

North Staffordshire

Forest Plan

2018 to 2028

Summary

The North Staffordshire Forest Plan (FP) summaries proposals by the Forestry Commission for the management of six woodlands, Big Bishops (352ha), Little Bishops (81ha), Burnt Wood (88ha), Tittensor (72ha), Swynnerton Old Park (329ha) and Walton's Wood (13ha). The plan area of 935ha lies 8km west of Stoke on Trent and 19km northwest of Stafford, with easy access from the M6 and local conurbations.

The FP woodlands are largely (88%) ancient woodland sites now planted with conifers. Pine is the main conifer species covering 50% of the woodland area. Felling operations carried out over the last 25 years as the conifer crops have matured has created a diverse woodland structure across most of the FP and the transitional open space has created niche habitats for ground nesting birds and a wide selection of Lepidoptera have been recorded.

The management plans objectives will be to grow commercial crops on a sustainable basis, gradual restoration of ancient woodlands, diversify further the forest structure through thinning and felling, increase deadwood habitats and the number of Trees of Special Interest (TSI) and maintain the public access facilities. The principal ecological interest in the plan are associated to the transitional open space, ride sides and associated fauna. These now provide valuable nesting and feeding habitat for a range of ground nesting birds, butterflies and moths.

The FP will help to develop a more diverse woodland structure through active forest management. This will be achieved specifically through the retention of some stands of trees in perpetuity, the development of mixed open stands around water, enrichment planting on AWS sites and increased length of woodland edge habitat.

There are no formal recreational facilities in the woodlands but the public do enjoy quiet recreational activities in all but Tittensor Wood where the lease agreement prohibits public access.

Central Forest District - North Staffordshire Forest Plan
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1. What are Forest Plans?

Forest Plans are produced by us, the Forestry Commission (FC), as a means of communicating our management intentions to a range of stakeholders. They aim to fulfil a number of objectives:

- To provide descriptions of our woodlands to show what they are like now.
- To explain the process we go through in deciding what is best for the woodlands' long-term future.
- To show what we intend the woodlands to look like in the future.

To detail our management proposals, for the first ten years so we can seek approval from the statutory regulators.

Our aim is to produce a plan that meets your needs for the woodland; meets the needs of the plants and animals that live there and meets our needs as managers.

We have produced **this draft** plan to illustrate our management proposals thereby creating an opportunity for you to comment on the plan, whether you are a user, a neighbour or a member of one of the many stakeholder groups that have an interest in the woodlands. Information on how to get your comments to us is on our webpage.

This plan does not set out the detailed yearly management operations for each small piece of a wood, known as a coupe*. It is not possible to say which year a particular operation will take place, but we can say in which five-year period it should happen.

All tree felling in the UK is regulated and a licence is required before trees can be felled; the scale of tree felling in Central England Forest District, which this plan forms part of, is such that the Forest Plan is the best mechanism for applying for this licence. Responsibility for checking that the plan meets all the relevant standards and statutes lies with another part of the FC (Forest Services). If all the criteria are met, full approval is given for the management operations in the first ten years (2018 - 2028) and outline approval for the medium term vision (2028 - 2067). The plan will be reviewed after the first five years (2022) to assess if the objectives are being achieved.

We use some technical words and phrases in the text because they best describe what we are doing. There is a glossary at the back of the plan (Appendix II) with some commonly used technical forestry terms and abbreviations. These technical words are identified throughout the plan with an *.

A Application for Forest Plan Approval

i Plan Area Identification:

| | | |
|--------------------------|---------------------------------|------------|
| Forest District: | Central Forest District | |
| Beat: | North Staffordshire | |
| Name: | North Staffordshire Forest Plan | |
| Nearest Town: | Stoke on Trent | |
| OS Grid Reference: | Big Bishops | SJ 753 310 |
| | Little Bishops | SJ 747 334 |
| | Burnt Wood | SJ 736 352 |
| | Tittensor | SJ 880 365 |
| | Swynnerton | SJ 830 398 |
| | Walton | SJ 778 462 |
| Local Planning Authority | Staffordshire | |

ii Designations:

