

Why do we need resilient trees and how can we manage them?

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What do trees do for us?

UK Value of Plants



Summary of the £15.7billion annual value that our plants provide to the UK

Natural Capital – the ‘thing’ to protect

What do our woods do for us?

- Carbon sequestration
- Carbon storage
- Soil stabilisation
- Rainfall interception & Slowing the flow
- Air quality & Windbreak
- Biodiversity (species level or general?)
- Recreational access
- Timber
- Sound screen/deadening
- Landscape Character

Why do we need to think
about resilience?



Some of the challenges



England's woodlands and forests have **developed in a stable and predictable climate.**



These changes are predicted to be **more severe** in the east and south.



For the past 8,500 years, the **English Channel** has acted as a **natural barrier** to species migration.



With the current projections⁴, global warming is projected to **increase by a further degree** within the next two decades. However, global temperatures could **rise to 4°C** above pre-industrial levels by the end of the century, and summer maximum temperatures could **rise by up to 10°C** in parts of England.



Winters are predicted to become **wetter, and summers drier**, with more **frequent and severe** periods of summer drought and intense rainfall events.



A growing range of threats

Increasing severity and frequency

Compound effects



What is resilience?

Topics relating to forest resilience



- Soil & site assessment
- Climate adaptation
- Cultivation & ground preparation
- Design
- Tree species selection
- Tree species mixtures
- Stand structure
- Genetics & tree breeding
- Silvicultural systems
- Methods of regeneration (planting, NR, NC)
- Forest health and pests
- Invasive species assessment
- Deer & grey squirrel management
- Managing wildfire risk

Getting more specific when discussing resilience

Resilience Implementation Framework

- Define the woodland system that you are making more resilient?
- Identify threats – What disturbances might impact the system or is the woodland susceptible to?
- Acceptable change – How far can it be modified?
- Management actions – What adaptation measures will support resilience?
- Monitor and learn – Track changes and inform management

What can go wrong?



Ask yourself

- What makes this woodland special?
- What do you want to deliver/maintain?
- Precisely, what foreseeably threatens this?
- How will I achieve resistance, recovery, or adaptation?
- **Specific to my woodland**



Response: Managing resilient woodland

- Start from the Aims
 - Sustainable, Resilient, Attractive? What am I trying to achieve?
- Then the Constraints
 - Existing habitats, hydrology, archaeology, stakeholders
- Then the Threats
 - Wind, drought, pest and disease
- Then the Objectives
 - Financial planning, support a rare species, provide access for people
- Then review the layout and woodland structure
 - Access routes, wayleaves, riparian zones, habitat connectivity,
- Then, and only then, choose the species

Response: Managing resilient woodland

- Understand Soil
- Assess Climate (rainfall, windspeed, temperature, etc)
- Constraints (pests & disease, acidification, etc)

- Future Climate projections
- Management objectives

- Availability of trees
- Grant Supported
- Compatibility in Mixture



Response: Managing resilient woodland

- What will grow here now and in the future?



Longlist

- What trees can deliver my management objectives and thrive on site?



Shortlist

- What trees are available?
- What trees grow together?
- Can I manage them to deliver my objectives?



Finalists

What does it look like?



Approaches to management

- Proper site assessment is key
- Good planning is vital
- Harvesting - part of woodland development
- Assess threats and protect
- Monitoring - what were my aims?
- Flexibility - adaptation



Don't just plant it and leave it



Management is key

Understand the threat

Plan a response that supports your woodland aims

Use the tools available to support decision-making

Have a management plan and implement it

Monitor and adapt



Look after it

Forestry Commission
England

Woodland Management Plan

To be completed by the plan author:

Woodland or Property name			
Woodland Management Plan case reference			
The landowner agrees this plan as a statement of intent for the woodland	Yes / No		
Plan author name			

For FC Use only:

Plan Period (dd/mm/yyyy - Ten years)	Approval Date:	Approved until:	
Five Year Review Date:			

Revision No.	Date	Status (draft/final)	Reason for Revision

Template user supports
The functionality in this version of the management plan template has been discontinued to ensure compatibility with myForest and management planning

myForest online tools and resources for woodland management

SYLVA FOUNDATION

Woodland Manager | Directory | Woodland Star Rating | more

Management Tools
Free web tools to help assess, record and manage woodland resources for owners, managers, and educators.

your access

- Retain focus on long term objectives
- Identify threats, susceptibilities for now and future
- Prioritise value and potential
- Make plans with the best evidence available but take positive action now.
- Include contingency plans for the highest risks.
- Monitor the plan and review.

