STAKEHOLDER PERSPECTIVE:

Can we model where to plant Government’s woodland creation aspirations?

Mark Broadmeadow
Policy supporting woodland creation

“Our indicative pathway could involve planting up to 130,000 hectares [by 2032] of new woodland…..”

“We will unlock private finance to invest in forestry by establishing forestry investment zones to offer investors streamlined decision making and more certainty, within shorter timelines.”

“In determining our approach to meeting the aspiration of 12% overall tree cover by 2060…..”

“We want our continuing promotion of large scale woodland creation to give investors the confidence to renew and expand wood-processing capacity.”

“We will appoint a national Tree Champion to...... and make sure that the right trees, in terms of biosecurity, value for money, air quality impact and biodiversity among other criteria, are planted in the right places, in line with the UK Forestry Standard.”
Net-zero

• UK afforestation ~30,000 ha/yr (10,000 ha/yr in England).
  • No other ‘mature technologies’.
• Carbon capture and storage (CCS) in industry, with bioenergy (for GHG removal from the atmosphere), and very likely for hydrogen and electricity production. CCS is a necessity not an option. The scenarios involve aggregate annual capture and storage of 75-175 MtCO₂ in 2050…..
• Domestic biomass supply - ~165 TWh ≈ 30 million ODT timber.

Now in legislation
Expand the resource to enhance its resilience
Asks from 25YEP

- ‘Natural capital’
  - Soil protection
  - Water protection
  - Flood protection
  - Air quality
- Habitat for wildlife
- Habitat for humans
- Carbon
- Timber, fibre and energy

3rd July 2019 Challenges in Landscape Decision-making
Future timber markets?

Challenges in Landscape Decision-making

3rd July 2019
Mapping where not to plant
Low Risk woodland creation

Low Risk excludes ‘Sensitive areas’ [shown in grey]
- European sites (under the Habitats and Species regs)
- Areas of Outstanding Natural Beauty
- Local Nature Reserve (from local authorities)
- National Nature Reserves
- National Parks
- Ramsar sites
- Scheduled Monuments
- Sites of Special Scientific Interest
- The Broads
- World Heritage Sites

Low Risk also excludes;
- RSPB Important Bird Areas (IBA)
- Acid Vulnerable Catchments
- Common land
- Higher Level Stewardship (HLS) agreements
- Best / Most versatile agricultural land (Classes 1-3a)
- Priority habitat (from the Priority Habitat Inventory)
- Registered battlefields
- Registered parks and gardens
- Deep peat

- 3,486,000 ha
Low risk map for woodland creation

https://www.forestergis.com/Apps/MapBrowser/
Developed primarily to identify *sensitivity* to large scale woodland creation

Does not indicate green light within low sensitivity areas or red light outside

May not apply to native woodland

National maps often do not capture small scale or local sensitivities

Site specific assessment and good woodland creation design plan always needed
• Well wooded landscapes generally absorb more woodland with ease

• Woodland creation will have more impact on ‘Open Landscapes’ and ‘Big Skies’

• Read the relevant NCA profile and any Local Character Assessment
Constraints: Priority Habitat

- Priority Habitat Inventory is not comprehensive, misses many small areas and is often outdated
- Priority habitat is best avoided
- Woodland can be planted on existing open priority habitat:
  - If degraded (process for removing from PHI)
  - If no loss of priority habitat (so native woodland)
  - Planting is ‘in the spirit’ of priority habitat
  - Site preparation is ‘sensitive’
  - Planting results in the control of invasive species
- Guidance is available: Ops Note 43
Priority Species – upland breeding birds (waders)

- Issue of rising concern due to declining populations
- Constraints may apply if the site is covered by:
  - CS targeting area for Upland breeding birds
  - Above the Moorline (800 ft)
- Site suitability is also a consideration:
  - Open
  - Absence of trees/pylons
  - Extensive mosaics of long and short vegetation
  - Water between March and June to provide ‘wet features’
- FC guidance published 9th July 2018
Priority Species – upland breeding birds (waders)

Moorline

CS layer for upland breeding birds
Avoid establishing new forests on soils with peat exceeding 50 cm in depth and on sites that would compromise the hydrology of adjacent bog or wetland habitats.

Consider the balance of benefits for carbon and other ecosystem services before making the decision to restock on soils with peat exceeding 50 cm in depth.