*Ancient Woodland**, *Plantation on Ancient Woodland (PAWs)**, *Secondary Woodland**, *Site of Special Scientific Interest (SSSI)**, *and lies in the Shropshire, Cheshire and Staffordshire Plain Natural Area* Profile No.61, Scheduled Ancient Monument (SAM)**.

iii Date of Commencement of Plan

As soon as possible once approved.

| Area (ha) | Conifers | Broadleaves |
|----------------------|----------|-------------|
| Felling | 91.4 | 0 |
| Restocking | 18.5 | 38 |
| Natural Regeneration | | 34.9 |

NB - All above figure's refer to the gross area and excludes thinning operations that take place on a 5 year cycle in conifers and 10 year cycle in broadleaves.

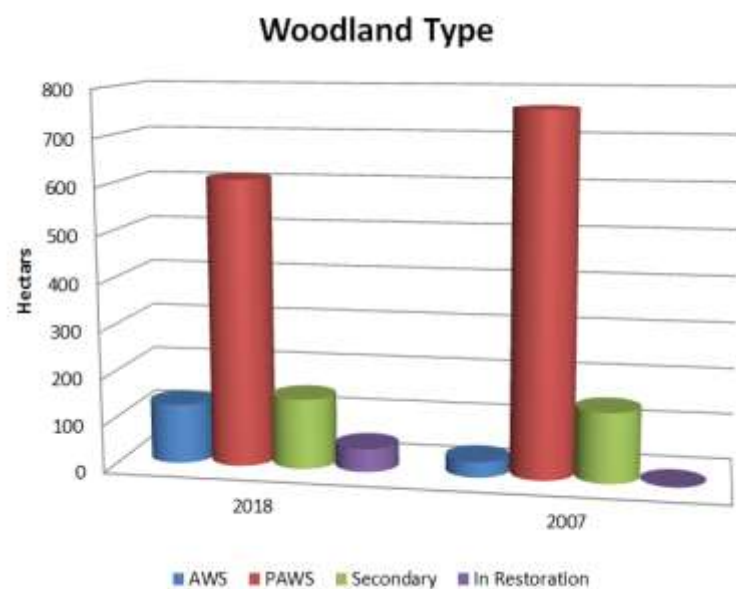
2. Review of the 2007 Forest Plans

The management objectives set out in the original Swynnerton and Bishops Forest Plans 2006-2007 for the gradual restoration of PAWS sites and the conservation of flora and fauna remain unchanged. In the last 10 years the Forestry Commission (FC) has restored 102ha of AWS, expanding the AWS by over 300%. An additional 49ha is now in restoration. The scale and speed of restoration has been influenced heavily by disease now affecting the health of the pine which has led to the early removal of some stands and following extensive storm damage in Swynnerton Old Park. The sudden loss of high forest was not anticipated and rate of removal of high forest (conifers) will be reduced in the future to ensure a more diverse woodland can be maintained longterm across all sites for wildlife and landscape benefits. The use of regeneration thinnings* has had limited success within the PAW's areas with little regeneration taking place and dense invasive vegetation becoming established. Where natural regeneration has been achieved this has been limited to just birch.

Phytophthora has also been identified in Burnt Wood and on private woodlands adjacent to Swynnerton Old Park Wood. This is a notifiable disease affecting a number of species including larch and sweet chestnut with infected stands having to be felled and infected material removed under special conditions. The presence of Phytophthora will influence the species choice and suitability in future rotations.

