



Tentsmuir Land Management Plan Review 2024 Brief

Introduction

Tentsmuir Forest is situated on the north-east coast of Fife between St Andrews and Tayport. The Land Management Plan area covers 1573 hectares and comprises the northern block of Tentsmuir Forest (including Morton Lochs) and the smaller Reres Wood to the south.

This brief gives an overview of the proposed Land Management Plan for Tentsmuir and Reres Wood. The purpose of this document is to inform all stakeholders about the proposals so that they can provide feedback to FLS on their views. This document is accompanied by the following maps:

1. Issues and context
2. Design concept
3. Management coupes
4. Future habitats and species
5. Visitor services proposals

Management aims

Continue to produce quality timber and wood products. Promote tree health and timber quality through thinning and site-appropriate species selection on restocking sites. Broadleaves (particularly birch), pines and Sitka spruce are naturally regenerating in the forest and there is the opportunity to manage them to produce timber and wood products or use them to nurse/shelter preferred species.

Respond to the potential impacts of climate change. Increasing the diversity of tree species and habitats - including a broader suite of species that are tolerant to the changing conditions in the forest, and dune restoration in the areas at highest risk of flooding - will help to improve the overall resilience of the forest and the biodiversity it supports.

Enhance the quality of visitor experience. Ensure the flow of visitors in, out and around Tentsmuir is of high quality. Consider the impact of operations and choice of species on visitors' experience.

Key issues (Map 1)

We began the internal review process in late 2022, and carried out a scoping exercise with stakeholders and an online public survey to identify the key issues affecting the forest. The key issues have been captured in the Issues and Context map (Map 1), and are described in more detail in Appendix 1. The results of the public survey are available on the FLS Tentsmuir Consultation [webpage](#), and responses to the main themes that emerged from the analysis are provided in Appendix 2.

Plan objectives

- Reinvigorate the thinning programme to promote timber quality, stability, tree health and natural regeneration.
- Manage the future species choice to concentrate on productive forestry where possible but also diversify to improve future resilience and enhance biodiversity.
- Pre-empt coastal flooding and erosion for high risk areas (1 in 10 year risk).
- Pre-empt flooding of the Powie Burn and the drainage system in the next 10 years.
- Monitor and assess the drainage network so that it does not impact on the operations or access in the forest.
- Take opportunities to create a new windfirm edge along the north and east coasts and around Morton Lochs.
- Ensure appropriate levels of access for forestry operations, emergency services and the general public.
- Look for opportunities to enhance the quality of the visitor experience across the forest, especially accessibility to the beach.
- Manage land for protected flora and fauna species to improve habitats including adjacent designated sites.
- Protect heritage features within the forest.
- Continue to monitor and respond to DNB and other diseases within the crop.
- Increase wildfire resilience measures to reduce risks and support emergency response.

Plan proposal

Design concept (Map 2)

We have proposed maintaining low impact silviculture across the majority of the forest area, clearing windblow and phasing the removal of the Sitka spruce as it reaches maturity. We are also proposing to expand the area of native woodland between Morton Lochs and Fetterdale across the area damaged by Storm Arwen, which will be primarily broadleaf and Scots pine. This will connect to a new broadleaf and native woodland habitat network that will be gradually established through the forest as opportunities arise through the felling and thinning programmes, following the Powie Burn and connecting through to the south of the forest and onto the adjacent habitat beyond the edge of the forest block. The proposal also includes a dune

habitat restoration area along the north coast of the main block which was significantly damaged by Storm Arwen (see below).

Management coupes (Map 3)

The management coupes map shows how we propose to manage the forest. We intend to continue the low impact silviculture approach of the previous plan for the pine stands to deliver our objectives and maintain the character of the forest. These will be regularly thinned. We have scheduled felling coupes in Phases 1, 2 and 3 to harvest the mature Sitka spruce stands over the next 10-15 years, including the area of windblow in the west of the block. Where there are mature Scots pine or broadleaved trees in mixture with the spruce, these trees will be retained to provide a seed supply for establishing natural regeneration, and to provide continuity of tree cover for soil and habitat biodiversity benefits. Some coupes in the south of Tentsmuir and around the Powie Burn have been moved to minimum intervention to reduce disturbance for biodiversity and habitat improvement. Due to operational issues, we have also made the decision to move Reres Wood to minimum intervention.

