

The Isle of Man National Plantation Management Plan 2025 – 2045

Review 2035



Isle of Man
Government
Reiltey Ellan Vannin

Department of Environment, Food and Agriculture

Rheynn Chymmyltaght, Bee as Eiriny's



OUR **LANDSCAPE**
OUR **LEGACY**

Signed: **Head of Forestry, Amenity & Lands** **Date**

Signed: **Director of Forestry, Amenity & Lands** **Date**

Signed: **Chief Officer** **Date**

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

Authors:	-----	4
1. The National Plantation Management plan	-----	5
i) What are Plantation Plans?	-----	5
ii) Background & Purpose	-----	5
2. Summary	-----	8
i) Use of the Plantations	-----	10
ii) Management planning	-----	10
2.2. Summary of management objectives	-----	11
2.3. Review period – Indicators and Assessment Criteria	-----	12
2.4. Planning & Consultation	-----	13
2.5. Managing the benefits from the forest	-----	14
2.6. Landscape	-----	15
2.7. Natural Environment, threats & hazards	-----	16
i) Geology	-----	16
ii) Soils	-----	16
iii) Climate and Weather	-----	16
iv) Biodiversity	-----	18
The Isle of Man is home to a multitude of species and habitats, some of which are rare, legally protected, specialist, threatened and/or of conservation priority.	-----	18
v) Threats and hazards	-----	19
vi) Introductions	-----	19
vii) Climate Change	-----	20
viii) Pests & Disease	-----	22
ix) Fire	-----	23
x) Wind	-----	23
2.8. The Public Forest Estate	-----	24
2.9. Silviculture	-----	27
i) Restructuring	-----	27
ii) Species selection	-----	28
iii) Expected plantation species composition	-----	29
iv) Harvesting	-----	31
v) Forest residues, whole tree and biomass harvesting	-----	33
vi) Thinning	-----	33
vii) Low impact Silvicultural systems (LISS)	-----	34
viii) Ground preparation & replanting	-----	35
ix) Christmas trees & Non-Timber Forest Products (NTFP)	-----	36
x) Woodland Creation	-----	36
2.10. Semi Natural Woodlands	-----	37

3. Management strategies and actions to maintain or enhance areas and features of high conservation value (HCV)	38
3.2. Conversion from plantation	40
3.3. Monitoring	40
4. Operations	41
4.2. Emergency response	42
4.3. Access	42
4.4. Integrated Pest Management (IPMS)	43
4.5. Tree protection	44
4.6. Diffuse pollution, soils & water	44
5. Historic, Cultural and Natural Environmental Values and Impacts	46
5.2. Historic Environment	46
5.3. Cultural Environment	46
5.4. Natural Environment	49
5.5. Other priority habitat	50
5.6. Watershed management and erosion control	51
5.7. Veteran Trees	52
6. Community	52
6.2. Consultation	52
6.3. Public Rights of Way (PROW)	52
6.4. Tree Surveys & Timber Traffic	53
6.5. Timber Haulage	53
6.6. Employment, training and competency	53
7. Operational Plans	55
i) Summary of North & South District Plan of Operations	55
8. Glossary of Terms	56
9. Appendix 1	59

Authors:

Jason Bolt BSc For (Hons) - Head of Forestry, Amenity and Lands – DEFA

37 years' experience in all areas of forestry operations, maintenance, and management. Before joining the Isle of Man Government, gained lowland and upland forest management experience across the UK with the Forestry Commission, National Trust, and private contractors.

John Lees BSc For (Hons) MicFor - Senior Forest Manager, Euroforest Ltd

Forest management degree obtained from University of Aberdeen in 1999 and Professional member of the Institute of Chartered Foresters since 2004.

Has worked throughout Britain in professional forest management and consultancy.

Michael O'Connell BSc (hons) Geology - GIS Technician, Euroforest Ltd

Geology degree with GIS module obtained from the University of Exeter in 2022. National forestry GIS and management planner since 2023.

Stefan Rijnbeek BA (Hons) MSc For. - Key Client Contract Manager, Euroforest Ltd

Experienced operational forestry manager with a focus on constrained and large-scale project management.

1. The National Plantation Management plan

i) What are Plantation Plans?

The Department of Environment, Food and Agriculture creates plantation plans to effectively share its management goals with a range of stakeholders. These plans are designed to achieve several key objectives.

- To offer descriptions of our plantations that illustrate their current state
- To show what we intend the plantations to look like in the future
- To outline our plans for tree felling and replanting over the coming decade
- To demonstrate that our proposals meet UK standards for economic, environmental, and social sustainability, as outlined by current Isle of Man national regulations and policies.

ii) Background & Purpose

The Isle of Man Government is responsible for 2,877 hectares (ha) (7,109 acres) of plantation first established 1885. The plantations are located throughout the Island from Ramsey in the north and to the south at Fleshwick on the outskirts of Port Erin (see location plan below).

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 the 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 Products¹ (EUDR, 2023).

To facilitate this process, we have produced this management plan towards our aim to obtain forest certification through the Forest Stewardship Council (FSC®) and to meet DEFA's vision 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

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 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
- 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 principles³ 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 impacts⁴ 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 Forestry Standard (UKFS)⁵ and the United Kingdom Woodland Assurance Standard (UKWAS)⁶ set within existing Isle of Man National regulations and policies.

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

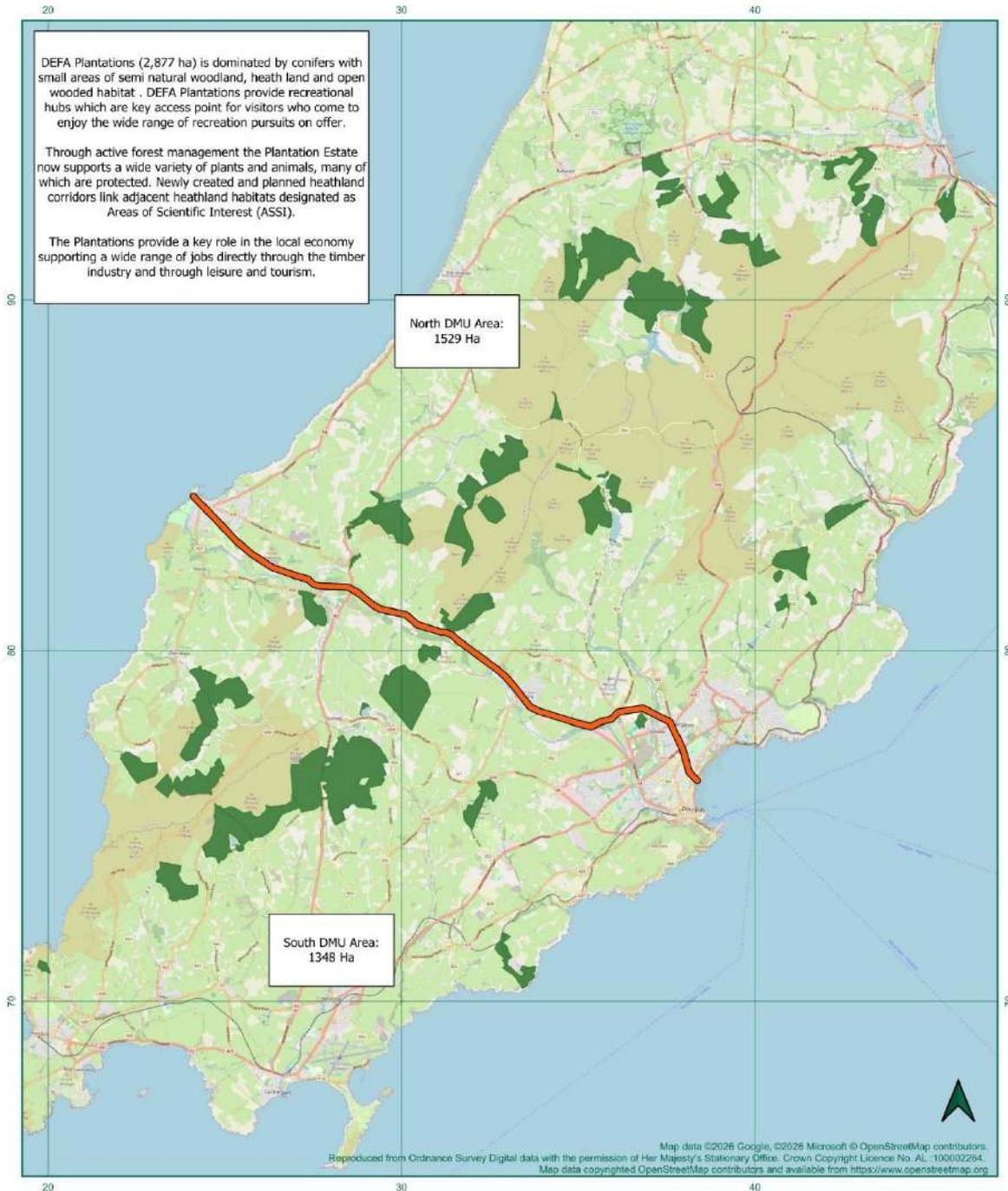
Certain technical terms and phrases are used in the text as they accurately describe the activities discussed. Definitions for these terms are provided in the glossary at the end of this document.

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>

⁶ The UK Woodland Assurance Standard (UKWAS) is an independent certification standard that verifies sustainable woodland management in the UK. It aligns with international benchmarks set by the Forest Stewardship Council® (FSC®) and the Programme for the Endorsement of Forest Certification (PEFC), and is adopted within Isle of Man forestry policy to support responsible forest stewardship <https://ukwas.org.uk/>



<p>Location Map</p> <ul style="list-style-type: none"> Plantation Locations District Boundary Line 	<p>1:100000 Scale Correct at A3 Grid Ref. SC330814 Date: 18/02/2026 Drawn by: John Lees</p> <p>District Forest Office - The Sleau Whellian, Foxdale Road, St. Johns Isle of Man, IM4 3AS Forestry@gov.im</p>	 <p>Department of Environment, Food and Agriculture <i>Rheynnyn Chyrryng, Baa as Greyn</i></p>  <p>Working Together for a Sustainable Future Gubarnagh Coostagh Rin Tuar B'hoast (Sinnocagh)</p>
---	---	--

2. Summary

The current area of the plantations measures approximately 2,877 hectares (7,109 acres). Afforestation of the hills was initiated by the 1884 Afforestation policy and planting of the first plantations at Archallagan, South Barrule and Greeba on Crown land in 1885 and then rapidly expanding in the 1950's, 1960's and, following a 1985 Tynwald Resolution on forest expansion, in the late 1980s and the early 1990s.

Most plantations are freehold, with Fleshwick and Ballure plantations held through leasehold totalling 38.58ha. The latter of which surrounds the reservoir owned by Manx Utilities (MU). The Isle of Man Government holds the Title deeds, which are being registered electronically for the first time, and, in time and subject to Land Registry, will be available to view on the online map portal⁷ (IOM Land Registry Title Locator).

The plantation estate is managed by the Department of Environment, Food and Agriculture (DEFA), Forestry, Amenity & Lands Directorate (FALD), Thie Slieau Whallian, Foxdale Road, St. Johns, IM4 3AS, and is responsible for the sustainable management of the plantations, which aims to promote recreation, biodiversity and carbon sequestration.

Management of trees and woodlands are regulated under Forestry Act 1984⁸ and the Tree Preservation Act 1993⁹ where a licence is required to fell any live tree with a main stem of >8cm diameter at 1.52m above ground. Under the Tree Preservation Act 1993, landowners will need to ensure they do not contravene the Act if undertaking any tree works. The DEFA administers and enforces the Tree Preservation and Forestry Acts.

Plantation management and maintenance is funded through the Directorates annual budget of £2.7m of which £186,000 is for direct production (timber harvesting) to supply the Department's sawmill. Timber production and all forest products transported are regulated through the 'Plant Health Act 1983'¹⁰ and the Forestry Act 1984; additionally, the 'Wildlife Act 1990'¹¹ provides protection of wildlife which may be impacted upon from forest operations. Timber revenues are utilised for the management planning process and ongoing costs of replanting and maintenance of the felled areas.

The management¹² of the plantations are divided into two District Management Units (DMU), North & South mapped (see DMU plan below) and are managed subject to DEFA approved long term plans held by FALD through a dedicated forestry team of:

Andrew Lees, ACIPD – Director of Forestry, Amenity and Lands

Jason Bolt, BSc (Hons) Forestry- Head of Forestry, Amenity and Lands

Andrew Kneale FDS Sc Forestry – Forester (South)

⁷ <https://www.gov.im/maps>

⁸ https://www.legislation.gov.im/cms/images/LEGISLATION/PRINCIPAL/1984/1984-0020/1984-0020_2.pdf

⁹ https://www.legislation.gov.im/cms/images/LEGISLATION/PRINCIPAL/1993/1993-0006/1993-0006_5.pdf

¹⁰ https://www.legislation.gov.im/cms/images/LEGISLATION/PRINCIPAL/1983/1983-0015/1983-0015_2.pdf

¹¹ https://legislation.gov.im/cms/images/LEGISLATION/PRINCIPAL/1990/1990-0002/1990-0002_2.pdf

The Plant health Act 1984 specifically covers the importation & export of Timber.

¹² All management activities related to the Isle of Man estate are conducted in alignment with the publicly available Anti-Bribery & Corruption Strategy GD 2022–2027. All staff are required to complete online anti-corruption training via the government's e-learning portal and platform. Employment practices are governed by the Employment Act 2006 (as amended).

The National Plantation Management Plan 2025 - 2045

Document authors J. Lees; S. Rijnbeek; M. O'Connell & J. Bolt

Gary Newton, BSc (Hons) Forestry – Assistant Forester (North)

Mark Wild – Sawmill Manager

Graeme Watson, BA (Hons); Dip Rec – Access & Recreation Officer

i) Use of the Plantations

The Plantations provide many uses, which include but are not limited to.

- Production of timber supplying the local sawmill at St Johns, and investment at Ramsey port for timber export and local employment in the harvesting, processing and extraction of material.
- Enhancement of our 'wild places' for the benefit of iconic species such as hen harrier, managing the forest structure to provide integral open space for foraging, nesting and roosting, and providing opportunities for a variety of biodiversity including woodland fungal communities. Enhancement of riparian areas to protect important watersheds and watercourses.
- Providing space and opportunities for local enterprise and recreation including Ape Man, Laser Mayhem and Coffee Cottage at South Barrule, the 'Zurich' Mountain bike trail at Archallagan and the 'Community Woodlands' with Dark Skies status at Conrhenny and Axnfell.



Image 1 - Information Signage at Conrhenny Community Woodland

Alongside foresters, an Access Recreation Officer and Countryside Ranger help maintain and protect the plantation estate for safe public recreation whilst preserving sensitive habitats and preventing damaging activities.

Forest operations are and will be communicated through social media/press release and at key access points such as public parking facilities provided at many of the Plantations.

To mitigate anti-social behaviour and unauthorised access, select routes are controlled with secured gates. Signage at multiple entry points clearly designates accessible pathways, cycling routes, and alternative options.

Trail Cameras are used in accordance with General Data Protection Regulations¹³ to monitor for wildlife but can, as deemed necessary, be utilised to monitor for unauthorised use and is supported by Forestry General Byelaws¹⁴ to assist in enforcement.

ii) Management planning

This National Management Plan identifies how the Island's plantations will be managed to implement the long-term policy of 'Managing the Island's Woodland Estate, Vision and stated Strategic objectives 2025' and directs the 'DMU', long term plans (appendices 1 & 2) which have integrated the varied land management priorities to maximise public benefit and optimise the provision of ecosystem services. The ecosystem services of the plantations include conservation of vulnerable species, improved water

¹³ <https://www.gov.uk/government/publications/data-protection-impact-assessments-for-surveillance-cameras>

¹⁴ [Forestry \(General\) Byelaws 2009](#) regulates the responsible use of forestry and amenity lands by setting conditions for access and events.

quality, flood mitigations, carbon sequester, sustainable timber and biomass production, and provision of outdoor recreation areas for the improvement of the population's health and wellbeing.

There are two DMU's, and these are split between the north and south of the Island determined by the central valley. 'The central valley cuts across the upland mass between the southern end of Douglas Bay to St. Johns, where it opens out to provide a meeting place for the whole Island at Tynwald Hill. It has a broad open 'V' section, which has been infilled with mounds and terraces of drift. This valley is regarded as the north-south dividing line'¹⁵, identified here as the road from Peel to Douglas (A1).

2.2. Summary of management objectives

Economic:

- 1) Produce our district management plans that will deliver value for money and are achievable within current management and financial resources.
- 2) 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.
- 3) Increase the plantations climate resilience, diversifying species and enhancing biodiversity, using a range of silvicultural systems to support the Island's economy and contribute to the delivery of other objectives.

Environmental:

- 1) To identify and safeguard environmental values within and around all plantations through the consistent application of good environmental practice, minimising operational impacts on biodiversity, soils and water, adopting sensitive harvesting approaches where feasible, and working with partners to maintain and enhance habitats and species of conservation value.
- 2) Contributing to and undertaking monitoring programmes to limit and control the impact of invasive species on woodland habitats and reduce the adverse impacts to native habitats and their flora and fauna
- 3) Where possible, work with interested parties to explore ways to maintain or improve features of cultural or heritage value to the local community.

Social:

- 1) Ensure woodlands are maintained to provide safety and accessibility.
- 2) Provide options for both quiet recreation and adventurous activities, allowing individuals to access potential health and wellbeing benefits.
- 3) Establishing collaborations with private enterprises and public organisations to enhance and broaden recreational opportunities throughout the estate.

