

What species do we need and how can we improve the timber resource?

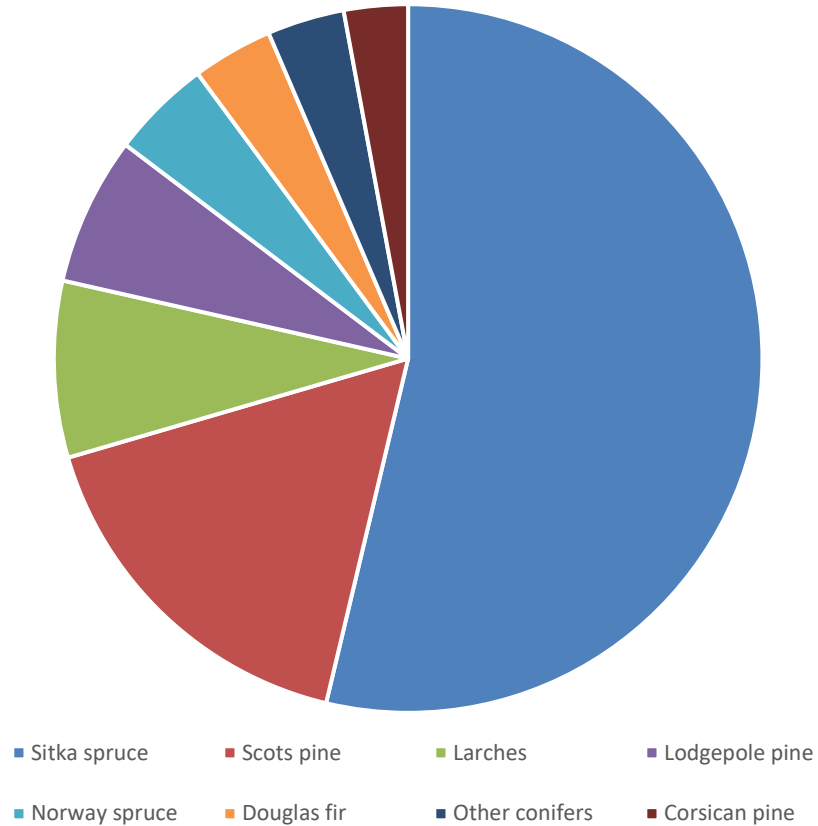
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London, 20 Nov 2025*

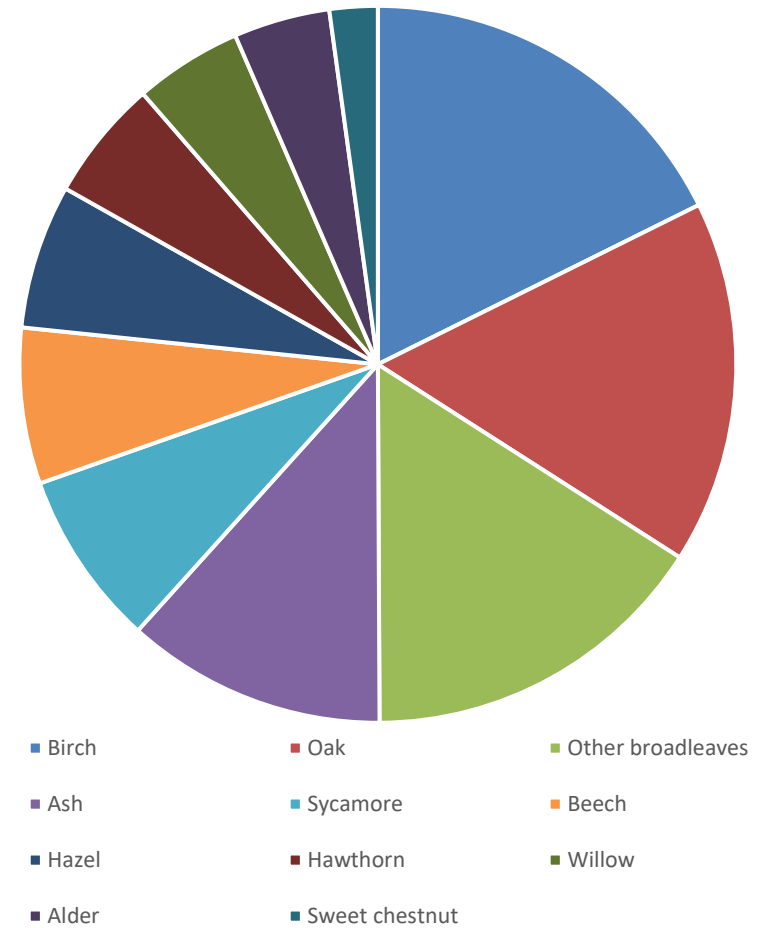




Conifers



Broadleaves



Source: Forestry Facts and Figures, 2024




Making Wood Work for Wales

The Welsh Government's Timber Industrial Strategy

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- Work with Forest Research and other partners to create a future productive species selection tool for Wales, building on the tool created for Scotland. The tool establishes criteria to assess each species (broadleaf and conifer) against and can be weighted according to the priorities of the user, producing a short-list of highest-ranked species. This will feed into the work of the UK Forest Genetic Resources Group and inform future decisions, including prioritising future tree improvement strategies.



