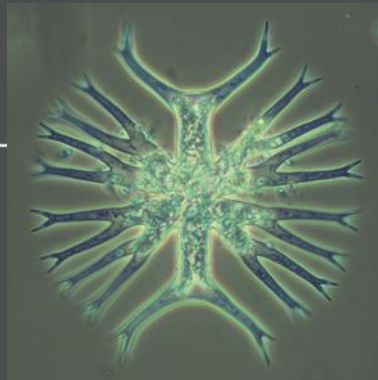


Scoping Workshop on Biodiversity and Ecosystem Services

Anne-Hélène Prieur-Richard

Belmont Forum, 21-22 Oct 2013

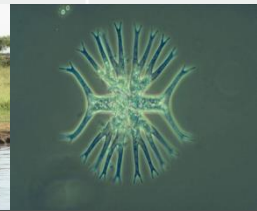


Goals

- Develop models & scenarios to predict future interactions between socio-economic dynamics, global environmental change, biodiversity and ecosystem services
- Support of decision making processes



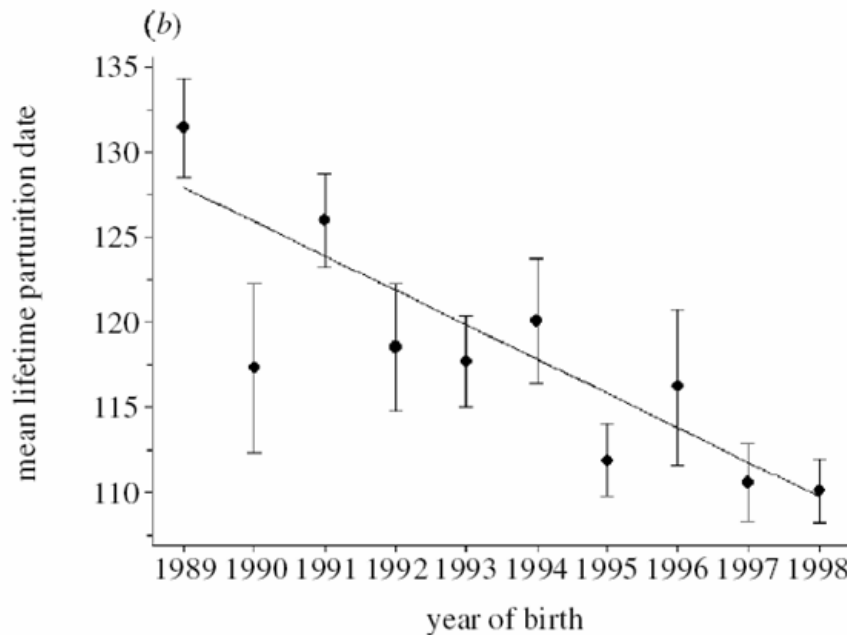
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Eco-Evolutionary framework for biodiversity change

- Predict species range shifts in response to GEC by integrating
 - Species capacity to adapt (migration, plasticity)
 - Species interactions (e.g. mutualism, predation) & their evolution



Yukon squirrel

Bradshaw & Holzapfel, 2007, PNAS

TRY

- To compile information about ecological traits of plant species at world scale

Biodiversity
Species richness

Earth system science
Few fixed model parameters



Plant traits



Functional diversity

- Redefinition of plant functional types
- Functional trait analysis
- **Development a new generation of vegetation models**

