

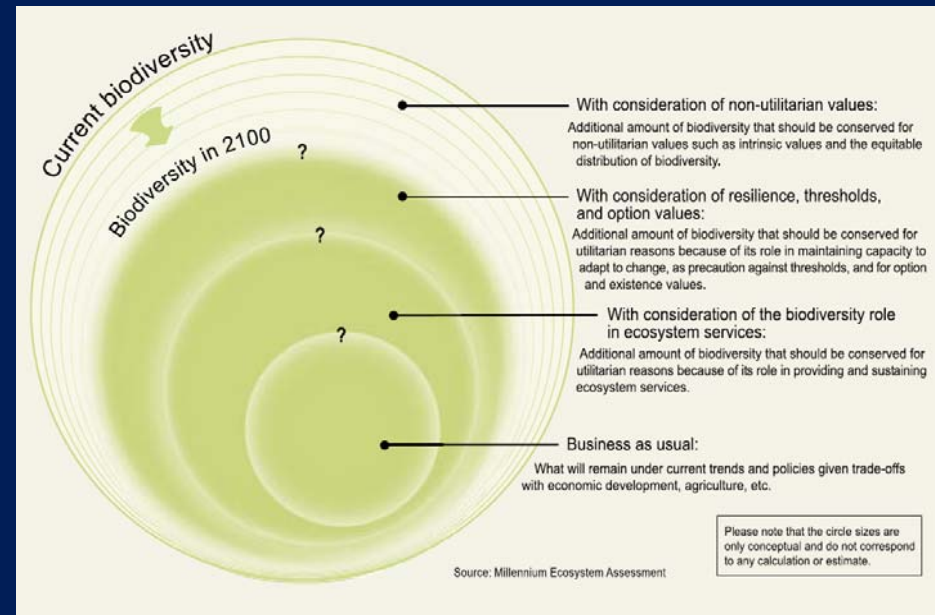
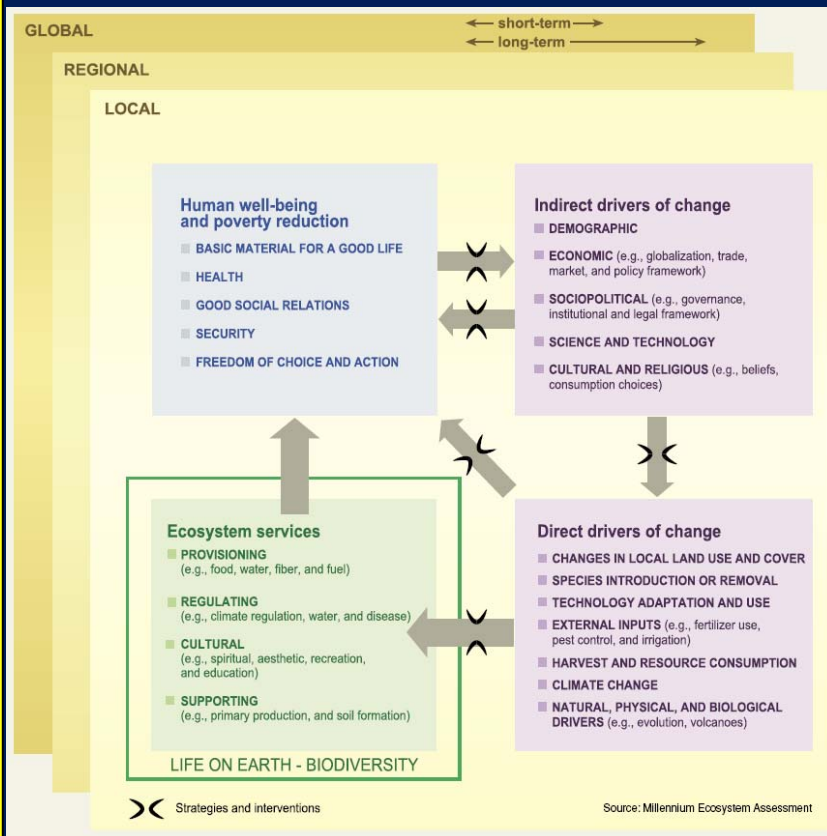
Science et Gouvernance
Comment limiter les atteintes à la
Biodiversité Marine ?

*Knowledge for Society
How to limit impacts on marine
biodiversity ?*

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Governance and the Millenium Ecosystem Assessment (2005).....



Management options & Priorities !!