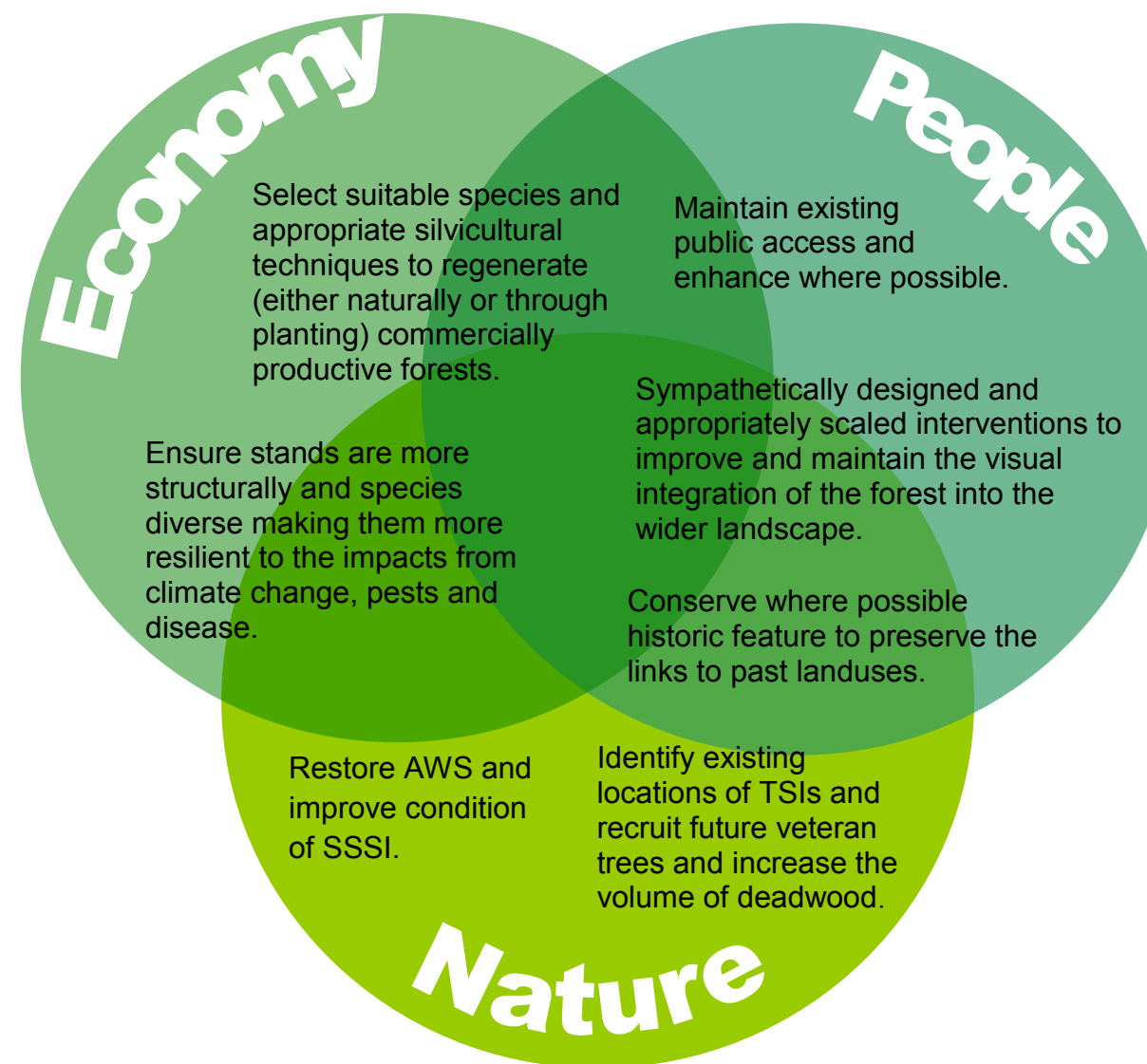
Ride widening has begun to increase available habitats for insects and lepidopteran and surveys undertaken in 2015 by Butterfly Conservation found that the majority of rides surveyed were in good condition.

Fig. 1 Transformation of woodland composition 2007 to 2018



3. Management Objectives

Protecting and Expanding England's Forests and Woodlands and Increasing their Value to Society and the Environment



NB—Management objectives arise from the Terms of Reference (Appendix I) written at the outset of each plan by the senior district management staff, beat team and planner.

3.1 Environmental

The primary objective for this Forest Plan will be the gradual restoration of AWS through the phased removal of conifers which will diversify the forest structure. The shape, size and frequency of felling patterns will be designed to create temporary open space and scrub vegetation that are sympathetic to the life cycles of some of the birds and invertebrates that reside in the forest. A variety of silvicultural* systems will be used to achieve this based on the light requirements of the tree species been planted or regenerating and any special consideration for soil and water protection, see silvicultural systems map.

