The Isle of Man

South District Management Unit Plan

2025 – 2045

Review 2035

Title – Evening light on Cronk-ny-Arrey-Laa (Credit Paul Marriott)

Isle of Man Government
Reiltys Ellan Vannin

Department of Environment, Food and Agriculture

Rheynn Chymmyltaght, Bee as Eirinys

BIOSPHERE ISLE OF MAN

OUR LANDSCAPE OUR LEGACY

The Isle of Man is a unique island nation that understands and respects its natural resources and offers a sustainable living, working and leisure landscape that offers opportunities for growth and resiliently delivers benefits and enjoyment to our residents and visitors

Signed:	**Head of Forestry, Amenity & Lands**	**Date**
Signed:	**Director of Forestry, Amenity & Lands**	**Date**
Signed:	**Chief Officer**	**Date**

For IOM Use only:				
Plan Period September 2025 – August 2045	**Approval Date:**		**Approval End Date:**	
10 Year Review Date	**10 years from date of approval**			

1. South District – Long Term Plantation Plan

i) Background & Purpose

The Isle of Man Government manages 2,877 hectares (ha) (7,109 acres) of plantations that were first established in 1885. The southern plantations represent 1,348ha hectares (3,332 acres) and are located from St Johns and Port Erin in the south (refer to the location plan below).

All plantations are managed by the Department of Environment, Food and Agriculture (DEFA), through its Forestry, Amenity and Lands Directorate (FALD).

The plantations offer recreational opportunities, serve as vital habitats for various species, and constitute a significant source of timber, thereby providing an important economic resource for the Island.

Recently plantations have suffered from *Phytophthora ramorum* killing much of the larch, and windblow has further affected recreational access.

Much of the plantation estate has surpassed its expected growth period leading to extensive windblow, high susceptibility to future windblow, low resilience, and areas of diseased larch. As a result, significant restructuring is needed, involving the harvesting of more timber than the Island can utilise. Timber will be harvested for both local use and exported to the UK to generate income for plantation management. All exports must comply with global sustainability and international standards.

These markets require evidence that the timber sourced is compliant with the EU 2023/1115 Regulation on Deforestation Free Products[1] (EUDR, 2023)

To facilitate this process, we have produced this management plan towards our aim to obtain plantation certification through the Forest Stewardship Council (FSC®) and to and to meet DEFA's vison and objectives.[2]

- to create attractive and sustainable 'places' and an economy achieving long term growth, whilst improving the quality of life in the Isle of Man
- to sensitively manage and encourage recreational and commercial activity across the estate for the benefit of our community, our economy and our visitors
- to embed climate change action to transition to our net zero future
- to work to ensure that our food is safe, our community is free from agents that will affect our health and to reduce pollutant discharge into our water, land or air
- to build on the high quality of life enjoyed by our community, ensuring the efficient and responsible use of land, environmental and other physical resources, and infrastructure
- our vision for the Island's energy future is one in which our net zero ambition supports the economic strategy, taking advantage of the latest low carbon technologies, and optimising our own abundant natural resources, making us more independent and prosperous
- to provide educational and nature-based amenities for our community and visitors

[1] The goal of the EUDR is to guarantee that the products European Union (EU) citizens consume do not contribute to deforestation or forest degradation worldwide.

[2] https://www.gov.im/about-the-government/departments/environment-food-and-agriculture/defas-objectives/

- to monitor and protect tree health and seek to maintain the woodland environment and character of the countryside
- to work to ensure that the valuable biodiversity resources are properly managed and effectively conserved for future generations
- to operate an efficient sawmill that plays both an integral part to our forestry management plan, and offers a quality Manx product for our community

FSC® forest management certification confirms that forested areas are managed to strict environmental, social and economic standards. There are ten principles [3] that any forest operation must adhere to before it can receive FSC® forest management certification. These principles cover a broad range of issues, such as monitoring the environmental and social impacts[4] of the forest management.

The Isle of Man Government commits to the FSC® principles and criteria and to related policies and practices of forest management through adoption of the principles of the United Kingdom Forest Standard (UKFS) [5] (GOV, 2023) and the United Kingdom Woodland Assurance Standard (UKWAS) (UK Woodland Assurance Standard, 2024) set within existing Isle of Man National regulations and policies.

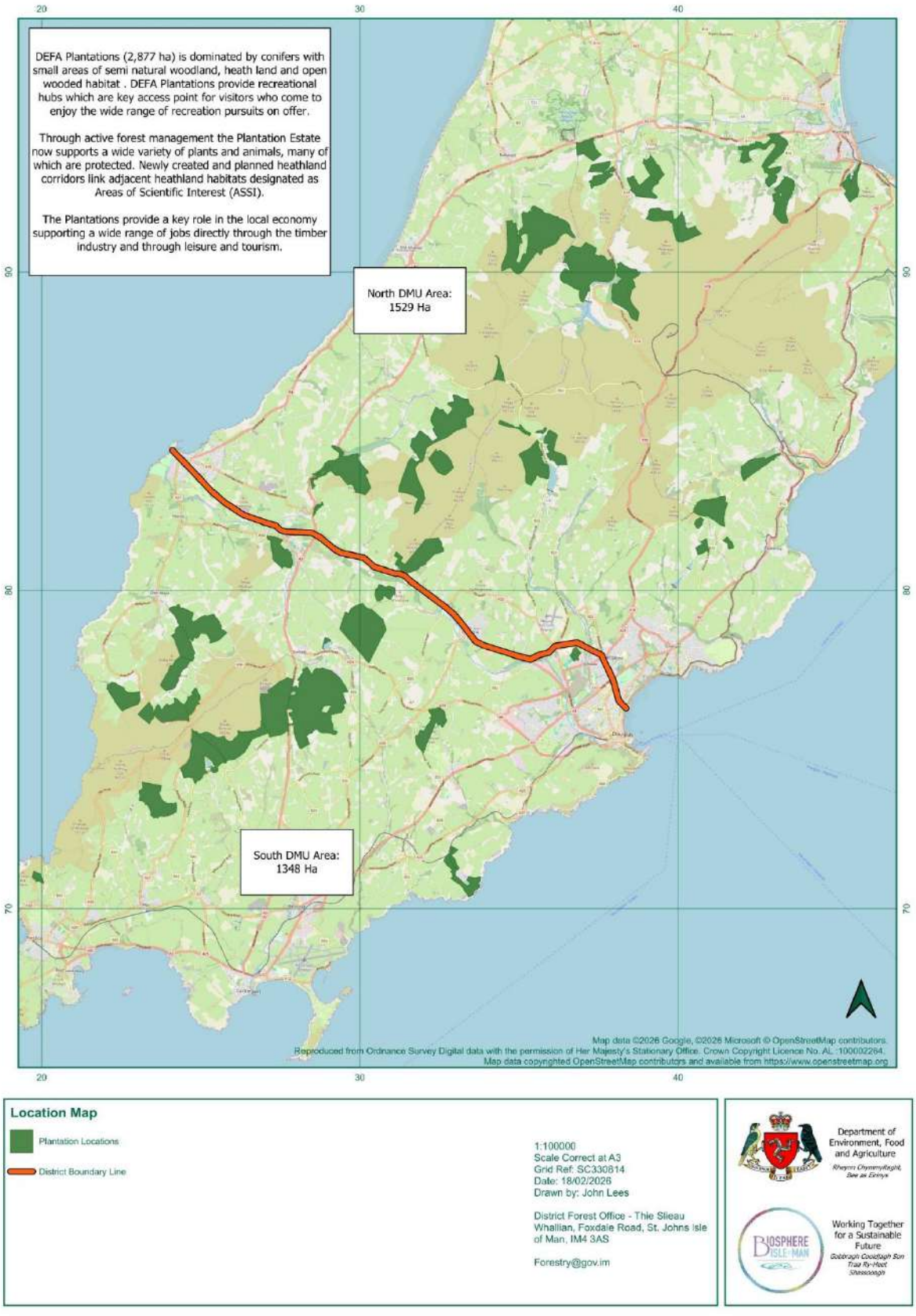
It is the aspiration of the DEFA to achieve full FSC® status within the next five years.

Certain technical terms and phrases are used in the text as they accurately describe the activities discussed. Definitions for these terms are provided in the glossary at the beginning of this document.

[3] https://uk.fsc.org/what-is-fsc/fsc-certified-forests

[4] https://uk.fsc.org/impact

[5] The UK Forestry Standard (UKFS) sets out the UK government's requirements for sustainable forest management, covering biodiversity, climate change, soil, water, landscape, and the historic environment. It applies to all woodland regardless of ownership and serves as the basis for regulation, monitoring, and international reporting https://www.gov.uk/government/publications/the-uk-forestry-standard



Location Map

Plantation Locations

District Boundary Line

1:100000
Scale Correct at A3
Grid Ref: SC330814
Date: 18/02/2026
Drawn by: John Lees

District Forest Office - Thie Slieau Whallian, Foxdale Road, St. Johns Isle of Man, IM4 3AS

Forestry@gov.im

Department of Environment, Food and Agriculture

Working Together for a Sustainable Future

2. Summary

The vision for the nations plantations outlines the delivery of forest policy at a national level. This is supported by the 'National Plantations Management Plan' document which directly oversees the implementation of policy actions in the nations plantations and thereby the proposals identified and implemented by the two District Management Units (DMU).

