



Managing the Natura 2000 network in the face of climate change

The EC Guidelines on Natura 2000 & Climate Change

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Very ambitious targets for climate change and biodiversity

- Limiting global climate change to 2°C (20:20:20 objective of achieving at least 20% emission reduction compared to 1990 levels and 20% of renewables in EU by 2020)
- EU Biodiversity Strategy (2011) - Halting the loss of biodiversity & ecosystem services in EU by 2020 and restoring them as far as possible
- 7th EU Environmental Action Programme recognises challenges and need for an integrated approach



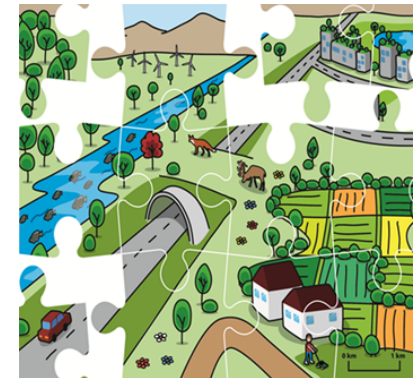
EU Adaptation Strategy (2013)

- **Promotes action by Member States to adopt comprehensive adaptation strategies**
- **Better informed decision-making** by addressing gaps in knowledge (Climate-Adapt <http://climate-adapt.eea.europa.eu/home>)
- **Promotes adaptation in key vulnerable sectors**