### Peaty soil category

<table>
<thead>
<tr>
<th>Category</th>
<th>Area (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deep peaty soils</td>
<td>677,529</td>
</tr>
<tr>
<td>Shallow peaty soils</td>
<td>514,906</td>
</tr>
<tr>
<td>Soils with peaty pockets</td>
<td>208,872</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>1,401,307</strong></td>
</tr>
</tbody>
</table>
Selecting species for the site

- Match species to objectives
- Understand soil quality/constraints and variability across the site
- What will be required to ‘capture the site’?
- Use ESC to give an indication of species suitability – now and in the future
- Consider how the species will work in the landscape
- Consider deer and squirrel impacts – and their management
- **Remember: you are planting for the next 50-200 years**
Land quality/price

### ALC - BMV land

<table>
<thead>
<tr>
<th>Land quality</th>
<th>Free</th>
<th>National Parks</th>
<th>AONBs</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMV</td>
<td>1,132,000</td>
<td>33,000</td>
<td>174,000</td>
<td>1,340,000</td>
</tr>
<tr>
<td>ALC3b</td>
<td>3,428,000</td>
<td>139,000</td>
<td>633,000</td>
<td>4,200,000</td>
</tr>
<tr>
<td>Poor</td>
<td>1,063,000</td>
<td>259,000</td>
<td>282,000</td>
<td>1,604,000</td>
</tr>
<tr>
<td>Urban</td>
<td>393,000</td>
<td>3,000</td>
<td>6,000</td>
<td>402,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>6,016,000</strong></td>
<td><strong>433,000</strong></td>
<td><strong>1,095,000</strong></td>
<td><strong>7,545,000</strong></td>
</tr>
</tbody>
</table>

3rd July 2019 Challenges in Landscape Decision-making
Mapping where public benefits will/could be provided by woodland
Countryside Stewardship targeting for woodland creation

- Improve water quality
  - 8 points High priority
  - 4 points Lower priority
  - WFD management catchments

- Reduce flood risk
  - 8 points High priority
  - 4 points Lower priority
  - WFD management catchments

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Countryside Stewardship targeting for woodland creation

Improve woodland priority habitat connectivity

- 8 points High priority
- 4 points Low priority
- 5 points Woodland bird assemblage
- 5 points Priority Species
- Black Grouse
- Willow Tit
- Red Squirrel

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Targeting peri-urban areas for recreation, well-being and air quality

Challenges in Landscape Decision-making
Countryside Stewardship objective delivery

High priority for woodland creation

[Map showing high priority and other target areas for woodland creation]
National low risk map

3,486 kha

5,136 kha

Challenges in Landscape Decision-making
### Public benefit valuation assumptions

<table>
<thead>
<tr>
<th>Social benefit</th>
<th>Standard</th>
<th>Alternative</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biodiversity</td>
<td>£30</td>
<td>£183/£433</td>
<td>Eftec, 2010</td>
</tr>
<tr>
<td>Landscape</td>
<td>£40</td>
<td>£75</td>
<td>Eftec, 2010</td>
</tr>
<tr>
<td>Flood risk management</td>
<td>£89</td>
<td></td>
<td>FR, 2018</td>
</tr>
<tr>
<td>Air quality</td>
<td>£84 (rural)</td>
<td>£120 peri-urban</td>
<td>After ONS 2017</td>
</tr>
<tr>
<td>Recreation</td>
<td>£356</td>
<td></td>
<td>Eftec, 2010</td>
</tr>
<tr>
<td>Water quality</td>
<td>n/a</td>
<td></td>
<td>NWEBS?</td>
</tr>
<tr>
<td>Carbon sequestration</td>
<td>£800 (high)</td>
<td>£400 (low)</td>
<td>WCC/ESC</td>
</tr>
</tbody>
</table>

- Low risk map plus protected landscapes and ALC3a land
- Recreation benefit restricted to ‘priority places’ (i.e. peri-urban)
- No landscape benefit assumed in protected landscapes
- High carbon benefit applied where any of birch, sycamore, SS, DF meet WCF productivity criteria
- Assumes public benefit arises immediately
Carbon: simple version!

WCF productivity not met
WCF productivity met
Net social benefit

Agricultural income

Farm income

3rd July 2019
Challenges in Landscape Decision-making
But the reality......

- Government (generally) does not own the land;
- Farmers are farmers, not foresters;
  - Land is for growing food, not trees
  - Farm business models not compatible with forestry’s lack of annual income
- Incentive is needed to elicit land use change;
- Landowners are generally highly conservative;
- Grant schemes take 3-years minimum to be understood and accepted;
  - Continuity is critical
- Regulatory framework (EIA regs) seen as highly burdensome, with many misconceptions
- ‘Baggage’ from the past
- Different views: woodland vs forestry
...is challenging
QUESTIONS

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