Our task is to realise the potential of all the plantations in our care for sustainable business opportunities, wildlife and nature conservation, and the enjoyment and well-being of local people and visitors. Each of our plantations support the economy through local jobs, sustainable timber production and the provision of recreation and tourism opportunities. All are partly funded by revenue from timber sales and recreation provision.

This task is implemented through individual ten-year Plantations District Plans that identify local issues and the broad silvicultural management of the woods. DMU Plans are reviewed every five years.

3. What are Forest Plans

Forest Plans are produced by FALD, as a means of communicating the management intentions through maps to a range of stakeholders. They aim to fulfil several objectives:

- To provide descriptions of the plantations to show what they are like now.
- To show what the intention is for the plantations to look like in the future.
- To detail the management proposals (felling and restocking) for the next ten years so approval can be requested from DEFA.
- To evidence that the proposals and associated operations are economically, environmentally and socially sustainable. The aim is to ensure that the produce from the plantations will be endorsed by the Forest Stewardship Council® (FSC®) as being produced from woodlands under good management that meet the requirements of the Controlled Forest Management Standard[6] with an ambition to adopt and follow the principles of the UKWAS and the UKFS and set within the Isle of Man (IOM) national regulations / Forest Strategy / Policy.

In accordance with the Island's Tree Preservation Act 1993 (TPA), all qualifying trees on the Isle of Man are regulated by DEFA, and permissions must be obtained before any felling or pruning activities take place. Under the TPA, DEFA is not required to seek approval for its own tree-related work. Given the scope of tree felling addressed in this plan, the Plantation Plan is used as the mechanism for seeking necessary approvals. Responsibility for ensuring that the plan complies with all relevant standards and statutes rests with the FALD. If all criteria are met, full approval is granted for management operations during the first ten years from the date the plan is approved, and outline approval is provided for the medium-term vision, covering ten to twenty years.

Section 6, terms of reference, set out our management objectives for the plan area, how these relate to district and national policies, and how these will be monitored. A plantation plan or felling and

[6] https://connect.fsc.org/document-centre/documents/retrieve/ad74dcfa-a1c4-42be-a798-0759fa61fc64

restocking plan is written at a landscape scale. It does not set out the detailed yearly management operations for each small piece of a wood, known as a coupe.

For operational and logistical reasons, it is not possible to say in which year a particular operation will take place, but it is possible to state which five-year period it should happen in. Before felling and restocking operations are undertaken, operational plans are written by the Forester. These detail the site-specific features that need considering when undertaking operations. This plantation plan does not deal with the management of recreation, ecological or archaeological features. Planning for these elements is done through the wider DEFA family

3.2. Planning and District Context

The National Plantation Management Plan for the nations forests outlines the delivery of forest policy at a national level. At a regional level there are two District Management Units (DMU) covering the country that directly oversee the implementation of policy actions in the nations forests. North DMU is an extensive area encompassing the area north of the A1 between Douglas & Peel.

Our task is to realise the potential of each of the plantations in our care for sustainable business opportunities, wildlife and nature conservation, and the enjoyment and well-being of local people and visitors. Each of our forests supports the economy through local jobs, sustainable timber production and the provision of recreation and tourism opportunities. All are funded by revenue from timber sales, recreation provision and Department annual budget.

3.3. Engagement

A scoping exercise is conducted by combination of letter, e-mail and online consultation hub, seeking stakeholder and interested party comment on the proposals.

Features raised and responses concerning this proposal are recorded into a consultation record held at DEFA and available on request subject to a data protection impact assessment (DPIA).

3.4. Application for plan approval dated:

i) Plan Area

Forest Management unit: SOUTH

Office: Thie Slieau Whallian, St Johns

Area: 1,348 ha

Management zone	**Dalby**	**Slieau Whallian**	**South Barrule**
Main RV Point	SC246759	SC368778	SC275766
Area	328	323	697

Table 1 – South DMU Zone Information

The South DMU has been divided into three zones that identify local issues and the broad silvicultural management of the woods and so that felling maps can be clearly shown at a scale of 1:25,000 or

below. The names used by FALD to refer to each plantation area are shown the South Zonal Map appended.

ii) Designations

Feature	Area (Ha)	% of plantation		Area (Ha) of plantation in 2035	% of plantation in 2035
Heath	52.5	3.89%		52.5	3.89%
LISS (including other areas of native broadleaf)	37.36	2.77%		37.36	2.77%
LTR[7]	162.46	12.05%		162.46	12.05%
Natural Reserve[8]	47.49	3.52%		77.05	5.71%
Natural Reserve SNW[9]		%		7.5	0.49%
Open Ground (managed for conservation, including heath)	109.42	8.11%		120.43	8.93%
Quarry	15.6	1.16%		15.6	1.16%
Non-Designated	922.49	68.41%		877.05	65.04%
Buildings and Grounds	1.14	0.08%		1.14	0.08%
Area Special Scientific Interest (HCV[10])	n/a	n/a		4.87	0.36%
Total South	1348.46	46.87%		1348.46	46.87%

Table 2 - Summary of key features & designations by area

See South Designations Map appended.

iii) Date of commencement of plan

As soon as possible after the approval date.

Area (ha)	Conifer	Broadleaves	Total area
Felling	362.29	80.17	442.46
Restocking*	-79.78	67.84	-11.94**
Thinning	170.26	n/a	170.26
LISS[11]			37.36

Table 3 – 10-year felling and restocking by area

**Subject to ongoing monitoring of restock sites, natural regeneration will be managed through respacing and removal as required to meet the objectives of a specific site. **The negative restocking figure is due to increase in integrated open ground and restoration/improvement of habitat connectivity in the uplands.*

[7] Reference Section 8 Glossary

[8] Reference Section 8 Glossary

[9] Reference Section 8 Glossary

[10] Reference Section 8 Glossary

[11] In addition to the above felling, 37.36 ha will be managed using Lower Impact Silvicultural Systems (LISS). This will be done through the removal of small groups of trees, removing no more than 40% of the stems within any single compartment over the plan period. This operation will provide sufficient light to boost growth of understorey and ground flora, allow adequate space for the development of crowns and stem form for quality timber and accelerate individual tree growth.

4. The plan

4.1. Introduction

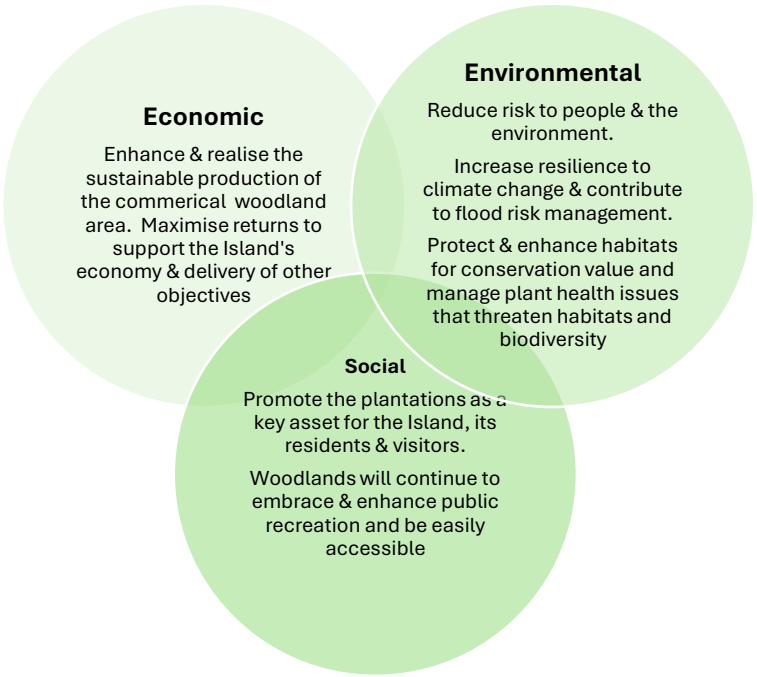
This plan sets out the management proposal for the next 20 years and facilitates approval for felling and thinning; for the next 10 years, including a mid-term review at the 5-year point and will cover the five management zones within the Southern District.

For over a century, the Isle of Man Government has managed and cultivated more than 2,800 hectares of national forests, ensuring these resources serve current and future generations. Through strategic planning and expert stewardship, the North DMU is positioned to remain productive, delivering a sustainable timber supply and offering accessible spaces for recreation and reflection, all while supporting local ecosystems and wildlife. FALD's mandate encompasses the responsible planning and replanting of plantations to achieve long-term sustainability by balancing economic, social, and environmental priorities.

This management plan outlines proposals for the next 20 years, facilitates approval for felling and thinning activities over the next 10 years. It also incorporates a mid-term review at the five-year mark and addresses the five management zones within the Northern District.

4.2. Management objectives/ Forest Plan Outcomes

i) The Isle of Man strategic objectives



ii) Economic

Enhance and realise the sustainable productive potential of the existing commercial plantation areas where appropriate over the long term, whilst maximising economic returns to support the Island's economy and contribute to the delivery of other objectives.