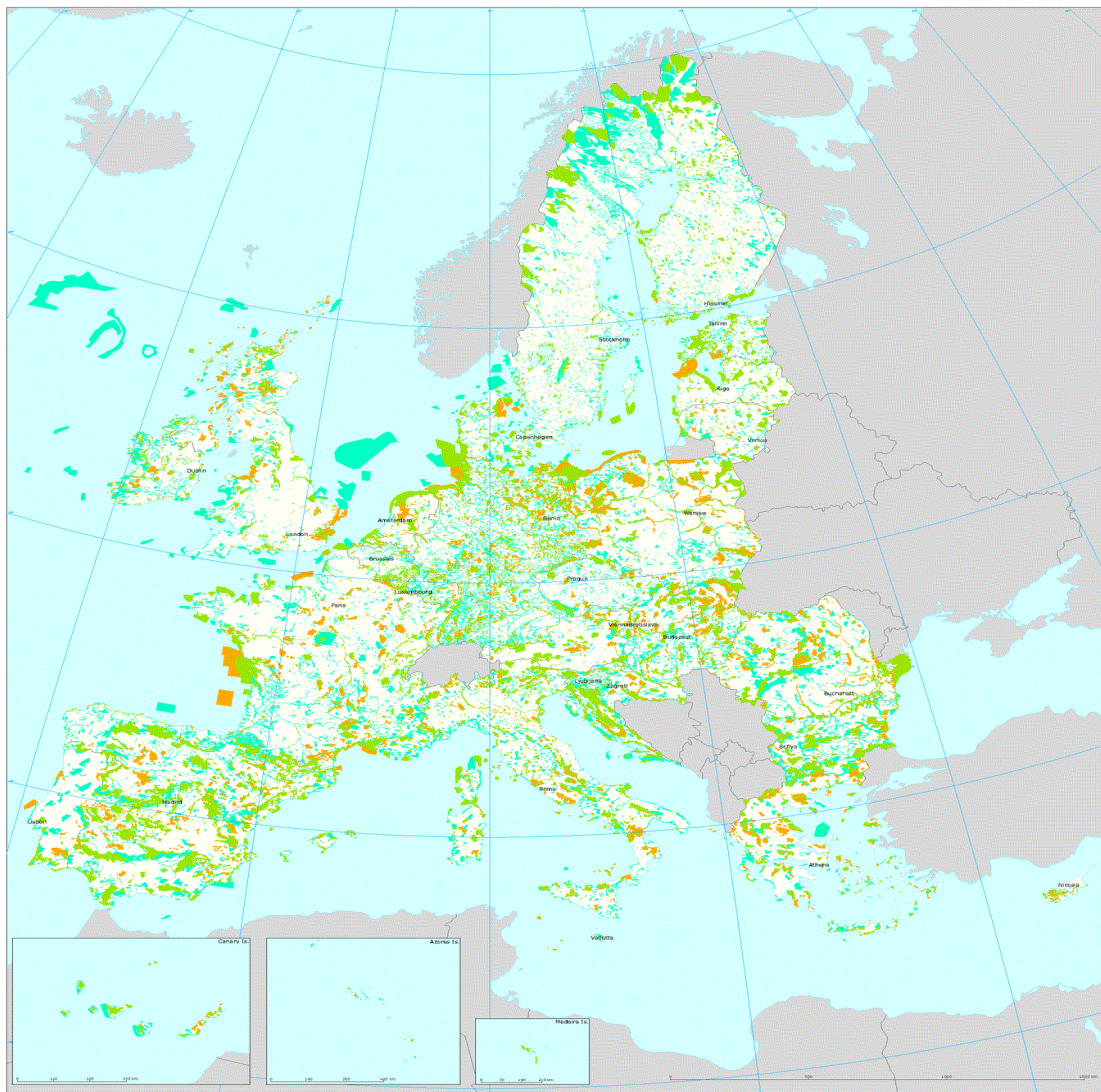


Communication on Green Infrastructure (GI) Enhancing Europe's Natural Capital (2013)

- A strategically planned and delivered network of natural and semi-natural areas with other environmental features designed and managed to deliver a wide range of ecosystem services.
- incorporates high quality green spaces in urban, peri-urban and rural areas, designed and managed as a multifunctional resource, inside protected (incl. Natura 2000) and outside protected areas.
- Provides opportunity to promote ecological connectivity (Article 10 Habitats Directive)



Natura 2000: Europe's areas of high biodiversity value



- 27 308 sites
- 1 039 332 km²
- 18.4 % EU land
- ~4 % EU seas
- Largest co-ordinated PA network
- Almost complete on land
- Some additional work for marine

NATURA 2000
Orange: Birds Directive sites (SPA)
Green: Habitats Directive sites pSCI, SCI, SAC
Yellow: Sites - or parts of sites - belonging to both Directives

European Environment Agency



European Commission

Source: 1. NATURA 2000 - DG ENV compiled from databases from the Member States, quarterly development maps of Europe (http://ec.europa.eu/nature/natura2000/index.htm) and DG ENV; 2. Projection: Lambert Azimuthal Equal Area.

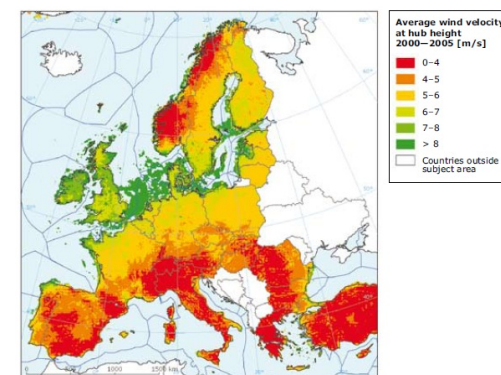
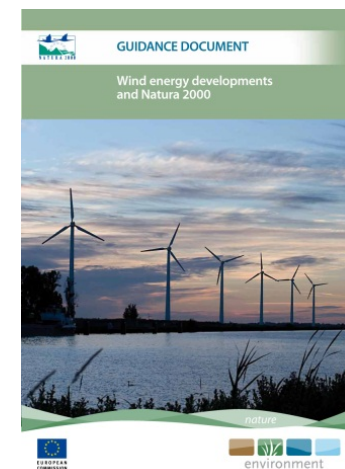
Priorities for management/restoration of Natura 2000

- *Designate SCIs as SACs (6 yr deadline overdue)*
- *Define Conservation Objectives*
- *Establish Conservation Measures*
- *Develop Management Plans, Legal, statutory or contractual arrangements*
- *Full stakeholder engagement*
- *New biogeographical Seminars to share experience on management/restoration*



Minimising negative effect of climate change mitigation measures on Natura 2000

- *No a priori prohibition on developments – judged on case by case basis*
- *Risks from poorly planned development (wind, hydro, tidal, biofuels, grid connection etc)*
- *EU guidelines on wind energy (hydro and grid connection in prep.)*
- *Key message is need for strategic planning over a broad geographical area*
- *Need good assessment procedures, tools and standards*
- *Measure significance of effects in the context of the sites conservation objectives*

