

# **Adaptation Indicators: a potential approach**

**Caro Cowan**

ENPAA-Natural England Workshop Dec 2009

# Outline



- The challenge of measuring adaptation
- Natural England's indicator work
  - Aims and objectives
  - Framework
  - Method
  - Testing the indicators
- The potential indicators

# The challenge of measuring adaptation

How do you measure:

- An avoided event
- At some unspecified point in the future
- Against no fixed baseline



## So why have indicators

- Monitoring and evaluation a key part of adaptive management
- Need to understand what works and what doesn't – how do we measure that?
- Need to demonstrate value for money in adaptation
- Government requires indicators
- Our own corporate reporting processes require indicators against which to report
- Helps ground actions in reality – know we are doing things that are measurable and realistic



## Natural England's indicators work

- Corporate plan commitment
- To inform Defra's adaptation indicators work
- Measure delivery and success of our own programme of work

### Project aims:

- Identify a package of outcome indicators
- Use existing indicators and/or data
- Focus on resilience rather than adaptation
- Policy focused rather than delivery (but preferably can inform both)

# Method

- Combination of literature review and workshops with technical experts
- Two workshops

First workshop to determine:

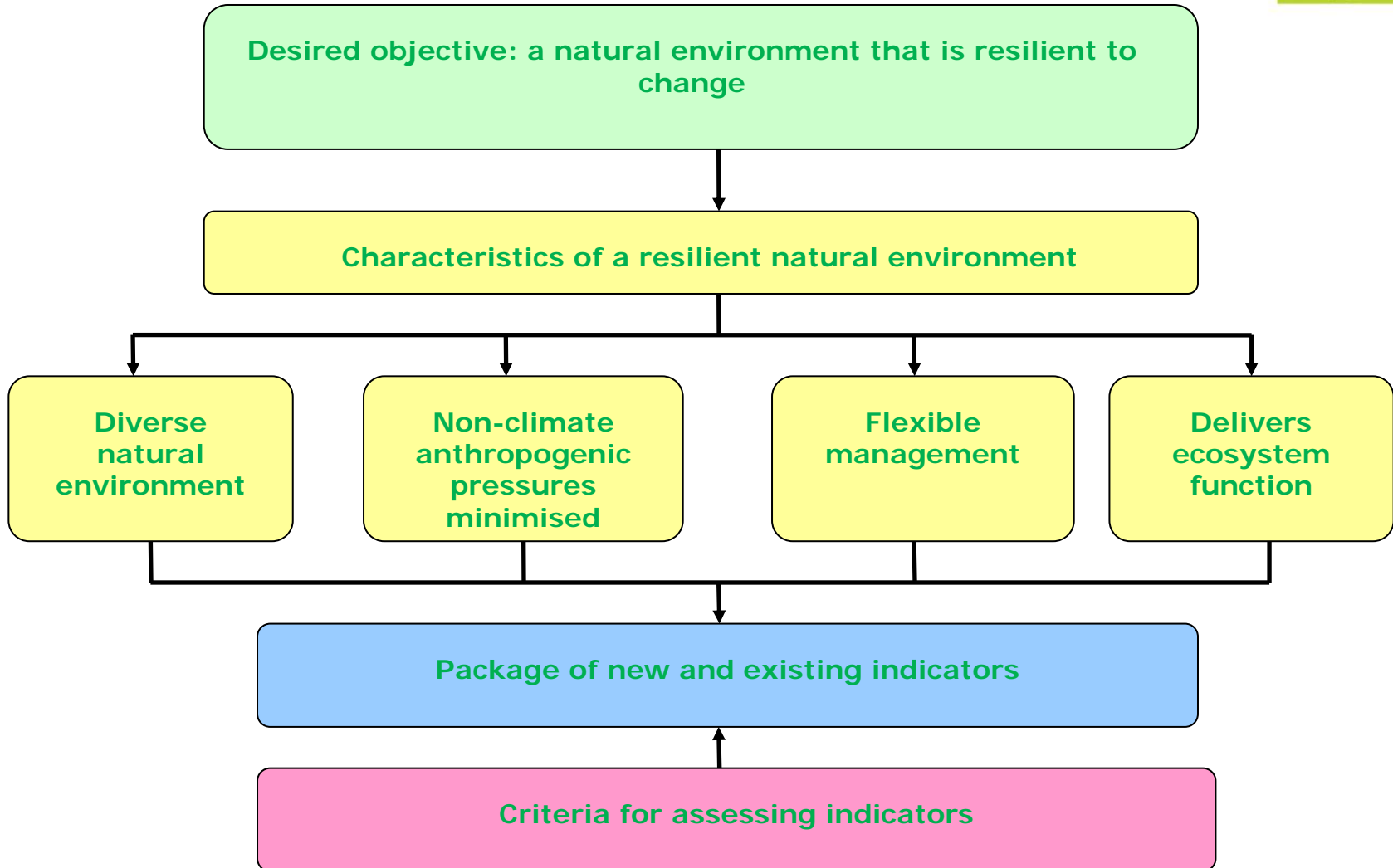
- The aim of adaptation in the natural environment
- Why Natural England needs indicators
- What Natural England wants to measure
- How Natural England should approach identifying indicators
- Second workshop to:
  - Refine the framework for identifying indicators
  - Comment on proposed indicators
  - Comment on proposed assessment criteria

# Key issues



- Need a mix of process and outcome indicators
  - Adaptation is best viewed as a process
  - Risk that process indicators alone will only measure the planning of adaptation
- Desired outcome - a natural environment that is resilient to change
  - Resilience – “the ability of a social or ecological system to absorb disturbances while retaining the same basic structure and ways of functioning, the capacity for self-organisation, and the capacity to adapt to stress and change” (IPCC 2007).
- Characteristics of a resilient natural environment can be identified and measured
- At this stage, Natural England should look at existing indicators

# Framework for identifying indicators



# Objectives and outputs



- **Characteristics of a resilient natural environment**
  - Diverse
  - Non-climate anthropogenic pressures minimised
  - Flexible management
  - Delivers ecosystem services
- **Criteria for assessing indicators**
  - Does the indicator report progress towards the agreed objective over time?
  - Is the indicator consistent and comparable over time?
  - Is the indicator measurable?
  - Is the indicator easily understood?
  - Does what is being measured contribute to sustainable development?
- **Other useful considerations when assessing indicators**
  - Does the indicator measure something which Natural England can influence directly?
  - How does what the indicator is measuring interact with other sectors?
  - What is the shelf-life of the indicator and can it be modified?

# Short-list of indicators



- Extent of semi-natural habitats
- Landcover dominance and plant biodiversity
- Bird population indices
- Coastal habitat creation
- Good ecological status of WFD water bodies
- Abstraction from surface and groundwater
- Air quality
- Nitrogen deposition
- Ecosystem fragmentation
- Area of land under conservation agreements
- Progress in assessing and planning for climate change
- Soil organic matter content
- Area of functioning floodplain
- Peat soils
- Area of green infrastructure within urban areas

# Challenges



- The gaps: Landscape, access, engagement
- Treasury only ever wants 'a single number'
- Framing the package to tell a story
- Linking policy to delivery
- Attribution of changes to climate
- Understandings of resilience