Image 1– Noble fir infected with Phytophthora ramorum at Cringle

Opportunities exist to support DEFA objectives, such as the operation of an efficient sawmill[12] that offers a quality Manx product of low carbon footprint for our community from timber that is harvested sustainably. Sustainable timber refers to timber that has been harvested responsibly. This reflects that when one tree is harvested, another is planted to replace it.

Phytophthora ramorum has had devastating impacts on the health of larch and some firs, reducing growth rates, gradually weakening the trees and in most cases, killing them. To counter the effect, gradual felling at Cringle of Noble fir (photo) and Larch at Slieau Whallian has created suitable growing conditions for naturally regenerating native and other conifer species such as hemlock species less suited to large, exposed clearfell sites.

In some instance underplanting will allow site to be managed productively again while phased removal of the larch and some firs takes place. However, the worst affected will be clearfelled and restocked.

In the next 10 years the early removal of larch stands will lead to a drop off in larger log sizes and may affect economic returns from the forest. To help mitigate the impacts of climate change, pests and diseases on the future health of the forest, FALD will begin introducing a much wider variety of tree species. New timber markets have also been established to build economic resilience.

Dothistroma Needle Blight (DNB) has had a measurable impact on the growth on the Corsican pine within Slieau Whallian, Stoney Mountain and Arrasey over the last decade. DNB causes the trees to shed needles each year, reducing growth rates, gradually weakening the trees and in some cases, killing them. To counter the effect of the DNB, the Corsican pine stands are being thinned and rows of trees removed. This will increase aeration in the crowns of the trees, reducing the damp conditions where the fungus spreads rapidly. Felling rows of trees will create suitable growing conditions for shade tolerant species less suited to large, exposed, clearfell sites. This underplanting will allow the site to be managed productively again while phased removal of the Corsican pine takes place. Some younger Corsican pine stands (<25 years old) which are worst affected will be clearfelled and restocked. In the next 20 to 30 years the early removal of Corsican pine stands will lead to a drop off in larger log sizes and may affect economic returns from the forest.

Rabbit and hare populations are currently at a level that any browsing damage is not preventing regeneration or planting stock becoming established. Populations will be monitored and active

[12] https://www.gov.im/categories/business-and-industries/isle-of-man-sawmill/

management carried out where necessary to ensure population density does not increase and prevent the forest regenerating.

The district will maintain regular pheromone trapping to monitor for invasive invertebrates and implement the IPMS for the monitoring of and maintenance of the plantations as identified within the National Plantation Management Plan section 4.4.

Income generation from leisure and tourism is becoming increasingly important and FALD will continue to support local businesses based in and around the district through the provision and promotion of new and existing recreation facilities in the forest. Additional facilities will be developed at key sites such as South Barrule.

iii) Nature and Environment

Part of the plan is to reduce the risk to people and the environment through sustainable woodland management, whilst increasing resilience against the future effects of climate change. This is in part achieved by positively contributing to local flood risk management. Protecting and enhancing habitats to maximise their conservation potential will be a priority, whilst also committing to dealing with plant health issues and invasive plants and animals that threaten habitats and biodiversity.

The plantations support a wide variety of flora and fauna with high conservation value, including several nationally and internationally protected species. FALD works with the DEFA Ecosystem Policy Team and has a good working relationship with the MWT, in monitoring, conserving and enhancing local populations and associated habitats.

Heathland habitat covers around 12% of the Island and is a valuable habitat with international significance. Heathland vegetation occurs widely on mineral soils and thin peats (<0.5m deep) throughout the uplands and moorlands and are characterised by the presence of dwarf shrubs at a cover of at least 25%, including Ling or Common Heather, (*Calluna vulgaris*), Bell Heather (*Erica cinerea*), Cross-Leaved Heather (*Erica tetralix*) Western Gorse (*Ulex gallii*), and Blaeberry (*Vaccinium myrtillus*).

Various types of habitats can be found on heathland including blanket and raised bogs. Blanket bog vegetation may also contain substantial amounts of dwarf shrubs but is distinguished from heathland by its occurrence on deep peat (>0.5m).

Image 2 - Stonechat

At South Barrule, registered heathland is recognised as comprising an important area between the A3 and Stoney Mountain. Opportunities are being taken to link the large area of internal open heathland and previously planted heath with the gradual removal of trees from less productive areas.

This work also supports opportunities for the recruitment of dead wood and veteran trees which are recognised for their important contribution to a range of species and within this area and become noted areas of natural reserve.

Other important habitats of High Conservation Value (HCV) include sites at Slieau Mooar and Glen Rushen Area of Special Scientific Interest (ASSI)[13] which are designated as part of an important river habitat corridor. These comprise of areas of damp acid grassland interspersed with mire and bog vegetation including orchids, sedges, and bog asphodel. The Glen Rushen River runs alongside the plantations (tributaries within) and is noted for its valley mire vegetation and scattered broadleaved trees including willow scrub, ash, elm and alder and rowan. This diversity provides habitat for birds including Hen harrier, Chough and Peregrine falcon.

Restoration measures have already been undertaken with the Manx Peat Partnership[14] and the plantations contribute to this through the removal of conifer and increased area of vegetated acid grassland and mire, with low density planting of broadleaves along the Glen and the internal tributaries feeding it in accordance with the agreed ASSI designation documents to keep it in favourable condition and keeping control of encroaching vegetation.

Within the Isle of Man two sites are listed by Birdlife International as important bird areas (IBA) (a non-statutory/informal recognition of the importance of the area for birds): the Isle of Man Sea Cliffs, for species such as red-billed chough (*Pyrrhocorax pyrrhocorax*) and European shag (*Gulosus aristotelis*) and Isle of Man Hills, for Hen Harriers (*Circus cyaneus*). Many of the southern plantations fall within the Isle of Man Hills IBA.

Key watersheds and watercourses are linked to or fall within our plantations such as the designated watercourses; River Neb which links with Slieau Whallian and tributaries within South Barrule and Arrasay Plantations and Silverburn River linked to the Cringle reservoir and plantation.

Plantations situated adjacent to designated wildlife sites or areas of wildlife significance will be taken into account during operational planning and included as part of an Operational Site Assessment (OSA).

FALD will undertake mitigation measures when forestry operations take place, and conifers will gradually be removed from water bodies in accordance with the Code of practice for protection of Water (CPPW)[15] and the UKFS Forestry and Water Guidelines[16]. Within the water catchment boundary, felling will be (subject to stability & disease) limited to <20% of the plantation area within the water catchment in any three-year period. In time, broadleaved buffers will be established around water courses, improving habitat quality and reducing interception of rainfall. In addition, lower impact silvicultural systems (LISS) such as group shelterwood will be used in conifer stands and the 'semi natural woodland' above and within the riparian areas of Slieau Whallian, Cringle & Corlea, increasing the area of native broadleaf (NBL). This will help in reducing potential for movement of soil nutrients or runoff following felling operations.

[13] https://www.gov.im/protectedsites
[14] https://www.manxpeat.org/
[15] https://www.gov.im/media/279019/code_of_good_agricultural_practice.pdf
[16] https://cdn.forestresearch.gov.uk/2006/03/ukfs_water_fcgl007.pdf

Image 3 (left) - Cringle reservoir and plantation with existing open ground, shrubs and recently established areas of native broadleaf to provide a buffer within this important watershed area.

Image 4 (right) – New native broadleaf established in areas previously planted with conifer.

As outlined within section 5.6 of the National Plantation Management Plan, FALD's work within DEFA to protect our watersheds has included installation of more than 50 timber leaky dams installed within the River Neb catchment to help reduce downstream flooding, re-wet habitats and trap contaminated silt high up in the catchment.

Deadwood habitats are very important for woodland ecology, and the management team will ensure deadwood habitats are retained as operations are carried out, where safe to do so, in both broadleaved and conifer woodlands. Other opportunities will be taken to recognise and increase deadwood habitat, retaining existing deadwood (where safe to do so) within areas of integrated open ground, natural reserves, riparian areas and forest margins.

Over the next ten-year period, one of FALD's management objectives is to increase the area of scrub habitat along woodland edges and heathland corridors for the benefit of birds to create temporary open space created through felling operations. The plan is to have >1.5ha of open / scrub for ground nesting birds where they are known to occur, with notable edge-favouring species consisting of Hen Harrier and Stonechat.

iv) Community/People/Social

The plantations will be promoted as a key asset for the Island its residents and visitors. Plantations will continue to embrace and enhance public recreation and be easily accessible.

The Isle of Man receives over 270,000[17] visitors a year, of which 80% come to enjoy the countryside and outdoor recreation. FALD's focus is for plantations to help absorb the large numbers of visitors in the landscape while still retaining the sense of a 'wild place'. FALD will continue working with partners such as the Coffee Cottage and Ape Man, to support existing areas and new sustainable business and leisure facilities including play areas, bike trails for all levels of experience, picnic areas, cycle hire, walks and parking facilities as identified within section 5.3 of the National Plantation Management Plan. See recreation and access map.