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Department
for Environment,
Food & Rural Affairs

Policy paper

Timber in construction roadmap 2025

Updated 3 March 2025

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Ministerial foreword

The UK faces some of its biggest challenges yet – climate change, the housing crisis and driving economic growth. Timber offers a solution as a renewable, low-carbon resource. It offers immense potential to reduce emissions, create jobs, and build the



A Routemap to Resilience for Scotland's Forests and Woodlands



Scottish Government agency responsible for forestry
Bhuidheann ghluinn na h-Alba
Riaghaltas na h-Alba

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Species choice and silviculture

Outcome: A greater range of species will be successfully established and managed to increase the resilience of Scotland's forests and woodlands and forest industry.

Ref	Draft Action	Key partners	How this action will support delivery of the outcome
SP1	Develop, agree and promote an evidence-based shortlist of productive conifer and broadleaved species for Sustainable Forest Management and the maintenance of a vibrant forest industry, in single and mixed species stands and support use.	FR/SF/Confor/NS/ LINK	Enable the focus of effort and resources on a set of agreed species suitable for the predicted future climate in Scotland, and that work in mixtures and on a range of silvicultural management systems and sites.
SP2	Develop, agree, and promote an evidence-based framework for native species and provenance choice in Scotland using a similar approach to SP1. Include species that are native to Scotland, the UK, and naturalised species and support use.	FR/SF/Confor/NS/ LINK	Support decisions on native species and provenance choice considering climate projections, how the suitability of native species and provenance will change, adaptive capacity, and functional redundancy.
SP3	Update suite of guidance on management of semi-natural woodlands based on evidence and to include climate change considerations, and promote natural capital funding streams to increase management action.	SF/FR/ NatureScot/ Confor/ LINK	Greater active management of native woodland for climate change, including choice of provenance and natural regeneration. Greater management of under-managed woodlands.
SP4	Identify and fill research, development and silvicultural knowledge gaps, and initiate further development of 'smart silviculture' for these future forests (PL6). Include work on growing, establishing, adaptive management, yield modelling, mixtures, thinning and managing structural diversity.	FR/SF/Confor/ Confor nursery producers group/ Tihis/FLS/ LINK/ NS/Forestry practitioners	Reduce the risk of failure and increase the successful establishment of future species. Maximise adaptation pathways by proactive management to build resilience that responds to the site, climate and management objectives, for key species, mixtures, stand structures and silvicultural systems.

Principal species (23)

Abies grandis	Fir - Grand
Abies procera	Fir - Noble
Acer pseudoplatanus	Sycamore
Alnus glutinosa	Alder - Common
Betula pendula	Birch - Silver
Betula pubescens	Birch - Downy
Castanea sativa	Chestnut - Sweet
Fagus sylvatica	Beech
Fraxinus excelsior	Ash
Larix × marschlinii	Larch - Hybrid
Larix decidua	Larch - European
Larix kaempferi	Larch - Japanese
Picea abies	Spruce - Norway
Picea sitchensis	Spruce - Sitka
Pinus contorta var. latifolia	Pine - Lodgepole
Pinus nigra subsp. laricio	Pine - Corsican
Pinus sylvestris	Pine - Scots
Populus spp. and hybrids	Black, grey, white, hybrid poplar
Pseudotsuga menziesii	Fir - Douglas
Quercus petraea	Oak - Sessile
Quercus robur	Oak - Pedunculate
Thuja plicata	Cedar - Western Red
Tsuga heterophylla	Hemlock - Western

Secondary species (25)

Abies alba	Fir - European Silver
Abies amabilis	Fir - Pacific Silver
Acer platanoides	Maple - Norway
Alnus cordata	Alder - Italian
Alnus incana	Alder - Grey
Carpinus betulus	Hornbeam
Chamaecyparis lawsoniana	Cypress - Lawson
Cryptomeria japonica	Cedar - Japanese
Cupressus × leylandii	Cypress - Leylandii
Eucalyptus glaucescens	Gum - Tingiringi
Eucalyptus gunnii	Gum - Cider
Eucalyptus nitens	Gum - Shinning
Juglans nigra	Walnut - Black
Juglans regia	Walnut - Common
Nothofagus alpina	Rauli
Nothofagus obliqua	Roble
Picea omorika	Spruce - Serbian
Pinus pinaster	Pine - Maritime
Pinus radiata	Pine - Monterey
Populus tremula	Aspen
Prunus avium	Gean
Quercus rubra	Oak - Red
Sequoia sempervirens	Redwood - Coast
Sequoiadendron giganteum	Redwood - Giant / Sequoia
Tilia cordata	Lime - Small-leaved