Vegetation alongside roads and rides will continue to be widened as adjacent stands of trees are felled and restocked. A rolling cutting programme will then be introduced with each area being cut approximately every 4 years, depending on the target species and ground vegetation. The Forestry Commission will continue to work in partnership with Butterfly Conservation to ensure its future management provides a continuity of habitats needed by target species found within each forest.

There are currently a limited number of TSI* present but there are a large number of potential future TSI. Surveys have begun and will continue to identify the 'character' trees and they will be recorded within the FC conservation database as TSI to ensure they are retained in perpetuity. Any dead or dying trees will be retained where it is safe to do so to increase the volume of standing deadwood which is important to the lifecycle of many invertebrates. Some stable stands of broadleaves and conifer trees will also be retained as Long Term Retentions (LTR)

beyond their biological maturity to create future TSI and increase deadwood habitat. Fallen deadwood will be retained in areas where it does not inhibit other management objectives.



Pic 1. Old Birch in Tittensor Wood

3 areas have been identified as Natural Reserves* (2 in Big Bishops and 1 in Walton's wood) where a management policy of minimum intervention will be introduced to allow natural ecological processes to take place in the forest and create an undisturbed/unmanaged area for wildlife.

36ha of Burnt Wood has been designated as a SSSI* for the ancient semi-natural oak woodland communities it supports, with 672 species of invertebrates recorded. A new SSSI management plan has just been written by the FC and Natural England which outlines the specific operations needed to bring the SSSI and associated habitats into favourable or favourable recovering condition. All forestry operation within the SSSI area will be carried out in accordance to the approved SSSI management plan and any forestry operation adjacent to the SSSI will be designed to complement the SSSI management objectives.

There are a number of small water courses, open water and wet woodland habitats (W4* and W7*) found within each of the woodlands. These will be carefully managed when forestry operations are carried out in adjacent stands creating buffer zone around the water features which will reduce the risk of siltation, create varying light levels, allow an understory* to develop and provide valuable habitats for the flora



and fauna associated to these wetland habitats. **Pic .2 Pond in Little Bishops Wood**

The key species that have been recorded and need to be taken into consideration when planning forestry operations are; Wood ants, badgers, Woodlarks, Nightjar, Argent Sable Moth, over 400 hundred recorded Lepidoptera and caddis flies, adders and Dormouse although not seen since 2009 in the SSSI.

Rhododendron Ponticum species and Holly are invasive species most notably in the SSSI and the systematic cutting followed by treatment with herbicide to prevent or kill re-growth will be carried out when forestry operation are undertaken to ensure these two species do not inhibit the restoration of the AWS and associated ground flora.

3.2 Economic

Future felling patterns and silvicultural* systems used have been selected to achieve the management objectives for that area of woodland and maximise the economic returns from the crops to be removed ensuring the woodlands can be managed sustainably. Conifer stands* where stocking density allows will be thinned on a 5 year rotation and broadleaves on a 10 year rotation with the first thinning operation beginning when conifers reach 20years old and broadleaves 25years. The timing of these first thinnings may vary depending on the management objectives for specific areas or the habitat requirements of native flora and fauna.



Pic.3 Timber harvester

The 150ha of secondary woodland will largely be managed using commercial conifer species in future rotations. Stocking density and rotation length will be designed to maximise the volume of timber produced for each specific species planted.

Due to the recent storm damage following regeneration thinnings* on PAWS future thinning programmes will be delayed to allow the current stands to reach a higher stocking density and reduce the risk of further damage and loss of woodland habitat. Clearfells will be the most widely used silvicultural systems designed to create the appropriate planting conditions for the light demanding* species to be introduced in the next rotation. This will also provide the continuity of transitional open space essential for the woodlark and nightjar population. Some of the young Corsican pine stands have become so badly defoliated by DNB it is unlikely they will reach the age of first thinning (20 years). Where necessary these dead or dying stands will be cleared and the areas



Pic.4 Corsican pine infected by DNB

restocked. Halo thinning* operations will be used to create space for broadleaves within conifers stands to mature or for natural regeneration to become fully established. This will help mixed stands develop and diversify the conifer stands before their eventual removal. The harvesting programme shows predicted yields from both felling and thinning as 31,000m³ over the next 10 years and 143,000m³ over the next 50years. These figures are based on yield tables* and there is likely to be a short fall in some of the future yields predicted for young pine stands due to the effects DNB is now having on their growth patterns.