In addition, the aspiration to achieve full FSC® status will be communicated to all those working in the plantations and in the sale of all future forest products from the plantations.

¹⁵ <https://pabc.gov.im/media/01qjofay/landscape-character-assessment-final-july-2008.pdf>

The sale of timber will provide the FSC® status, and which will communicate relevant elements of the policy and objectives to contractors & employees within a work instruction and include:

- **For contractors applying pesticides;** *"this forest is managed in accordance with the principles and criteria of FSC® with an objective to ensure that the use of pesticides is kept to a minimum"*
- **For harvesting/ground preparation contractors;** *"this forest is managed in accordance with the principles and criteria of FSC® with an objective to prevent damage to soils and water."*

2.3. Review period – Indicators and Assessment Criteria

This plan represents the first full management plan for the Island’s plantations and will be monitored and reviewed within every ten-year period to ensure that it meets the vision, policy & objectives as identified within the DEFA ‘Managing the Island’s Woodland Estate’ Vision and Strategic objectives for the plantations.

Strategic Objective	Management Plan Objective	Monitoring Objective	Review
ECONOMIC - Enhance and realise the sustainable productive potential of the existing commercial woodland 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.	<p><i>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</i></p> <p><i>Increase the forests’ climate resilience, diversifying species and enhancing biodiversity, using a range of silvicultural systems</i></p>	<p>Completion of district production forecasts based on current records and mensuration* data.</p> <p>Record changes in the sub compartment data base (SCDB).</p> <p>Record the Silvicultural systems used in the GIS*.</p>	<p>5 years</p> <p>District management unit records reviewed annually and summarised every five years</p>
<p>ENVIRONMENTAL - 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.</p> <p>Protect and enhance habitats to maximise their conservation potential whilst committing to dealing with plant health issues and invasive plants and animals that threaten habitats and biodiversity.</p>	<p><i>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 forest operations on soils and water on sensitive sites.</i></p> <p><i>Limit and control the impact of invasive species on woodland habitats and reduce the adverse impacts to native habitats and their flora and fauna</i></p>	<p>To record increased use of native broadleaves and managed areas of riparian woodland.</p> <p>Assessment of impacts on protected and rare species of conservation priority and their associated habitats and mitigation implemented in line with relevant legislation, guidance and policy, including Schedule 1 birds, red and amber listed species and species included in Biodiversity Actions Plans.</p> <p>To record partnership working to deliver nature conservation across the</p>	<p>Restoration will be monitored at the 5-year review of the species composition recorded in the SCDB.</p> <p>Monitored as part of the operational planning process and recorded and held within each DMU.</p>

	<p><i>Work with interested parties to explore ways to maintain or improve features of cultural or heritage value to the local community.</i></p>	<p>district including control of invasive species.</p> <p>Undertake monitoring of the extent of invasive species and record actions undertaken to prevent spread and enable eradication.</p> <p>To consult with DEFA's Ecosystem Policy Team and other specialists to obtain appropriate biological information and advice, and record and implement recommendations and advice as required.</p> <p>Undertake appropriate management to recruit future veteran trees and increase the volume and distribution of deadwood away from areas of high public use.</p>	
<p>SOCIAL - The woodlands will be promoted as a key asset for the Island its residents and visitors. Woodlands will continue to embrace and enhance public recreation and be easily accessible enhance public recreation and be easily accessible.</p>	<p><i>Provide safe and accessible woodlands for quiet recreation and adventurous activities, to enable people to experience the potential health and wellbeing benefits.</i></p> <p><i>Developing partnership with private businesses and public bodies to expand and improve recreational opportunities across the estate.</i></p> <p><i>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.</i></p>	<p>Monitor access, signage and maintenance records of facilities including paths and mountain bike tracks.</p> <p>Facilities developed in partnership are protected from forest operations and opportunities taken to maintain or further develop them.</p> <p>Consultation record held of management plan process and ongoing facilities are suitably signed with relevant information pertaining to forest operations</p>	<p>District management unit records reviewed annually and summarised every five years</p>

2.4. Planning & Consultation

The Isle of Man is a nation in advanced state of democratic and economic progress and undertakes thorough evaluation and consultation in its management of the public estate through a well-established online consultation process.

DEFA shall involve stakeholders and interested parties in its management planning and monitoring activities through official press releases, social media platforms, as well as local radio and media outlets. Additionally, DEFA will engage relevant stakeholders and make plans available upon request. Identified statutory and key stakeholders' examples include:

Manx Utilities (MU), Manx Wildlife Trust (MWT)¹⁶, Manx National Heritage (MNH)¹⁷, DEFA Inland fisheries¹⁸ and local authorities with records of consultations will be kept on file by DEFA.

DEFA has been proactively collaborating with local communities and partners to support the achievement of strategic objectives; illustrative examples include:

- Ramsey Forest Project (linked to Skyhill); MWT working relationships developed. Leased DEFA woodland – Hairpin Woodland Park to MWT.
- Barclays Bank - Corporate tree planting events – converting unproductive / uneconomic conifer areas to native broadleaf
- Isle of Man Bank – Corporate planting and recreation infrastructure
- Slieau Mooar - Forest to Bog project bolstered by encouragement from the Manx Wildlife Trust¹⁹

Ahead of any harvesting or operations likely to affect neighbours or other users of the forest, the respective DMU will:

- Conduct a letter drop with neighbours and contact known user groups.
- Respond in a timely manner to stakeholder questions and concerns.
- Erect suitable signage on all public access points within the affected plantation area.
- Collaborate with government biodiversity officers at all stages and as necessary maintain ongoing engagement with the MWT and other specialists as required.
- All records of consultations will be held by DEFA.
- MU, Inland Fisheries and Department of Infrastructure (DOI) will be contacted where operations fall within water dependent terrestrial ecosystems and reservoirs as identified on the Isle of Man Flood Hub²⁰.

2.5. Managing the benefits from the forest

The Isle of Man Wildlife Act (1990) governs the conservation of habitats and species on the Island and is overseen by DEFA. The Island has six recognised statutory wildlife designations: RAMSAR²¹, Areas of

¹⁶ <https://www.mwt.im/>

¹⁷ <https://manxnationalheritage.im/>

¹⁸ <https://www.gov.im/about-the-government/departments/environment-food-and-agriculture/environment-directorate/fisheries/inland-fisheries/>

¹⁹ ref section 4.0 Management strategies and actions to maintain or enhance areas and features of high conservation value.

²⁰ <https://iomfloodhub.im>

²¹ A Ramsar site is an internationally recognised important wetland under the Ramsar Convention, a 1971 environmental treaty signed in Ramsar, Iran.

Special Scientific Interest (ASSI), Areas of Special Protection (ASP), Bird Sanctuaries²², National Nature Reserves (NNR) and Marine Nature Reserves (MNR).

DEFA also manages a number of public glens and an extensive upland estate, including areas of registered heathland, all of which are important and sensitive wildlife habitats.

Additionally, other organisations contribute to site protection for wildlife, including MWT and MNH, which manages the Calf of Man and various areas identified for their natural significance. Non-statutory wildlife sites can also be found across the Island.

The 'Island Environment'²³ provide comprehensive identification of environmental, forestry, and agricultural features that are relevant to or potentially impacted by forestry operations, and which may require consideration in the planning and execution of such activities. Relevant areas with designated watercourses and potentially vulnerable soils and water features are identified through the 'Flood Risk Viewer'²⁴ and have been mapped within each DMU. FALD follows the DEFA Code of Good Agricultural Practice for the Protection of Water²⁵, the UK Government's Soil & Water Guidelines²⁶ within UKFS (including the application of the 'Know the Rules' 2nd edition²⁷ booklet).

Currently, the plantations are relatively even aged and shall be gradually restructured to achieve an appropriately diverse mosaic of species, sizes, ages, spatial scales, and regeneration cycles. This structural diversity shall be maintained or enhanced through the implementation of the DMU long term plans.

Other than existing areas of Christmas trees currently being converted to high forest, there shall be no harvesting of non-timber forest products (NTPF's) from the plantation estate.

All work is carried out in coordination with government biodiversity officers, and the MWT will be consulted where projects are adjacent to or affect sensitive areas. Birds, especially raptors, as well as bats and fungi, are among the main species affected by harvesting activities. Operational site assessment records are compiled and locations recorded with records shared during pre-commencement meeting to those operating within the plantations.

2.6. Landscape

The plantations are largely even aged and uniform in appearance, although generally following landform there remain some linear edges following old hedge banks and walls. Restructuring (Felling and replanting) provides opportunity to increase diversity to reduce overall scale, utilising open space within the plantation and softening edges to unite the plantation area with the surrounding landscape. Features such as rocky outcrops, veteran trees, riparian areas and viewpoints will be identified, and enhanced with native broadleaved trees planted at variable densities and with integrated open space creating a feeling of 'the spirit of the place' i.e. creating a richer and more dynamic forest edge providing continuity between the landforms whilst recognising the cultural and sensitive features such as the glens, veteran trees, hedge banks, and riparian areas.

²² Associated legislation repealed but previously designated sanctuaries remain in force.

²³ www.gov.im/maps

²⁴ www.gov.im/maps

²⁵ https://www.gov.im/media/279019/code_of_good_agricultural_practice.pdf

²⁶ <https://www.gov.uk/government/publications/the-uk-forestry-standard>

²⁷ <https://www.confor.org.uk/media/3513197/know-the-rules-booklet-2nd-edition-jan-2023.pdf>

Open space within the plantation contributes to visual and ecological diversity. Each DMU will identify areas appropriate for creating more irregular edges and connecting sections to minimise the visibility of linear features such as rides and tracks.

Streams, as well as the borders of lakes and ponds, are significant for wildlife. The restructuring of the plantations aims to create a general arrangement of woodland edges where denser tree cover transitions into scrub and open areas, as outlined in the concept and analysis maps.

Additional consideration will be placed on those plantations surrounding the main towns and viewpoints such as Tholt-y-Will in Sulby Valley, Slieau Whallian at St Johns (overlooked by the site of the Tynwald) and Skyhill near Ramsey (incorporating Glen Auldyn classified as a 'Narrow Upland Glen and Brookdale Plantation). Consideration will be given to the use of low impact silvicultural systems to soften the transition of the forest to more diversified and irregular structure. Each of these plantations are of national landscape importance and there is an aspiration to complete a landscape appraisal within the next five years.

2.7. Natural Environment, threats & hazards

i) Geology

The geology of the Isle of Man is predominantly composed of sedimentary rocks known collectively as the Manx Group, which were deposited as ocean floor sediments approximately 470 million years ago. The Manx Group primarily consists of slates, including mudstones and siltstones, as well as several sandstone formations such as the Glen Dhoo, Lonan, Creg Agneash, Mull Hill, Maughold, Barrule, Injebreck, Creggan Moar, Lady Port, and Dalby group formations. For more information, reference can be made to the British Geological Survey²⁸.

ii) Soils

Many of the soils beneath the plantations are classified as A1-A9 upland stony silty loams overlying slates and shales and represent the most widespread soil types found extensively in the upland regions. Soil depth varies and is often stony, yet these soils exhibit good natural drainage. In some cases, plantations have been established on areas characterized by A11 peaty soils and, occasionally, podzolic soils, as observed at Glion Gill. Overall, the island's plantations are typically situated in locations well-suited to productive tree growth.

The Island peat maps²⁹ identify areas of the estate which have been established on areas of deep peat, and these are largely in the uplands such as, Slieau Managh. The management of areas planted on deep peat is detailed in Section 3 of this document 'Management strategies and actions to maintain or enhance areas and features of high conservation value' and are identified in the DMU concept plans. More information on soils can be provided upon request³⁰.

iii) Climate and Weather

The Island experiences a temperate climate influenced by the Irish Sea, resulting in generally mild and wet winters with infrequent snowfall and frost. When snow does occur, it typically remains for no more than one or two days. February is usually the coldest month, averaging 4.9°C (41°F) daily, and tends

²⁸ <https://webapps.bgs.ac.uk/memoirs/docs/B06265.html>

²⁹ <https://www.manxpeat.org>

³⁰ <https://search.worldcat.org/title/Agricultural-soils-of-the-Isle-of-Man/oclc/48486286>

to be relatively dry. The predominant wind direction is from the Southwest, but local shelter and exposure cause variations due to the area's topography. In summer, April through June are the driest months, while May through July is the sunniest. July and August reach average daily high temperatures of approximately 17.6°C (63°F), and the highest recorded temperature at Ronaldsway weather centre is 28.9°C (84°F). Thunderstorms are uncommon. Despite its small size, the Island has climatic differences; sea fog occurs on the south and east coasts, particularly in spring, and less so on the west coast. Rainfall and hill fog frequency increase with elevation, with Snaefell receiving about 2.25 times more rainfall than the northern plain and southern lowlands. The annual average rainfall at Ronaldsway, in the southeast, is 863mm (34 inches)³¹.

Month	Mean Temperature °C		Total Precipitation (mm)	Mean Wind Speed (mph)
	Daily Minimum	Daily Maximum		
Jan	3.4	7.7	86.0	17.9
Feb	2.9	7.4	60.0	17.4
Mar	3.8	8.7	65.6	15.8
Apr	4.9	10.7	55.7	13.3
May	7.2	13.7	50.3	12.2
Jun	9.8	16.1	54.8	11.3
Jul	11.7	17.7	56.3	10.8
Aug	11.9	17.7	67.7	11.4
Sep	10.7	16.0	80.3	13.2
Oct	8.8	13.4	96.5	15.4
Nov	5.9	10.5	97.5	16.7
Dec	4.4	8.7	93.8	17.7

Table 1: Climatological information – Precipitation includes rain, hail and snow

Historical rainfall records for the Island have been maintained since 1870, utilising rain gauges positioned at multiple locations. Data from all reliable sources have been consolidated to create the average annual rainfall map presented in Figure 2. Chart 1: Monthly averages based on the data presented in Table 1

³¹ All climate and weather data sourced from [Manx Marine Environmental Assessment – 2nd Ed. \(October 2018\)](#)

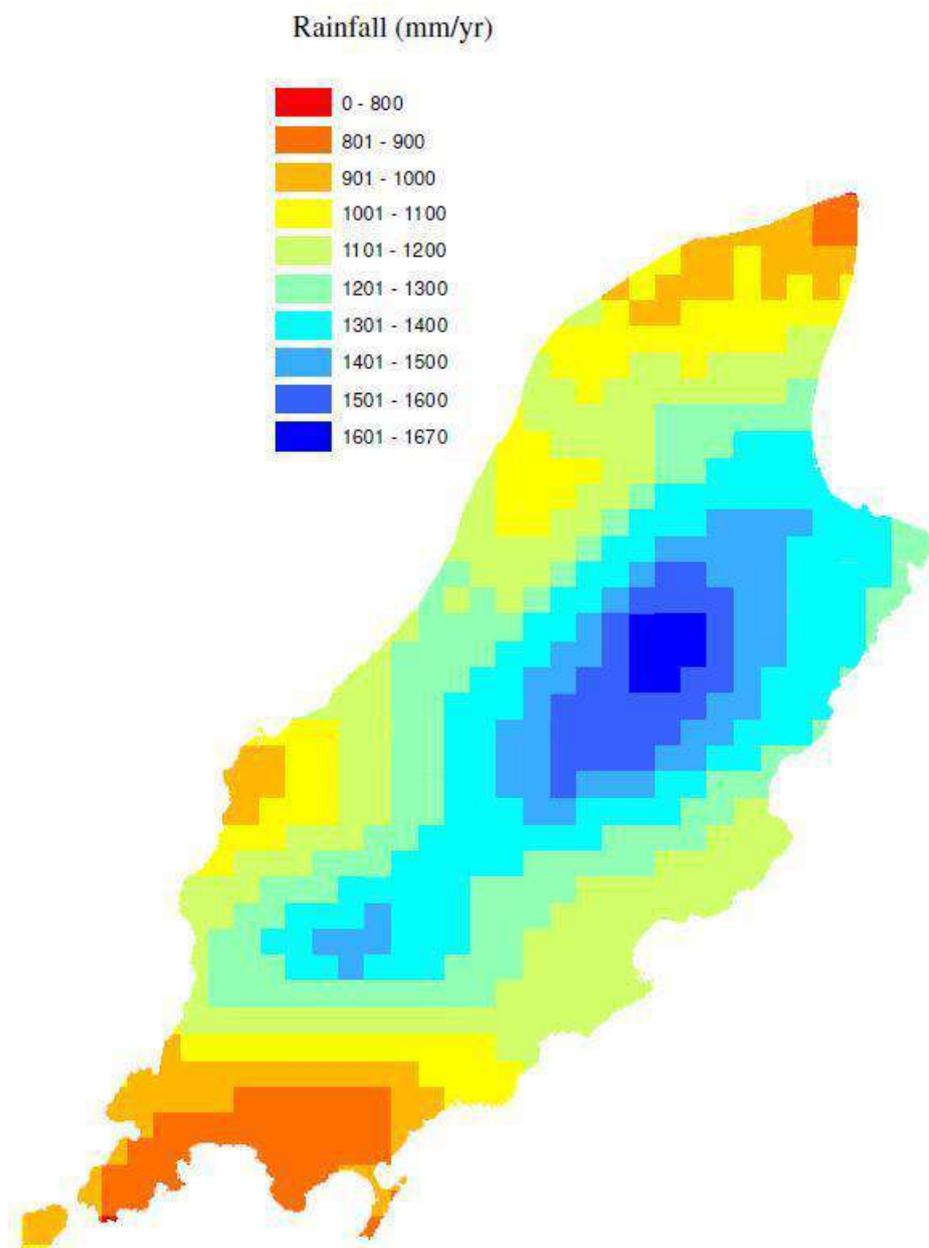


Image 2 - Manx Marine Environmental Assessment – October 2013³²

iv) Biodiversity

The Isle of Man is home to a multitude of species and habitats, some of which are rare, legally protected, specialist, threatened and/or of conservation priority.