Plot stage species (22)

Abies concolor	White fir
Abies nordmanniana	Nordmann fir
Alnus rubra	Red alder
Calocedrus decurrens	Incense-cedar
Cedrus atlantica	Atlas cedar
Fagus orientalis	Oriental beech
Hesperocyparis macrocarpa	Monterey cypress
Liquidambar styraciflua	Sweet gum
Liriodendron tulipifera	Tulip Tree
Metasequoia glyptostroboides	Dawn redwood
Picea × lutzii	Lutz spruce
Picea engelmannii	Englemann spruce
Picea orientalis	Oriental spruce
Picea rubens	Red spruce
Pinus peuce	Macedonian pine
Pinus strobus	Weymouth pine
Pinus taeda	Loblolly pine
Platanus x hispanica	London plane
Populus tremula x tremuloides	Hybrid aspen
Robinia pseudoacacia	False acacia
Sorbus torminalis	Wild Service Tree
Tilia platyphyllos	Large-leaved lime

Assessment criteria



1. Tree improvement



2. Plant & seed supply



3. Silviculture



4. Site & climate suitability



5. Productivity



6. Tree health



7. Biodiversity & environmental impacts



8. Timber properties & end use



1. Tree improvement potential

1. Provenance information

2. Feasibility of selection

3. Feasibility of testing

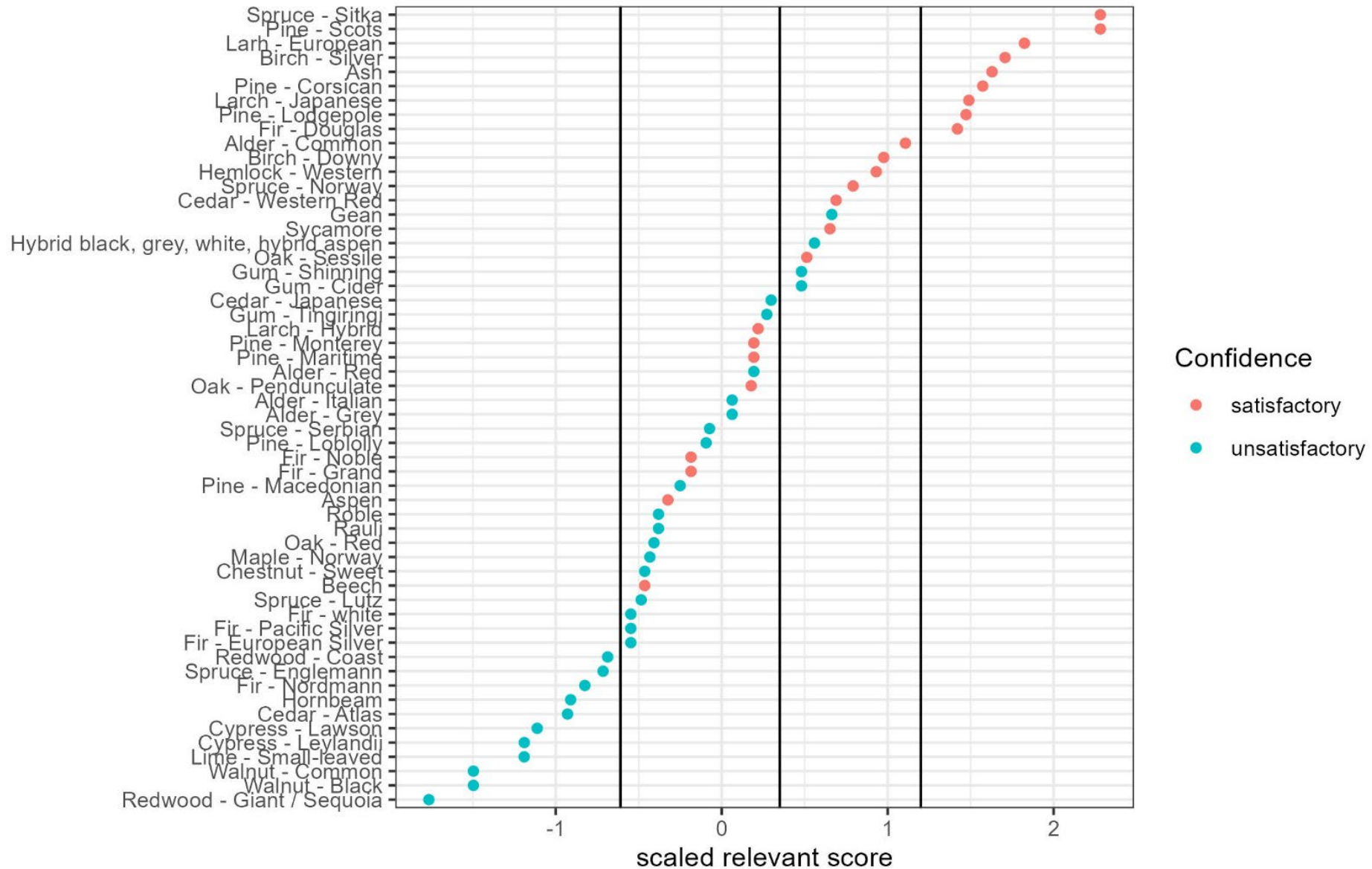
4. Feasibility of breeding

5. Effectiveness of mass deployment

6. Impact of further development

- **Extensive approach** – registering/developing seed stands, improving provenance and silviculture, creating qualified orchards with plus trees
- **Intensive approach** – gain delivered through testing and breeding







