Natural England: resilience, adaptation and nature-based solutions for climate change

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There is strong evidence that climate change is affecting UK biodiversity

- Species moving northwards
- Earlier spring events
- Changing populations, communities & habitats
- Interactions with other pressures e.g. drainage, fragmentation
- Extreme event impacts e.g. droughts, heatwaves
- Rising sea levels

Morecroft & Speakman (2015; eds.) *UK Biodiversity Climate Change Impacts Report Card*
Refugia

Gentiana verna, Upper Teesdale

Suggitt et al., 2014 NECR 162
Direct management of (micro) climate

Keeping Rivers Cool
Getting ready for climate change by creating riparian shade

V.1
23/08/12
Resilience

- Bigger, better, more, joined
- Restoring ecosystem processes
- Maximise heterogeneity in microclimate / soils
- Specific adaptations e.g. planting drought tolerant species.
- Reducing other pressures

Accommodating Change

- Adjusting objectives to changing distributions
- Managed realignment
- Flexibility in operations
- Welcoming ‘near native’ colonisations
- Increased landscape permeability to allow species to move
- Translocation
Ecosystem based adaptation

• Natural flood risk management
• Drought resilience
• Urban cooling
• Keeping rivers cool
Mitigation in the Natural Environment

Peatland restoration

Woodland creation

Saltmarsh restoration

Better soil management
Designated sites
Assessing the contribution of agri-environment schemes to climate change adaptation

Natural England
November 2016
Draft report.
Climate change adaptation is part of NNR management planning.
Beyond natural science......
How do we ensure synergies between adaptation and mitigation for people and nature?

**CLIMATE CHANGE**

Measuring the success of climate change adaptation and mitigation in terrestrial ecosystems

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Morecroft et al. Science 2019
How do we face up to inevitable change?