Forestry and Land Scotland
Coilltearachd agus Fearann Alba

Appendix IX

Woodland types

Prescription	Description	Management Objective	Typical location	Species	Establishment	Density	Protection requirement	Management system	Other
Productive Conifer	Even aged, regular stands of single or mixed conifer species grown for sawlog production	Sawlog timber production.	Widespread on accessible areas capable of producing YC12 spruce and YC10 of other spp	Conifer species matched to site type. #1 Sitka spruce, Norway spruce #2 Douglas fir, Western hemlock, Western red cedar, Noble fir, Scots pine Lodgepole pine may be used in mix with SS as a nurse spp	Planting. Supplemented by natural regeneration / beat up.	High Density 2500 per ha	Low for SS Mod to high	Clearfell at economic optimum* Coupe size dictated by access and landform. Thinned where access and stability permit.	Standard SS forests for supply of large quantities of spruce to large sawmills. Also includes other structural timber producing species for niche markets. Need to be planted in sufficient quantity and where can be thinned to improve quality. *Rotation length based on MMAI and windthrow predictions which may be further modified by restructuring and adjacency requirements
Productive conifers CCF	Mixed age and species stand grown for sawlog production	Sawlog production Amenity	Sheltered well drained sites with moderate to high public access or visibility	Conifer species matched to site type and spp compatibility. Sitka spruce, Norway spruce, Douglas fir, Western hemlock, Western red cedar, Noble fir, Scots pine	Natural regeneration supplemented with planting	High Density 2500 per ha	Low for SS Mod to high for others	Shelterwood or selection system depending on site and spp	Limited scope with the current stands but looking to increase the area in the future. Limited suitable sites therefore need to focus effort on these. Mixtures will be used to create diversity. Spp will be selected for the site type and their compatibility with each other.
Productive Broadleaves High value	Small but accessible areas planted specifically for sawlog production	Timber Production. Restoration to PAWS targets.	Better soils and close to access tracks for harvesting. Limited areas	Birch, Sessile Oak, sycamore, Beech Consider improved stock for sawlog potential. Ash - acceptable as a component if arising from nat regen.	Planting. Supplemented by natural generation. High protection	High Density 3000-5000 per ha	High	Clearfell with interventions to respace/prune and thin. Possible shelterwood	Untried in Lochaber – both for sites and management experience Scope of some of the PAWS sites where ecological potential is low. Care in the use of sycamore due to invasive nature and avoid sycamore and beech on or adjacent to PAWS and ASNW sites.
Productive Broadleaves fuelwood	Natural regen or planted for fuel wood.	Fuelwood production Restoration to PAWS targets. Forest resilience and biodiversity.	As above but could be on less fertile sites still need to be relatively dry for harvesting	Birch likely to be dominant but native woodlands W11 and W17 also potential	Natural regenerations supplemented by planting	High Density 3000-5000 per ha	Moderate	Clearfell Possible shelterwood	Could be widespread on PAWS sites in particular
Productive Pinewoods	Even aged regular stands of Scots pine with proportion of other pinewood spp.	Timber Production. Restoration to PAWS. Biodiversity	On suitable sites as an option for increasing diversity	Scots Pine Birch component	Planting. Supplemented by natural regeneration.	High density 2500 per ha	High	Clearfell at age MMAI or group selection system	Scope for increasing this type of woodland to add diversity to the productive conifer area on or adjacent to suitable PAWS sites (low ecological value and the right site type)
Low Input Native Woodland	Semi-natural woodland with management	Biodiversity	Native species to NVC site type:		Natural regeneration	Low density	Depends on age and spp.	Interventions limited to removal of non-native spp,	Widespread on different soil types. Significant area of existing mature semi-natural woodland as well as scope for

Prescription	Description	Management Objective	Typical location	Species	Establishment	Density	Protection requirement	Management system	Other
	using natural processes		**Upland oak/birchwood (W11/W17/W4)** **Wet/flushed woodland (W7/W9)** **Native pinewood (W18)** **Transition/upper margin(W19?)** **Montane woodland(W20)**	Sessile oak*, silver*/downy birch, rowan, hazel*, holly Alder, hazel*, grey willow, ash*, downy birch, wych elm* rowan, blackthorn. Scots pine, downy/silver* birch, rowan, aspen, juniper, holly, goat/grey/eared willow, hazel* Eared willow, juniper, downy birch Salix myrsinites, S. Lapponum, dwarf birch. *better soil fertility	Supplemented by planting	600-1200 per ha Up to 15% open space	Generally high	respacing of nat regen and enrichment planting	restoration on PAWS, conversion and woodland expansion. Increasingly favoured on steep slopes with difficult access for timber management. Woodland expansion on upper margins of existing forest
Bog woodland	Natural colonisation	Biodiversity	Bog pinewoods, dwarf birch and juniper are more likely to occur on ombrotrophic mires. Flushed peats are more likely to develop birch/willow dominated bog woodland although there are examples of bog birchwoods on NVC M17 mire.	NVC W4/W18 Downy birch, grey willow and eared willow /Scots pine. Dwarf birch and prostrate juniper	Predominantly natural regeneration although may be some enrichment planting.	Low density. Between 20 and 50% woodland cover.	Low as mostly unpalatable species. Higher if enrichment planting	Generally minimum intervention although may need to block drains to raise water table to avoid too high a density of tree cover. Removal of non-native regen where it is actively growing	Bog woodlands are characterised by very slow growing trees with the presence of dead and dying trees, killed by a high-water table. There are a few examples of true bog woodland on the NFE (e.g., Monadh Mor on the Black Isle, Inshriach in Speyside). Bog woodland is likely to develop on some restored bogs, often around the margins. NB Actively growing Non-native regen has the potential to produce seed, crack peat and lower the water-table).

Prescription	Description	Management Objective	Typical location	Species	Establishment	Density	Protection requirement	Management system	Other
Riparian Woodland	Burnside woodland	Biodiversity, soil and water management. Managed under minimal intervention.	In all areas along burn sides and loch shores	Native woodland matched to NVC site type usually W7 and W9	Natural regeneration Supplemented by planting	Low density 600-1200 per ha up to 50% open space	moderate	Minimum intervention necessary to ensure establishment	Important woodland for water quality regulation and for habitat networks
Slope protection/ stability woodland	Native woodland with minimum intervention	Slope stabilisation	Steep slopes above vulnerable infrastructure	Spp with a range of rooting types* e.g., Hazel, holly, eared willow, juniper, Scots pine, oak, birch, rowan	Planting with natural regeneration	Moderate to high density 2000 – 3000 per ha	High	Minimum intervention necessary to ensure establishment	Sites will vary in requirements, but rapid re-establishment is likely to be required due to vulnerable infrastructure. Some planting will also be desirable to achieve species diversity with variable rooting depths. *See Guidance notes for details Long Term Management Steep Slopes (LTMSS) Tech Guidance in T:\LOCHABER FILING SYSTEM\FORESTRY\Operations\Steep Ground Working