2. Plant and seed supply

- **Seed supply** – From UK and overseas
 - Seed quality
 - Seed storage
 - Seed treatments
 - Weed control
 - Economy/financials
 - Crop cycle length
 - Substrate/soil issues
 - Crop protection issues
- Problematic: Eucalypts (seed supply & frost risk), Ash (disease risk)





3. Silviculture

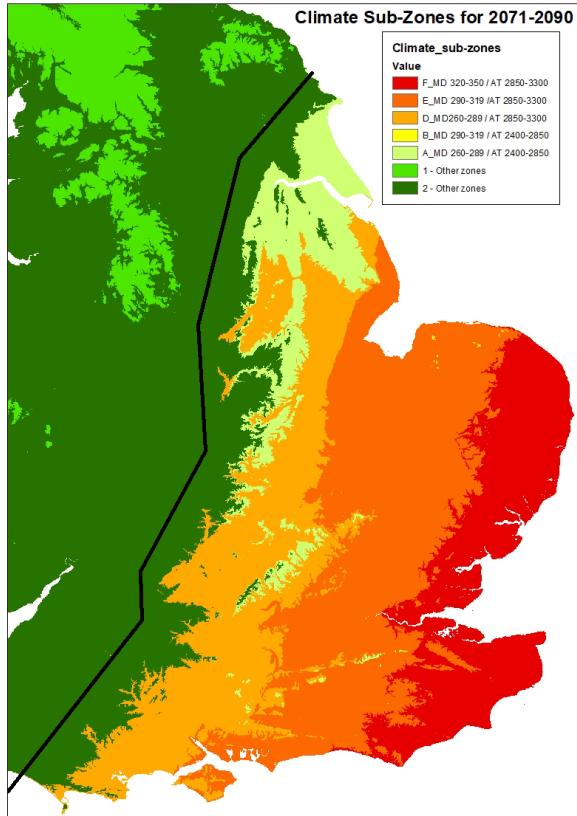
- Silvicultural knowledge
- Establishment rate
- Fast establishment: Silver birch, Larches, Spruces, Poplars, Douglas fir, Western hemlock
- Slow establishment: firs

Supporting attributes:

- Shade tolerance
- Natural regeneration
- Palatability
- Squirrel damage susceptibility



4. Site and climate suitability



- Suitability area – current
- Suitability area – 2080

Supporting attributes:

- Frost
- Drought
- Wind damage
- Fire



5. Productivity

- **Yield Class category**

‘Very fast’ growing:

- Sitka spruce, Grand fir, Noble fir, Norway spruce, Douglas fir, Western red cedar, Western hemlock, Leyland cypress, Eucalyptus spp.



6. Tree health

- *Pest and disease risks*

Pathogens – current & future

Pests – current & future

Higher risk: Ash, Larch spp., some exotic pines, Lawson cypress



7. Biodiversity and environmental impacts

- Contribution to Woodland Ecological Condition (WEC)
 - Nativeness
 - Natural regeneration potential
 - Shade casting
 - Phenology
 - Maximum age

Supporting attribute:

- Environmental impacts





8. Wood properties and end use (1/2)



- **Technical potential** – i.e. the potential inherent in the wood
 - **Workability score**
 - **Durability score**
 - **Minimum Sitka index**
 - **Documented uses**
- High potential: Larches, Sitka & Norway spruce, Scots, Lodgepole & Corsican pines, Douglas fir, Western hemlock, European silver fir, Oaks, Sweet chestnut

8. Wood properties and end use (2/2)



Supporting attribute:

- **Compatibility with the current wood value chain**
 - Workability score
 - Drying score
 - UK market familiarity score
 - Genus score
 - Form score
 - Documented uses
 - Possibility rating for strength grading UK-grown

Criteria (8)	Definitive attributes (10)	Supporting attributes (12)
1. Tree improvement	• Tree improvement potential	
2. Plant & seed supply	• Plant and seed supply	
3. Silviculture	• Silvicultural knowledge • Establishment rate	• Shade tolerance • Natural regeneration • Palatability • Squirrel damage
4. Site/climate suitability	• Suitability area – current • Suitability area – 2080	• Frost susceptibility • Drought susceptibility • Wind damage susceptibility • Fire susceptibility
5. Productivity	• Yield Class category	• On-site carbon • Off-site carbon & GHG potential
6. Pests & pathogens	• Pest and pathogen risks	
7. Biodiversity and environmental impacts	• Contribution to Woodland Ecological Condition	• Environmental impacts
8. Timber properties & end uses	• Technical potential	• Compatibility with forestry value chain