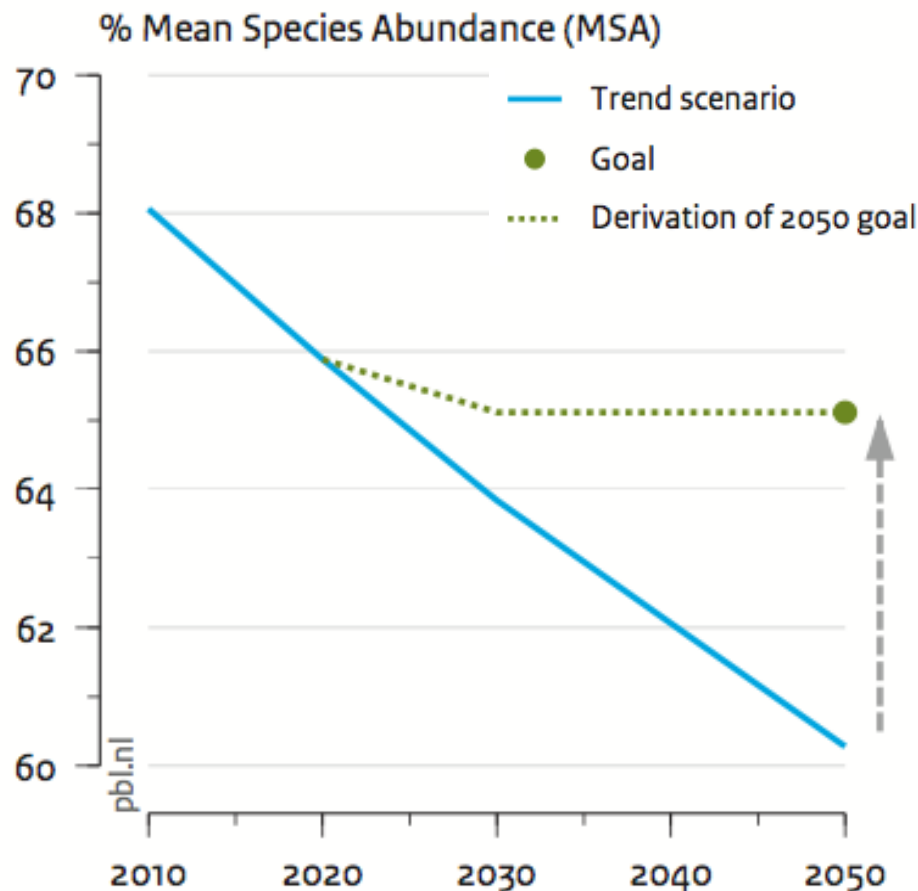
Coupling socio-economical & ecological models

- Mandate from the Convention on Biological Diversity to develop the modelling and scenario chapter of the Global Biodiversity Outlook 4
- Technical report on status, trends and futures of biodiversity
- New ways to explore alternative pathways for reaching agreed upon objectives (towards global sustainability)

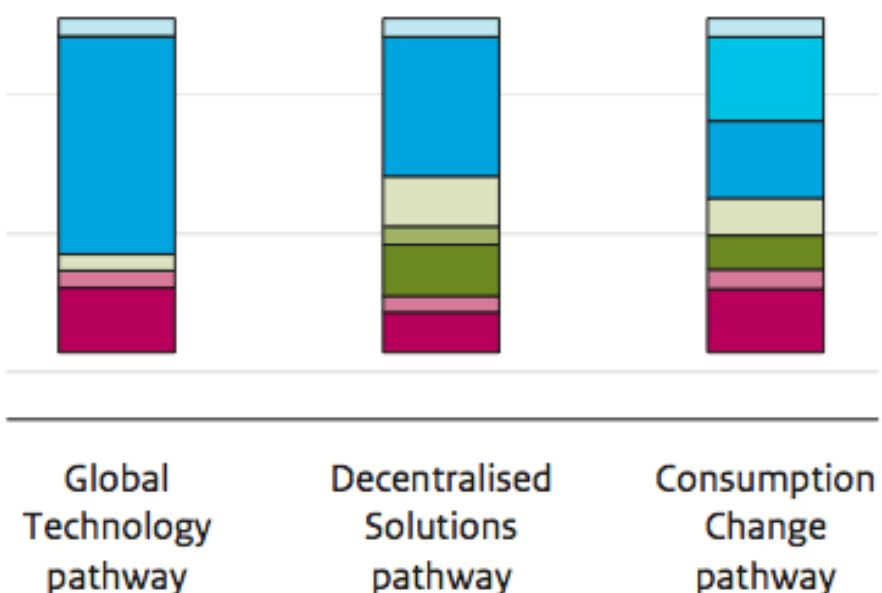


Global biodiversity and options to prevent biodiversity loss

Global biodiversity

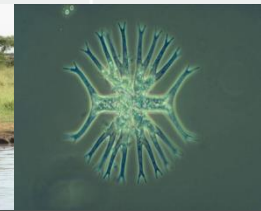


- Reduce nature fragmentation
- Reduce infrastructure expansion
- Reduce nitrogen emissions
- Mitigate climate change
- Restore abandoned agricultural lands
- Reduce consumption and waste
- Increase agricultural productivity
- Expand protected areas



Key knowledge gaps

- 1) Inclusion of adaptative capacity
- 2) Better representativeness of biodiversity: inclusion of more functional diversity
- 3) Coupling socio-economical and ecological models
- 4) Better understanding and evaluating uncertainty: inter-model & inter-dataset comparison (Harmbio)





Thank you !

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