- Biodiversity = Keystone for ecosystem services
- 60% ecosystem services altered (fisheries-freshwaters)
- A reminder...first deadline to stop the biodiversity loss = **2010 !**

How to sustain Ecosystem Services.....??

- Present situation :
 1. Higher alterations over the last 50 years than the whole human history
 2. Worsening for the next 50 years if no change
 3. More than 300 endangered species (Red list IUCN)
- Main vectors of deterioration :
 1. Alterations and loss of wild habitat
 2. Overexploitation of natural resources
 3. Introduction of exotic species (invasiveness)
 4. Global Changes

Improve knowledge to facilitate further decision-making process

- Two main priorities :
 1. Research :
 1. Functional biodiversity vs ecosystem services (functional groups, key species, ecosystem resilience...)
 2. Ecosystem approach to improve knowledge on interactions process

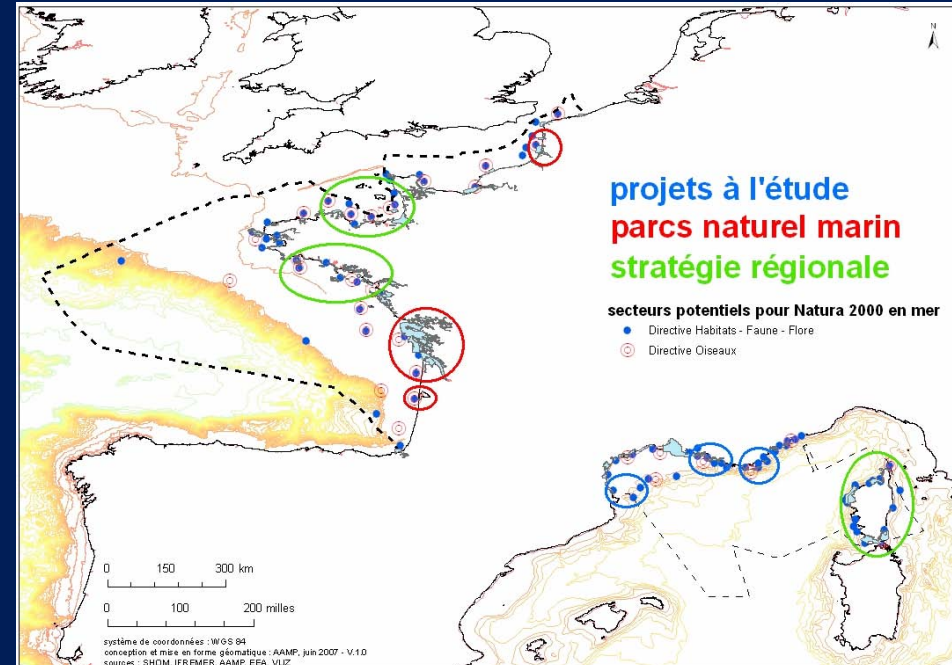
...however, lack of background information does not justify inaction (cf report 'Cost of inaction' 2007, EEB 2008)

1. Worldwide scientific expertise : new MEA + IMOSEB = IPBES (// IPCC)

How to sustain Ecosystem Services.....& reverse the trends of biodiversity loss ??

A Pro-active approach...

1. Fisheries & Aquaculture Sustainability (cf. CBD objectives 2010, FAO code)
2. MPAs management options (cf CBD)
3. Sediment & Ballast Waters' management (cf IMO convention 2004 – unenforced so far...)
4. Improve governance on cross-cutting issues : aquaculture regulation vs 'public health' vs 'environment health' - vectors of exotic species introduction
5. Marine Strategy Framework Directive (MSFD) 2008
6. Assess & incorporate Economy of Biodiversity in public policies and develop new markets (cf. CBD, EEB 2008)



French National Agency MPAs' – from 0.97% to 10% of marine areas under French jurisdiction

How to sustain Ecosystem Services.....& reverse the trends of biodiversity loss ??

Optimization efforts & where reported impacts - mitigations – offset

1. Reduction of fisheries bycatchs & optimization of biodiversity uses
2. Compensation Principle & management Schemes ('Net Gain & No Net Loss'!)
3. Ecological engineering (habitat rehab.)
4. Marine Biotechnologies:
 1. Environmental Protection
 2. Bioscreening
 3. Bioremediation & Biotoxification
 4. Biodegradable Polymers
 5. ...& biofuels (microalgae..)



Shrimp aquaculture in Madagascar



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