The Wildlife Act 1990 is the main legislation for the protection of wildlife and includes provisions for the protection of all wild birds, plants and animals, with those included in Schedules 1, 5 & 7 of the Act also

³² <http://www.gov.im/transport/planning/msp/mmea.xml>

being provided with an additional level of protection. Many of these species (e.g. lesser twayblade orchid (*Neottia cordata*) and Crossbill (*Loxia curvirostra*) are found within the Island's plantations.

A number of Isle of Man 'Red lists' of Threatened Species have been published, which detail the conservation status and trends of native birds, flowering plants and freshwater fish (more lists may be published). The Island also has a number of Biodiversity Action Plans (BAPs) which aim to highlight and target action on high conservation priority species and habitats.

v) Threats and hazards

The Island plantations are under increasing threats from pest and disease both introduced and those occurring because of a changing climate. These primarily include *Ips typographus*, *Hymenoscyphus fraxineus* ('Chalara' ash dieback), *Phytophthora ramorum* and *Dothistroma* needle blight. Such threats and hazards need to be managed against the increasing and beneficial asset and use of the plantations for the health and well-being of our communities and visitors alike.

vi) Introductions

The Isle of Man has agreed to adhere to the principles of the Convention on the International Trade in Endangered Species of Wild Fauna and Flora, otherwise known as the Washington Convention or CITES. These principles are enshrined in law through the Endangered Species Act 2010³³ and its Order and Regulations. This legislation provides for the control and licensing of movements of restricted species and derived products from the Island overseas, or from overseas into the Island. This includes movements to and from the UK and Eire. It protects endangered species in the wild and allows the monitoring of trade and protection of species that are vulnerable to over-exploitation through trade.

The Wild Animals (Restriction on Importation, etc.) Act 1980 also restricts the importation of certain animals to the Island, apart from under a DEFA issued licence and for prescribed reasons.

The Department's Biodiversity Officers within the DEFA's Environment Directorate can be consulted for further advice or to check whether a species is on the current list of designated species.

The Wildlife Act 1990 restricts the planting, introduction or release of specified 'invasive non-native' plant and animal species (INNS) into the wild. Regulated animal species are those which are not considered to be ordinarily resident in or regular visitors to the Island, or those which are listed on Schedule 8 Part I of the Act. Regulated plant species are those which are listed on Schedule 8 Part II of the Act. In addition, there are species which though not currently listed are considered invasive and which should be taken into consideration with other INNS (e.g. Cherry laurel).

The Isle of Man is one of the eight members of The British Irish Council (BIC)³⁴ which was established in 1999 as an institution of Strand 3 of the Belfast/Good Friday Agreement. The Council is tasked with promoting positive, practical, relations between the islands and reviews the shared challenges and priorities across several sectors, including (but not limited to) the Environment Work Sector, with a focus on Invasive Non-Native Species (INNS).

Several INNS have been identified within the plantations and surrounding areas. Japanese knotweed (*Reynoutria japonica*) and *Gunnera* species have been observed within Conrhenny, while Cherry laurel

³³ https://legislation.gov.im/cms/images/LEGISLATION/PRINCIPAL/2010/2010-0007/2010-0007_3.pdf

³⁴ <https://www.britishirishcouncil.org/sectors/environment/>

(*Prunus laurocerasus*) and *Rhododendron ponticum* are present along the road verges at Colden and Injebreck.



Image 3 - INNS Information Signage

Red-Necked Wallabies (*Notamacropus rufogriseus*) escaped into the Ballaugh Curragh in the north of the Isle of Man in the 1960s from the Curraghs Wildlife Park. They are a large non-native animal, which originate from South-East Australia and Tasmania, but have adapted well to the Isle of Man's cooler climate. Their impacts are monitored and managed by DEFA eco-policy team and the Manx Wildlife trust³⁵.

vii) Climate Change

A strategic aim of the Biodiversity Strategy and Delivery Plan 2015 – 2025 is to prevent loss of priority habitats, significantly reduce habitat degradation and fragmentation and, where appropriate, restore key species populations and priority habitats and to reduce the other main pressures on biodiversity, particularly environmental pollution and the prevalence of INNS and will take measures to meet the biodiversity challenges posed by climate change.

The strategy notes that developing a Green Economy may offer opportunities to improve the Island's reputation and promote sustainable use of its natural resources. These include goods and services that can be supported by plantations, such as fuel, construction materials, water resource protection in rivers, prevention of upland erosion, and climate moderation.

It is estimated that Isle of Man soils store approximately 4.76 million tonnes of carbon, which is equivalent to 17.45 million tonnes of carbon dioxide (CO₂). Managing soil, especially in upland areas and plantations, can contribute to offsetting the Island's annual emissions, which were estimated at

³⁵ <https://www.mwt.im/news/red-necked-wallaby-position-statement>

573,880 tonnes of carbon dioxide equivalent (tCO₂e) in 2023³⁶. Additionally, the Climate Change Act 2021³⁷ provides the legislative framework for long-term greenhouse gas emission reductions and climate change mitigation.

The Climate Change Plan 2022-27³⁸ continues previous initiatives and sets a target of achieving net zero greenhouse gas emissions (GHG) by 2050. The plan includes increasing sequestration by 10% by 2027 through measures such as tree planting, cultivating high yield class trees, peatland restoration, and implementing other nature-based solutions. It also notes the potential to engage private sector investment where appropriate.

The Isle of Man Greenhouse Gas Inventory³⁹ provides regular updates on the GHG emissions including CO₂ and which shows the important contribution of the plantation's removal of CO₂ from the atmosphere -21,214 tCO₂e.

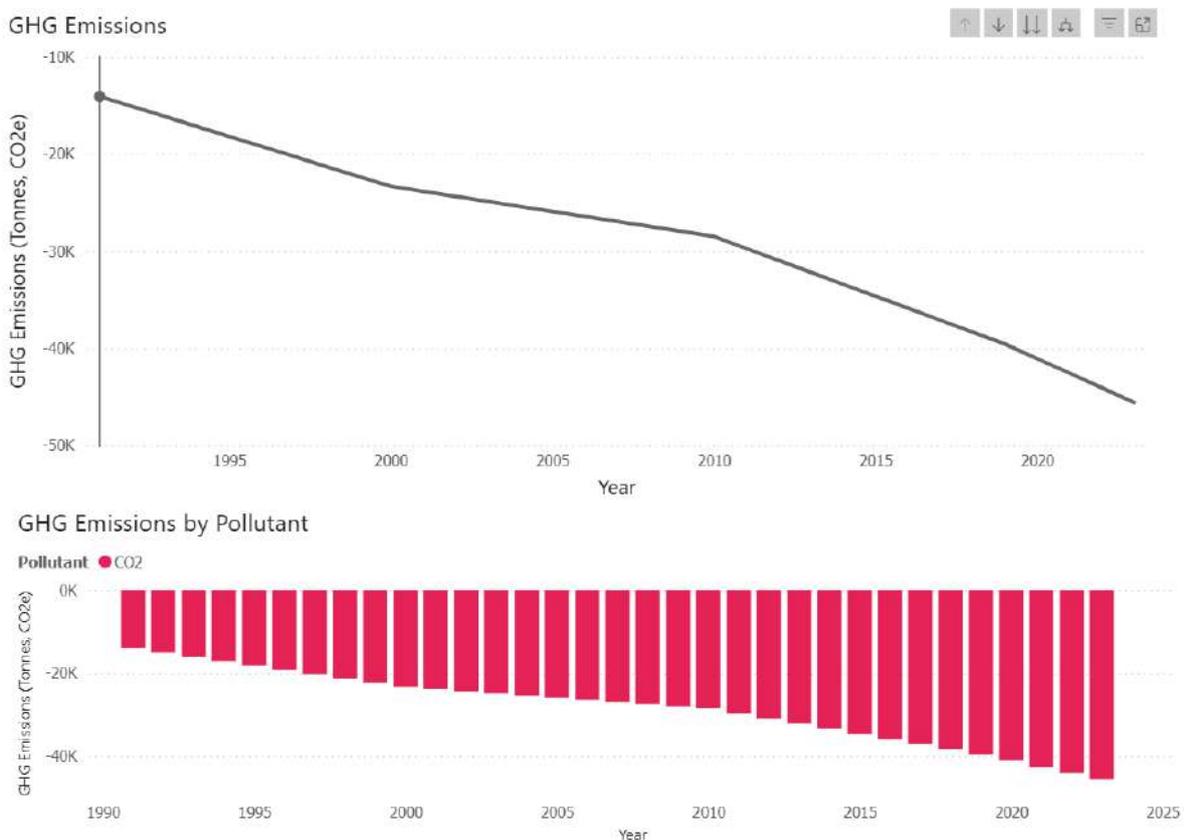


Image 4 – Isle of Man Emissions data.⁴⁰

³⁶ <https://www.netzero.im/resources/isle-of-man-data/>

³⁷ https://legislation.gov.im/cms/images/LEGISLATION/PRINCIPAL/2021/2021-0020/2021-0020_2.pdf

³⁸ <https://www.netzero.im/media/pkmcnfmfx/isle-of-man-climate-change-plan-2022-2027.pdf>

³⁹ The Isle of Man GHG Inventory is compiled on behalf of UK Government as part of reporting to the UNFCCC. The UNFCCC secretariat (UN Climate Change) is the United Nations entity tasked with supporting the global response to the threat of climate change.

⁴⁰ <https://www.netzero.im/resources/isle-of-man-data/>

viii) Pests & Disease

The Isle of Man Tourism Visitor Economy Strategy and DEFA's 2014 Upland Report⁴¹, section 5.3, identified the spread of invasive species to the Island can have serious economic implications. The examples used included *Phytophthora ramorum* and Dutch elm disease *Ophiostoma novo ulmi*.

A recent study by CABI⁴² scientists (Eschen, R., Kadzamira, M., Stutz, S. *et al.* (2023))⁴³, published in the journal Biological Invasions, has revealed that INNS, such as the aquatic water weeds floating pennywort and Japanese knotweed as well as signal crayfish, cost the UK economy an estimated £4bn a year⁴⁴. The fungus *Hymenoscyphus fraxineus*, which causes ash dieback has become the costliest species in the past decade in the UK followed by Japanese knotweed.

Between 2011 and 2013, DEFA's expenditure on controlling *Phytophthora ramorum* was estimated at approximately £570,000. The detection of widespread *Phytophthora ramorum* in larch has heightened concerns regarding its potential effects on upland vegetation. The management and introduction of invasive species present complex challenges, and the Government consults international guidelines to inform its approach.

Phytophthora ramorum is a fungal disease that has affected the Island, resulting in the death of most larch trees in the plantations. These affected trees are currently being felled and removed as part of a safety programme for users.

Dutch elm disease (*Ophiostoma novo-ulmi*) has been systematically monitored for over 30 years and predominantly remains confined to the northern region of the Island. While most plantations have not been impacted due to their planned establishment, some elms are present within the estate and are included in an annual monitoring programme.

Needle blight (*Dothistroma septosporum*) is a fungal pathogen responsible for premature needle defoliation and mortality in pine trees. Effective management includes regular thinning to enhance air circulation, thereby reducing the likelihood of spore infection.

Bark beetles, *Dendroctonus micans* and *Ips typographus*, have not been recorded on the Island. DEFA participates in a British Isles-wide monitoring agreement with the Department of Environment, Food and Rural Affairs (DEFRA) and the UK Animal and Plant Health Agency (APHA), conducting regular pheromone trapping across the Island.

⁴¹ https://www.gov.im/media/1125997/manx_uplands_final_report_pm.pdf

⁴² CABI is an international, intergovernmental, not-for-profit organization that improves people's lives worldwide by providing information and applying scientific expertise to solve problems in agriculture and the environment.

⁴³ [An updated assessment of the direct costs of invasive non-native species to the United Kingdom](#)

⁴⁴ <https://www.cabi.org/news-article/invasive-non-native-species-cost-uk-economy-an-estimated-4bn-a-year-new-cabi-led-study-reveals/>



Image 3 showing a Pheromone trap located within Ballaugh plantation and is monitored regularly. To date there have been no recorded instances of *Ips typographus* or *Dendroctonus micans* on the Isle of Man. However, *Ips typographus* has now been recorded in several regions of the UK having spread from mainland Europe.

Woodland managers, landowners and the forestry sector are encouraged to increase vigilance against the tree pest *Ips typographus*.

Image 5 - Pheromone trap in Ballaugh Plantation

ix) Fire

Accidental fire has been determined to pose a low risk, with no evidence indicating that any of the plantations are affected by antisocial behaviour or potential arson. Young conifer stands (less than 20 years old) represent the most susceptible group; however, their numbers are relatively limited. The visibility of these plantations, along with their proximity to water sources, residential areas, and public access points, increases the likelihood that any fire would be promptly detected, reported, and managed. The Isle of Man Fire Department, in collaboration with DEFA, is developing a comprehensive national wildfire plan that will address and include plantations.

x) Wind

The Isle of Man's plantations are notably exposed to wind, with most commercial plantations falling within higher wind hazard zones according to the Windthrow Hazard Classification (WHC) system⁴⁵. Specifically, the Island is situated between zones B and C, with the majority of measured plantations classified as hazard classes 3 and 4, indicating moderate to high risk of windthrow. A smaller proportion of plantations are found in classes 2 (lower risk) and 5 (highest risk). This distribution suggests that while some plantations are less susceptible, many require careful management, particularly during thinning operations, to ensure stand stability and minimise the risk of wind-related damage.

WHC	1	2	3	4	5	6	Totals
Area (Ha)	0	2.8	912.2	941.3	145.7	0	2002
% Area	0%	0%	46%	47%	7%	0%	100%

Table 2 - Wind Hazard Classification Distribution as an area as a % of area

⁴⁵ Map and Data table drawn from 1987 report on the Windthrow Hazard Classification which is available upon request.

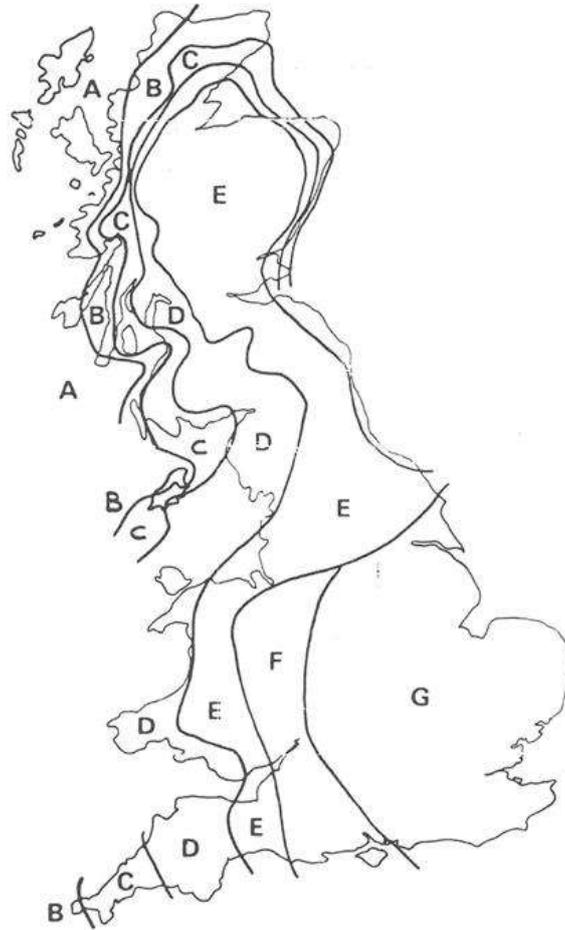


Image 6 - Wind zonation of Great Britain, based on a combination of wind speed data and exposure flag surveys.
(Equal gradations of wind exposure from high -A to low -G)

2.8. The Public Forest Estate

The DEFA plantation estate, covering roughly 2,867ha, representing approximately 5% of the Island's total land area, is composed of several plantation types that differ in species composition, structure, management objectives and ecological function. These types collectively support, to varying degrees, timber production, biodiversity, recreation and climate resilience. Key characteristics are they are dominated by Sitka spruce (*Picea sitchensis*); many stands are now overstood and beyond their maximum mean annual increment (MAI), the point beyond which productivity declines, having

historically been managed for recreation and small-scale local timber use rather than optimal rotation lengths.

Although smaller in extent than conifer areas, broadleaf areas deliver high ecological and social value. Often located in steep or sheltered areas, these areas are managed for public access, aesthetic value and wildlife enhancement.

