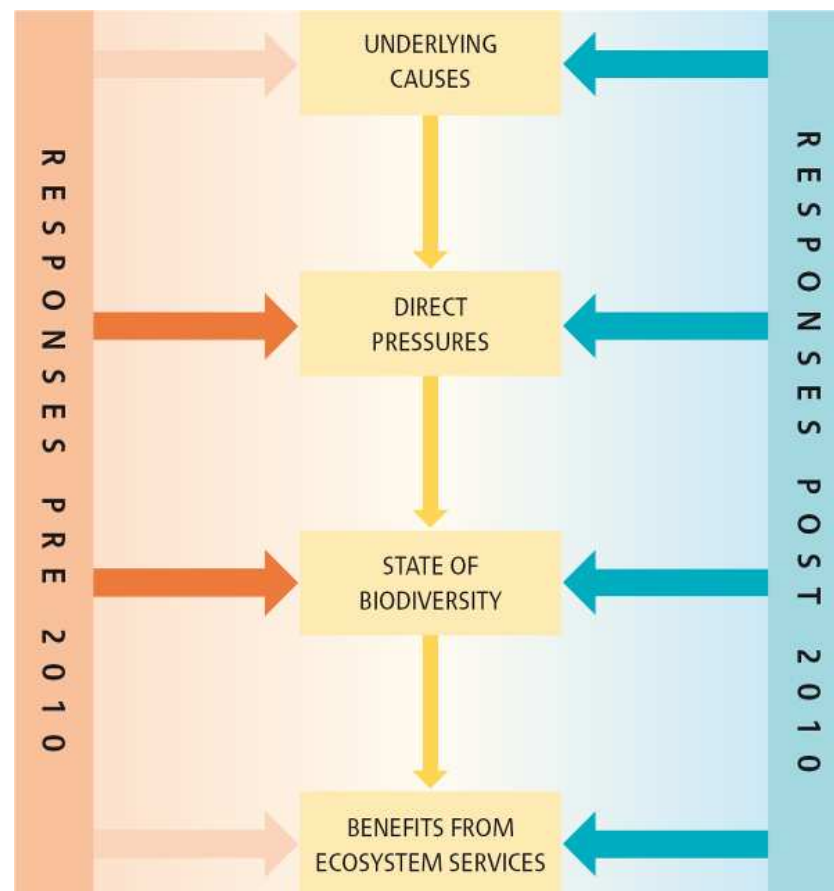


Impacts on biodiversity: from causal factors to impacts on ecosystem services



Global Response: Strategic Plan for Biodiversity 2011 - 2020

- Address the **underlying causes** of biodiversity loss (mainstreaming)
- Reduce the **direct pressures** and promote sustainable use
- **Directly safeguard** ecosystems, species and genetic diversity
- Enhance the **benefits** to all from biodiversity and ecosystem services
- **Enhance implementation** through participatory planning, knowledge management and capacity building





Thank you for your attention!

Secretariat of the Convention on Biological Diversity

413 Saint Jacques Street, Suite 800

Montreal, QC, H2Y 1N9, Canada

Tel: +1 514 288 2220

Fax: + 1 514 288 6588

Email: secretariat@cbd.int

www.cbd.int

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