Future habitats and species (Map 4)

We are proposing to diversify the species and structure of the forest to improve its resilience to future climate changes, provide improved biodiversity and habitat quality and quantity for wildlife, diversify the timber and wood products from the forest, and enhance the visitor experience. We will also maintain the pine structure of the forest which we know our visitors value, and which provide habitat for pine specialist species present in the forest. The accompanying map (Map 4) shows the long term vision for species, and the changes that are planned for the next 10 years have been highlighted with a black border.

The projected change in species over the next 20 years is shown in Figure 1 below. Sitka spruce will reduce over the next 20 years as it reaches maturity and is replaced by alternative species more suited to the site for the future climate (including Douglas fir and pine). A proportion of naturally regenerating Sitka spruce will be accepted as part of the diversification of the restocked stands. Scots pine will remain broadly similar, with a small dip where stands are thinned but new areas establish either through natural regeneration or underplanting. Corsican pine will reduce where stands with DNB are transitioned to alternative species through thinning and restocking. The area of broadleaves will increase through the restocking at Morton Lochs and Fetterdale, and the gradual establishment along riparian corridors, e.g. the Powie Burn.

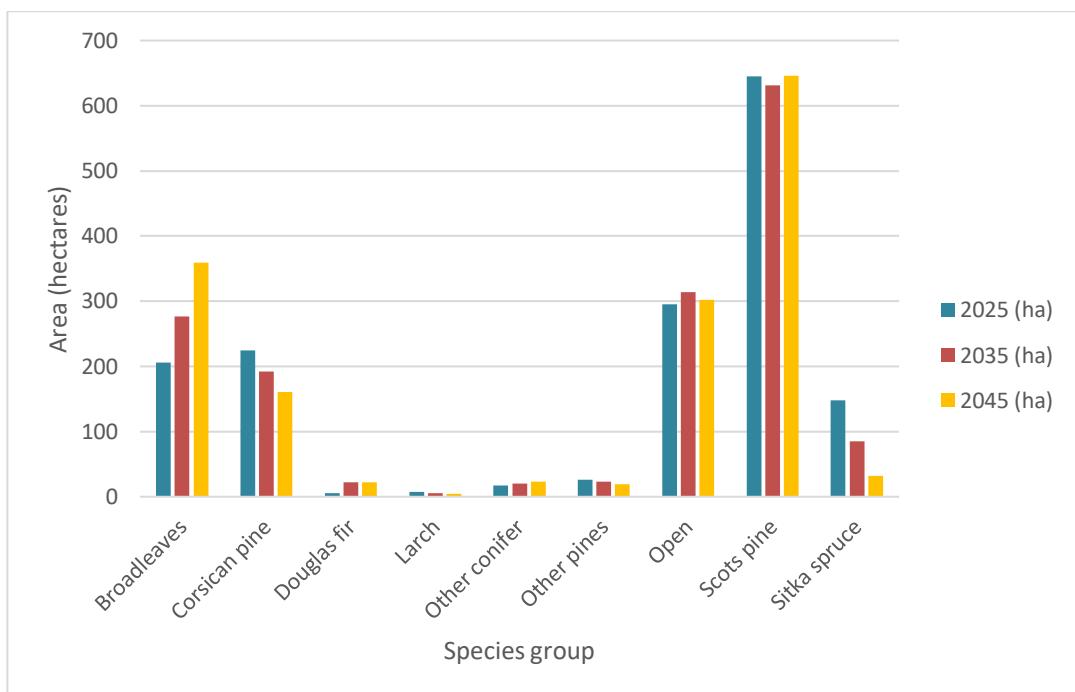


Figure 1. Projected change in species area over time, 2025 – 2045.

Visitor services proposals (Map 5)

A summary of the existing visitor infrastructure and management is provided in Appendix 3. Opportunities to enhance the facilities have been identified and are shown on Map 5.

Dune habitat restoration

The area of storm damage created by Storm Arwen in 2021 along the north coast has good potential for restoring the coastal ecosystem as there is both the surviving dune topography and vegetation on the site. The area identified for restoration is shown on Map 4.