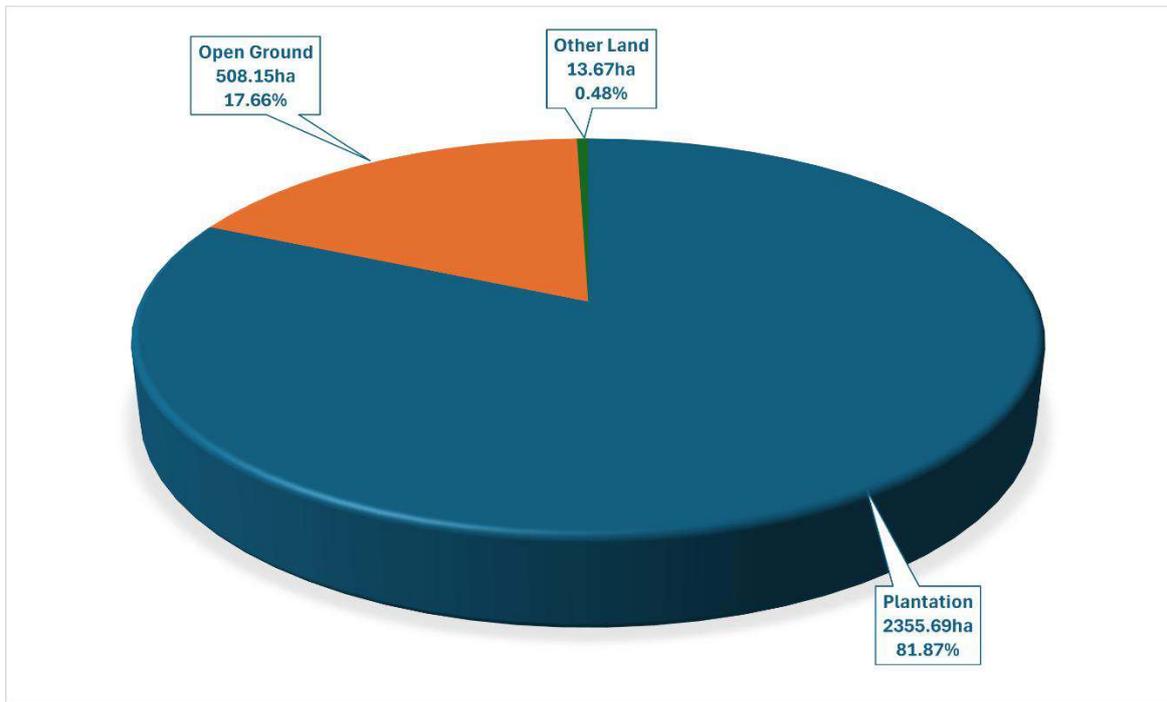


Image 7 - Current plantation composition by area %

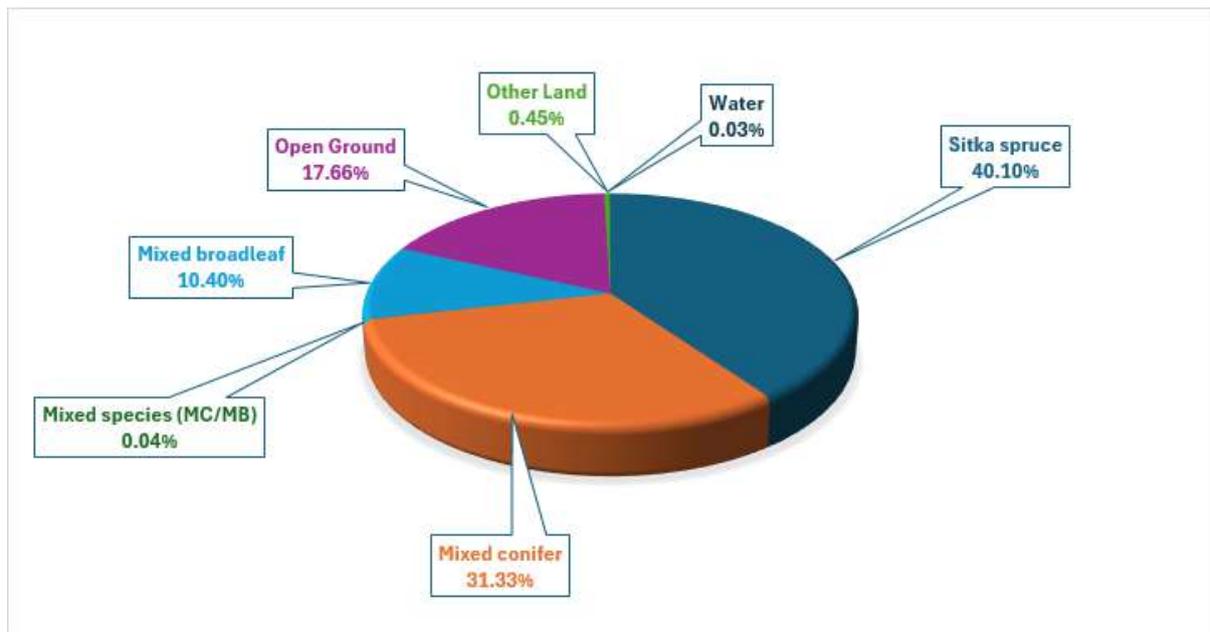


Image 8 - Current plantation Species distribution by area %

Species	Sitka spruce	Mixed conifer	Mixed species	Mixed broadleaf	Open Ground	Other Land	Water	TOTAL
Hectares	1153.82	901.50	1.07	299.30	508.15	12.94	0.73	2877.51
Area %	40.10	31.33	0.04	10.40	17.66	0.45	0.03	100

Table 3 - Current Plantation Species Distribution by Area and % Area

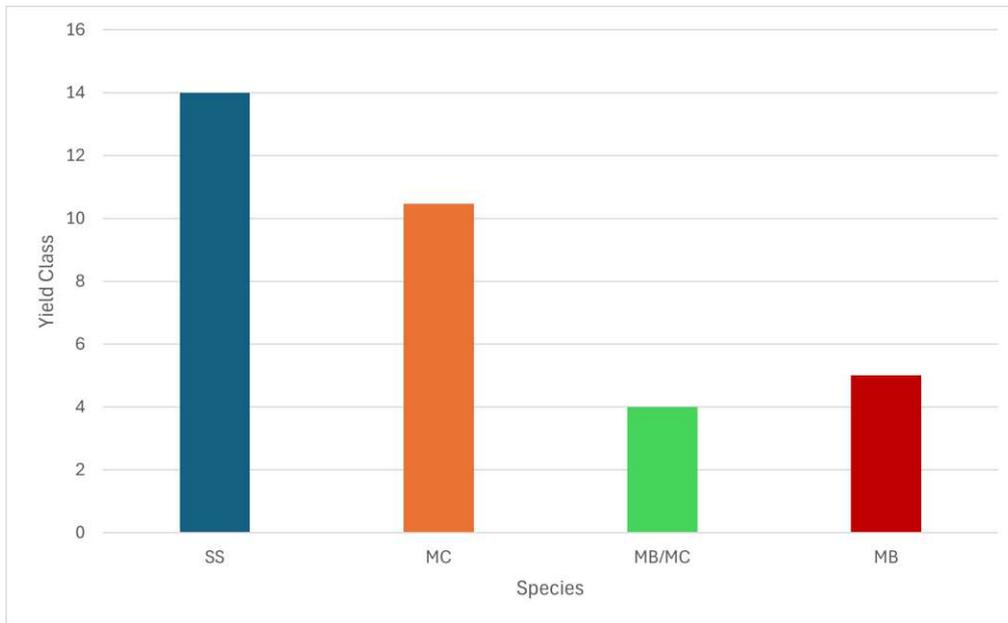


Image 9 - Species by Average Yield Classification (YC)*

*Yield class for all species has been averaged by area and there is significant deviation between individual plantations for example, SS ranges from high yield class 24 for those stands established on better soils and sheltered areas to a low of 4 on the severely 'checked' and peaty areas.

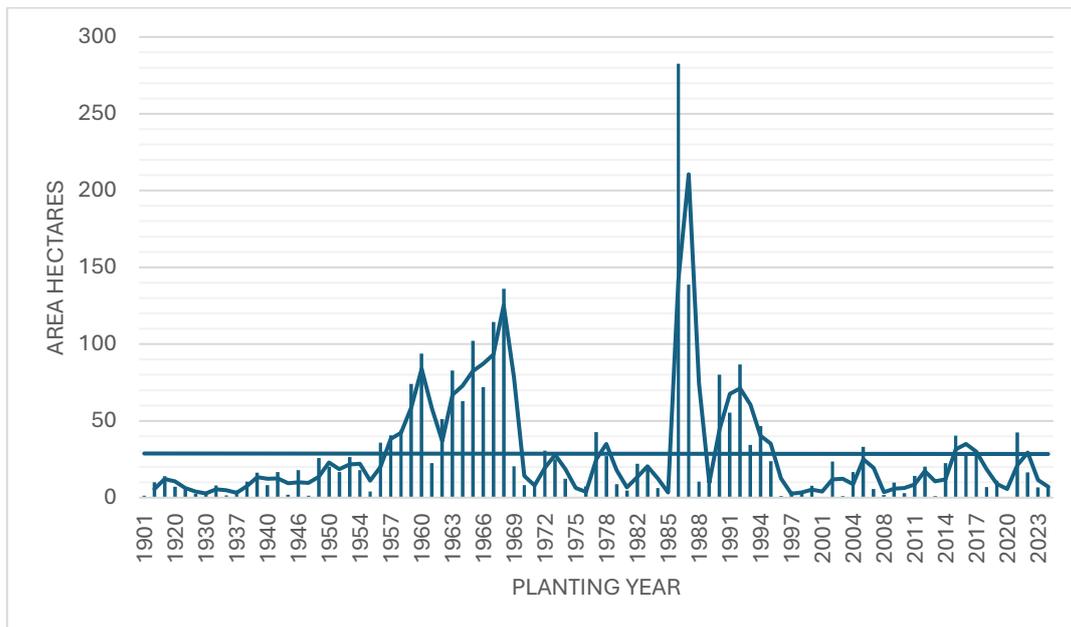


Image 10 - Current Age Class Distribution

2.9. Silviculture

i) Restructuring

The current plantation structure across the Isle of Man estate is characterised by a relatively narrow age-class distribution, with large areas of even-aged stands approaching maturity. This, combined with high exposure levels particularly at elevated sites, creates a significant risk of windthrow, especially during transitional phases of plantation restructuring.

To mitigate this risk, some initial clearfell coupes will need to be larger than ideal. This approach ensures that remaining adjacent crops are not left overly exposed to prevailing winds, which could compromise stand stability and lead to unplanned losses. These larger coupes are a necessary short-term measure to safeguard the integrity of the plantation during the early stages of restructuring.

However, the long-term vision is to move toward a more diversified age structure and spatial configuration. Opportunities will be taken during replanting to reduce future coupe sizes and enhance wind firmness. This will be achieved through several design interventions, including:

- **Increased Plantation Rides and Edge Complexity:** Replanting schemes will incorporate a greater number of rides and internal breaks. These features not only improve access and biodiversity but also create additional windfirm edges, reducing the vulnerability of future stands to wind damage.
- **Staggered Planting and Species Mixes:** Where feasible, staggered planting schedules and mixed-species compositions will be used to introduce structural diversity. This will help create a mosaic of age classes and canopy types, improving ecological resilience and reducing the need for large-scale interventions in the future.

- **Use of Nurse Crops and Shelterbelts:** In particularly exposed areas, temporary nurse crops or shelterbelts may be established to protect young plantations. These can be phased out as the main crop establishes, allowing for more flexible coupe design over time.
- **Monitoring and Adaptive Management:** Windthrow risk will be continuously monitored using remote sensing and field surveys. Coupe design and replanting strategies will be adjusted based on observed outcomes and evolving site conditions.

This phased approach to plantation age restructuring aims to balance operational needs with ecological sustainability. By gradually transitioning to a more varied age-class structure, the estate will become more resilient to climatic stressors, support greater biodiversity, and offer improved landscape aesthetics and recreational value.

ii) Species selection

Separate island genotypes of wild plants are likely to have evolved since the land bridge with Britain was broken 9,000 years ago and DNA analysis of our native oaks has shown they were not planted. The Biodiversity Strategy states that where a species is suspected to be endemic that precautionary measures should be taken to conserve it and they will be treated as key species.

Few native species with significant productive potential are found on the Isle of Man; to address this, the Manx Wildlife Trust (MWT) has carefully curated a 'Native tree list'⁴⁶ that identifies and promotes the conservation of local tree species best suited to the Island's unique environment. The Manx native tree list differs from that of the UK, reflecting the specific ecological conditions and requirements of the Isle of Man. This list serves as a valuable resource for land managers interested in supporting biodiversity and ensuring the sustainable development of the Island's woodlands.

Sessile oak is the only remaining species with any significant productive potential given that elm is now heavily affected by Dutch elm disease (*Ophiostoma novo ulmi*). Where the opportunity arises, efforts will be taken to plant Sessile Oak (*Quercus petraea*) where Native Broadleaves are to be re-established within the plantations.

Currently, there are no local tree nurseries producing enough local, native, or commercially viable stock, so planting material is obtained from UK-based nurseries with stock selected from provenances with similar climates and elevation. No genetically modified organism (GMO) planting stock will be used.

The starting point for any new broadleaf planting or restocking within the plantations will be to consider the 'Native Tree List' species. Although, this does not mean non-native broadleaves will never be considered as if used correctly can enhance the environment. Most importantly when planning a planting site, it will always be '*the right tree, in the right place, for the right reasons*'.

Mixed broadleaves will be increased in area to act as wildlife corridors and provide opportunities to protect and enhance our designated watercourses & glens.

Prioritising the use of improved planting stock is essential when timber production is a key objective in plantation management, woodland creation and reforestation initiatives. This material offers superior yield and form, making it highly suitable for timber production, and its genetic diversity enhances resilience against future climate changes as well as invasive pests and diseases. It is important to note

⁴⁶ <https://www.mwt.im/news/manx-native-tree-list>

that improved planting stock can also be used where timber production is not a primary objective: 'today's woodlands should provide tomorrow's managers with as wide a range of options as possible'. (Clarke, Worrell, Whittet, & Beesley, (2022))⁴⁷

The correct choice of tree species in relation to site characteristics and local climate is an essential prerequisite for sustainable forest management. Forest managers to diversify plantations to reduce the risks of climate change and pests and diseases will consider the silvicultural characteristics of a wider palette of species.

Tree species will be selected according to site suitability such as soil type, wind and climatic exposure, landscape consideration, resilience to climate change and pests and diseases. Sitka spruce (*Picea sitchensis*) will be the predominant species choice across the forest due to soil type, climatic exposure and consideration to produce an economically viable crop. Where conditions are suitable, other mixed conifer species such as Douglas fir (*Pseudotsuga menziesii*) and Norway spruce (*Picea abies*) will be planted. Choice of species will be determined at the district level. Stands of larch showing resilience to *Phytophthora ramorum* will be retained and its regeneration within stands of diverse conifer will be encouraged.

In all cases, the DMU will maintain or establish a diverse composition within the forest management unit. To comply with the UKFS General Forestry Practice Guideline 9, where only one species is suited to a site and management objectives, a maximum of 65% may be allocated to a single species. In all cases, incorporating a minimum of:

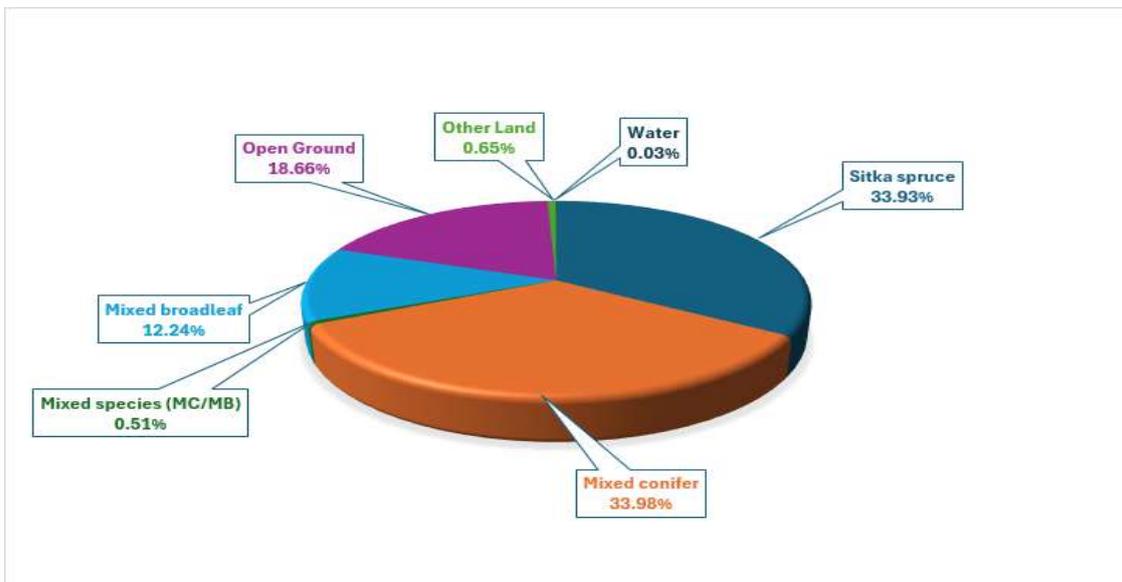
- 10% open ground or ground managed for the conservation and enhancement of biodiversity as the primary objective.
- 10% of other species.
- 5% native broadleaved trees or shrubs.

iii) Expected plantation species composition

Species	Sitka spruce	Mixed Conifer	Mixed species (MC/MB)	Mixed Broadleaf (MB)	Open Ground	Other Land	Water	Total
Hectares	976.43	977.90	14.61	352.22	537.06	18.56	0.73	2877.51
Area %	33.93	33.98	0.51	12.24	18.66	0.65	0.03	100