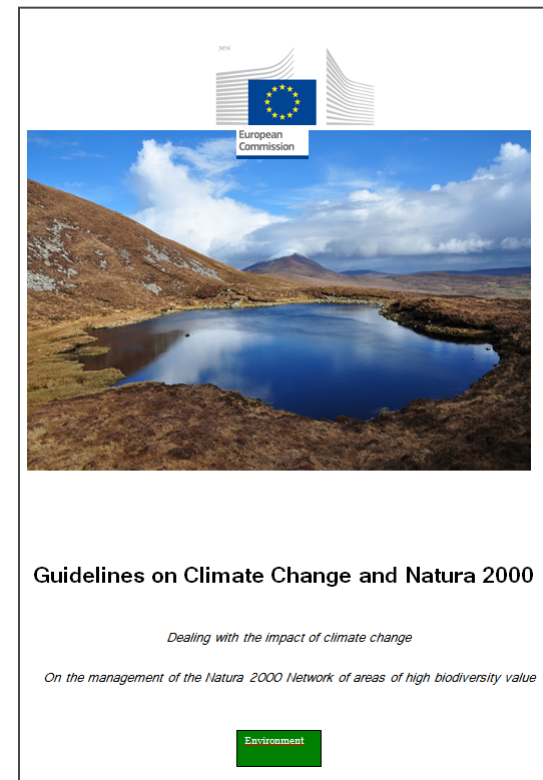


Source: EEA, 2006.



EU guidance on Natura 2000 and climate change

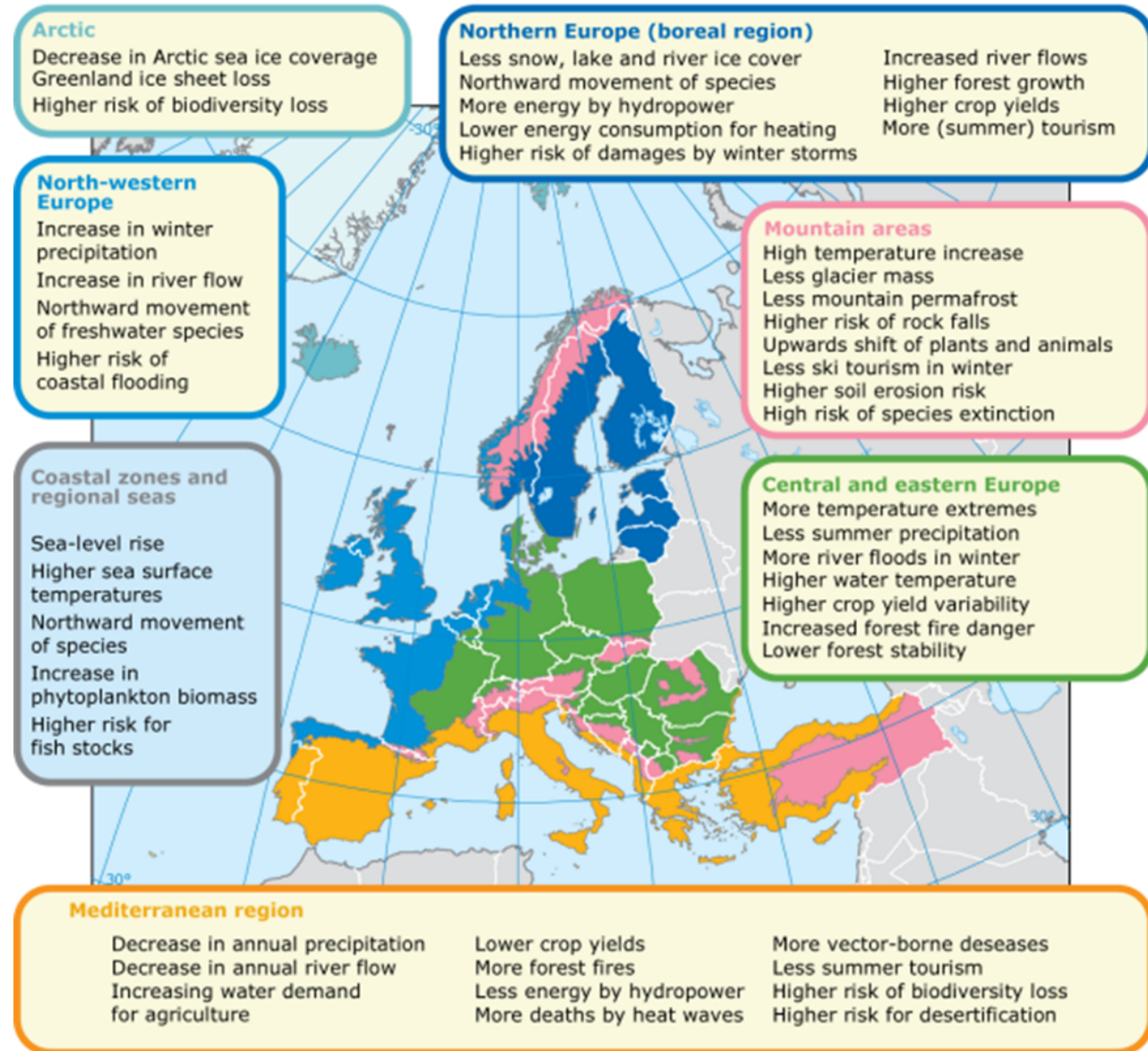
- *Primarily aimed at site managers and policy makers.*
- *Presents latest evidence of risk to species and habitats of EU interest*
- *Underline benefits in mitigating the impacts of climate change, reducing vulnerability and increasing resilience*
- *Provides practical advice on how to address climate change in management of Natura 2000 at site and network level*
- *Promotes good practice (case studies)*