			1. Tree Improvement	2. Plant & seed	3. Silviculture		4. Site & climate suitability		5. Productivity	6. Tree health	7. Biodiversity & Environmental impacts	8. Wood properties & end use		Ranking	
Latin name	Common name	Status	Tree improvement potential	Plant & seed supply	Silvicultural knowledge	Establishment rate	Suitability area (current)	Suitability area (2080)	Yield Class category	Pest & pathogen risks	Contribution to WEC	Technical potential		Ranked scores (max)	Ranked list of species
		Weighting	1	1	1	1	1	1	1	1	1	1	10		
Abies grandis	Fir - Grand	Principal	2	3	4	2	2	3	4	2	2	3		92.5	Birch - Silver
Abies procera	Fir - Noble	Principal	2	2	4	2	3	1	4	2	2	3		90.0	Spruce - Sitka
Acer pseudoplatanus	Sycamore	Principal	3	3	4	3	4	4	2	4	3	3		87.5	Pine - Scots
Alnus glutinosa	Alder - Common	Principal	3	4	4	3	3	4	1	2	4	2		85.0	Birch - Downy
Betula pendula	Birch - Silver	Principal	4	4	4	4	4	4	2	4	4	3		82.5	Sycamore
Betula pubescens	Birch - Downy	Principal	3	4	4	3	4	4	1	4	4	3		82.5	Hemlock - Western
Castanea sativa	Chestnut - Sweet	Principal	2	3	4	2	1	3	1	2	3	4		80.0	Larch - Hybrid
Fagus sylvatica	Beech	Principal	2	3	4	2	3	3	2	2	4	3		80.0	Larch - Japanese
Fraxinus excelsior	Ash	Principal	4	2	4	3	2	3	2	0	4	3		77.5	Pine - Lodgepole
Larix x marschlinii	Larch - Hybrid	Principal	3	3	4	4	4	3	3	0	4	4		77.5	Fir - Douglas
Larix decidua	Larch - European	Principal	3	3	4	4	2	3	2	0	4	4		77.5	Oak - Sessile
Larix kaempferi	Larch - Japanese	Principal	3	3	4	4	4	4	2	0	4	4		77.5	Cedar - Western Red
Picea abies	Spruce - Norway	Principal	2	4	4	3	3	3	3	2	2	4		75.0	Alder - Common
Picea sitchensis	Spruce - Sitka	Principal	4	4	4	4	4	4	4	2	2	4		75.0	Spruce - Norway
Pinus contorta var. latifolia	Pine - Lodgepole	Principal	4	3	4	3	4	4	2	0	3	4		75.0	Hybrid black, grey,
Pinus nigra subsp. laricio	Pine - Corsican	Principal	4	3	4	3	2	4	3	0	3	3		75.0	Oak - Pedunculate
Pinus sylvestris	Pine - Scots	Principal	4	4	4	3	4	4	2	2	4	4		75.0	Aspen
Populus spp. and hybrids	Hybrid black, grey, white,	Principal	3	4	4	4	2	3	2	2	3	3		72.5	Larch - European
Pseudotsuga menziesii	Fir - Douglas	Principal	4	3	4	4	2	2	4	2	2	4		72.5	Pine - Corsican
Quercus petraea	Oak - Sessile	Principal	3	3	4	2	3	3	1	4	4	4		72.5	Gum - Cider
Quercus robur	Oak - Pedunculate	Principal	2	3	4	2	2	4	1	4	4	4		70.0	Beech
Thuja plicata	Cedar - Western Red	Principal	3	3	4	3	3	3	4	4	2	2		70.0	Alder - Grey
Tsuga heterophylla	Hemlock - Western	Principal	3	3	4	4	3	4	4	2	2	4		70.0	Cypress - Leylandii
Abies alba	Fir - European Silver	Secondary	2	3	3	2	2	3	3	2	2	4		67.5	Fir - Grand
Abies amabilis	Fir - Pacific Silver	Secondary	2	2	3	1	4	4	3	2	2	2		67.5	Ash
Asplenium adnigrum	Moss - Norway	Secondary	2	4	2	2	2	2	2	2	2	2		67.5	Moss - Norway