Health and Safety

Understand your role

Employ competent people

Tree safety

Operational Safety

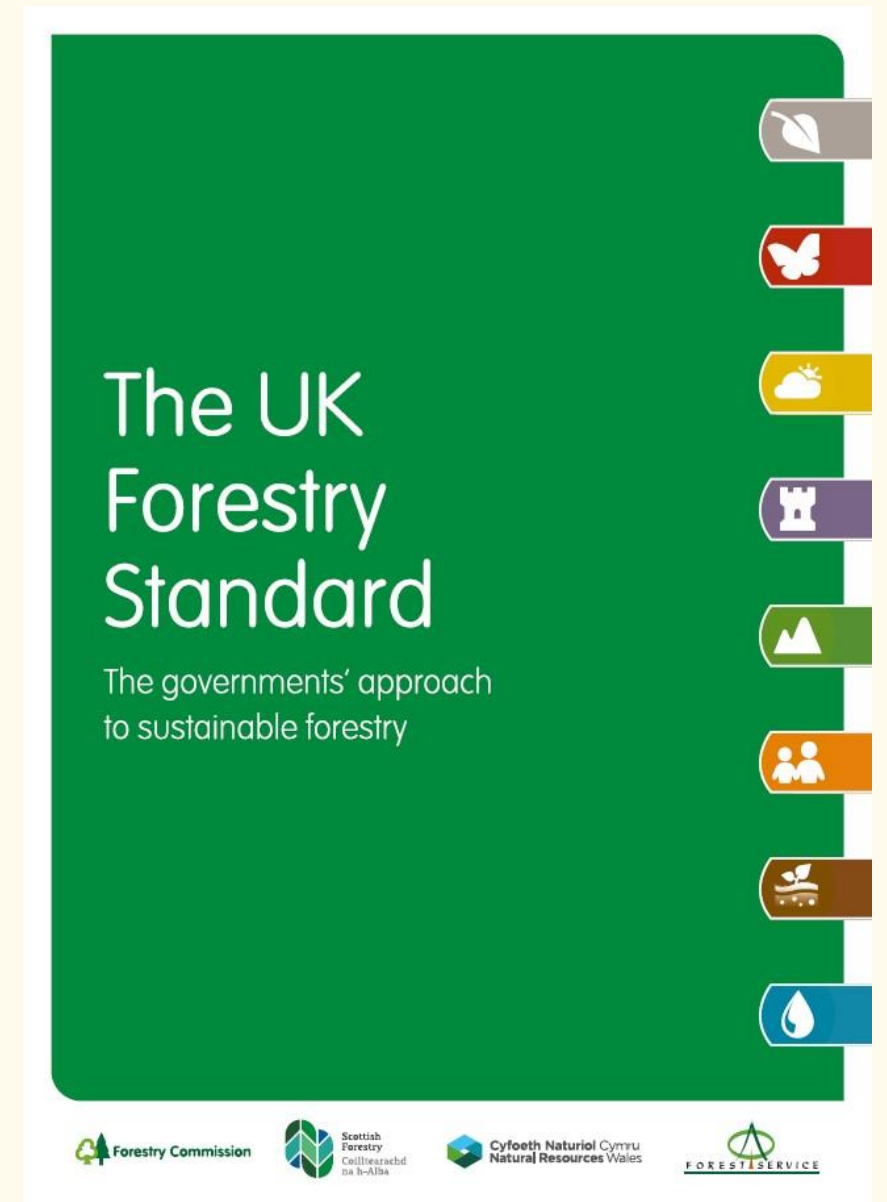
Planning and communication

Tell the story – why is this work good news?



The Forestry Commission

- Regulatory role
- UKFS and relevant legislation - compliance
- Support for plans and grants
- Advice on best practise and silvicultural options
- **Shared goal: resilient woods that are deliver your aims and support society's needs**



Because we
all need
resilient trees
and
woodlands