Chapter 1: introducing climate change and Natura 2000

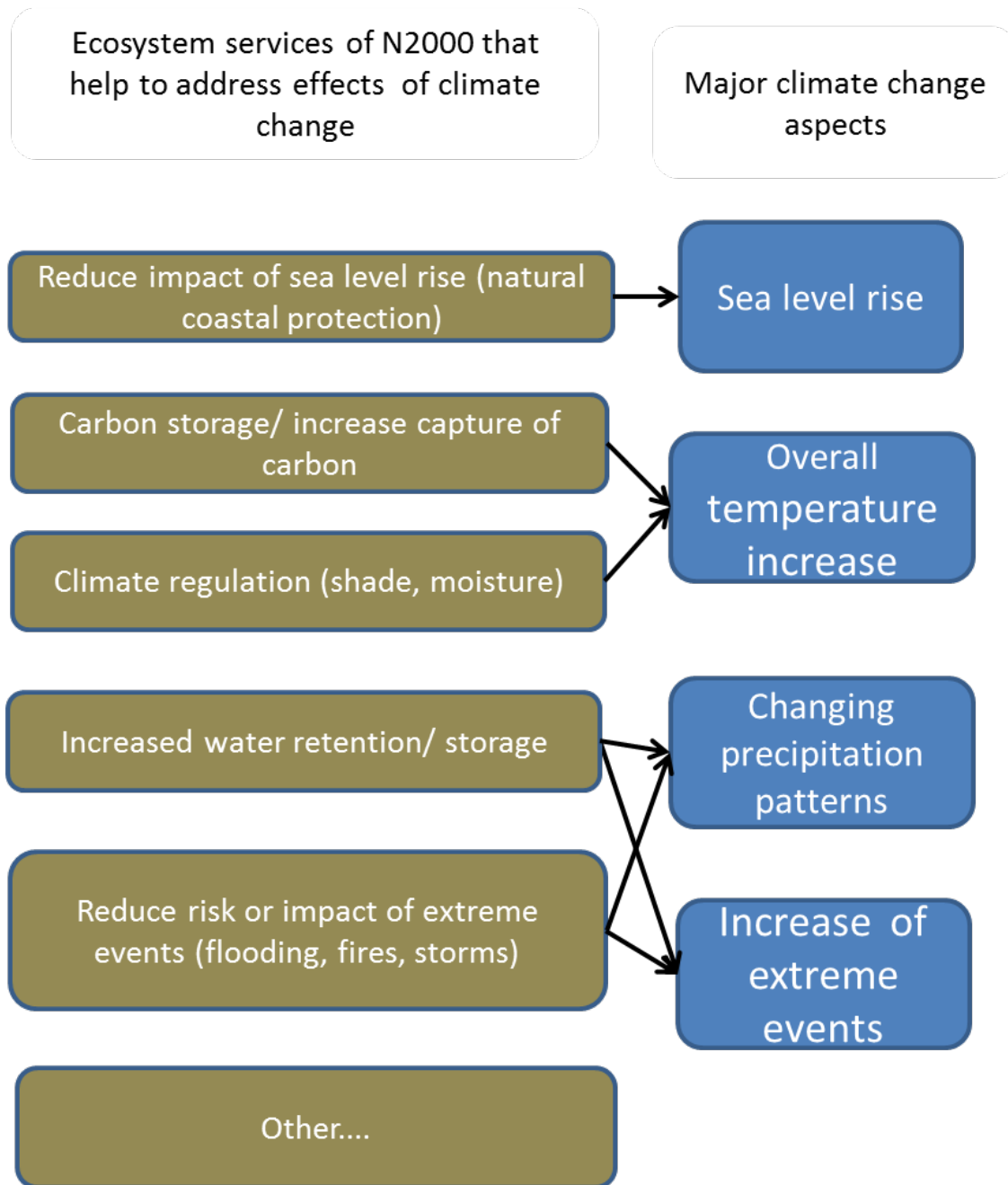
The EU is already facing *unavoidable impacts of climate change*