Definitive Attributes

Supporting Attributes

Comments

Rationale

Summary

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			3. Silviculture				4. Site & climate suitability				7. Biodiversity & environmental impacts	8. Wood properties & end use
Latin name	Common name	Status	Shade tolerance	Natural regeneration	Palatability	Squirrel damage susceptibility	Frost susceptibility	Drought susceptibility	Wind damage susceptibility	Fire risk	Environmental impacts	Compatibility with wood value chain
Abies grandis	Fir - Grand	Principal	Shade tolerant	Occasional	High		Y	Intolerant	16	High		4
Abies procera	Fir - Noble	Principal	Intermediate	Occasional	High		Y	Intolerant	18	High		4
Acer	Sycamore	Principal	Shade tolerant	Frequent	Moderate	High	N	Moderate	18	Low		3
Alnus glutinosa	Alder - Common	Principal	Light		Low	Low	N	Moderate	16	Low		3
Betula pendula	Birch - Silver	Principal	Light	Frequent	Low	High	N	Intolerant	16	Low		4
Betula pubescens	Birch - Downy	Principal	Light	Frequent	Low	High	N	Intolerant	18	Low		4
Castanea sativa	Chestnut - Sweet	Principal	Light	Rare?	Low	High	Y	Tolerant	16	Very low		4
Fagus sylvatica	Beech	Principal	Shade tolerant	Frequent	Moderate	High	Y (young)	Moderate	16	Very low		4
Fraxinus excelsior	Ash	Principal	Intermediate	Frequent	High	Low	Y	Moderate	14	Low		4
Larix x marschlinii	Larch - Hybrid	Principal	Light	Frequent	Moderate	Medium	Y	Intolerant	16	Medium		7
Larix decidua	Larch - European	Principal	Light	Frequent	Moderate	Medium	Y	Tolerant	16	Medium		7
Larix kaempferi	Larch - Japanese	Principal	Light	Frequent	Moderate	Medium	Y	Intolerant	16	Medium		7
Picea abies	Spruce - Norway	Principal	Shade tolerant	Occasional	High	Low	Y	Intolerant	16	High		7
Picea sitchensis	Spruce - Sitka	Principal	Intermediate	Frequent	Moderate	Low	Y	Intolerant	18	High	Prolific	7
Pinus contorta var.	Pine - Lodgepole	Principal	Light	Frequent	Low	Medium	N	Moderate	18	High	Prolific	5
Pinus nigra subsp.	Pine - Corsican	Principal	Light	Rare	Low	Low	Y	Very tolerant	18	Very		6
Pinus sylvestris	Pine - Scots	Principal	Light	Frequent	Moderate	Medium	N	Very tolerant	18	High		7
Populus spp. and	Hybrid black,	Principal	Light		High	Low / high	N	Intolerant	16	Low	Hybridises	3
Pseudotsuga	Fir - Douglas	Principal	Intermediate	Frequent	High	Low	Y	Intolerant	14	Medium		7
Quercus petraea	Oak - Sessile	Principal	Intermediate	Occasional?	High	High	Y	Tolerant	16	Low		5
Quercus robur	Oak -	Principal	Intermediate	Occasional?	High	High	Y	Moderate	16	Low		5
Thuja plicata	Cedar - Western	Principal	Shade tolerant		High		N	Moderate	14	High		4
Tsuga heterophylla	Hemlock -	Principal	Shade tolerant	Frequent	low	Medium	Y	Moderate	16	High	Prolific	5
Abies alba	Fir - European	Secondary	Shade tolerant		High		Y?	Intolerant	16	High		6
Abies amabilis	Fir - Pacific Silver	Secondary	Shade tolerant		High		Y	Moderate	18	High		4
Acer platanoides	Maple - Norway	Secondary	Intermediate	Frequent	Moderate	High	N	Moderate	14	Low		2
Alnus cordata	Alder - Italian	Secondary	Light			Low		Tolerant	14	Low		1
Alnus incana	Alder - Grey	Secondary	Light				Y	Intolerant	22	Low	Hybridises	1
Castanea sativa	Chestnut - Sweet	Principal	Light	Rare?	Low	High	Y	Tolerant	16	Very low		4