3.3 Social

3.3.1 Access

Burnt Wood is the only freehold woodland and has been dedicated as Open Access Land by the Forestry Commission. The remaining woodlands are leasehold and managed for forestry purposes only. Walkers, cyclists and horse riders use Swynnerton Old Park on a daily basis through an informal agreement with the landowner. Staffordshire County Council manages a car park adjacent to Swynnerton Old Park but there are no designated parking areas on FC land. Big Bishops, Little Bishops, Tittensor and Waltons Wood are managed under a lease hold agreement that prohibits open public access. The only right of access the public has into the woodlands is along a network of public rights of way that cross through the woodlands and are used on a regular basis

3.3.2 Heritage

The woodlands contain a variety of cultural features the most notable is the multivallate hill fort in Tittensor Wood and the Glass Furnace and wood banks in Big Bishops Wood all of which have been designated as a Scheduled Ancient Monuments (SAM). The SAM have their own detailed management plans drawn up between Historic English and the Forestry Commission and outlines how the surrounding vegetation will be managed. The Forestry Commission, in partnership with Historic English and Staffordshire County Council's Archaeology team, will ensure that the works associated with the agreed management plan for the SAM are implemented and consultation is carried out when forestry operations take place close to key archaeological features. Any features of cultural significance that may in the future be identified will be conserved wherever possible and managed in accordance with the FC Heritage Plan and where appropriate in consultation with the Historic English and Staffordshire County Council Archaeology team.

3.4 Intended landuse

The secondary woodland areas will continue to be managed using a variety of commercial conifer crops selected to be more resistant to the pine and larch stands currently being affected by both pests and disease. Recommended species based on Ecological Site Classification (ESC)* and climate change models produced by Forest Research show Douglas fir being the most productive species followed by Leyland cypress, Coastal redwood, Western red cedar, Giant Redwood, Oriental Spruce, Maritime and Monterey/ Radiata pine. When restocking takes place the felled areas will be restocked with 2,800 to 4,000 stems / ha depending on each species preferred habitat requirements. Planting will be distributed evenly across the whole site.

All other areas will be gradually reverted back to broadleaved woodland. The native species for this area is sessile oak and silver birch and these will be the favoured species. To help mitigate against the risk from climate change, pest and diseases a number of honorary native species will be used to enrich the future stands. These have been selected using ESC and will include Sweet Chestnut, Norway maple, Hornbeam, Sycamore and Wild service tree. Some individuals and small groups of conifers will be retained to increase biodiversity in future stands, provide winter cover and roosting sites for high nesting birds. The above species selection is not conclusive and alternative species may be considered as a minor component.

Due to the limited seed source available in the PAWS enrichment planting will be used following felling operations. Group planting across the felled area will be used to ensure a wide distribution of the desired species and natural regeneration will be encouraged in between groups to ensure all areas are fully stocked. This will allow mixed stands to develop in the next rotation that will be dominated by the natural regeneration of birch with small blocks of oak and honorary native species across each restock site.