Impacts will affect the full EU territory, with regional differences

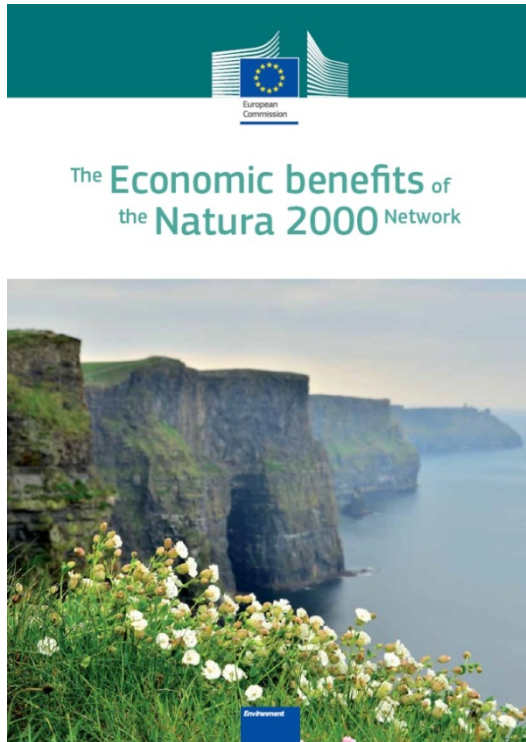


Chapter 2 Natura 2000 provides natural solutions

Managing Natura 2000 sites in ways that increase their mitigation or adaptation role, whilst at the same time delivering conservation objectives



Multiple benefits of investing in Natura 2000



- *Ecosystem services from Natura 2000 worth €200 to 300 billion/yr;*
- *Natura 2000 stores approx. 9.6 billion tonnes of carbon (equiv. 35 billion tonnes of CO₂) valued at between €607 billion and €1,130 billion;*
- *Estimated between 1.2 to 2.2 billion visitor days/yr to Natura 2000 - recreational benefits € 5 - € 9 billion/yr.*
- *Study on relationship between specific conservation measures and ecosystem services provided by Natura 2000 at local scale underlines need for involving environmental economists*