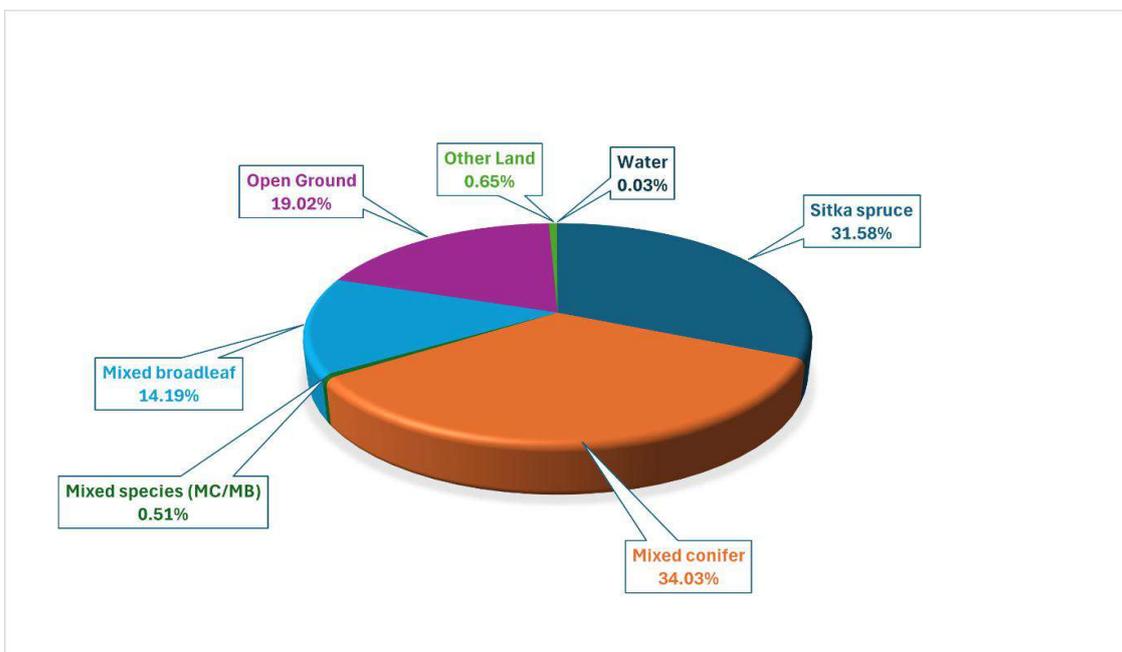
Table 4 - Expected species composition by area as of 2030. Represented as a chart below

⁴⁷ Improved Planting Stock for Forestry - [fit-seed-orchards-guidance.pdf](#)



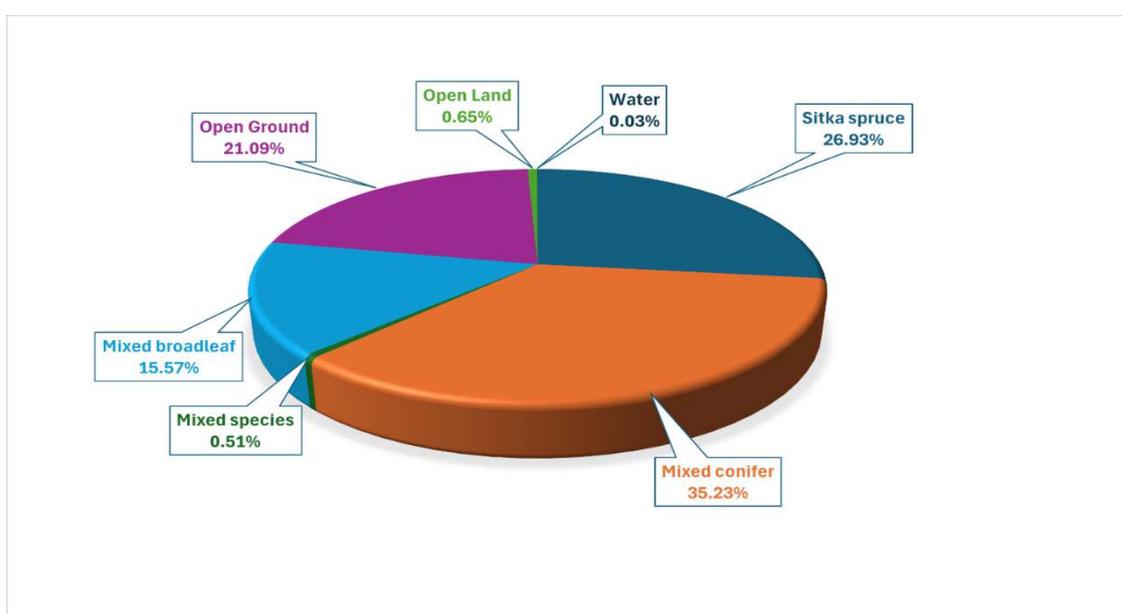
Species	Sitka spruce	Mixed Conifer	Mixed species (MB/MC)	Mixed Broadleaf (MB)	Open Ground	Other Land	Water	Total
Hectares	908.80	979.17	14.61	408.43	547.21	18.56	0.73	2877.51
Area %	31.58	34.03	0.51	14.19	19.02	0.65	0.03	100

Table 5 - Expected species composition by area as of 2035. Represented as a chart below



Species	Sitka spruce	Mixed Conifer	Mixed species	Mixed Broadleaf	Open Ground*	Other Land	Water	Total
Hectares	774.93	1013.69	14.61	448.15	606.84	18.56	0.73	2877.51
Area %	26.93	35.23	0.51	15.57	21.09	0.65	0.03	100

Table 6 - Expected species composition by area as of 2045. Represented as a chart below



*Includes areas restored to other priority habitat see section 3. Opportunity will be taken to increase the open ground areas at restocking alongside rides, public spaces and around features such as rocky outcrops and 'Tholtans' and therefore increase the open space to be managed.

iv) Harvesting

DEFA are currently behind the achievable annual cut as much of the estate is overstood, having primarily been managed for public recreation and local timber supply only. This has meant that they and are now beyond maximum mean annual increment⁴⁸ as indicated by the current age class distribution and yield classes. The production forecast (Appendices 8 (i)) identifies the anticipated location and quantity of material to be harvested from the Public Estate over the next ten-year period and summarised on the table below.

The DEFA estate currently use weighbridge recording at the DEFA sawmill or utilise LOGR facilitates for export, an electronic system which provides transparency through tracking and traceability of wood

⁴⁸ This is the point at which the amount of timber is relevant because, at that point, the stand's productivity begins to decline. Stands are typically harvested at, or before, maximum MAI is reached.

products from the plantation of origin through to delivery to the end user to provide evidence and compliance with the EU Deforestation Regulation (EUDR) and FSC® requirements.

The Agricultural Soils of the Isle of Man (2001)⁴⁹ notes that the Island's soils range from loamy sands to peaty loams, encompassing a wide variety of textural classes. Most plantations are established on predominantly loamy soils with variable permeability and are subject to differing wind hazard classifications; these factors influence both stand stability and the timing of harvesting activities. Given the age profile of many plantations, the majority of the Sitka spruce crop will be harvested exclusively under a clear-fell regime, in accordance with these considerations and as determined annually by the DMU.

Forest area (ha)	2877		
Felling phase	Planned harvest (ha)	Percentage of total forest area	Current average vol/ha
Phase 1, 2025 to 2029	403	14.01	429
Phase 2, 2030 to 2034	391	13.59	498
Phase 3, 2035 to 2039	249	8.64	344
Phase 4, 2040 to 2045	110	3.82	227
Total proposed harvesting, 20-year period	1153	40.07	

Table 7 - Summary of 20 Year Felling plan, split into four phases

Clearfell areas will be determined by windfirm boundaries along rides and forest roads. On brown earth soils areas, providing good rooting depth, a limited amount of thinning may take place. Opportunities for low impact silvicultural systems such as continuous cover forestry will be investigated where the wind hazard class is less than 4 and soils are found to be appropriate.

Soils and watercourses will be protected during harvesting operations with the retention of brush mats under forwarder extraction routes. Silt traps will be installed at the termini of forest drains, leaving a minimum of five metres of solid ground and vegetated buffer zone between the silt trap and water courses.

When timber felling and extraction are undertaken in close proximity to watercourses, the UKFS requires that operations are carefully planned and implemented to prevent sediment mobilisation and damage to banks. Trees will, where practicable, be directionally felled away from watercourses, and extraction routes will be designed to avoid water crossings wherever possible. Where crossings cannot be avoided, they will be appropriately engineered using bridges, culverts or temporary crossing structures, as direct fording of watercourses by machinery is not acceptable. To minimise soil disturbance, brush mats or low-ground-pressure machinery will be employed on wet or sensitive soils and harvesting operations will be scheduled to avoid high-risk conditions, such as periods of extensive rainfall or heavily saturated ground.

⁴⁹ Harris J, Fullen MA & Hallett MD, 2001, Agricultural Soils of the Isle of Man, Centre for Manx Studies Research Report 9
The National Plantation Management Plan 2025 - 2045
Document authors J. Lees; S. Rijnbeek; M. O'Connell & J. Bolt

v) Forest residues, whole tree and biomass harvesting

No forest residues will be burnt in the plantations.

The harvesting of forest residues (including but not limited to brush, tops and stumps) may be considered when their removal does not compromise the management objectives. Recovery of residues may be possible on the drier brown earth soils under dry weather conditions and will not be permitted where likely to have significant negative impact. Operations need to be assessed, have a documented decision process and be monitored.

Where suitable following site assessments, brush recovery will be evaluated as part of an option to supply Suez (Isle of Man)⁵⁰ with chip brush products to provide the following:

- Maximisation of timber fibre resource
- Additional income from the Island's commercial forests
- Reliable and sustainable feed stock to Suez Energy
- Reduced ground preparation costs and reduced weevil habitat as part of our integrated pest management and minimisation of use of chemicals.

vi) Thinning

Thinning operations have been initiated and will continue on a rotational basis, as determined by the DMUs, with the primary objective of enhancing sawlog production and overall stand quality. These interventions are designed to reduce internal stand competition, promote the growth of selected trees, and maintain optimal stand structure for long-term productivity.

Thinning shall be conducted every 5 to 7 years, contingent upon basal area⁵¹ assessments and stand development indicators. Prior to each intervention, forest officers will carry out detailed surveys to evaluate:

- **Basal area thresholds** relative to species-specific growth models.
- **Tree health and form**, prioritising retention of dominant and co-dominant individuals with high sawlog potential.
- **Canopy closure and light penetration**, ensuring sufficient light reaches the forest floor to support biodiversity and natural regeneration.

Thinning intensity will be adjusted based on site conditions, species composition, and management objectives. In general:

- **Low thinning (from below)** will be applied in younger stands to remove suppressed and intermediate trees.
- **Selective thinning** may be used in older stands to favour high-quality stems and improve spacing.

⁵⁰ [SUEZ Isle of Man](#) process the Island's domestic and commercial waste at the energy-from-waste facility and generate 10% of the island's electricity.

⁵¹ The total area occupied by the cross-sections of all trees in a given area, measured at breast height.

- **Mechanical or manual methods** will be selected based on terrain, accessibility, and environmental sensitivity.

All thinning operations will be documented in DMU silvicultural records, including:

- Pre- and post-thinning basal area measurements.
- Volume removed and retained.
- Observations on regeneration and understory response.

Environmental safeguards will be observed to minimise soil compaction, protect watercourses, and preserve habitat features. Where appropriate, retention of deadwood and veteran trees will be incorporated to support biodiversity goals.

Thinning will comprise 6.72% of the plantation area, not including Low Impact Silvicultural Systems (LISS).

vii) Low impact Silvicultural systems (LISS)

LISS are silvicultural systems which minimise the environmental impact of operations. They include group selection, shelterwood, small coupe felling, coppice or coppice with standards and minimum intervention. It offers potential, particularly in semi natural woodland that are valued for their ecological and social roles, where there is a general recommendation to avoid clear felling.

Management under LISS may also contribute to the Biodiversity Strategy and Delivery Plan to mitigate the effects of climate change. Furthermore, LISS supports diverse forest structures, benefiting various plant and animal species. It improves soil health and water quality by reducing erosion and nutrient runoff. Additionally, LISS enhances forest resilience to pests, diseases, and extreme weather, ensuring long-term sustainability. By maintaining continuous forest cover, LISS also offers recreational and aesthetic benefits, contributing to community well-being.

Opportunities will be taken to promote management of the plantations through LISS and particularly where there is opportunity to diversify species within areas on 'semi natural woodland' types and to diversify species and structure of the existing stands. These areas are identified within each of the district management plans and will be managed as shelterwood to establish a minimum of 500 native trees per hectare. The conifer shelterwood will be removed to <20% and retained as veteran trees in reference to establishment methodologies identified within the 'indicative map for planting native woodland' (IPMNW) on the Government estate⁵².

⁵² Wildflowers of Mann Project, Manx Wildlife Trust, August 2015
The National Plantation Management Plan 2025 - 2045
Document authors J. Lees; S. Rijnbeek; M. O'Connell & J. Bolt



Image 11 - Ballaugh plantation LISS management, demonstrating areas of small coupe felling and crown thinning to promote natural regeneration within production areas

viii) Ground preparation & replanting

Ground preparation techniques will include brash raking, scratch mounding and spoil ditch mounding to develop good planting positions. Care will be taken to avoid damage to soils by using low ground pressure excavator machinery. 'V' ditch drains will have a gradient of less than two degrees, with the provision of silt traps as described in the '2.9 xv Harvesting' section.

Restocking will be predominantly with Sitka spruce which will be the main commercially planted species. Due to the soil types and prolific grass & herbaceous weed growth, seed orchard Sitka Spruce⁵³ will be used. On the brown earth soils the focus will be on restocking with other mixed conifer determined at the DMU level. This will include species such as Norway spruce and Douglas fir. Restocking of productive conifer sites will be at 2,500 stems per hectare. Native broadleaves will be planted at a rate of variable densities from 500 – 2,500 stems per hectare in irregular groups alongside riparian zones, public spaces and roadside clearance zones.

Fertiliser is not used in the establishment of trees.

The expansion of native broadleaved tree areas will be prioritised where replanting with native woodland species will "yield the highest biodiversity gains" (IMPNW) including along the 'Green Lace'⁵⁴ This could include forest rides and fringes, other areas of designated watercourses, watersheds, nature reserves, and the glens or other areas which will increase broadleaved woodland connectivity and decrease fragmentation. This approach is vital for woodland-dependent species like the blackcap (*Sylvia atricapilla*); a woodland bird not exclusively linked to watercourses. Nonetheless, its presence on the Isle of Man in these areas, where woodland is limited, highlights the role of riparian trees and shrubs as crucial wildlife corridors.

Open spaces and rides will be maintained to achieve a minimum of ten percent open ground across the estate which will have the additional benefit of creating windfirm edges.

⁵³ Seed orchard is a specially designed plantation of selected tree clones or families used to produce genetically improved seed. The goal is to produce seed that, when planted, yields trees with predictable genetic gains across traits like timber quality and resilience.

⁵⁴ Forest Conservation plans, The Green Lace, Manx Wildlife Trust July 2020



Image 12 - A large glade in Cringle Plantation with grey willow, that could become a green-lace node feature with the addition of supplementary planting of resilient and biodiversity trees. There is enough space here for the open space to co-exist with the green

Open spaces and rides will be maintained to achieve a minimum of ten percent open ground across the estate which will have the additional benefit of creating windfirm edges.

In compliance with FSC[®], the UKFS and UKWAS guidelines, felling coupes will be restocked by planting and use of natural regeneration so that the percentage of the plantations is:

- a maximum of 65% allocated to a single species

And in all cases, incorporate a minimum of:

- 10% open ground managed for the conservation and enhancement of biodiversity as the primary objective
- 10% of other species
- 5% native broadleaved trees or shrubs

ix) Christmas trees & Non-Timber Forest Products (NTFP)

Ballaugh and South Barrule are the only plantations that currently produces a range of Christmas trees including large Christmas trees over 4m for local authority town trees. There is a long-term intention to convert this to high forest.

Fertilisers are not used in the production of Christmas trees.

FALD do not produce other Non-Timber Forest Products (NTFP) from the plantations.

x) Woodland Creation

There are no proposals within the Island Development Plan for further development of sites for woodland creation. However, small areas of woodland creation are supported through DEFA's Agri-Environment Initiatives (AES)⁵⁵. Additionally, the Manx Wildlife Trust (MWT) and the Isle of Man Woodland Trust⁵⁶ are actively working to increase native broadleaved woodland throughout the Island.

⁵⁵ <https://www.gov.im/categories/business-and-industries/agriculture/agri-environment-initiatives-grant-scheme/>

⁵⁶ <https://woodlandtrust.im/about-us/>

2.10. Semi Natural Woodlands

There are no identified semi-natural woodlands within the plantations. However, there are areas which have developed semi-natural woodland features along many of the riparian areas within those plantations with watercourses (including designated) and linked to the 'Glens'.

These areas will be identified by the DMU and managed as 'natural reserves' (*areas of predominantly wooded, usually mature with high wildlife interest or potential and managed with minimum intervention*) or otherwise as management under LISS to further develop the 'naturalness' of the woodland area towards natural reserve status in future years.



Image 13 - Photo showing a typical riparian area with native species developing 'semi natural' woodland characteristics.