Within Kerroodhoo plantation the Dalby Community Woodland Group established native broadleaf woodland through the removal of Norway spruce (*Picea abies*) to create more diversity and provide a

[17] https://www.gov.im/media/1352012/our-landscape-our-legacy.pdf

range of habitat. Replanting undertaken with native trees that have been grown locally, consisting of Birch, Oak, Alder, Hazel and Ash.

Image 5 - Opportunities within the South District include the possible redevelopment of the 'Foresters Cottage' as a holiday cottage and additional recreational area.

Image 6 - LISS will be employed to maintain continuous forest areas surrounding integral public facilities such as the 'Zurich MTB track' and children's play areas at Archallagan.

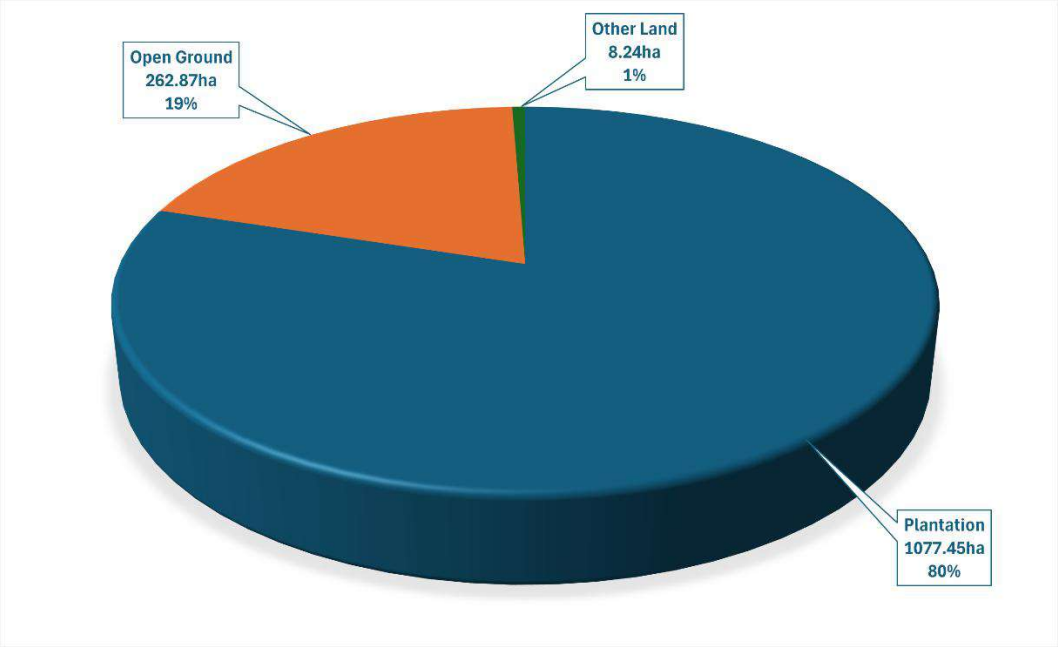
The Plantations were established over a hundred years ago on former agricultural ground. There are no classified or registered historical features within the estate, however there are Tholtans[18], often found scattered across the Manx landscape and several are known within the plantations. These derelict buildings provide a glimpse into the Island's rural past and the lives of those who once inhabited them. When planning operations, FALD will ensure all heritage features are conserved and managed in

[18] Manx word for describing the ruins of an old home

accordance with UKFS, UKWAS and Manx National Heritage guidance (see Section 5. National Plantation Management Plan).

4.3. Restructuring & Landscape

i) Current plantation composition



Land Use	Hectares	Area %
Plantations	1077.45	80.5
Open ground	262.87	19.64
Other land (Water & Infrastructure)	8.24	0.62

Table 4 - The current land use on the Isle of Man. Represented as a Chart 1 above

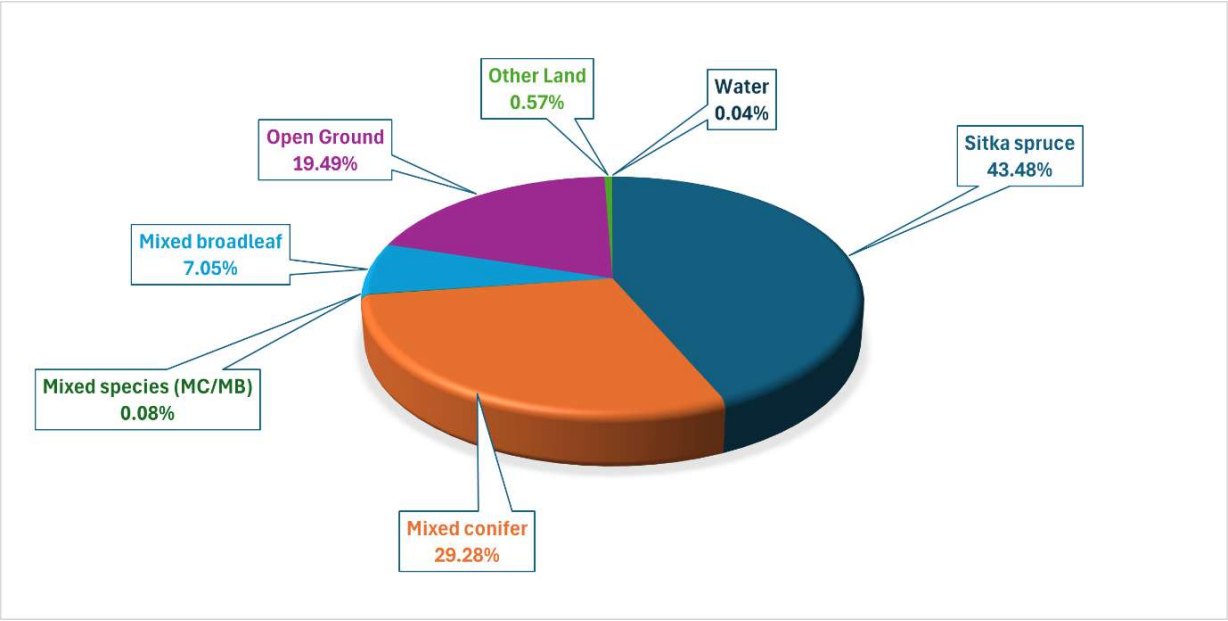
The area covered by the Plantation Plan amounts to 1,346.5 ha of which 1,077.43 ha is woodland. Of the planted area, 73% is conifer and 7% is broadleaved woodland. Of the plan areas, 19.52 ha is currently open space; this element will increase and decrease rotationally due to usual clear-felling, thinning and restocking operations and natural regeneration. The plantations will be managed sustainably in line with, FSC®, UKWAS and UKFS guidance (see Section 2.9 in the National Plantation Management Plan).

The plantation age class distribution shows a forest estate characterised by a highly uneven structure, shaped by discrete historical planting periods rather than continuous establishment. A large proportion of the forest area is concentrated in a small number of cohorts, particularly those established in the late 1950s–1960s and the mid-1980s, which now dominate the mature and near-mature age classes. Earlier plantings are present only in limited, fragmented areas, while younger age classes are relatively under-represented, reflecting variable and lower levels of restocking in more recent decades. With no scope for forest expansion, future change in the age structure will occur entirely within the existing forest area through felling and restocking. This distribution highlights the need for a carefully phased, long-term harvesting and restocking strategy to progressively smooth the age profile, maintain

continuity of cover and yield, and improve the resilience and stability of the plantation resource over future management periods.

Species	Sitka spruce	Mixed conifer	Mixed conifer/ broadleaf	Mixed broadleaf	Open Ground	Other Land	Water	TOTAL
Hectares	586.39	394.91	1.07	95.08	262.87	7.75	0.49	1348.56
Area %	43.48	29.28	0.08	7.05	19.49	0.57	0.04	100

Table 5 - The current species composition of the plantations within the DMU. Represented as a Chart 2 below



See current species maps appended.

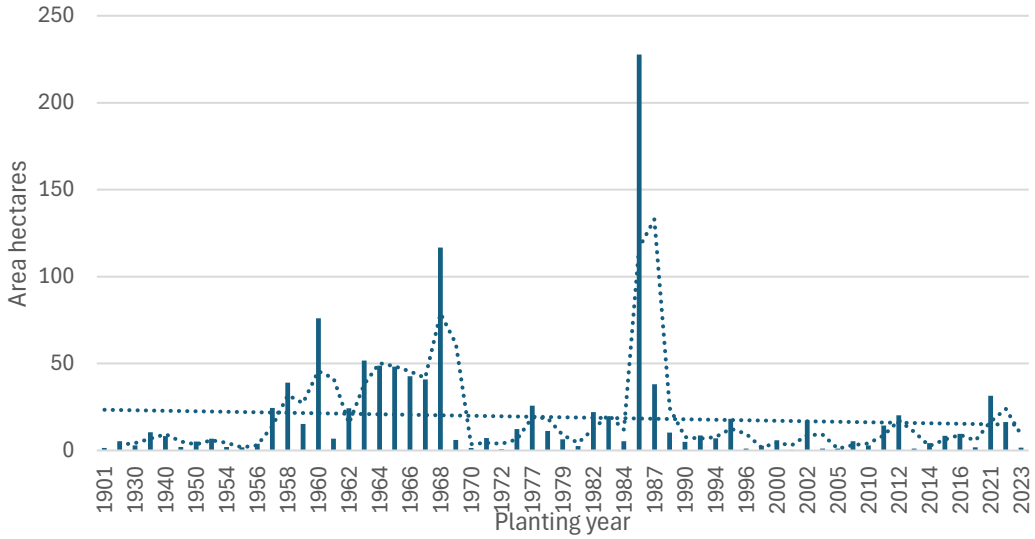


Chart 3 - Current age class distribution within the DMU

ii) Yield Class

The measured yield class for Sitka spruce ranges from 8 –24 and Mixed Conifer (MC) from 6 – 18. The minor elements of slower growth with crops established on poorer soils and heather checked areas such as areas in Cringle and Earystane. The higher YC 12 - 24 indicates the plantation is highly productive and with conditions suitable for growing commercial Sitka spruce and MC.