EU LIFE support for peatland restoration across Member States



Blanket bog UK



Raised bog NL



Aapa Mires FI



Raised Bog Belgium



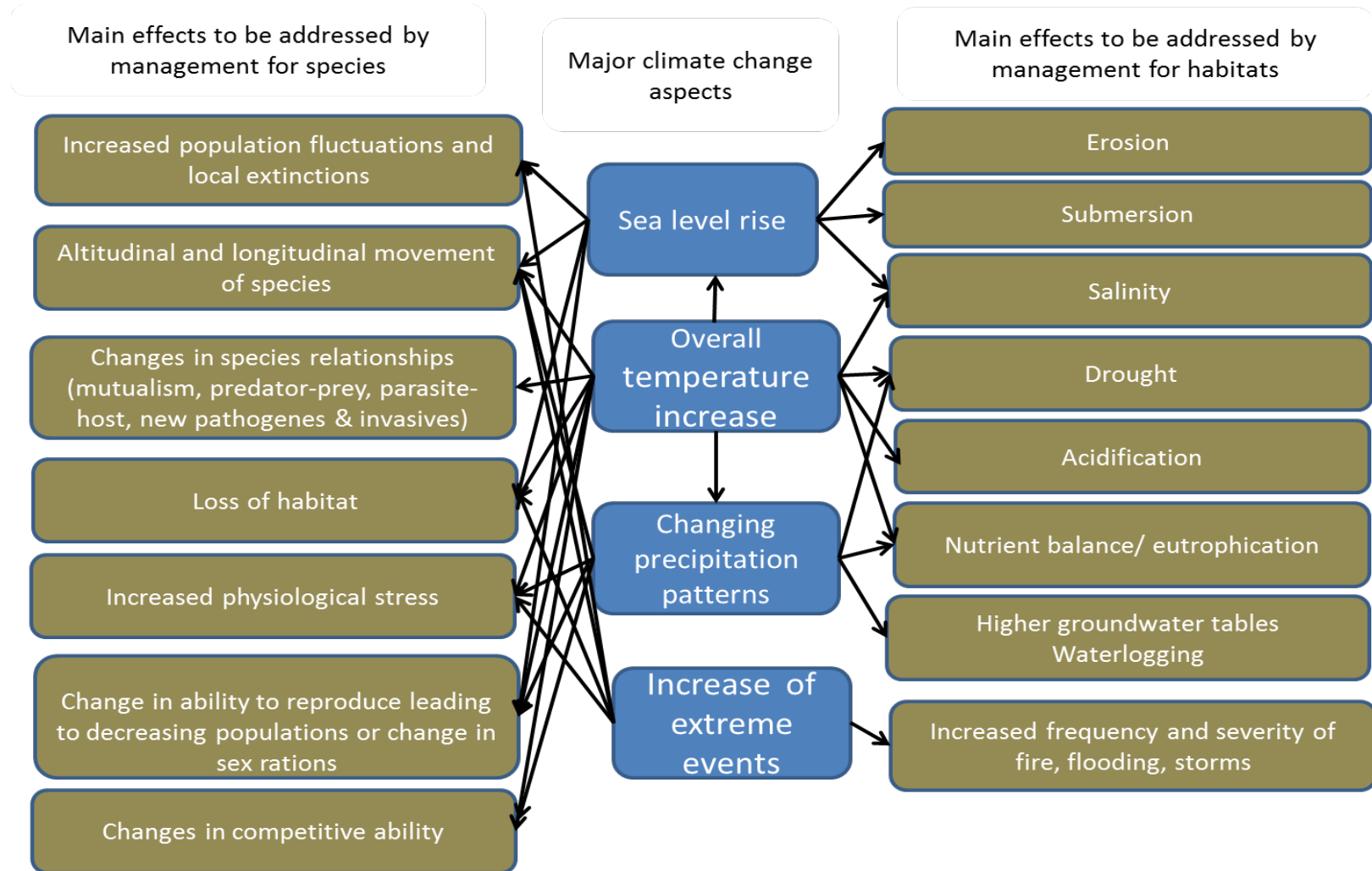
Alkaline fen IT



Raised Bogs Latvia



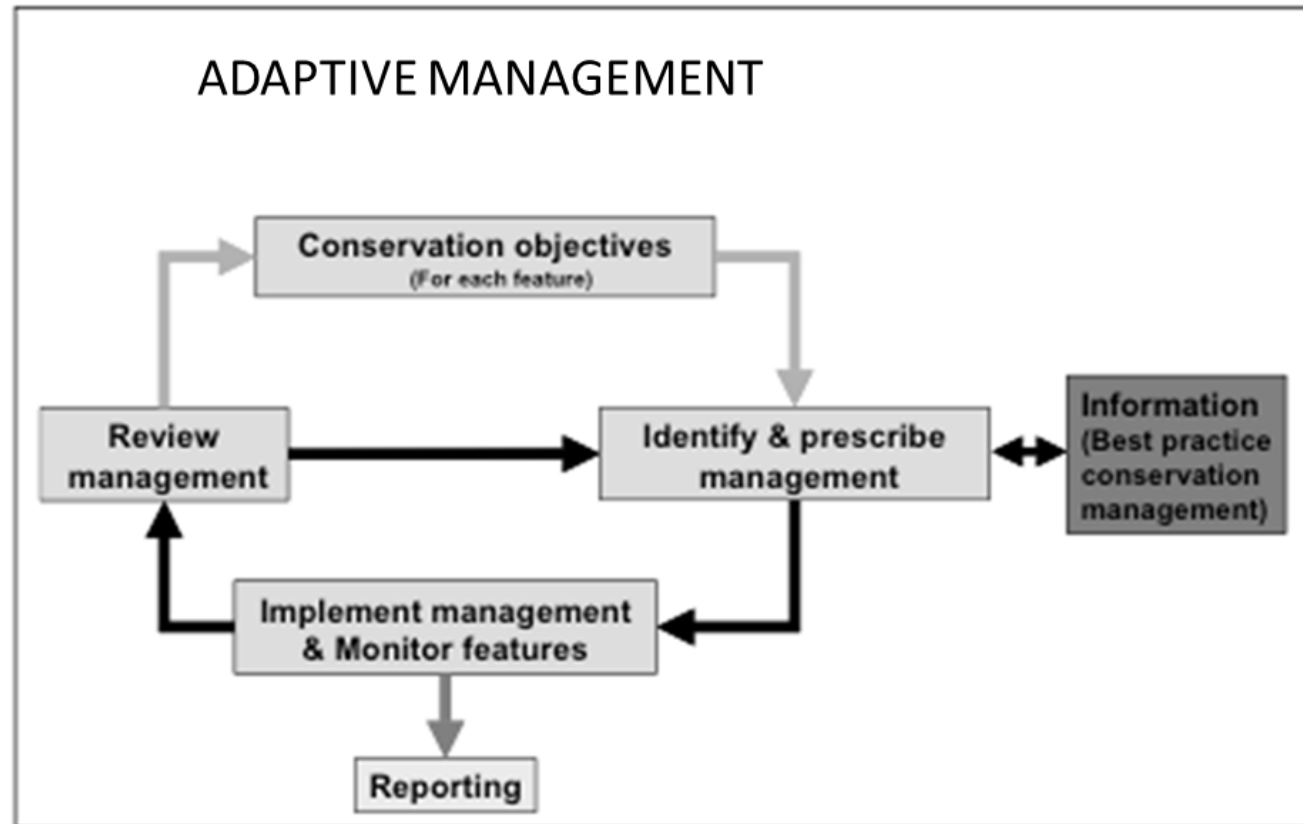
Chapter 3 describes risks to species and habitats



- *A supplement to Guide provides an indication of vulnerability and adaptation potential of different Natura 2000 species and habitats*

Chapter 4 introduces the concept of adaptive management

- *A structured, iterative process of optimal management decision-making in the face of uncertainty, based on systems monitoring*
- *Applicable at different scales (site, surrounding, biogeographical, and network levels)*