Dunes fulfil important functions for coastal protection, by sheltering inland habitats from coastal flooding, and provide habitat for biodiversity, including butterflies, orchids, lizards and invertebrates. There are also positive benefits for human health and wellbeing from visiting coastal and marine environments.

Dune restoration along the north coast would expand and connect the NNR areas managed by NatureScot, and help to join up the existing coastal dunes and heathland along the coastal zone from Tayport to the Eden Estuary. The proposal for restoring the site is currently being developed with NatureScot, with the aim of re-establishing fixed and dynamic dune systems that support a high level of biodiversity. This will involve set up operations and ongoing management of regenerating non-dune vegetation.

Appendix 1 Key issues

Silviculture: The forest is generally sheltered and flat with an extensive road network and therefore can be worked in winter. Historically, it has been thinned for timber quality, tree health, and to transition the main pine crop to a low impact silvicultural (LIS) system. However, in very recent times the thinning programme has stalled due to other events (Covid and Storm Arwen response). Frost has been an issue for tree establishment in the past due to the site being very flat, and rank vegetation (weeds, grasses and bracken) on clearfelled sites can hamper natural regeneration of trees species.

Pine makes up 61% of the area. Dothistroma needle blight (DNB) is still present in the crop and has been suppressed by thinning for a number of years. While DNB is not currently causing trees to die, it has slowed growth and could compromise their resilience to future climate stress. Lodgepole pine(LP) and Corsican pine (CP) appear to be more affected than Scots pine. Most of the LP has been removed during the previous plan period, and the sites are regenerating with LP and birch. Due to the variable height of the water table across the forest, the roots may struggle to support the increasing height of the mature pine trees. Thinning may exacerbate this instability if the trees are being supported by enmeshed tree roots. Some stands of Scots pine have been managed for non-timber benefits which has led to stands with poor form, though it is unclear how much of this is due to genetic material, site conditions and management. Pine is regenerating in some areas where there are sufficient light levels and seed source, although their condition is variable and may be affected by either or both DNB and light levels locally. Pine is also regenerating onto adjacent designated open habitats, negatively impacting their condition and status.

The other main conifer species in the block is Sitka spruce (10% of area), planted primarily during the 1970s and 1980s and mostly regularly thinned. These stands are now reaching target diameter for harvesting. Sitka spruce was planted in areas where the water table is high, however the future climate projections mean that future suitability of the site for Sitka spruce is uncertain as summer droughts may become more frequent. Sitka spruce is regenerating in areas adjacent to the mature trees and dense regeneration along rides and roads is restricting access.

Birch is the principal broadleaf species, which is regenerating throughout the forest and particularly on sites harvested during the previous plan period to remove Lodgepole pine due to DNB. Birch has been respaced in the past to improve its quality; these stands would now benefit from continued management and thinning. Areas of other broadleaf species exist within the forest, particularly beech and sycamore around Kinshaldy and Fetterdale where soils are richer, and in these areas they are regenerating to create dense pockets, usually among pine stands or on sites previously affected by windblow and not restocked.

Windblow: Coastal areas are particularly vulnerable to storm damage. Damage from Storm Arwen along the north coast and around Morton Lochs has resulted in clearfelling of large areas. There are additional areas of windblow in the forest along the ash road and east coast, resulting in the Ice House visitor trail being currently diverted.

Drainage: The existing drainage system has historically required regular maintenance. Shifting dunes impact on their ability to function, risking internal flooding. The Powie Burn is currently blocked on the edge of forest block and risks flooding the Ice House road. Beaver activity has been recorded in the area and has created a new wetland area. At the time of writing, the beaver has now relocated to the drain by Kinshaldy picnic area. The drain running past the Kinshaldy picnic area is no longer reaching the sea, blocked by shifting sand dunes. It is backing up and risks flooding the car park. The trapped water from this and Powie Burn has created a large linear dune slack running parallel to the beach, which is hampering recreational access to the beach. Pressures on the drainage of the forest are likely to increase in the future due to climate change (see next bullet point).