Fig 2. Current Species

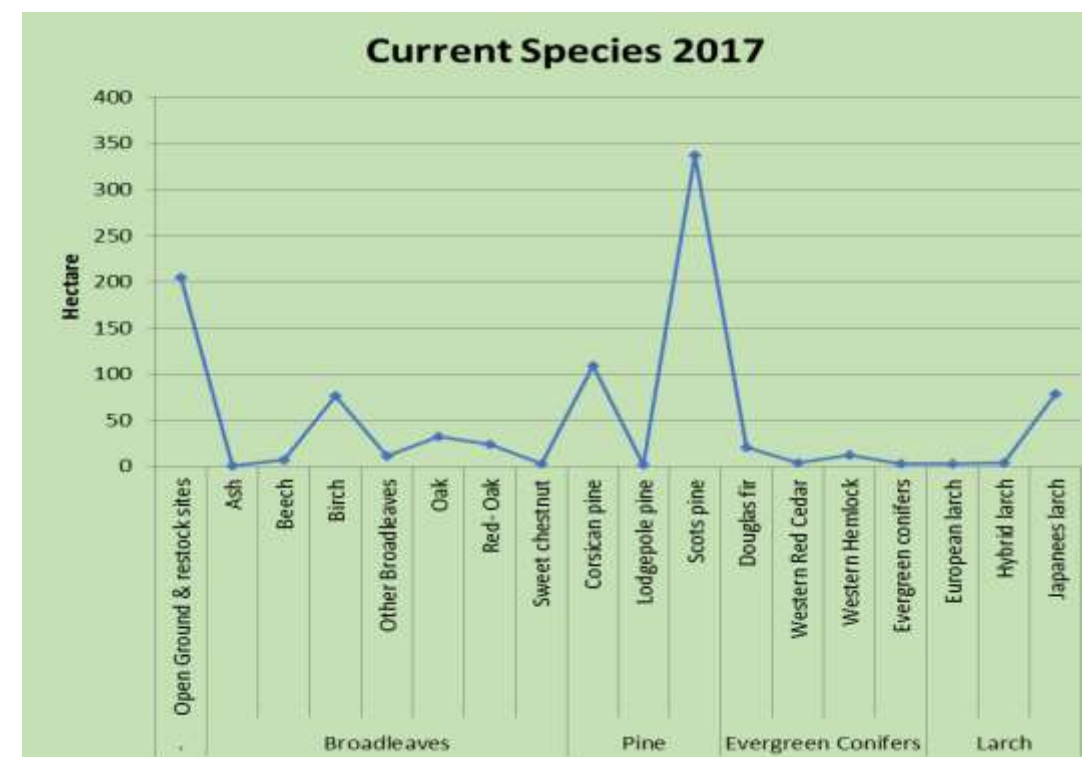


Table 1. North Staffordshire Forest Plan Contribution towards the Central District

Commitments to UWAS and UKFS

| | Forest Plan Area | Forest Plan Percentage | Forest District Area | Forest District Percentage |
|--|------------------|------------------------|----------------------|----------------------------|
| Total Area | 935 | 100 | 28,121 | 3.3 |
| Total Wooded Area | 895.9 | 95.8 | 23,820 | 84.7 |
| Open Habitat (>10%) | 30.8 | 3.2 | 4,301 | 15.3 |
| Natural Reserves - | | | | |
| Plantation (1%) | 0 | 0 | 171 | 1.4 |
| Natural Reserves - | | | | |
| Semi Natural (5%) | 18.3 | 2 | 370 | 3.2 |
| Longterm Retentions & Low Impact Silvicultural Systems (>1%) | 16.9 | 1.8 | 14,462.8 | 60.7 |
| Area of Conservation Value (>15%) including designations, PAWS, AW, ASNW, NR, LTR and LISS | 796 | 85.13 | 15,122 | 3.2 |

4. Consultees

| <i>The consultation undertaken in the preparation of this plan has been wide ranging and extensive. Full documentation including letters, notes of conversations etc. are held at our District Office.</i> | | | | |
|--|----------------|------------------------|---------------|------------------------------------|
| Consultee | Date Contacted | Date Response Received | Issues Raised | Forest District Response to Issues |
| | | | | |
| | | | | |
| | | | | |
| <p>As part of the local consultation ** stakeholders were contacted, notices placed on site, copies of the plan placed in; Loggerheads, Stoke and Stafford Reference libraries and on the FC website. Comments received and the Forestry Commission's responses will be recorded above.</p> | | | | |