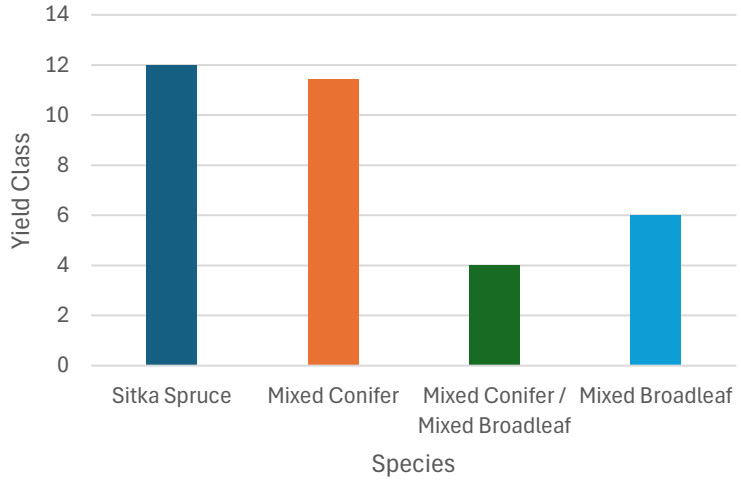


Chart 4 - Average Yield Class by Species within the DMU

iii) Wind Hazard Classification

The National Plantation Management Plan identifies the wind hazard class (WHC) ranging from 2 – 5 across the Island however, some areas of the south district lie within sheltered valleys with diverse conifer and areas of native broadleaf. This allows the potential for the increased use of LISS in the future.

4.4. Concept & Analysis

The operational and silvicultural considerations of management are identified on the concept and analysis maps which identifies and considers the wider Island environment and considerations for management of our plantations with reference to section 2.9 of the National Plantation Management Plan.

The plantations are of local landscape importance. The plan identifies the key opportunities and constraints of the plantations in relation to the long-term forest structure and identifies opportunities to.

- Re-design the overall scale and shape of felling coupes and the internal structure and edges to fit closely with the local landscape character.
- Assess where to promote higher proportion of open spaces and broadleaved woodland within the plantation as it progressively restructured in the coming years, to reduce the overall impression of blanket coverage.
- Diversify species composition and structure, and plan sympathetically designed and appropriately scaled interventions to improve and maintain the visual appearance of the

plantations. It is envisaged that there will be greater opportunity to increase the use of mixed native broadleaves with open space within the plantation boundary to improve the aesthetic value of the plantations both internally and in the wider landscape.

This will be achieved by the increased use of open ground with broadleaves to provide connectivity between areas of plantation for wildlife, watercourses and longer-term structure between coupe boundaries and the use of LISS.

Archallagan has undergone recent harvesting because of extensive windblow, and areas previously planted on boggy ground with high surface water will be gradually felled and linked throughout the plantation. Edge transition 'green lace' zones will be created to contribute towards reducing flood risk above St Johns & Crosby whilst providing important integrated open ground and areas of native broadleaved within the plantation. This work will support efforts to improve the ecological potential for the site, and it is noted that "*the eventual colonisation of most of the wet heath by wet woodland is inevitable without management intervention, but likely to be very slow*." (Archallagan Plantation, Foxdale Ecological Plan - commissioned by DEFA and produced by the Manx Wilfie trust, May 2017).

Corlea and Cringle will be replanted within the watersheds with native broadleaf species across all areas that are clearfelled, whilst retaining well thinned mature stands as natural reserve with extensive deadwood increased structural diversity. Some areas within will be managed as LISS through sensitive selection of diseased conifers alongside accessible areas to gradually recruit naturally regenerated trees.

Kionslieu was converted from Sitka spruce to native mixed broadleaved in 2010 to protect the reservoir and will be maintained as a natural reserve area within the district.

LISS employed within pine infected with Dothistroma needle blight is seen as opportunity to minimise immediate landscape impacts of felling, recruiting mixed species in the understorey.

South Barrule plantation, dense natural regeneration of both native broadleaved and spruce is currently utilised to replace recent windblown cleared areas to maintain continuity in the landscape and access for all users as a 'recreational hub' supporting local businesses and employment. Opportunities will be sought to provide additional facilities and trails such as the 'Buggane'[19] trail and review opportunities to manage the plantation surrounding these facilities as LISS in the longer term.

[19] The Bugganes are huge ogre-like creatures, said to be covered in black hair, with claws, tusks and a large red mouth. Bugganes tend to live in old ruins, forests or waterfalls and are said to becalled upon by the fairies to punish people that have offended them.

Image 7 - Slieau Whallian will utilise LISS through use of shelterwood systems alongside the Garey Ny Cloie Gardens Glen and Mullen E Cloie footpath, maintaining a sense of continuity in the landscape and minimising the visual impacts of felling of this visually sensitive woodland above St Johns and enhancing the existing Semi Natural Woodland (SNW) features above the river neb. The forest edges will be manged to create a gradual transition with the Slieau Whallian registered heathland above.

Image 8 - At Stoney Mountain the registered heathland will link with other areas of internal heath and integral open ground within the plantation. These will be interspersed with areas of pine as long-term retentions and those of poor growth with standing deadwood as natural reserve, providing useful foraging opportunity and transition with the plantation and surrounding landscape.

The plantations at Sileau Mooar and Glen Rushen will be managed to prevent encroachment of the plantations into the adjacent area of high conservation value ASSI. The plantation shall be drawn away from the bog and riparian areas with the use of low density native mixed broadleaf and mixed shrubs and open ground.

Earystane, will be managed as a long-term retention (LTR) area due to low yield class of the spruce and pine grown within this plantation. Its isolated location means that it has limited recreational potential.

4.5. Future Composition and structure

The plantations will be managed in line with reference to Section 2.9 (Silviculture) and Section 7 (Operational Plans) of the National Plantation Management Plan, through a process of restructuring by clear fell and replanting to create a more dynamic age structure and promote greater diversity.

i) Harvesting

The key management objective is to sustainably produce quality conifer and logs of varying sizes for a variety of markets, whilst conserving other important features. FALD have had to adapt harvesting operations over the last 10 years in response to windblow events and the declining health of infected larch and pine crops, with many being removed decades before their due felling dates. However, this has allowed increased diversity in age and species to be introduced into the forest, building on resilience to the future impacts of pests, diseases and climate change over the next century.

The effect of DNB on the more mature Corsican pine and Scots pine stands is currently moderate and FALD hopes to be able to manage these on their conventional economic rotation cycle.

LISS will be used including at Stoney Mountain within the younger Corsican pine crops (25 to 40 years old) where small group felling will be employed where the pine still retains some needles and will continue to grow, but badly affected trees will be clearfelled.

Small group felling is a phased removal of trees which maintains forest canopy cover. This helps protect the soils and retain a stable microclimate, benefitting woodland ecology. It will help create more sheltered planting sites, supporting establishment of alternative species less tolerant of exposure. This will allow a much wider range of species to be introduced of both broadleaf and conifer species, developing mixed stands and mitigate potential landscape impacts of clear-felling.

Similarly, at Slieau Whallian, methods such as crown thinning and small group felling (<2ha) in the LISS stands will be used to encourage regeneration, and where present, allow it to become established. LISS or coupe felling will not take place until the adjacent felled areas have become fully established (2m growth).