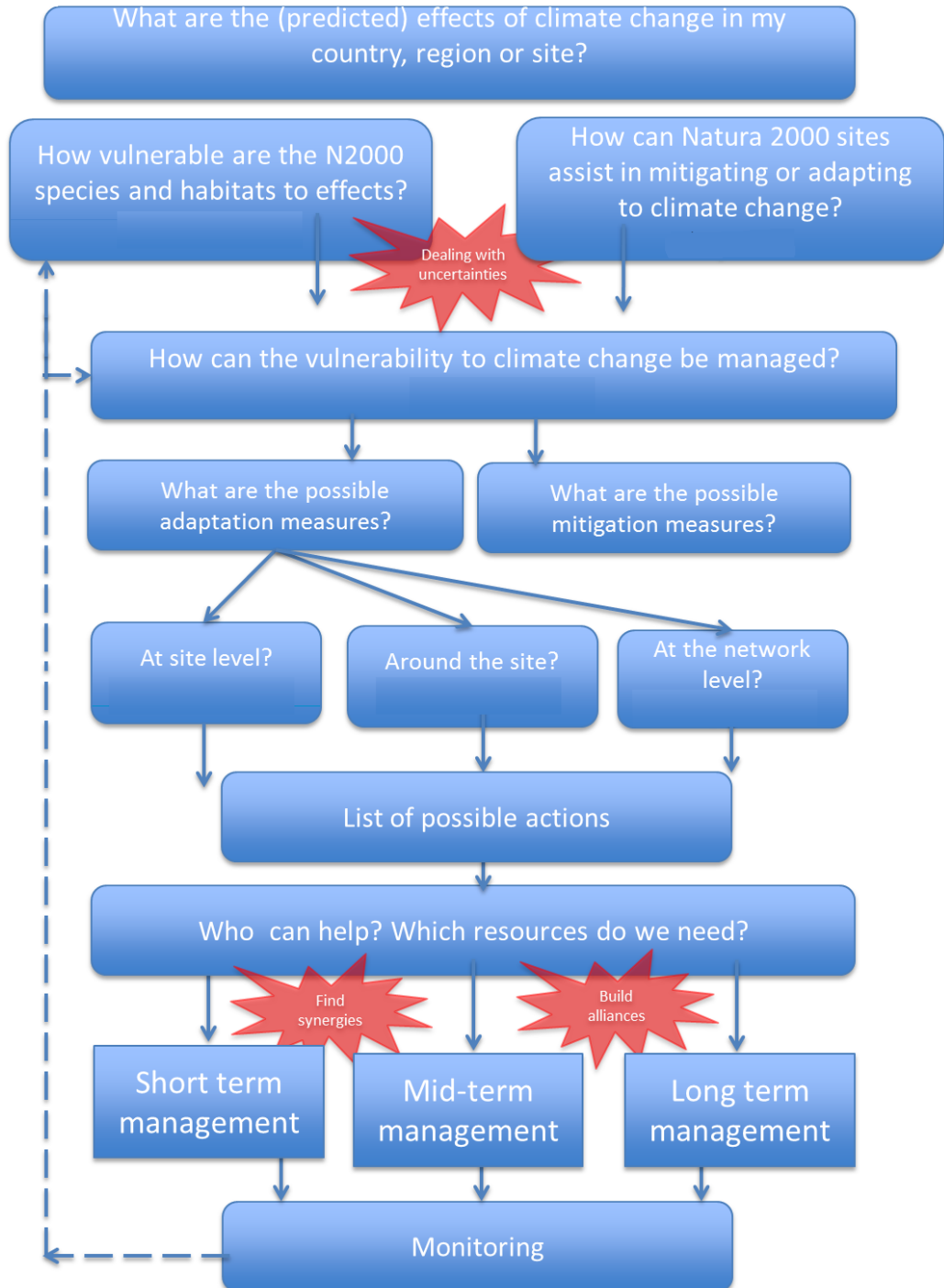
Chapter 5 examines adaptation measures for Natura 2000

- *6 categories of measures*
- *Can be applied on-site, in surroundings or at network level*
- *At greater scales need for landscape spatial perspective and development of green infrastructure*
- *Spatial planning an important policy tool*

Category	Type of measures
Reduction of existing pressures	Restoration measures
	Buffer zone development
	Increase reserve size
Increase ecosystem heterogeneity	Enhance structural gradients
	Allow natural processes
Ensure abiotic conditions	Water quality
	Water quantity
	Nutrient balance
Manage impact of extreme events	Fire management
	Flood management
	Storm management
Increase connectivity	Develop corridors/ stepping stones
	Wider landscape management
	Create new nature areas
	Spatial planning
	Review existing boundaries/ need to establish new sites
Other	Relocation
	Asses geographical distribution of protected area network
	Invasive species control

Chapter 6: Decision making framework

- *A tool to facilitate decision making*
- *A list of questions to be addressed in deciding which actions are required*



Chapter 7 advice & recommendations for site managers & policy makers

Site managers

- *Reduce existing pressures on sites*
- *Identify knowledge gaps*
- *Assess vulnerability of site features*
- *Develop adaptive management plans*
- *Seek experience from others*
- *Work with stakeholders in other sectors*
- *Ensure local participation*

Policy Makers

- *Collaborate (eg biogeographical process)*
- *Public private partnerships*
- *Integrate nature in relevant cross sectoral policies*
- *Embed Natura 2000 in GI*
- *Biodiversity Monitoring in non-environmental sectors*
- *Develop international / transboundary climate zones*
- *Ensure communication actions for locals/ stakeholders*

Some concluding thoughts



- *Natura 2000 sites are critical “space for nature”*
- *Core of EU’s “green infrastructure”, including strengthening ecological connectivity (Article 10 HD)*
- *Climate change risks but “dynamic nature” - losses & gains*
- *Reduce non-climate pressures & increase resilience to climate change*
- *Monitor to distinguish between natural & climate effects & management failures*
- *Natura 2000 provides natural solutions for mitigating and adapting to climate change*
- *EU funds provide opportunities to strengthen synergies in action for biodiversity and climate change*
- *EU guidance is tool for site managers/policy makers*





For more information, please consult:

http://ec.europa.eu/environment/nature/index_en.htm

<http://ec.europa.eu/environment>