6. Meeting and Monitoring Management Objectives

| National Strategy | District Strategy | Forest Plan Objective | Monitoring |
|---|--|---|---|
| <p>Economic:</p> <ul style="list-style-type: none"> Maintain the land within our stewardship under UKWAS certification, Improve the economic resilience of our woods and forests, Encourage and support business activity on and around the Estate. | <p>Adapting our management practices to suit the character and requirements of local woodlands whilst satisfying national standards and business requirements.</p> <p>We will use the opportunity presented by additional, unscheduled clear felling as a result of disease control to accelerate the diversification of both conifer and broadleaf species appropriate to each local area and site type, and in some areas trialling species which may not have been previously planted in forest conditions, using a range of silvicultural systems.</p> | <p>Initiate a structured and sustained programme of clearfell and thinning to include infrastructure requirements.</p> <p>Select suitable species and appropriate silvicultural techniques to regenerate (either naturally or through planting) commercially productive forests.</p> <p>Ensure stands are more structurally and species diverse making them more resilient to the impacts from climate change, pests and disease.</p> | <p>This will be reviewed every 5 years as part of the FP review process and any changes recorded in the sub compartment database.</p> <p>Once the crops start to produce commercial timber, production forecasts will be run to quantify the resources available and ensure longterm sustainable forest management. Production forecasts will be run annually and the data will form part of the Central Districts business plan.</p> <p>Stocking density, growth rates, stems/ha and species origin and provenance will be recorded and monitored.</p> |
| <p>Nature:</p> <ul style="list-style-type: none"> Improve the resilience of the natural environment of the Estate under our Stewardship, Realise the potential of the Public Forest Estate for nature and wildlife, Maintain and improve the cultural and heritage value of the Estate. | <p>Adapting more sensitive timber harvesting arrangements and adopting recent FC guidance on forest operations to reduce the impact of forest operations on soils and ground vegetation on sensitive sites.</p> <p>Contributing to and undertaking control programmes to limit the impact of deer and other species on woodland habitats in order to reduce the adverse impacts of grazing and disturbance to native habitats and their flora and Fauna.</p> <p>Where possible, work with interested parties to explore ways to maintain or improve features of cultural or heritage value to the local community.</p> | <p>Employ a variety of silvicultural techniques to maintain soil structure, stability and site infrastructure.</p> <p>Restore AWS by the gradual removal of exotic species over the next 60years, introduce a wide distribution of species that will be better suited to the impacts of climate change, pests and disease.</p> <p>Identify existing locations of TSIs and demonstrate appropriate management to recruit future veteran trees and increase the volume and distribution of deadwood.</p> <p>Ensure the timing and scale of forest management proposals complement the SSSI management objectives and habitat requirements of Lepidoptera and associated ground flora.</p> <p>Continue to work closely with Natural England, Butterfly Conservation, Staffordshire Wildlife Trust and local volunteers in monitoring and recording flora and fauna and review forest management accordingly.</p> | <p>Silvicultural systems are shown in the forest plan and will be reviewed prior to any operations taking place and maintain soil stability.</p> <p>The restoration of AWS and the introduction of a wider range of species will be monitored via the subcompartment database as part of the FP review process.</p> <p>Trees of Special Interest (TSI) and deadwood habitats will be identified and recorded on the conservation layer to ensure they are retained in perpetuity.</p> <p>The 5 year review of the SSSI habitat assessment will measure the improvement based on indicator species. Species records collected on rides and records of the FC ride side cutting programme will be reviewed every 5 years as part of the plan review.</p> <p>As part of the 5 year and 10 year FP review process, but not exclusively, stakeholders will be contacted as part of the forest management review.</p> |

6. Meeting and Monitoring Management Objectives (continued)

| National Strategy | District Strategy | Forest Plan Objective | Monitoring |
|---|---|--|--|
| <p>People:</p> <ul style="list-style-type: none"> Encourage communities to become involved in the Estate, its management and direction, Provide high quality woodland-based recreational opportunities for people and business, Enable everyone, everywhere to connect with the nations' trees and forests so that they understand their importance and act positively to safeguard forests for the future. | <p>Provide safe and accessible woodlands. Offer opportunities for quiet recreation and adventurous activities, to enable people to experience the potential health and wellbeing benefits.</p> <p>Encourage third party environmental educators and other partners to offer learning opportunities on the public forest estate.</p> | <p>Diversify species composition and structure, and plan sympathetically designed and appropriately scaled interventions to improve and maintain the visual integration of the forest into the wider landscape.</p> <p>Maintain existing public access and enhance where possible.</p> | <p>As part of the design plan review process the visual impact of harvesting operations on landscape will be made from key viewpoints to ensure their design is still appropriate. Any changes will be recorded in the revised plan.</p> <p>Public access and facilities will be monitored and maintained by the beat team on a regular basis throughout the year.</p> |