The plantations are currently and increasingly subject to wind blow and are largely un-thinned. The design of the existing forest roads and rides enables felling patterns to be employed which soften linear boundaries, improving the plantations appearance in the landscape; constraints such as wind blow may place an emphasis on early felling to achieve age class and structural diversity.

ii) Intended Land Use

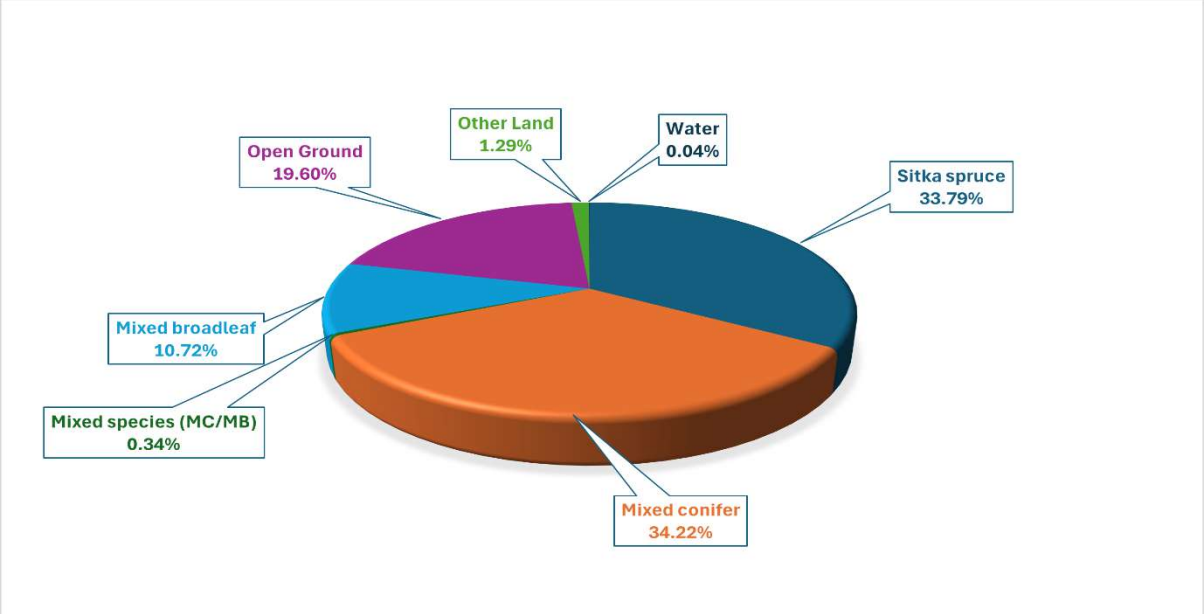
The future age class distribution reflects a planned restructuring of the existing plantation area, with no increase in overall forest extent. The current balance of habitats, approximately 73% conifers, 7% broadleaves and 20% open space, will broadly continue into the next rotation. In the short term, the early removal of windblown and diseased larch will result in a temporary increase in young age classes and a corresponding reduction in mid and late-rotation stands. This pattern represents a transitional phase driven by necessary felling and restocking, after which the age structure is forecast to stabilise, with mid-rotation stands again forming the dominant component of the forest.

Over the medium to longer term, restocking within the existing forest area will progressively rebalance the age structure while improving resilience. A portfolio approach to restocking will be applied, incorporating a wider range of species, natural regeneration where appropriate, and the use of planting stock of nearest local provenance and, where suitable, material sourced from 2–5 degrees south. The objective is to avoid future dominance by any single species, with no more than 65% of the estate composed of one species, up to 20% as secondary species, and a minimum of 5% native broadleaves. This approach, including the development of some mixed stands and the active management of both conifer and broadleaf plantations for high-quality timber, is intended to smooth age-class distribution over time, reduce vulnerability to pests, diseases and climate change, and secure a more resilient and sustainable plantation structure for future rotations.

iii) Expected species composition

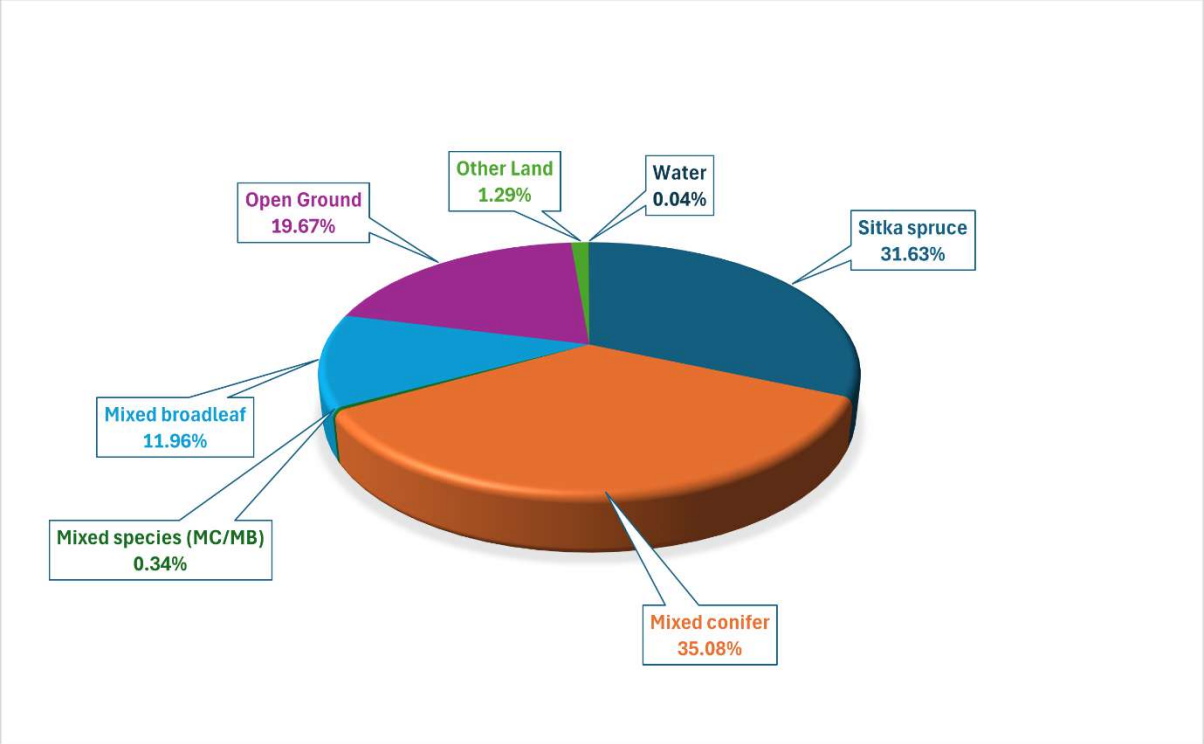
Species	Sitka spruce	Mixed Conifer	Mixed species	Mixed Broadleaf	Open Ground	Other Land	Water	Total
Hectares	455.72	461.49	4.63	7.09	264.30	17.34	0.49	1348.56
Area %	33.04	34.47	0.35	10.80	19.74	1.30	0.04	100

Table 6 - Expected species composition by area as of 2030. Represented as Chart 5 below



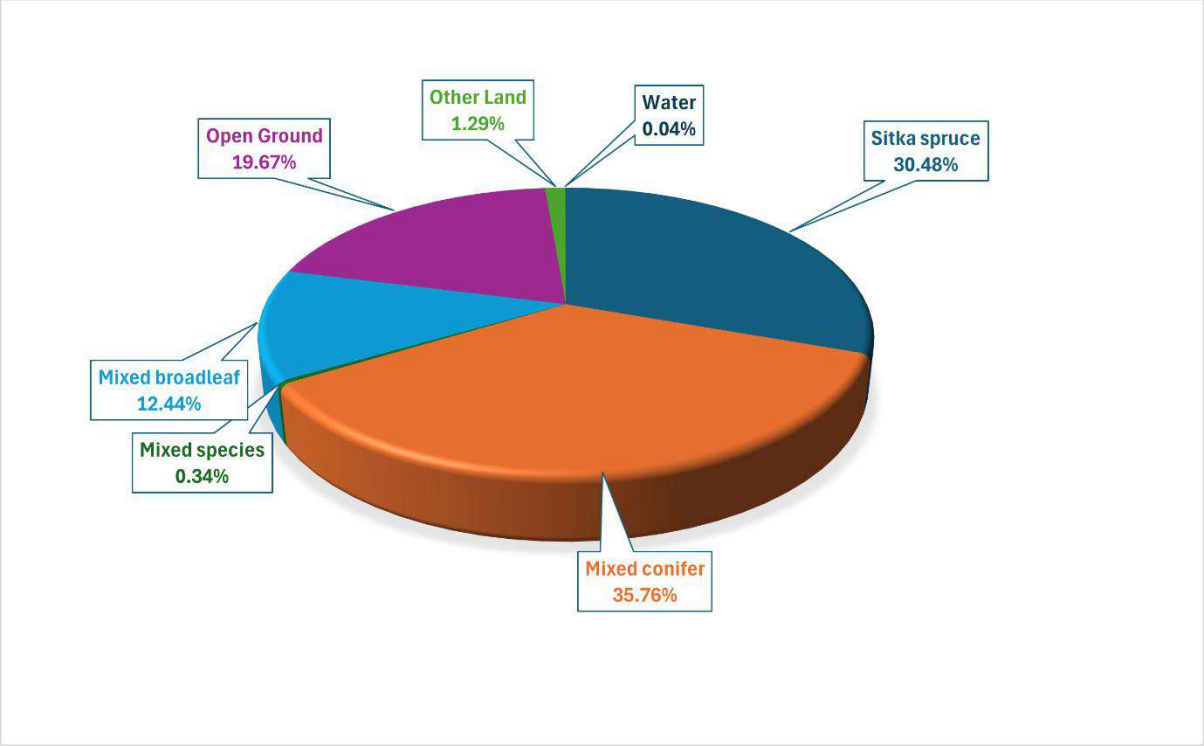
Species	Sitka spruce	Mixed Conifer	Mixed species	Mixed Broadleaf	Open Ground	Other Land	Water	Total
Hectares	426.54	473.09	4.63	161.23	265.24	17.34	0.49	1348.56
Area %	31.63	35.08	0.34	11.96	19.67	1.29	0.04	100