3. Management strategies and actions to maintain or enhance areas and features of high conservation value (HCV)

High Conservation Values (HCV)⁵⁷ are identified as areas that are important for the conservation of biodiversity, ecosystem services and cultural values based on a common interpretation of six HCV definitions as stated by FSC® for sustainable management and monitoring of land and how any potential threats are addressed.



Indicators of a potential HCV in the Isle of Man include the presence of a recognised biodiversity priority area. Examples of such areas may include:

- Isle of Man designated Areas of Special Scientific Interest (ASSIs)
- Isle of Man National Nature Reserves (NNRs)
- Ramsar Sites (e.g., Ballaugh Curragh Wetlands)
- UNESCO Biosphere Isle of Man sites
- Sites listed under the Isle of Man Wildlife Act or protected under local conservation legislation
- Key Biodiversity Areas identified by local or international conservation bodies
- Any area recognised for its ecological, cultural, or landscape significance by Isle of Man Government or relevant statutory agencies

The principles of these indicators and how they are applied to the Isle of Man are defined in Appendix One.

The Isle of Man was designated as a UNESCO Biosphere in 2016 in recognition of its special environment, culture, heritage, economy and its people's desire to cherish and nurture them. The Island is the first entire nation Biosphere, and all our land is included.

The management of the biosphere is outlined in various legislation and strategies with responsibilities and commitments identified⁵⁸ in relation to the plantation estate.

The plantations fall within 'core buffer areas' within the reserve. They are also listed as 'Care Areas' and these include sustainably managed ecological and/or heritage areas which enrich people's lives. They include, and are not limited to, MWT nature reserves, MNH land, ancient monuments, uplands, glens, public footpaths, plantations, registered trees and water catchment areas.

The plantations are managed in the Biosphere with reference to the Biodiversity Strategy and Delivery plan 2015 – 2025 which has three strategic aims and seven objectives⁵⁹ which feed into this plan and contribute to the Vision Statement for the DEFA woodland management.

⁵⁷ [Common Guidance for the identification of High Conservation Values - 10/2013 | fsc.org](https://www.fsc.org/Common%20Guidance%20for%20the%20identification%20of%20High%20Conservation%20Values%20-%2010/2013)

⁵⁸ <https://www.biosphere.im/biosphere/responsibilities-commitments>

⁵⁹ <https://www.gov.im/media/1346374/biodiversity-strategy-2015-final-version.pdf>

The three aims are:

- Managing biodiversity changes to minimise loss of species and habitats
- Maintaining, restoring and enhancing native biodiversity, where necessary
- Involving society in understanding, appreciating and safeguarding biodiversity

These are supported by Biodiversity Action Plans (BAPs)⁶⁰ which identify the priority species, habitats and flora across the nation and have been used to guide and support the management of the plantations. These are identified within the concept plans and biodiversity table located in each of the two DMU plans provided. Those species which are considered but not limited to in the management of the plantations include, Juniper, Myotis Bats, Tree sparrow, Wild Cranberry.

The Manx Wildlife Sites Handbook⁶¹ identify sites of highest conservation value as those with statutory designations, including ASSIs and NNRs followed by the non-statutory 'wildlife sites' and areas where wildlife value could be increased through sustainable management including natural & semi natural woodlands, which includes the broadleaved plantations.

The IMPNW on the Government estate identifies those areas on the Government estate where the creation of native woodland would yield the highest biodiversity gains.

The replanting of clearfell areas of plantation provides opportunity to provide ecological resilience in response to climate change whilst supporting other aims such as creating wind-firm edges to conifer stands, providing public recreation and amenity, increasing landscape aesthetics, protecting designated water, as well as diversifying the commercial crop.

It is noted that increasing the area of native woodland species within the plantations along the areas of existing 'semi natural woodland' areas provide greater biodiversity gains against that of new native woodlands of modest ecological interest such as the new broadleaf areas at Ohio, Conrhenny and Chibbanagh.

The Isle of Man has:

- 25 x Areas of Special Scientific Interest
- 1 x National Nature Reserve
- 10 x Marine Nature Reserves
- 1 x Area of Special Protection for Birds
- 1 x RAMSAR Wetland of International Importance
- 5 x Bird Sanctuaries

Habitats and species within designated sites are highly sensitive and may be unintentionally damaged or degraded. However, some forestry activities can also deliver biodiversity gains, such as expanding or linking areas of broadleaved woodland or protecting and enhancing watercourses. Forestry operations must therefore give priority to safeguarding both statutory and non-statutory sites. When work is proposed near a designated area, the Ecosystem Policy Team will be consulted. Any activities planned *within* a designated site must comply with the Wildlife Act 1990, including submitting a Notice Form to obtain the required consent before proceeding.

⁶⁰ <https://www.biosphere.im/our-projects/baps>

⁶¹ <https://www.mwt.im/sites/default/files/2023-05/Manx%20Wildlife%20Sites%20Handbook%20March%202008.pdf>

The Isle of Man Government is part of the Manx Biological Recording Partnership (MBRP)⁶² which encourage wildlife recording on the Island, and which are recorded on the NBN Atlas Biodiversity and NBN Atlas Isle of Man⁶³. Prior to operations likely to cause disturbance to protected species, checks are also made against the records and in addition to operational site assessment forms and mitigation measures planned and implemented to protect these species and habitats.

A high conservation value of note is the Ballaugh Curragh which is an ASSI and the only Wetland Ramsar Site on the Island extending to 193.36 ha. The site qualifies for international status by having excellent examples of wetland habitats characteristic of the Island and the region: bog pools, marshy grassland, birch woodland, modified bog and willow scrub (known as curragh).

The site lies just north of Gob-y-Volley and Ballacuberagh plantations and separated by the main A1 arterial road. There are no watercourses which feed from Gob-y-Volley, however, there remain threats from forestry activity which have potential to disturb soils and affect surface water run off which needs consideration. Ballacuberagh plantation does contain tributaries feeding the Sulby designated watercourse and associated Fluvial high risk flood zones. Drainage ditches and channels leading from these areas have potential to enter the 'Curragh'. Management of these plantations will take due consideration of the proximity to the Curragh and identified within the concept and analysis plans appended to the northern DMU plan.

The management for conservation and enhancement of biodiversity within the plantations as the primary objective and areas of HCV are summarised in section 5 biodiversity table, mapped within the corresponding DMU plans and noted within the appendices.

3.2. Conversion from plantation

FALD are part of the Manx Peat Partnership⁶⁴. Through extensive engagement with stakeholders FALD have identified plantations established on significant areas of deep peat (>50cm) which will be considered for restoration including Slieau Managh located within the northern DMU. This area is established Sitka spruce with areas of check and identified as growing nationally significant Wild cranberry, (*Vaccinium oxycoccus*). This work is proposed as a 'Forest to Bog' restoration and coordinated project by DEFA in consultation with the MWT as part of BAP targets to restore blanket bog habitat.

This work will also contribute to the DEFA Department Plan⁶⁵ objective on Climate Change Action Plan under 'Agriculture Land & Sea' to "*Undertake and facilitate ... peatland restoration and other nature-based solutions*".

3.3. Monitoring

Proposals for monitoring of management activities within each management unit will be compiled and provided in a summarised annual return and collated by FALD.

⁶² <https://registry.nbnatlas.org/public/show/dp115>

⁶³ <https://isleofman.nbnatlas.org>

⁶⁴ <https://www.manxpeat.org/>

⁶⁵ https://www.gov.im/media/1387373/defa-department-plan-2024-final_compressed.pdf

Management Objective	Monitoring Objective	Method	Frequency
Timber Production	Realising production through assessment of production Records	Summary against forecast of allowable annual cut through weight ticket receipts and machine head readings	Post harvesting, annual and five-year review
Restocking	Planting and diversifying forests and WMU's to meet 2,500 /ha	Seed certificates, stocking density assessments and compartment data	Annual and 5 years after restocking summary
Chemical use	Reducing risk to environment through IPMS*	Decision process and application records	Each use and annual summary
Watercourses	Assess the impact of potentially impacting operations and Riparian management objectives	Operational plans and site inspection records. Recorded areas of riparian restoration recorded in SCDB* records	During operations and annual review
HCV & BAP	Maintain and or enhance areas of HCV or BAP habitats and or species identified within each DMU	Map and record site condition records	5-year review
Veteran Trees & Deadwood	Map existing and future areas of retention	Operational plans and records	Annual and five yearly reviews
Removal of Invasives	Map and identify areas of invasives and their removal	Work instruction and site records	Annual

*See section 4.4

4. Operations

The management of the Island's Plantations is administered through the Isle of Man Forestry Act 1984 and Plant Health Act 1983; both acts are administered by the DEFA.

For works which may have potential to damage or disturb species protected under the Wildlife Act 1990, the DMU will consult with the DEFA Ecosystem Policy Team and avoidance of impacts will be prioritised. When necessary, a licence may be required detailing measures taken to mitigate disturbance and the period to be licensed and will be managed by the DMU.

Where operations fall within or adjacent to an ASSI, the DMU will consult and where required apply for a licence through the DEFA Ecosystem Policy Team.

Operational health and safety is overseen by the Health and Safety at Work Inspectorate, which enforces both primary and secondary legislation across the Isle of Man under the Health and Safety at Work Order 2024.

The Island's health and safety legislation is generally modelled on that of the United Kingdom. However, as a crown dependency, the Isle of Man has its own distinct set of health and safety laws.

The Health and Safety at Work Order 2024 brings into law the Health and Safety at Work Act 1974 (HASAW) (of Parliament) which is the Island's primary piece of legislation covering occupational health and safety on the Isle of Man.

This Act sets out general duties which:

- Employees have towards employees and members of the public
- Employees have to themselves and to each other
- Certain self-employed have towards themselves and others

UK legislation and their associated codes of practice is best viewed as an illustration of good practice which may be helpful in explaining the general duties imposed by the Health and Safety at Work Act 1974.

FALD is also a signatory to the Forestry Industry Safety Accord (FISA)⁶⁶, which outlines the forest industry's commitment to enhancing standards of health, safety, and welfare within the workplace.

4.2. Emergency response

Operations are managed in accordance with the FISA Guidance on Managing Health and Safety in Forestry⁶⁷. Relevant guides and specifically FISA 802 "*Emergency planning*"⁶⁸ is conducted by the individual DMU. These and all safety guides and further details can be found directly on FISA's website⁶⁹.

4.3. Access

In general, the majority of plantations are excellently facilitated by existing tracks, rides and roads. Although, access constraints will need to be considered at some due to road width, cattle grids and weight limits.

In accordance with the Town and Country Planning Act 1999⁷⁰, planning approval must be obtained before any 'development' may lawfully proceed.

Infrastructure and drainage work must comply with the Flood Risk Management Act 2013⁷¹, referencing the IOM Flood Risk and Watercourse Management maps for all identified watercourses. Any works affecting watercourses require DOI Flood Risk Management Division authorisation via a Section 20 Works consent before carrying out works in, over, under or adjacent to any watercourse and include constructing or altering a bridge, culvert, pipe etc... that may affect the flow of a watercourse. This

⁶⁶ <https://ukfisa.com/>

⁶⁷ [FISA Guidance on Managing Health and Safety in Forestry](https://ukfisa.com/Safety/Safety-Guides/fisa-802)

⁶⁸ <https://ukfisa.com/Safety/Safety-Guides/fisa-802>

⁶⁹ <https://ukfisa.com/Safety/Safety-Guides>

⁷⁰ https://legislation.gov.im/cms/images/LEGISLATION/PRINCIPAL/1999/1999-0009/1999-0009_6.pdf

⁷¹ <https://iomfloodhub.im/about-us/about-us/>

process will be implemented by FALD if modifications to current culverts or additions of new ones become necessary.

DEFA's Inland Fisheries Division must be notified of any potential impacts to water bodies and will provide guidance on watercourse development and protection of freshwater fish populations and habitats. Additional assessments, including possible site visits, may be needed to address environmental risks based on specific site conditions.

An application for consent to remove material from a riverbed must be applied for from the Inland Fisheries Team prior to removing any material from a riverbed.

There are no current plans for any additional infrastructure within the plantation estate although some access roads are currently being upgraded having fallen into disrepair through lack of use.

The internal plantation roads, car parks and rides are designed, constructed and managed in reference to the UK Forestry Commission's 'Operations Note 25'⁷² and the MWT's 'Forest Conservation Plans Ride Management' technical document (2020)⁷³.



Image 14 - The grassy ride in Arrasey showing acid grassland and heath with scrub edge. A very functional green lace but will be widened as crop on right gets taller to retain its full open space function

4.4. Integrated Pest Management (IPMS)

This shall be through the DEFA IPMS SOPS strategy (1.4) which shall be implemented by the DMU, and which require Local Environmental Risk Assessment for Pesticides (LERAP) decision record, Control of Substances Hazardous to Health (COSHH) assessment and Food and Environment Protection Act (FEPA) 'Pesticide Application' records⁷⁴.

FALD conduct general plant (tree) health surveys including pheromone traps for invasive species, reporting findings annually to FC and DEFRA and attend 6 monthly UK Plant Risk Group (UK PHRG) meetings.

⁷² <https://www.gov.uk/government/publications/roads-and-tracks-operations-note-25>

⁷³ A technical document produced for DEFA, by MWT, as a supporting document for forest plans.

⁷⁴ Held on record for a period of 40 years.

All planting stock will be pre-treated for the protection against the large pine weevil (*Hyllobius abietes*), and preferentially the Island will adopt the use of mechanical protection without insecticidal chemicals such as Connisafe® which consists of a mineral mixture that binds to the tree, which weevil cannot penetrate to damage the growing tree. The coating is flexible so as not to hinder the growth of the plant. There is no intention to use fertilisers or bio solids or chemical control of weevil thereafter.

There is also extensive use of natural regeneration throughout the plantations, and with limited historical felling there are few recorded occurrences of *Hyllobius* at present, and which again reduces the requirement for the considered use of pesticides and fertilisers.

As such, other than utilising pre-treated trees, FALD has rarely used pesticides and opt for mechanical control of weeds such as strimming where possible.

4.5. Tree protection

The main mammalian threat to the plantations is from sheep, rabbits and hare. Stock fencing shall be maintained where it already exists alongside the plantations which adjoin neighbouring grazing land and subject to requirement.

In all other cases, browsing pressures will be managed by using appropriate biodegradable tree shelters.

Redundant materials such as tree shelters and fencing wire are collected and reused or otherwise recycled by SUEZ (Isle of Man) at the Energy from Waste Plant. All waste is managed in accordance with the DEFA and MU's 'Code of Good Agricultural Practice'⁷⁵.

The DMU plans will actively identify the locations from which redundant plastic tree shelters will be removed.

4.6 Diffuse pollution, soils & water

In 2013, 89% of Manx rivers were of 'good' or 'excellent' condition based on chemical water quality and 96% in the 'fair' or 'better' categories. The rivers and streams provide food and habitat for a wide variety of native species, while riparian trees and shrubs also provide important habitat corridors for many animals not specifically associated with watercourses.

The Biodiversity Strategy and Delivery plan 2015 – 2025⁷⁶ recognised the that restructuring of the plantations and opportunities taken to enhance riparian areas will contribute to the protection of internationally important species and habitats (section 4.1 of the Biodiversity Strategy). This includes European eel, which is critically Endangered and Lamprey, for which good populations have been identified in some Manx rivers including the Dhoo, Sulby and Neb (mapped and identified within the concept plans and biodiversity table located in each of the two DMU plans provided).

Ponds and associated wetland features form an important component of the plantation landscape, supporting a diverse range of species and ecological processes. Their presence contributes materially to the overall resilience of the wider estate, providing habitat for amphibians, invertebrates, wetland flora and the wider assemblages that depend on freshwater environments. In line with the principles

⁷⁵ <https://www.gov.im/categories/business-and-industries/agriculture/codes-of-good-agricultural-practice/>

⁷⁶ <https://www.gov.im/media/1346374/biodiversity-strategy-2015-final-version.pdf>

set out in the UKFS and the UKWAS, these features are recognised as valuable natural assets that require careful stewardship to ensure their long-term ecological function.

Maintaining these features in good ecological condition aligns with UKFS guidance on water protection, which requires forestry activities to avoid pollution, minimise soil disturbance, and protect riparian zones. Within the Isle of Man context, safeguarding pond systems contributes directly to maintaining local biodiversity, as well as delivering wider ecosystem benefits across the forest estate.

Management interventions around ponds will therefore be planned and implemented with particular care. This includes ensuring appropriate buffer zones, limiting machinery access, managing adjacent drainage to reduce siltation risk, and avoiding activities that may compromise water quality. Where opportunities exist to enhance ecological value, such as increasing structural diversity, improving light penetration, or creating additional wetland niches, these will be considered alongside wider forest management objectives.

Given their ecological importance and sensitivity, ponds will be afforded a high level of protection throughout operational planning and forest management activities.

Consent must be sought from the Department of Infrastructure Flood Management Division for any works that may affect any watercourse (excepting routine vegetation management), for example, riverbank engineering/protection; installation of bridges, pipes and cross-channel fencing.

Landowners with designated watercourses are responsible for corridors which extend 9.1 metres either side of each bank and consent must be sought from the Department of Infrastructure before constructing anything or planting trees and shrubs within 9.1 metres either side of a watercourse designated as a 'main river' under the Flood Risk Management Act 2013.