Climate change: The mature pines along coastal areas are vulnerable to a rising water table and increased storm frequency. Tentsmuir and Reres Wood are both low-lying coastal sites and therefore exposed to greater risks of flooding and erosion associated with the projected increases in sea level and rainfall. Erosion may be sudden, for example during a storm event. Climate modelling suggests significant coastal erosion (particularly in the NE corner and to the northern edge of Reres) and coastal inundation (flooding), with anticipated sea level rise of up to 0.91 metres by the end of this century affecting the NE corner and Eastern edge. Any seawater inundation is likely to kill the trees and vegetation, possibly exacerbating the erosion. There is a risk that inundation or erosion will affect the route taken by the Fife Coastal Path, Sustrans NCN Route 1 cycle route and access from Tayport. River and surface water flooding may occur from changing rainfall patterns and the Powie Burn is likely to flood, although there is uncertainty regarding how the ground water levels will be affected by these changes. The risk of flooding along the Lundin Burn between Tayport and Tentsmuir is predicted to increase; although this is off FLS land, it may further hamper access to and from Tentsmuir. Frost damage may become less of an issue to tree establishment in the future, though this is uncertain. Meanwhile, tree growth contributes to reducing emissions by both sequestering carbon and through their substitution for fossil fuels or use in building construction.

Protected species and habitats: The forest supports several pinewood specialist species. Twinflower populations are located close to areas at risk of erosion and inundation. Rare moths and butterflies are monitored by local environmental groups. Other protected species of flora and fauna are also present in the forest. Coastal sand dune is a priority habitat; the forest contains relic dune topography and vegetation, and so has good potential for successful restoration.

Designated sites: The coast surrounding the forest is highly designated and encroachment of trees onto the dunes may negatively impact the quality and condition of these places. Both forest blocks contain WW2 heritage features along the coast which require protection.

Visitor experience: Tentsmuir attracts many visitors from Tayport, Dundee and beyond as it offers a unique coast and forest experience. The extensive network of roads and rides makes the forest popular for a wide range of activities (including horse riding, cycling, walking, running and orienteering). However, the waymarked Ice House trail is liable to flooding in places and is currently diverted due to storm damage, and there is no accessible path towards the coast as the dynamic dunes and soft sand make it virtually impossible to create a route accessible for all as far as the beach. Currently, access for anyone to the beach is severely hampered presently due to the presence of the dune slack mentioned above (see Drainage). Beach access is a primary motivation for many visitors (as shown by the visitor survey undertaken during 2022), making this a major issue. Meanwhile, the access and visitor experience from the Tayport entrance, which has approx. 60,000 visits a year, is very poor. The forest is well used by dog walkers, which can result in negative experiences for other users (see visitor survey report, 2022). There is inadequate toilet provision for visitor numbers. Other issues identified by the 2022 visitor survey included provision of safer non-vehicle routes through the forest, changes to hours the forest can be accessed, improved parking payment at the barrier, changes to signage and information, and changes to dog waste bin provision.

Deer management: There is natural regeneration occurring within the forest, however ongoing herbivore management will continue to be important for achieving successful natural regeneration to maintain the low impact silviculture approach and establishment of broadleaves. The rides and roads are overgrown and limit opportunities for shooting.

Health and safety: Fire risk management is important as fires regularly occur in the block, which are mostly due to wild camping and often in the north area close to Tayport. At present, core forest roads can become inundated with soft sand and roadside vegetation has narrowed them, restricting access for emergency services to deal with forest fires. The risk may increase in the future as the climate becomes warmer and the high risk period for fires extends. Emergency access to and from the beach is imperative. The dune slacks hamper easy access to the beach, and the route back can be difficult to identify. There are ongoing issues with the single track tarmac drive in to Tentsmuir, as the verges are severely potholed, causing damage to vehicles when they pass each other. There is an unknown quantity of UXO along coastal strips of both Tentsmuir and Reres with implications for health and safety during forestry operations.

Appendix 2 Response to comments received in the 2022/23 public survey

* Note: funding for proposals in Visitor Services plan is still to be identified

Theme: Improving access / car parking

Condition and width of the roads and passing points: The main road into Kinshaldy has been resurfaced since the initial consultation, and passing points have been added. There are no plans currently to widen the full length of the road, as it would require significant additional funding. The Morton Lochs road has also been resurfaced (Spring 2024).