Table 7 - Expected species composition by area as of 2035. Represented as Chart 6 below



Species	Sitka spruce	Mixed conifer	Mixed species	Mixed Broadleaf	Open	Other	Water	Total
Hectares	410.98	482.18	4.63	167.70	265.24	17.34	0.49	1348.56
Area %	30.48	35.76	0.34	12.44	19.67	1.29	0.04	100

Table 8 - Expected species composition by area as of 2045. Represented as Chart 7 below



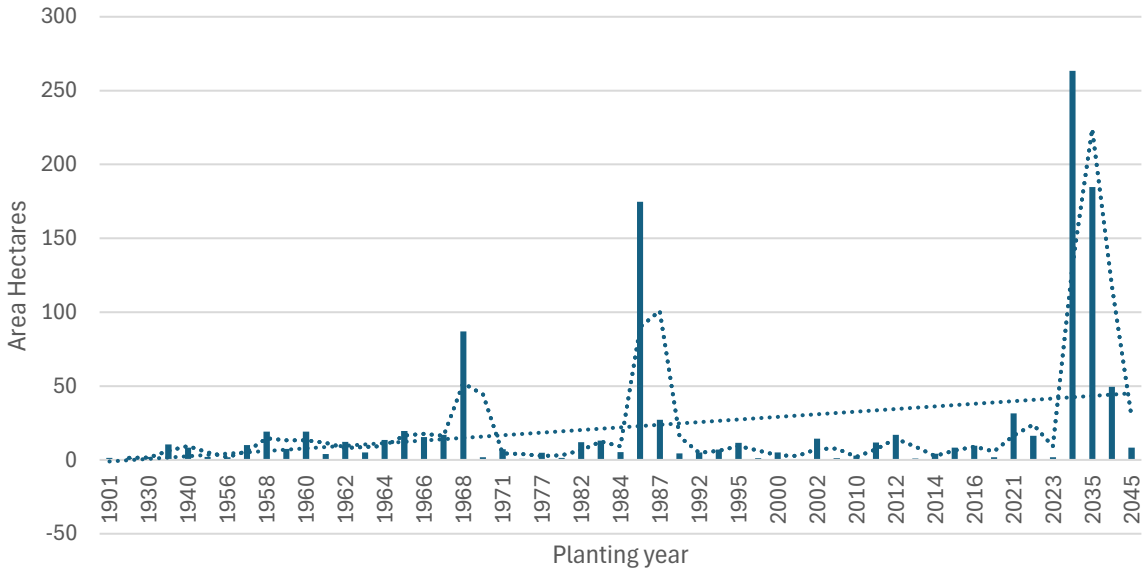


Chart 8 - Age class distribution in 20 years within the DMU

5. Terms of Reference

i) Management Objectives and Monitoring Plan

Strategic Objective	NPP Objective	Plan Objective	Method	Review Period
Enhance and realise the sustainable productive potential of the existing commercial plantation areas	Enhance and realise the sustainable productive potential of the existing commercial plantation areas where appropriate over the long term, whilst maximising economic returns to support the Island's economy and contribute to the delivery of other objectives.	Continue to grow commercial broadleaves and conifer crops using a variety of species that will be more resilient to the impacts of climate change, pests and diseases to maximise yields. Ensure no one species dominates the forest in future rotations	Forecast and record DMU production records. Diversify species composition and structure, and plan sympathetically designed and appropriately scaled interventions to improve and maintain the visual appearance of the plantation	Timber receipts and DMU records reviewed annually and summarised every five years
	Increase the plantation climate resilience, diversifying species and enhancing biodiversity, using a range of silvicultural systems	Select suitable species and appropriate silvicultural techniques to regenerate commercially productive but more structurally and species diverse and resilient plantation	Record changes in the sub compartment data base (SCDB).	Operational Site Assessments (OSA) and DMU records reviewed annually and summarised every five years

Reduce risk to people and the environment through sustainable woodland management, whilst increasing resilience against the future effects of climate change. Positively contribute to local flood risk management.	To map and identify areas of environmental value to be able to sensitively manage operations to minimise potential impacts whilst taking opportunities to maintain and increase areas available for important species and habitats and including more sensitive timber harvesting arrangements where feasible to reduce the impact of plantation operations on soils and water on sensitive sites.	Assessment of impacts on protected species and their associated habitats and mitigation implemented in line with relevant legislation, guidance and policy, including Schedule 1 birds. To record increased use of native broadleaves and managed areas of riparian woodland.	Enhance riparian and natural reserve areas with increased use of native broadleaves and promote semi naturalness by the gradual removal of exotic species. Operations will consider potential impacts on protected species and their associated habitats. Where required, suitable mitigation will be implemented in line with relevant legislation, guidance and policy. Local HAB records checks, site surveys and OSA. Diffuse pollution control planning and record water quality during potentially hazardous operations.	Pesticide decision records, Operational Site Assessments and DMU records reviewed annually and summarised every five years
Protect and enhance habitats to maximise their conservation potential whilst committing to dealing with plant health issues and invasive plants and	Limit and control the impact of invasive species on woodland habitats and reduce the adverse impacts to native habitats and their flora and fauna	To record partnership working to deliver nature conservation across the district including control of invasive species	Continue to work in partnership with stakeholders to deliver nature conservation across the district & manage peatland habitats away from areas	Operational Site Assessments and DMU records reviewed annually and summarised every five years

animals that threaten habitats and biodiversity			with increased visitor pressure.	
	Work with interested parties to explore ways to maintain or improve features of cultural or heritage value to the local community.	Undertake appropriate management to recruit future veteran trees and increase the volume and distribution of deadwood away from areas of high public use.	Creation of heathland corridors, deadwood and scrub habitat including >1.5ha of open areas at Stoney Mountain and Archallagan Conserve features of cultural significance including, veteran trees, earthworks and *Tholtan features*	Operational Site Assessments and DMU records reviewed annually and summarised every five years
Promote the plantations as a key asset for the Island its residents and visitors. Plantations will continue to embrace and enhance public recreation and be easily accessible enhance public recreation and be easily accessible.	Provide safe and accessible plantations for quiet recreation and adventurous activities, to enable people to experience the potential health and wellbeing benefits.	Monitor access, signage and maintenance records of facilities including paths and mountain bike tracks	Maintain plantation roads in good condition and liaise with hauliers and local users.	Operational Site Assessments and District management unit records reviewed annually and summarised every five years
	Developing partnership with private businesses and public bodies to expand and improve	Facilities developed in partnership are protected from plantation operations and opportunities taken to	Promote the use of the plantations from which an extensive network of promoted trails for walkers,	Operational Site Assessments and DMU records reviewed annually

	recreational opportunities across the estate.	maintain or further develop them.	horse riders, and mountain bikers originates.	and summarised every five years
	Creating a wide variety of opportunities for schools, groups, families and individuals to engage with and learn about trees and forests in accordance with the National and District Strategies.	Consultation record held of management plan process and ongoing facilities are suitably signed with relevant information pertaining to plantation operations	Support the recreation and leisure businesses on site and in the local area by creating a diverse plantation that will deliver a wide range of ecoservices.	OSA and Records of consultation and District management unit records reviewed annually and summarised every five years

Zone	Plantation	Area (ha)	Rational for retention
South Barrule	Fleshwick	7.2	To maintain buffer and provide shelter and nesting opportunity alongside the Designated Wildlife Site: 1971/001
South Barrule	Earystane	70.16	Isolated and slow growing plantation will be left until economically viable to harvest timber.
South Barrule	Cringle	9.2	Maintain long term structure in visually important area and opportunity to recruit mature & veteran trees whilst protecting the important watershed area
Dalby	Glen Rushen	3.76	To maintain buffer and provide shelter and nesting opportunity alongside the ASSI
Dalby	Kerroodhoo	1.24	To maintain buffer and provide shelter and nesting opportunity alongside the ASSI
Dalby	Arrasey & Lhargan	32.09	Maintain long term structure and opportunity to recruit mature & veteran trees whilst providing connectivity between the plantations
South Barrule	South Barrule	18.4	To maintain continuity of forest cover in this heavily used recreational hub area.
South Barrule	Stoney Mountain	13.23	Maintain long term structure in visually important area and opportunity to recruit mature & veteran trees whilst protecting scheduled species and providing shelter and nesting opportunity.
Slieau Whallian	Archallagan	10.97	To maintain continuity of forest cover for neighbouring properties and in this heavily used recreational hub area.
Total area of LTR		**167.06**	