CONIFERS	RATIONALE	REASONS FOR SHORTLISTING	KEY ISSUES
		1. Range of silvicultural systems 2. Geographic range 3. Tree improvement 4. Wood properties and end use 5. Other	1. Tree health risks 2. Site & climate suitability 3. Biodiversity & environmental impacts 4. Tree improvement & plant and seed supply 5. Wood properties & end use
Cedar - Japanese	Secondary conifer species with good productivity and currently no known major tree health risks. Prefers a warm maritime climate on deep, well-drained soils; does not respond well to exposure. Fast establishment rate, but not always easy to establish initially on clearfell sites. Tree improvement hindered by tiny domestic resource; potential to develop a qualified orchard using selections from the currently limited provenance tests. Timber not familiar on the UK market. Mechanical properties much lower than Sitka. Potentially a reasonably wide range of uses. The pollen can cause allergies. Unrelated to UK natives suggesting lower tree health risk but also lower biodiversity value.	1. Primarily suitable for CCF. 2. Suitable for warm, moist sheltered sites across Scotland primarily in the west. 4. Attractive timber, highly valued in Japan. 5. Adds another genus to the shortlist potentially increasing tree health resilience.	4. Limited tree improvement potential. 5. Timber mechanical properties much lower than Sitka spruce. Market development.
Cedar - Western Red	Highly productive principal conifer species, with currently no known major tree health risks, although very susceptible to root and butt rot caused by Heterobasidion annosum. Suitable for warm, moist climates in more sheltered sites in Western Scotland. Shade tolerance makes it suitable for a range of silvicultural systems, although sensitivity to exposure makes it more suited to mixed CCF stands than clearfell sites where it can be difficult and slow to establish. Tree improvement could build on an existing FR archive of 39 plus trees, and progress can be rapid due to some unique reproductive characteristics. Wood mechanical properties lower than Sitka. Cannot yet be strength graded but there is a partial dataset. Currently used for cladding but with potential for other uses. Drying and seasoning known. Some natural durability.	1. Suitable primarily for CCF. Can be established on open sites with sufficient side shelter. 2. Suitable for the warm, moist climates in Western Scotland, and sheltered sites in the east. 3. Potentially rapid progress with tree improvement. 4. Growing demand for wood for cladding and internal panelling due to its natural durability, as a substitute for larch, with potential for other uses through development of 'alternative' markets.	
Fir - Douglas	Highly productive principal conifer species, with attractive timber properties. Cold hardy but can suffer from exposure and hence best suited to more sheltered areas. Tolerant of the drier conditions in the east where it may offer an alternative to spruce and pine. Currently no known major tree health risks although potential future damage from Swiss needle cast and Phytophthora pluvialis. Very good tree breeding potential with strong rationale to improve domestic supply of improved material. Very well established markets in the UK. Mechanical properties better than Sitka, but very variable strength. Can be strength graded in UK with multiple options. Potential for CLT and glulam production. Wide range of uses. Drying and seasoning well known, similar to spruce.	1. Suitable for CCF and open planting. 2. Best suited to more sheltered areas, both east and west. Tolerant to drier conditions. Better sites required. 3. Very good tree breeding potential. 4. Very well established markets and good potential for future development.	
Fir - European Silver	Secondary conifer species with good productivity. Cold hardy throughout Britain but vulnerable to frost unless planted under shelter. Does not tolerate very poor soils or heather competition. Slow and very difficult to establish on clearfell sites; better suited to underplanting. High palatability to deer. Better understood silviculture than other firs. Can be severely attacked by Dreyfusia (syn. Adelges) nordmannianae which can cause death with high infestations; less problematic in mixed stands. Familiar to the UK market, but mostly through imports. Blue stain might be an issue. Mechanical properties similar to Sitka. Strength grading exists in the European	1. Suitable primarily for CCF and mixtures. 2. Lowland to mid-slope species across west and east Scotland. 4. Suitable for white wood market, with properties similar to Sitka spruce.	1. Dreyfusia (syn. Adelges) nordmannianae. 2. Drought. 4. Nursery practice needs support.

Shortlist of productive species for Scotland

Conifers	Broadleaves
Coast redwood (<i>Sequoia sempervirens</i>)	Aspen (<i>Populus tremula</i>) and Hybrid aspen (<i>Populus tremula x tremuloides</i>)
Douglas-fir (<i>Pseudotsuga menziesii</i>)	Beech (<i>Fagus sylvatica</i>)
European silver fir (<i>Abies alba</i>)	Common alder (<i>Alnus glutinosa</i>)
Grand fir (<i>Abies grandis</i>)	Downy birch (<i>Betula pubescens</i>)
Japanese cedar (<i>Cryptomeria japonica</i>)	Gean (<i>Prunus avium</i>)
Lodgepole pine [Alaskan] (<i>Pinus contorta</i> var. <i>latifolia</i>)	Hornbeam (<i>Carpinus betulus</i>)
Macedonian pine (<i>Pinus peuce</i>)	Norway maple (<i>Acer platanoides</i>)
Noble fir (<i>Abies procera</i>)	Pedunculate oak (<i>Quercus robur</i>)
Norway spruce (<i>Picea abies</i>)	Red oak (<i>Quercus rubra</i>)
Pacific silver fir (<i>Abies amabilis</i>)	Sessile oak (<i>Quercus petraea</i>)
Scots pine (<i>Pinus sylvestris</i>)	Silver birch (<i>Betula pendula</i>)
Sitka spruce (<i>Picea sitchensis</i>)	Small-leaved lime (<i>Tilia cordata</i>)
Western hemlock (<i>Tsuga heterophylla</i>)	Sweet chestnut (<i>Castanea sativa</i>)
Western red-cedar (<i>Thuja plicata</i>)	Sycamore (<i>Acer pseudoplatanus</i>)



- ✓ Sitka spruce (54%*)
- ✓ Scots pine (17%)
- ✓ Norway spruce (5%)
- ✓ Lodgepole pine (7%)
- ✓ Douglas-fir (4%)

- ✓ Western hemlock
- ✓ Western red-cedar
- ✓ European silver fir
- ✓ Pacific silver fir
- ✓ Grand fir
- ✓ Noble fir
- ✓ Macedonian pine
- ✓ Japanese cedar
- ✓ Coast redwood

* % Stocked area, UK

Scotland – 14 shortlisted conifers:

- 8 suited to open planting; 12 for continuous cover forestry.
- 8 suited to the east; all 14 suited to the west.
- 6 suited to upland sites (Sitka spruce, Scots pine, lodgepole pine (Alaskan provenance), Macedonian pine, noble fir, and Pacific silver fir (on sheltered upland sites)).
- 11 suited to mid-slope or lowland species.
- 7 can supply the whitewood market; the other 7 require alternative redwood markets.