Parking in other areas of the forest and at Tayport: An additional car park near the forest entrance has been proposed in the Visitor Services plan. The proposal for car parking at Tayport has been considered before and could be made possible with community and land owner involvement, however it is not within the remit of the LMP review.

Alternative methods of payment at the barrier: The Infrastructure is being upgraded to enable card payment at the barrier.

Increased horse box parking: A proposal for improved horse box parking is in the Visitor Services plan.

Safer routes for horses and cyclists through the forest away from road traffic: A non-vehicle route is proposed that will be sign-posted. There is a map showing the network of forest roads and rides for walking/cycling. Road and ride clearance is also planned that will improve access. A new route is also being proposed through the north-east area of the forest.

Reduced traffic presence in the forest: An additional car park near the forest entrance has been proposed in the Visitor Services plan, with a non-vehicle route through to Kinshaldy. This may reduce the number of visitors driving to the Kinshaldy car park.

Theme: No change/ do not change

The new LMP management has been designed to provide continuity of the current forest structure whilst also improving the health of the forest and improving habitat for biodiversity for the future and increasing access sensitively to allow people to continue using it.

Theme: Changing tree species

More diversity in tree species; more mixed stands; more native tree species; more broadleaved species: The proposed future species and habitats include increasing mixed and native habitat within the forest and also a large restock site at Morton Lochs. The proposed felling is to manage the 1980s spruce planting and transition to a more diverse structure.

Theme: Paths/trails

Provision of accessible footpaths within the forest/from the Tayport entrance that are suitable for buggies and wheelchairs: An accessible path to a viewpoint from the Kinshaldy car park has been proposed in the Visitor Services plan.

Improved access path to beach; more signage around forest, including to the beach: Improving access to the beach from Kinshaldy is being looked at, with options for improving signage and board walk being considered. A non-vehicle route is proposed that will be sign-posted. There is also a map showing the network of forest roads and rides for walking/cycling that is available from the Kinshaldy car park and can be added to the website.

Separation of cyclists and walkers, dedicated cycle trails: We do not intend to segregate paths, all users should follow the Scottish Outdoor Access Code.

A shorter path: The waymarked Ice House trail has been shortened to provide a shorter access and also due to ongoing risks from falling trees. An accessible path to a viewpoint from the Kinshaldy car park has been proposed in the Visitor Services plan.

Improved access to the Polish camp: The Polish Camp has been vandalised in the past, and we do not have plans to improve access.

Clearance of the windblow from paths and trails: Paths have been cleared where possible, but where not possible due to ongoing falling trees along the east coast the path has been diverted. Unfortunately the forest along the east coast has become too unstable to address in the short term without significant felling.

Theme: Managing for wildlife/ nature/biodiversity/rewilding

Increased emphasis on biodiversity - management for and protection of wildlife, flora and fauna; more open areas/wildflower meadow; wet woodland habitat: The proposal includes plans to increase connectivity within the forest through species selection. Managing the ride and roadside vegetation will encourage habitat for butterflies and moths. The area of wet woodland habitat is expected to increase and the future species map reflects this.

Rewilding – reduced management intensity, species introductions: We have identified several areas in the forest for minimum intervention to reduce the disturbance. The plan includes a large dune habitat restoration proposal along the north coast.

Control of invasive species such as rhododendron will continue to be implemented.

Theme: Other visitor facilities

Improved toilet facilities/composting toilets, camping/overnight stay options, and expanded visitor facilities e.g. event space, bigger café, visitor centre: There are no plans to increase the

opening hours at Kinshaldy as this increases the risk of antisocial behaviour (including fires), and the current arrangement keeps the forest quieter for wildlife. The possibility of overnight stays at the proposed additional car park may be considered. The toilet facilities at Kinshaldy are currently being looked at, although composting toilets are not suitable due to the high usage.

There are currently no plans for further commercialised development at the Kinshaldy site, although an additional event space has been identified. A number of comments were received regarding the noise from the generator and green energy for the Salt and Pine stand. They do have solar panels on their roof and use a quiet generator.