Table 9 - Long Term Retention Areas

6. Operational plans

Plantation	Activity	Year		
		0-5	5-10	11 - 20
Per felling plans*	Clear felling & Restocking (Cmpt listed per production forecast – Maintain prod records)	X	X	X
Per felled areas and intended land use maps	Strimming to control vegetation and beat up failures. Protective barrier applied for weevil as required	X	X	X
All	Production records	X	X	X
Stoney mountain & Slieau Mooar	Heathland corridors & bog restoration Weevil monitoring & Pheromone trapping	X	X	X
All (inc. Arrasey & Lhargan)	Dead wood and veteran retentions – identified and recorded Removal of invasives where identified.	X	X	X
Stoney Mountain, Slieau Mooar	HCV and BAP records of maintenance activities including removal of SS regen	X	X	X
Cringle, Archallagan and Slieau Whallian	Watercourse & watershed monitoring (operational Site records)	X	X	X
Corlea, Round Table, South Barrule, Stoney Mountain (Slieau Whallian, Chibbanagh, Meary veg))	Thinning (LISS area to be determined by regen and beat forester at a local level)	X	X	X

Table 10 - South district plan of operations

**Sequence to be determined at district level and subject to PR/DNB/Wind/age classification.*

7. Glossary of terms

Term	Meaning
ASSI	Area of Special Scientific Interest.
APHA	UK Animal and Plant Health Agency
BAP	Biodiversity action plan.
Biodiversity	The variety of ecosystems and living organisms (species), including genetic variation within species.
Buffer	An area of land where use and/or management is restricted to conserve or enhance the value of adjacent environmental, social or cultural values or heritage assets. Examples of buffering include protecting a water course from polluted run-off, a semi-natural woodland or other valuable habitat from invasion by seed from a nearby non-native source, or an historic feature from physical damage by growing trees and roots.
CCF	Continuous Cover Forestry is a silvicultural system that maintains the forest canopy at one or more levels without clearfelling.
Clearfelling	Cutting down of an area of forest (typically the felling of an area greater than 0.25 ha if the coupe is within a larger area of forest). Sometimes small clumps or a scatter or of trees may be left standing within the felled area.
COSHH	Control of Substances Hazardous to Health - The law requires you to adequately control exposure to materials in the workplace that cause ill health.
Coupe	An area of woodland that has been clearfelled or is planned for clearfelling.
Diffuse Pollution	Diffuse pollution comes from non-point sources, widespread activities in the forest environment. Of relevance to woodland operations are oil spills and leaks, cutting-chain lubricants, siltation of watercourses, pesticide or fertiliser run-off and smoke.
District Management Unit (DMU)	The area subject to a forest management plan or proposal. A convenient management area determined by the nature and location of the woodland, the management objectives and proposed operations. Extensive DMUs allow a strategic approach to be taken to meeting certification requirements and guidelines.
DNB	Dothistroma needle blight
Ecosystem	A community of plants and animals (including humans) interacting with each other and the forces of nature.
FISA	Forest Industry Safety Accord.
Forest management plan	A plan which states the objectives of management together with details of forestry proposals over the next 5 years and outlines intentions over a minimum total period of 10 years. Forest plans allow managers to communicate proposals and demonstrate that relevant elements of sustainable forest management have been addressed, and can be used to authorise thinning, felling and other management operations.
Forest resilience	The ability of a forest system to recover from short-term disturbances or to adapt to long-term changes, such as climate change, pests or diseases, while retaining or recovering the same basic structure and ways of functioning. Resilience should be considered in both ecological and economic terms.
FSC®	Forest Stewardship Council
GHG	Greenhouse Gas - Greenhouse gases are atmospheric gases that trap heat and warm the Earth's surface, creating a greenhouse effect.
GDPR	General Data Protection Regulations
GMO	Organisms in which the genetic material has been altered in a way that does not occur naturally by mating and/or natural recombination. This includes gene editing.
HCV	High Conservation Value refers to biological, ecological, social, or cultural features within natural habitats that are of outstanding significance or critical importance. These may include, for example, concentrations of endemic species, rare habitats, or sites of cultural or spiritual value. The identification, management, and protection of HCVs are detailed in Section 3 of FSC-STD-30-010.
HHP	Highly Hazardous Pesticides
HSE	Health and Safety Executive.
INNS	Invasive Non-Native Species (INNS) are animals or plants introduced outside their natural range that spread and cause harm to biodiversity, ecosystems, the economy, or human health

IMPNW	MWT (2015) Indicative Map for Planting of Native Woodland on the Government Estate - The indicative map within the document shows areas with the potential to achieve maximum biodiversity goals.
LERAP	Local Environmental Risk Assessment for Pesticides.
LISS	'Lower-impact silvicultural systems' including group selection, shelterwood or under-planting, small coupe felling, coppice or coppice with standards, minimum intervention and single tree selection systems which are suitable for windfirm conifer woodlands and most broadleaved woodlands.
LTR	Longterm Retention - refers to trees or groups of trees retained on site beyond the normal felling age, usually for biodiversity, landscape, or heritage value, and intended to remain standing for the long term.
MBRP	Manx Biological Recording Partnership
MWT	Manx Wildlife Trust
MNH	Manx National Heritage
MU	Manx Utilities
Native, non-native, endemic	Plants and animals which have arrived here naturally and survived, prior to or since the Island became separated from the two main adjacent Islands are described as native. Non-natives are those brought by man either deliberately or accidentally. If they occur on an island or in a region and no-where else on earth, they are described as endemic.
Natural Regeneration	Plants growing on a site because of natural seed fall or suckering. The term is also used to describe the silvicultural practices used to encourage natural seeding and establishment.
Natural Reserve	A Natural Reserve is an area of woodland set aside primarily for the conservation of natural processes and biodiversity, where active management is absent or minimal, and intervention is generally limited to safety or statutory requirements.
NNR	National Nature Reserve.
NTFP	Non-Timber Forest Product.
NVC	A standardised system developed by the Joint Nature Conservation Committee (JNCC) to classify and describe the plant communities of Britain.
Operational Plan	The operational details of how planned work will be implemented at site level within the framework of a forest management plan.
OSA	An Operational Site Assessment (OSA) is a site-specific, pre-operational assessment used by the to identify, record and manage risks, constraints and sensitivities associated with planned forestry operations at a particular site. An OSA is a simple checklist and site plan used when planning forest operations, designed to ensure that potential impacts on people, the environment, wildlife, and the landowner's legal responsibilities are identified and addressed before work begins
Pesticide	Any substance or mixture of substances of chemical or biological ingredients intended for repelling, destroying or controlling any pest, or regulating plant growth. This definition includes insecticides, rodenticides, acaricides, molluscicides, larvicides, nematicides, fungicides and herbicides.
Pest	Any species, strain or biotype of plant, animal or pathogenic agent injurious to plants and plant products, materials or environments and includes vectors of parasites or pathogens of human and animal disease and animals causing public health nuisance.
Plantation	A forest area established by planting or sowing with using either alien or native species, often with one or few species, regular spacing and even ages, and which lacks most of the principal characteristics and key elements of natural forests. The description of plantations may be further defined in FSC® Forest Stewardship Council Standards, with appropriate descriptions or examples, such as: • Areas which would initially have complied with this definition of 'plantation' but which, after the passage of years, contain many or most of the principal characteristics and key elements of native ecosystems, may be classified as natural forests. • Plantations managed to restore and enhance biological and habitat diversity, structural complexity and ecosystem functionality may, after the passage of years, be classified as natural forests. • Boreal and north temperate forests which are naturally composed of only one or few tree species, in which a combination of natural and artificial regeneration is used to regenerate forest of the same native species, with most of the principal characteristics and key elements of native ecosystems of that site, may be

	considered as natural forest, and this regeneration is not by itself considered as conversion to plantations.
RA	Registered tree area
RAMSAR	A Ramsar site is a wetland designated under the 1971 convention in the Iranian city of Ramsar.
Restocking	Replacing felled areas by sowing seed, planting, or allowing or facilitating natural regeneration.
Restructuring	Diversifying the distribution of age classes of a forest, usually by advancing felling in some areas and retarding it in others. Restructuring is usually associated with wider measures to redesign a forest as part of a forest management plan.
Ride	Permanent unsurfaced access route through woodland.
Riparian	Relating to or situated adjacent to a watercourse or water body.
Rotation	The period required to establish and grow trees to a specified size or condition of maturity. The period varies according to species and end use, but for conifers in the UK this is usually about 35 years and for broadleaves at least 60 years.
SCDB	Sub Compartment Database - a digital record that contains detailed information about specific areas within a forest, called sub-compartments.
Silviculture	The art and science of controlling the establishment, growth, composition, health and quality of forests and woodlands to meet the targeted diverse needs and values of landowners and society on a sustainable basis.
SNW	Semi-Natural Woodland.
Thinning	Tree removal, which results in a temporary reduction in basal area, made after canopy closure to promote growth and greater value in the remaining trees.
Watercourse	Any directly connected natural or man-made channel through which water flows continuously or intermittently. References to forestry practice on adjacent land should be taken as applying also to adjacent water bodies (e.g. ponds and lakes).
WHC	Windthrow Hazard Classification.
Windthrow risk	A technical assessment of risk based on local climate, topography, site conditions and tree height.

8. Maps

Location map

Zonal map

Désignations map

Recreation and access map

Species maps (by zone)

Concept map

Analysis map

Felling plan and systems map (by zone)

Intended land use (10 year – by zone)

Management Zones - Forest Plan has been divided into 5 zones so that felling maps can be clearly shown at scale. The names used by Forestry Directorate to refer to each forest area are shown on the adjacent map