All plantation operations for the duration of the management plan will be managed by each DMU with reference to the IOM Flood Hub⁷⁷ and the Code of Good Agricultural Practice for the Protection of Water CPPW⁷⁸, issued by the DEFA and MU. DEFA also follow guidance within the MU's Watercourse Management in the Isle of Man v11 (2019)⁷⁹ document, Forestry & Water Scotland⁸⁰ and UKFS Forests and water⁸¹ guidance to identify operations that are high and medium risk in terms of producing diffuse pollution. The risk of diffuse pollution can be affected by a wide range of aspects – soil type, topography, season/weather, machinery used, duration of works, proximity to pollution targets (water courses, water supplies) etc... Further information can be found in the DEFA and MU 'Protecting our Soil and Water'⁸² document.

For all operations deemed to be potentially medium or high risk, these will be communicated either in the operational work instruction or tendered RAMS⁸³ provided and reviewed at the pre commencement meeting which will be held on file. All those working in the plantations will be required to identify how they will control and monitor the diffuse pollution risk and include requirement to retain sufficient

⁷⁷ <https://iomfloodhub.im/>

⁷⁸ https://www.gov.im/media/279019/code_of_good_agricultural_practice.pdf

⁷⁹ <https://www.biosphere.im/uploads/watercourse-management.pdf>

⁸⁰ <https://www.confor.org.uk/media/3513197/know-the-rules-booklet-2nd-edition-jan-2023.pdf>

⁸¹ https://cdn.forestresearch.gov.uk/2006/03/ukfs_water_fcql007.pdf

⁸² <https://www.gov.im/media/1367331/protecting-our-soil-and-water.pdf>

⁸³ A Risk Assessment Method Statement (RAMS) is a detailed document that outlines the step-by-step procedures to be followed when carrying out a specific task or project. It serves as a roadmap, guiding workers through the various stages of a job, while also addressing potential hazards and control measures.

control materials on site and ensure that operators understand the risk assessment and operational plan.

DEFA require the use of biodegradable chainsaw chain bar lubricant and recommend biodegradable hydraulic oil in plant when working in or near watercourses. Biodegradable oils are less toxic than most of the synthetic oil but should still be stored and used to the same standards as other oils.

Dust, debris and wastewater are the most common pollutants produced by structure maintenance and a containment system must be designed to reduce the risk of pollution from such plantation activities.

5. Historic, Cultural and Natural Environmental Values and Impacts

The Strategy for the Landscape and Amenity of the Isle of Man to 2050 seeks to develop a 'valued environment' to support our communities and offer us, our visitors and businesses cultural benefits. To provide a 'resilient economy' (of) land, water and service-based businesses working with and benefiting / supporting nature to contribute more to the prosperity of the Isle of Man and a 'vibrant community' based on the population and businesses connected to the land and its culture to enable and encourage responsible active use and engagement in land use decisions.

5.2. Historic Environment

Manx National Heritage operates under the remit of an Act of Tynwald (The Manx Museum and National Trust Act 1959 – 86)⁸⁴. It is the statutory agency of the Isle of Man Government for cultural and natural heritage throughout the Island, acting on behalf of the Government and people of the Isle of Man.

Although the plantations do not contain any scheduled monuments or formally designated areas of cultural significance, they do encompass numerous tholtans⁸⁵, historic agricultural features, and stone walls. These elements are identified and safeguarded during operational activities—for example, during forest-to-bog restoration, care is taken to protect internal features such as sod hedging.

5.3. Cultural Environment

FALD manages approximately 19,000 acres (7,700 ha) of hill land. These are in two main blocks, the northern hills which surround Snaefell Mountain at 2,037 feet (620.9m) above sea level and extend as far south as Greeba Mountain which overlooks the Central Valley, and the southern block which runs through Glen Rushen to South Barrule and the coastal hills of Cronk-ny-Arrey Laa and Surby.

The Department's hill lands are open to public ramblage⁸⁶ on foot and are marked as such on the Isle of Man Public Rights of Way 'Island Infrastructure' and 'Island Environment' maps⁸⁷.

⁸⁴ https://legislation.gov.im/cms/images/LEGISLATION/PRINCIPAL/1959/1959-0004/1959-0004_5.pdf

⁸⁵ A tholtan is a ruined or abandoned building, typically a former dwelling

⁸⁶ the term "public ramblage" on the Isle of Man refers to unrestricted pedestrian access across certain areas of publicly owned land

⁸⁷ <https://www.gov.im/maps/>

The public is welcome throughout the year, but walkers are asked to take special care to avoid disturbance during lambing and nesting bird seasons.

It is an offence to take motor vehicles onto the hills without permission, although horses, mountain bikes, and motorcycles can make use of the many signposted greenways and by following the respective access codes.

The uplands are managed predominantly for hill-sheep grazing; with the aim of encouraging the small population of red grouse and to conserve the valuable wildlife habitats and outstanding natural beauty which they provide.

Mountain hares (*Lepus timidus*) are seen on the northern hills and are a spectacular sight in winter when their coats turn white. Also often spotted are hen harriers (*Circus cyaneus*) and nearer coastal areas such as Meary Veg are populations of chough (*Pyrrhocorax pyrrhocorax*).

DEFA's stated objectives are to manage and promote recreational and commercial activities across the estate in a way that benefits the community, economy, and visitors. Additionally, they aim to monitor and protect tree health and maintain the woodland environment and character. FALD acknowledges the significance of the plantations to both residents and the broader population and supports initiatives that encourage their use and engagement.

An example of this can be found at:

Conrhenny Community Woodland

Located in the North DMU, this is a 58 ha growing evolving venue for community involvement, with a 5 ha 'Trees for Life (Children's Wood)' area located in the heart of the woodland which was created as a tree education initiative, the woodland comprising of more than 5,000 native trees, planted over a 10-year period by local primary school children.



Image 15 - The children's Wood planted between 2008 & 2018

Conrhenny is also a great place for recreation with a good network of paths, a pond and far-reaching views over Douglas. It features several way-marked mountain bike trails. Conrhenny has a particularly flat terrain is also popular with dog walkers, runners and horse riders.

Conrhenny car park is one of 26 registered Dark Sky Discovery Sites on the Isle of Man. With the help of interpretation boards on site, stargazers can fully enjoy the stunning views on offer in the Manx skies.

South Barrule Plantation

Located in the South DMU, this is a popular recreational hub and home to three commercial outdoor activity service providers; Ape Mann, Laser Mayhem and Segway and are good examples of public-private partnerships working to develop countryside amenity and recreation for the benefit of the local community and tourists alike.

DEFA as landowner currently lease land to Ape Man and Laser Mayhem, opening in 2013 and is set in one of the largest plantations, South Barrule. DEFA, facilitated the development by leasing the land at a reasonable rent, assisting with technical advice and providing timber sourced sustainably from local forests for some of the structures.

Ape Mann employed individuals on the Department of Social Care (DHSC) funded NEETs initiative (Not in Education, Employment or Training), two of whom were offered full-time jobs. The facility is proving to be very successful and currently attracts in the region of 5,000 visitors per annum.



Image 16 - Low ropes course run by "Ape Mann"

Image 17 - "The Coffee Cottage" located at South Barrule

Across the estate, more than 40km of mountain bike trails have been created and signage installed to help link routes within and between plantations. The Department of Economic Development are also supporting this scheme to benefit activity tourism.

Opportunities to increase the community woodland area are currently being investigated at Archallagan Plantation where staff from Zurich International Life have improved access to a wildlife pond and built mountain bike trails and play areas.

Colden Plantation

Colden plantation immediately abuts Greeba Mountain and the Central Hills ASSI. The site is the largest of the Island's ASSIs and extends to 1,080 ha (2,671 acres). It was designated in 2008 for its important assemblage of breeding birds including hen harrier, raven, curlew, stonechat and snipe, and its upland wildlife habitats - notably heather moorland, acid grassland, blanket bog and acid hillside flushes. Over 200 metres of boardwalk have been built in the nearby ASSI, making it easier for walkers to move from the plantation to the open hillside. This construction also helps safeguard delicate bog habitats and rare plants.

FALD seeks every opportunity to manage a wide range of wildlife and sensitive habitats contributing to international obligations, attracting visitors and supporting the Island's identity and heritage.

Millennium Oakwood

For the commemoration of the turn of the millennia, a 7ha ex-arable site on an industrial estate by the Douglas hospital and hospice, a mass-planting of 6868 oaks were planted in a two-hour period to symbolise every school child present on the day. There is a replica sculpture of the Manx Sword of State and multiple wooden sculptures placed around the woodland.



Image 18 - Millenium Oakwood, Douglas

5.4. Natural Environment

The Island Environment Maps identify all environmental, agricultural and fisheries information which categorises all features across the Isle of Man and include all statutory nature conservation sites and habitat networks relating to the Plantations.

Slieau Maggle Plantation (8.9ha) lies within the Greeba Mountain and Central Hills ASSI. Several other plantations border ASSI designated areas, with the most significant being Greeba Mountain and the Central Hills, an important upland wildlife habitat that encompasses the surroundings of Glion Gill, as well as Colden and Injebreck Plantations.

The DMU's will develop suitable plans to monitor and manage these areas and the habitats around them to ensure that they are maintained in their current condition and where possible enhanced over time.

All activities conducted within the plantation must account for potential impacts on adjacent statutory and non-statutory sites. The Ecosystem Policy Team will be consulted at the earliest opportunity, and requisite permissions for any works in or near watercourses will be obtained from the Inland Fisheries Division and/or MU as appropriate.

Owners of neighbouring properties who could be impacted by planned activities will be notified and consulted prior to the start of any work.

It has been recently identified that a small proportion of the Oak/Hazel woodlands in the Ohio Plantation may have ancient semi-natural woodland (ASNW) characteristics.

5.5. Other priority habitat

There is a presumption that there will be a combined 10% of the plantations which shall be managed as Open Ground (OG) and at least 10% of which shall be managed as Native Woodland or of equivalent biodiversity value. These areas shall be identified within the individual DMU plans.

Plantation management will aim to retain and create deadwood (standing and fallen) to accumulate 20 m³/ha averaged across the estate. Harvesting operations will be managed so that deadwood is retained in the brash piles and as standing dead stems to achieve the above target. There is the potential to maintain deadwood in the mixed broadleaf and riparian zones providing suitable hollows for nesting birds, insects and other flora & fauna which would otherwise not be present within the plantations and providing linkage with semi natural woodland areas where larger diameter trees in stems greater than 20cm diameter can be retained safely away from public areas.



Image 19 - Standing and fallen deadwood and veteran trees located within a 'natural reserve', Axnfell

The areas identified on the table below are the combined areas being managed for conservation and enhancement of biodiversity within the plantations as the primary objective. In summary 15% (minimum) will be managed for biodiversity and is shown on the relevant DMU plan's biodiversity tables.

Feature	Area (Ha)	% of plantation		Area (Ha) of plantation in 2045	% of plantation in 2045
Heath	52.5	1.82%		52.5	1.82%
HCV / Restorable*	69.05	2.40%		69.05	2.40%
LISS (including other areas of native broadleaf)	192.07	6.68%		192.07	6.68%
LTR**	225.37	7.83%		225.37	7.83%
Natural Reserve	130.62	4.54%		191.27	6.65%
Natural Reserve SNW	7.5	0.26%		7.5	0.26%
Open Ground (managed for conservation, including heath)	296.99	10.32%		342.9	11.92%
Quarry	15.6	0.54%		15.6	0.54%
Non-Designated	1876.55	65.22%		1765.12	61.35%
Buildings and Grounds	1.14	0.04%		1.14	0.04%
Area Special Scientific Interest (HCV)	n/a	n/a		4.87	0.36%
Total National	2877.25	100%		2877.25	100%

Table 8 - Summary of key features & designations by area

*HCV / Restorable include operations to restore forest to priority bog habitat and priority heathland restoration of failing plantations and or areas to protect priority species.

**LTR – see table 1 in appendices

5.6. Watershed management and erosion control

The Strategy for the Landscape and Amenity of the Isle of Man to 2050 recognises that sensitive planting with suitable tree species in upland and lowland gullies contribute to soil stability and flood mitigation as well as enhancing the landscape and capturing more of our carbon dioxide emissions. Therefore, indirectly contributing to the sensitive management of our plantations in and surrounding our watershed areas.

The preservation and improvement of broadleaved woodland and other forms of ground cover in riparian areas within plantations play a significant role in mitigating erosion and supporting effective watershed management. Additionally, implementing silt traps and other protective measures during harvesting activities further enhances ground protection and environmental stewardship.

The Island Environment Maps⁸⁸ identify the important reservoir watershed areas in which our plantations fall. These include the Cringle, Clypse, West Baldwin, Sulby and Ballure reservoirs as well as those of the designated watercourses. The watershed land protection is managed according to the CPPW and all operations within the watershed areas are consulted by the relevant DMU with DEFA.

In addition to this there is a code of good practice which DEFA also apply when working in or around the watershed areas, Protecting our Water and Soil - A Code of Good Agricultural Practice for farmers, growers and land managers⁸⁹ and the Manx Utilities Guide to the rights and responsibilities of riparian

⁸⁸ <https://www.gov.im/maps/>

⁸⁹ <https://www.gov.im/media/1367331/protecting-our-soil-and-water.pdf>

ownership, December 2019⁹⁰ as well as the Summary guide for stream management⁹¹. Consent must be sought from the Department of Infrastructure Flood Risk Management prior to conducting any works likely to affect a watercourse.

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.

5.7. Veteran Trees

Veteran trees represent an integral and historically significant component of the nation's plantations and woodlands. While their ages differ according to species, each plays a critical role in sustaining healthy ecosystems by supporting diverse wildlife and enhancing broader ecological functions.

The Island's Tree Preservation Act 1993 affords protection to most of the mature trees on the Island and enables registration of the most important trees, details of which are contained within a Register managed by DEFA.

Areas for retention and recruitment of veteran trees are identified within each of the individual DMU's.

6. Community

6.2. Consultation

With reference to Section 2.4, the records of consultation will be summarised and held by FALD according to the relevant retention schedule and available on request subject to General Data Protection Regulations (GDPR) within the Island's Data Protection Act 2018.

6.3. Public Rights of Way (PROW)

Public Right of Ways (PROW) are maintained by the DOI and include.

- The Millennium Way⁹² - 26 Miles - Sky Hill to Castle Rushen
- Bayr Ny Skeddan⁹³ - 14 Miles - between Castletown and Peel
- Raad ny Foillan⁹⁴ - 96 Miles - coastal footpath waymarked with a blue sign showing a gull in flight
- The Heritage Trail⁹⁵ - 26 Miles - Douglas to Peel, St John's to Sulby and Southwards to Foxdale

⁹⁰ <https://thefloodhub.co.uk/wp-content/uploads/2019/11/FT-Q-R104-Riparian-Ownership-basic-guide-to-owning-and-managing-a-watercourse.pdf>

⁹¹ https://www.gov.im/media/292529/summary_guide_to_stream_management.pdf

⁹² <https://www.visitisleofman.com/experience/millennium-way-p1299171>

⁹³ <https://www.visitisleofman.com/experience/bayr-ny-skeddan-the-herring-road-p1299291>

⁹⁴ <https://www.visitisleofman.com/see-and-do/active-%20and-adventure/walking-and-hiking/raad-ny-foillan-coastal-path%20/rnf-sections>

⁹⁵ <https://www.visitisleofman.com/experience/heritage-trail-old-railway-line-p1279931>

The PROWs are mapped on the Island Infrastructure maps⁹⁶ and within the DMU recreation and access maps.

6.4. Tree Surveys & Timber Traffic

DEFA has a dedicated Tree Safety Officer (TSO) who implements the Department's 'Tree Risk Management Strategy'. Predominantly, the work is orientated around areas of high recreation and footfall, with any leased areas of the estate managed by the lead tenant holder as per the lease tenancy agreement. The Department has chosen to use a dedicated digital recording system, OTISS⁹⁷ which is used for the recording of damaged, dangerous and diseased trees by the TSO, and managed as per the strategy.

6.5. Timber Haulage

Timber transportation is conducted along the Island's primary arterial roads, which generally offer good access to all plantations; however, weight restrictions and road width will be taken into account on certain routes. Prior to the commencement of major operations, notification is given to residents situated near the plantation and along the principal access route within the relevant DMU. This is achieved through a letter drop several weeks in advance, ensuring an opportunity for feedback and discussion.

6.6. Employment, training and competency

DEFA employs a combination of direct labour and contracted services to deliver forestry operations across the Isle of Man. This approach ensures flexibility, efficiency, and access to a broad range of specialist skills.

DEFA is committed to maintaining a high standard of competency and safety among all personnel. To support this, the department provides comprehensive training and refresher courses for direct employees and where appropriate will assist local contractors in their training (e.g. providing suitable locations). Training is delivered through a mix of online learning platforms and practical instruction from accredited local and UK-based providers. Key training areas include, but are not limited to:

- Manual Handling
- Chainsaw Operation
- Clearing Saw Use
- First Aid
- Risk Assessment and Safe Working Practices

All training is designed to meet the standards set out in FISA and to ensure full compliance with Health and Safety legislation and relevant forest industry Codes of Practice. DEFA regularly reviews training needs and updates its programmes to reflect changes in legislation, industry standards, and operational requirements.

⁹⁶ <https://www.gov.im/maps/>

⁹⁷ <https://www.otiss.co.uk/w/>

The Health and Safety at Work Inspectorate is located within DEFA's Regulation Directorate and is based at DEFA's offices at Thie Slieau Whallian.