Theme: Dog-related issues

Some people are intimidated by large numbers of dogs with increased numbers of commercial dog walkers using the forest. Our warden is now year round rather than seasonal, he is based at Tentsmuir although he covers all our sites in lowland Perthshire and northern Fife. He will challenge unacceptable behaviour.

Dog waste and bin provision: We are looking at increasing the capacity of the existing dog bins but we do not have plans to increase the number as we don't have the resources to empty them.

Dog-free areas; concerns about dogs disturbing wildlife: Dog-free areas have been considered in the past but it is not possible to actively enforce them.

Theme: Increased information/education

We received comments on the opportunities to improve the level of information and education provided in the forest, e.g. about the wildlife, biodiversity and historical features in the forest, but also to educate about littering, sustainable foraging, and control of dogs.

There are several boards around the forest with information on species and habitats. We are not planning to increase the number of boards within the forest to 10ommerci the impact on the environment but we are looking at adding new visitor boards at the Tayport entrance.

Theme: Avoid further commercialisation

We received several comments from people who would not like to see any further development or commercialisation in the forest.

There are currently no plans for further commercialized development at the Kinshaldy site, although an additional event space has been identified. More information is available in the Visitor Services map.

Appendix 3 Existing visitor infrastructure and management

- Manage and maintain hard standing parking at the Kinshaldy access point for a maximum of 200 vehicles, and grass surface overflow capacity of 50 vehicles.
- Manage and maintain two picnic areas to the north and south of the car park.
- Maintain to a high quality existing accessible paths linking key areas within the car park.
- Manage and maintain the Ice House and Tayport picnic areas.
- Manage and maintain the play area at Tentsmuir Car park.
- Maintain a toilet facility open all year round at Tentsmuir car park.
- Manage and maintain one waymarked trail (where this is possible given the limitations of the site).
- Sign post an access route to the beach for visitors parking in Tentsmuir car park.
- Maintain forest wide visitor finger posting, to enable visitors to easily find key areas of interest across the forest area using the core path network.
- Maintain the main tar access road to a standard that is safe for use by visitors.
- Maintain two bridges over the drain leading to the toilet block and on the beach access.
- Provide and revise as required fixed interpretation in the main car park to assist with site orientation, but also highlighting Tentsmuir NNR, local wildlife and other points of visitor interest.
- Provide and revise as required a leaflet containing up to date and relevant visitor information. These will be distributed via dispensers on site, to local tourist information hubs, and to local communities hubs when requested.
- Manage and maintain web based visitor information for Tentsmuir Forest.
- Continue provision for dog waste disposal in the car park.
- Work with our partners at NatureScot and other key partners on a holistic visitor management approach to the whole of the Tentsmuir Forest area.
- Work with our partners at Nature Scot to jointly manage negative and antisocial behaviour across the whole site, in accordance with the Scottish Outdoor Access Code.

- Continue to work closely with Fife Coast & Countryside Trust and Sustrans to ensure that visitors using nationally promoted trails routed through the forest have a safe and enjoyable experience.
- Provide equestrian parking as separate from the main visitor parking.
- Continue to provide both contract and in house ranger support to:
- engage with visitors to promote positive visitor behavior
- provide information about the site and surrounding area to visitors and local communities
- monitor, challenge and report antisocial behaviour, where this is not in the spirit of the Scottish Outdoor Access Code
- proactively liaise with Emergency Services to facilitate access and assist in any way possible during fires and other emergency situations
- Manage visitor vehicle access and car parking at peak visitor times
- Liaising with event managers using the forest area ensuring that events do not impact unreasonably on other visitors
- Managing litter and fly tipping across the forest area
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- Work with emergency services and other partners to ensure that emergency service access to key parts of the forest and beach are maintained.
- Continue to work with our lessees at Salt and Pine to ensure that the food and drinks unit complements the visitor offer at Tentsmuir.
- Maintain current site opening times to minimise after hours antisocial behaviour when staff are not present, but also help to reduce the reduce sustained visitor numbers have on local wildlife.
- Liaise with local communities about planned forest operations to ensure visitors are kept safe.