- ✓ Birch – silver & downy (18%*)
- ✓ Oak – pedunculate & sessile (16%)
- ✓ Sycamore (8%)
- ✓ Beech (7%)
- ✓ Alder (4%)
- ✓ Sweet chestnut (2%)

- ✓ Aspen & hybrid aspen
- ✓ Gean
- ✓ Hornbeam
- ✓ Norway maple
- ✓ Red oak
- ✓ Small-leaved lime

* % Stocked area, UK

Scotland – 14 shortlisted broadleaves:

- All are suitable for open planting; 11 can be managed with continuous cover forestry.
- Almost all can be grown in the east and west, and mid-slope and lowland sites.
- One species (downy birch) suited to upland sites.



1. Develop a ranked longlist:

- Select longlist of candidate species
- Select criteria – develop methods to assess them
- Assess performance of longlisted species
- Derive a provisional ranked longlist of species



2. Identify a shortlist and 'reserve list':

- [Supplement data with narratives]
- Consultation – refine ranked longlist with experts & stakeholders
- Reach consensus on shortlist and 'reserve list'



3. Address barriers to deployment:

- Identify evidence gaps/needs
- Agree priority actions with stakeholders (e.g. R&D)
- Deliver actions – research, policy, practice

Criteria	Forest Research	External
1. Tree improvement	Richard Whittet, Joan Cottrell	Jason Hubert (SF)
2. Plant and seed supply	Chris Hardy, Richard Whittet	Sam Firkins (Forestart Ltd), Ben Goh (Maelor Forest Nurseries Ltd), Kenny Hay (FLS, Newton nursery), Selchuk Kurtev (ICM) Lorenza Pozzi (FC), Craig Turner (Alba Trees; Confor Nursery Producers' Group), Rodney Shearer (Elsoms Trees), Alice Snowden (Cheviot Trees)
3. Silviculture	Andrew Leslie, Bill Mason, Chris Reynolds, Tor Stokes, Ian Willoughby	Andrew MacQueen (Independent forester), Martin Price (FLS), Gareth Waters (FLS)
4. Site/climate suitability	[See silviculture] + Stephen Bathgate, James Morison, Mike Perks, Megan Wilks	Andrew MacQueen (Independent forester), Martin Price (FLS), Gareth Waters (FLS)
5. Productivity	[See silviculture] Stephen Bathgate, Ewan Mackie, Robert Matthews	Andrew MacQueen (Independent forester), Martin Price (FLS), Gareth Waters (FLS)
6 Tree health	Max Blake, Katy Dainton, Molly Davidson, Sarah Green, Steven Hendry, Daegan Inward, Liam Morton, Sonja Steinke, Joan Webber	Clarinda Burrell (SF), Flora Donald (SF), James Nott (SF)
7. Biodiversity and environmental impacts	Nadia Barsoum, Alice Broome, Mike Dunn, Robin Gill, Tom Nisbet	Stephen Cavers (CEH), Linsey Mason-McLean (SF), Alan McDonnell (Trees for Life), Beth Purse (CEH), Duncan Stone (NatureScot), Juli Titherington (SF), Andrew Weatherall (RSPB)
8. Wood properties and end use	Adam Ash, Elspeth Macdonald	George Birrell (Kronospan), Philip Blake (Munro Sawmills), Mark Council (Logie Timber Ltd), Ellinor Dobbie (Abbey Timber), David Edwards (Tilhill), Caroline Gordon (Tulloch Timber), Kieran Jamieson (UPM), Andrew Johnston (UPM), David Leslie (James Jones & Sons), Andy Leitch (Confor), Bryan McMurdo (UPM), Alex Murray (Glennon Bros.), John Paterson (Egger), Dan Ridley-Ellis (Edinburgh Napier University), Harry Stevens (BSW)
Cross cutting and governance	David Edwards, Rob Grierson, Rob Hattersley, James Pendlebury, Chris Quine, Vadim Saraev	Steering Group: Alan Hampson (SF), Helen Sellars (SF), Tim Gordon-Roberts (SF), Chris Quine (FR), David Leslie (James Jones & Sons), Craig Turner (Alba Trees), Duncan Stone (NatureScot), Nathan Bryceland (SLE), Andrew MacQueen (Independent), Andrew Weatherall (RSPB), Alan McDonnell (Trees for Life), Jo Ellis (FLS), Barry Mulholland (Tilhill), Andy Leitch (Confor)