The Island Plan published in 2022 identified a significant £1bn long-term public and private investment programme to "invest in our people, our economy, our Island and our public services to secure 5,000 new jobs and a £10bn economy by 2032".

FALD's timber harvesting and extraction activities have contributed to new employment opportunities and increased investment on the Island, notably at Ramsey Port for timber export via WS Mezeron. These efforts have revitalised use of the dock & shipping infrastructure and supported local haulage requirements through organisations such as Graylaw, Manx Independent Couriers, and JCK Ltd - Transport & Logistics (Ballasalla). The following investments have been made:

- Vessel *Snaefell River*, facilitating export – £1.5 million
- Liebherr loader at Ramsey Port – Cost: £250,000
- Haulage fleet comprising 6 tractor units and flatbed trailers – Investment: £900,000
- Harvesting resources including 1 harvester and 2 forwarders – Investment: £1.37 million



www.euroforest.co.uk

Furthermore, increased forest operations are directly contributing to current and future local employment opportunities. These include positions related to chainsaw operation and tree surgery, groundworks such as site preparation, restocking and replanting, as well as plantation road maintenance.

7. Operational Plans

i) Summary of North & South District Plan of Operations

District / Zone	Activity	Year		
		0 - 5	5 - 10	11 - 20
Ref district felling plans - determined at local level	Clear-fell – Ref production forecast data. Production records to be held on file and forecasts updated annually.	X	X	X
	Ground preparation (where required when natural regeneration not being recruited)	x	x	X
Ref district plans – intended land use maps. Mixed conifer determined at local level	Restocking – Areas retained for natural regeneration to be recorded and monitored to ensure full stocking of 2500 stems /ha at year 5.	X	X	X
	Weeding and beat up - Strimming to control vegetation and beat up replacement of failures. Protective barrier applied for weevil as req.	X	X	X
	Weevil – Monitoring records and barrier application for transplants subject to determined levels.	X	X	X
	Respacing to manage natural regeneration where it is identified	X	X	X
North (Greeba Ballacuborough Glion Gill, Slieau Curn & Managh)	HCV and BAP areas - records of maintenance activities including removal of SS regen	X	X	X
South (Stoney Mountain, Slieau Moor)		X	X	X
North Brookdale, Skyhill, Ballaugh, Axnfell, Conrhenny	Thinning (LISS area to be determined by regen and beat forester at a local level)	X	X	X
Corlea, Round Table, South Barrule, Stoney Mountain, Slieau Whallian, Chibbanagh, Meary veg		X	X	X
Stoney Mountain	Heathland restoration (extended during planned fell phases)	X	X	X
Slieau Moor	bog restoration – Subject to funding & resource.			X
All	Pheromone trap records & annual reporting	X	X	X
	Veteran trees and standing deadwood – Record and map	X	X	X

8. 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 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	Long-term 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.
Operational Plan	The operational details of how planned work will be implemented at site level within the framework of a forest management plan.
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, nematocides, 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	<p>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 Standards, with appropriate descriptions or examples, such as:</p> <ul style="list-style-type: none"> • 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 - Woodland composed predominantly of locally native tree and shrub species that have established through natural regeneration or traditional management (such as coppicing), rather than through modern planting.
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.
Yield Class	Yield class is a measure of the productivity of a forest, expressed in cubic meters per hectare per year, indicating the potential timber yield based on tree species and site conditions.

9. Appendix 1

The High Conservation Value (HCV) approach

The FSC® developed the HCV approach in the 1990s and this allowed them to identify, manage and monitor critically important values in production landscapes. The aim of this approach is to protect HCVs from the impacts of land use change. It works across a range of scales (including large landscapes and management units, farms, plantations and smallholdings), ecosystems (forests, grasslands and aquatic systems) and productive systems⁹⁸.

There are six categories of HCVs:

- HCV 1: Species diversity
- HCV 2: Landscape level ecosystems
- HCV 3: Ecosystems and habitats
- HCV 4: Ecosystem services
- HCV 5: Community needs
- HCV 6: Cultural values

Under FSC® Principle 9, forest managers or owners are required to maintain or enhance the HCVs in the Management Unit using a precautionary approach which include:

- **Criterion 9.1**

Engaging with affected and interested stakeholders to assess and record the presence and status of HCVs within the Management Unit.

- **Criterion 9.2**

Developing effective strategies that maintain and/or enhance the identified HCVs through engagement with affected stakeholders, interested stakeholders and experts.

- **Criterion 9.3**

Implementing strategies and actions that maintain and/ or enhance the identified HCVs through a precautionary approach.

- **Criterion 9.4**

⁹⁸ <https://www.hcvnetwork.org/hcv-approach>

Demonstrating that monitoring is carried out to assess changes in the status of HCVs and adapting management strategies to ensure their effective protection.

For FSC® Forest Management certificate holders, compliance with these requirements is assessed by independent certification bodies (e.g. [Soil Association](#)) using the set of indicators adapted to national, regional or local conditions in the applicable approved [forest stewardship standard](#).

What does this mean on the Isle of Man?

As outlined in Section 1, the Isle of Man Government affirms its commitment to FSC® principles, criteria, and associated forest management policies and practices by adopting the standards set forth in both the United Kingdom Forestry Standard (UKFS) and the United Kingdom Woodland Assurance Standard (UKWAS), as satisfied by current Isle of Man national regulations and policies.

By adopting the UKWAS principles on the Isle of Man, the term 'high conservation value' is used to refer to areas and features of ecological and biodiversity interest, effectively HCVs 1-4.

The Isle of Man is a nation with strong sociological and cultural links to the UK. It is an island nation in advanced state of democratic and economic progress and undertakes thorough evaluation and consultation in its management of the public estate through a well-established online consultation process but while they are described in different terms, HCVs 5 and 6 are still given the same protections.

The Isle of Man is fortunate to have an extensive network of biological Areas of Special Scientific Interest (ASSI's) as found on the Island Maps⁹⁹. These are taken as surrogates for HCV 1 and HCV 3. DEFA will refer to these and all national designations in their consultation and engagement with statutory bodies and other relevant organisations. On the ground assessments will also be conducted where required.

- **Indicator 9.1.1 (FSC®)** Areas and features of high conservation value having particular significance for biodiversity shall be identified by reference to statutory designations at national or regional level and/or through assessment on the ground. [UKWAS 4.1.1(a)]
- **Indicator 9.1.2 (FSC®)** There shall be ongoing communication and/or consultation with statutory bodies, local authorities, wildlife trusts and other relevant organisations. [UKWAS 4.1.1(c)]

The Isle of Man does not have officially designated sites of Ancient Semi Natural Woodland (ASNW) however, given the scarcity of semi-natural woodland on the Isle of Man, all of these sites are considered to be priorities for conservation and HCV 3, regardless of whether they are plantations of native or non-native species, because of remnant ancient woodland feature indicators such as flora, veteran trees or deadwood which may be present. DEFA acknowledges and references the Manx Wildlife Trust's handbook which identifies sites of highest conservation value as those with statutory designations, including ASSIs and NNRs followed by the non-statutory 'Wildlife Sites' and areas where wildlife value could be increased through sustainable management including natural & semi natural woodlands, which includes the broadleaved areas. The natural and semi-natural woodland types within the plantations are principally classified as:

⁹⁹ <https://manngis.maps.arcgis.com/apps/webappviewer/index.html?id=74e6bd8c85534835b80dea94a4180a11>

- **WS 2**, which account for all areas of semi-natural broadleaved woodland which are of 0.25 ha or more in extent, or when occurring in mosaic or juxtaposition with other semi-natural habitats and exhibit a well-developed structure and support at least 15 ground flora species. Characteristics include trees with a wide age range, from saplings to maturity. The canopy does not have to be continuous - there can be small glades or gaps caused by, for example, wind blow. Other characteristics include natural regeneration, presence of standing and fallen deadwood, providing habitat for a diverse invertebrate fauna, certain birds, small mammals and fungi.
- **WS 3**, all areas of broadleaved plantation or mixed plantation that are of least 1 hectare or more in extent, or 0.5 ha when occurring in mosaic with semi-natural habitats and have developed semi-natural characteristics including native species making up at least some of the canopy and regeneration of native canopy species with an understorey layer of native species and ground flora.

The historic maps of the Isle of Man identify the plantations that were established of formerly modified agricultural ground and there was no 'conversion' of native woodland.

The Isle of Man has no 'Intact Forest Landscapes' or other large landscape-level ecosystems. Therefore, HCV 2 is not currently considered to be present in the plantation areas. In relation to critical ecosystem services categorised under HCV 4, areas of importance are those that contribute to watershed management or erosion control. These include plantations upstream of public water supplies, areas liable to flooding or plantations on steep slopes above settlements or infrastructure where there is a risk to local communities or the environment identified on the Island Environment Map portal.

Apart from private water supplies and catchments, there are no circumstances under which local communities are dependent on plantations for their necessities. These catchments are considered the only instance of HCV 5. Most features of critical cultural importance for local communities such as the ancient or historic monuments are covered under HCV 6 by statutory designation¹⁰⁰. In addition to MNH, local communities will be engaged and consulted with where features of local significance are found. This could be sites (e.g. tholtans) or trees associated with historical figures or folklore.

Once HCVs have been identified, there are requirements under FSC® Criterion 9.2 and 9.3 to ensure DEFA develop strategies to maintain and enhance these through engagement with stakeholders.

- **Indicator 9.3.2 (FSC®)** Statutory designated sites shall be managed in accordance with plans agreed with nature conservation agencies (e.g. MWT) and shall be marked on maps. [UKWAS 4.1.1(d)]

DEFA conducts a precautionary approach in its management of HCVs. This encourages a gradual approach to operations to identify and safeguard any sites or features of conservation value or special cultural and historical significance, as outlined in section 5. Monitoring requirements outlined under FSC® Criterion 9.4 also aim to ensure planning is revised if strategies and actions are not leading to the required outcomes:

- **Indicator 9.4.3 (FSC®)** DEFA will take monitoring findings into account, particularly during revision of the management planning documentation, and if necessary, shall revise management objectives, verifiable targets and/or management activities. [UKWAS 2.15.2]

¹⁰⁰ https://legislation.gov.im/cms/images/LEGISLATION/PRINCIPAL/1959/1959-0004/1959-0004_5.pdf

Application of the management of HCV - The Isle of Man context:

HCV	HCV RESOURCE NETWORK DEFINITIONS	IOM – Qualifying HCV indicators and data sources	Example
HCV 1 Species Diversity	Concentrations of biological diversity including endemic species, and rare, threatened or endangered species, that are significant at global, regional or national levels.	UNESCO Biosphere RAMSAR, ASSI & NNR's NVC (WS2 & WS3) MBRP (NBN Atlas IOM)	Reference to section 3 National Plantation Management Plan (NPMP). Biodiversity Action Plans (BAPs)– ref: concept and biodiversity tables. Mapped ASSI's NNRs and Wildlife sites adjacent to or otherwise within the plantations, the management of which discussed and described within NPMP and local details within the DMU plans. Locations include the Ballaugh Curragh RAMSAR.
HCV 2 Landscape-level Ecosystems and Mosaics	Large landscape-level ecosystems and ecosystem mosaics that are significant at global, regional or national levels, and that contain viable populations of the great majority of the naturally occurring species in natural patterns of distribution and abundance.	[NPMP 5.4] Natural Environment	Greeba Mountain and the Central Hills; these areas represent significant upland wildlife habitats, forming an important ecological backdrop to plantations such as Glion Gill, Colden, Injebreck, and Tholt-e-Will. In the southern DMU at Stoney Mountain, designated heathland habitats have been identified, and active restoration is underway. Several plantation areas have already been converted or are in the process of being restored to heathland, creating and expanding habitat corridors that strengthen connectivity across the upland landscape. These efforts aim to enhance biodiversity, support species movement, and maintain the integrity of extensive heathland ecosystems.
HCV 3 Ecosystems and Habitats	Rare, threatened, or endangered ecosystems, habitats or refugia.	[NPMP 2.10] Semi Natural Woodlands ¹⁰¹ [NPMP 5.4] Natural Environment Greeba Mountain and Central Hills [NPMP 5.5] Other Priority habitat [NPMP 5.7] Veteran trees	SNW features managed as natural reserves (<i>areas of predominantly wooded, usually mature with high wildlife interest or potential and managed with minimum intervention</i>). Slieau Managh – presence of nationally significant and rare wild cranberry, (<i>Vaccinium oxycoccus</i>), plans to restore and maintain suitable bog habitats. Slieau Mooar - work is proposed as a 'Forest to Bog' restoration and coordinated project by DEFA as part of BAP targets to restore blanket bog habitat. Slieau Managh – identified areas of deep peat, considered for peat bog restoration. 'Green Lace' ¹⁰² Registered Tree Area (RA) as mapped at Ballacuberagh, Ballure and Ohio plantations. DMU plan note local sites of retention.
HCV 4 Ecosystem Services	Basic ecosystem services in critical situations, including protection of water	[NPMP 2.9] Silviculture (viii)	The expansion of native broadleaved tree areas will be prioritised where replanting with native woodland species will “yield the highest biodiversity gains” (IMPNW) including along the 'Green Lace'. This could include forest rides and fringes, other areas of designated watercourses,

¹⁰¹ <https://www.mwt.im/terrestrial/ancient-woodland-inventory>

¹⁰² Forest Conservation plans, The Green Lace, Manx Wildlife Trust July 2020

The National Plantation Management Plan 2025 - 2045

Document authors J. Lees; S. Rijnbeek; M. O'Connell & J. Bolt

	catchments and control of erosion of vulnerable soils and slopes.	<p>[NPMP 4.6] Diffuse Pollution, Soils & Water</p> <p>[NPMP 5.6] Watershed management and erosion control.</p>	<p>watersheds, nature reserves, and the glens. This approach is vital for woodland-dependent species like the blackcap (<i>Sylvia atricapilla</i>); a woodland bird not exclusively linked to watercourses. Nonetheless, its presence on the Isle of Man in these areas, where woodland is limited, highlights the role of riparian trees and shrubs as crucial wildlife corridors.</p> <p>The Biodiversity Strategy and Delivery plan 2015 – 2025¹⁰³ recognised that restructuring of the plantations and opportunities taken to enhance riparian areas will contribute to the protection of internationally important species and habitats (section 4.1 of the Biodiversity Strategy). This includes European eel, which is critically Endangered and Lamprey, for which good populations have been identified in some Manx rivers including the Dhoo, Sulby and Neb (mapped and identified within the concept plans and biodiversity table located in each of the two DMU plans provided).</p>
HCV 5 Community Needs	Sites and resources fundamental for satisfying the necessities of local communities (for livelihoods, health, nutrition, water, etc...), identified through engagement with these communities.	<p>[NPMP 2.4] Consultation</p> <p>[NPMP 5.3] Cultural Environment</p> <p>[NPMP 6] Community</p>	<p>Stakeholder consultation held on file (available on request subject to General Data Protection Regulations (GDPR) within the Island’s Data Protection Act 2018).</p> <p>The Island Plan published in 2022 identified a significant £1bn long-term public and private investment programme to “invest in our people, our economy, our Island and our public services to secure 5,000 new jobs and a £10bn economy by 2032”.</p> <p>Ramsey port investment and infrastructure including local transport & logistics.</p> <p>Production of timber supplying the local sawmill at St Johns, and investment at Ramsey port for timber export and local employment in the harvesting, processing and extraction of material.</p> <p>North and South DMU Plan – Recreational hubs & public/private partnerships.</p> <p>Conrhenny Plantation (Community Woodland) is being gradually converted from a production forest into a multi-use public space. The long-term vision is to create an accessible and welcoming environment that prioritises recreation, and amenity value for the community. This transition will involve enhancing biodiversity, improving pathways and facilities, and promoting sustainable woodland management practices that balance ecological integrity with social benefits. Evolving the area into a vibrant green space that supports outdoor activities, fosters community engagement, and contributes to overall well-being.</p> <p>Dalby Community Woodland Group: A local organisation committed to enhancing the ecological value of Dalby Plantation. Their efforts focus on increasing the proportion of native broadleaf species within the woodland. Through active management and community involvement, the group aims to boost biodiversity, encourage sustainable woodland practices, provide education and create an environment that benefits both wildlife and people. This initiative not only strengthens the plantation’s ecological integrity but also fosters local engagement and stewardship of natural resources.</p> <p>Millenium Oakwood. This woodland serves as a tranquil green space designed to offer recreation, relaxation, and therapeutic benefits for the local community, including residents and patients of Douglas Hospital and Hospice. The plantation provides a natural sanctuary where individuals can</p>

¹⁰³ <https://www.gov.im/media/1346374/biodiversity-strategy-2015-final-version.pdf>

			enjoy peaceful walks, connect with nature, and find respite from the stresses of daily life or medical care.
HCV 6 Cultural Values	Sites, resources, habitats and landscapes of global or national cultural, archaeological or historical significance, and/or of critical cultural, ecological, economic or religious/sacred importance for the traditional cultures of local communities or indigenous peoples, identified through engagement with these local communities or indigenous peoples.	[NPMP 5] Historic, cultural and Natural Environmental values & Impacts:	Manx National Heritage (MNH) operates under the remit of an Act of Tynwald (The Manx Museum and National Trust Act 1959 – 86) The presence of tholtans, sod hedges, and stone walls provides tangible evidence of historic land-use practices and serves as important cultural markers within the landscape. Management and operational planning include consultation with MNH to ensure these features are preserved and appropriately integrated into future works.